PUBLIC REVIEW DRAFT

Initial Study/Mitigated Negative Declaration

San Bernardino Class 1 Bike Trail Project

(CIP 95117 / 36107017)

South Lake Tahoe, CA

March 20, 2020

◢ Contents

APPENDICES

1.0 INTRODUCTION

This Initial Study (IS) and Initial Environmental Checklist (IEC) identifies and assesses the anticipated environmental impacts of the San Bernardino Class 1 Bike Trail Project (Project), the proposed project.

1.1 INITIAL STUDY/INITIAL ENVIRONMENTAL CHECKLIST

This Initial Study/Initial Environmental Checklist (IS/IEC) has been prepared to address the potential environmental effects of the San Bernardino Class 1 Bike Trail Project, located in El Dorado County, California. An Initial Study is a preliminary environmental analysis that is used by the California Environmental Quality Act (CEQA) lead agency as a basis for determining whether an Environmental Impact Report (EIR), a Mitigated Negative Declaration, or a Negative Declaration is required for a project pursuant to the CEQA Guidelines. An Initial Environmental Checklist is a preliminary environmental analysis that is used for determining whether an Environmental Impact Statement (EIS), a Mitigated Finding of No Significant Effect (FONSE), or a Finding of No Significant Effect is required for a project under Tahoe Regional Planning Agency (TRPA) Rules of Procedure.

The IS/IEC contains a project description, description of environmental setting, identification and explanation of environmental effects, discussion of mitigation for potentially significant environmental effects, evaluation of the project's consistency with existing, applicable land use controls, and the names of persons who prepared the study.

The IS has been prepared pursuant to the CEQA of 1970, Cal. Pub. Res. Code §2100 et seq. El Dorado County is the CEQA lead agency for this project as described below. The IEC has been prepared pursuant to the requirements of Article VI of the TRPA Rules of Procedures and Chapter 3 of TRPA's Code of Ordinances. TRPA serves as lead agency pursuant to its own regulations as described below.

1.1.1 County of El Dorado – CEQA Lead Agency

The County of El Dorado (County) is the lead agency under provisions of CEQA. CEQA requires that state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects. This IS, prepared in accordance with the CEQA Statutes (Public Resources Code Section 21000 et seq.) and the CEQA Guidelines (California Administrative Code Section 15000 et seq.), presents sufficient information to allow the County to determine whether the Project may have a significant effect on the environment. If the County finds substantial evidence that any aspect of the Project, either individually or cumulatively, may have a significant and unavoidable effect on the environment, regardless of whether the overall effect of the project is adverse or beneficial, the County must prepare an EIR. If the County finds no substantial evidence that the Project or any of its aspects may cause a significant effect on the environment, a Negative Declaration (ND) may be prepared. If in the course of analysis, the County recognizes that the Project may have a significant impact on the environment, but that by incorporating specific mitigation measures the impact will be reduced to a less than significant effect, a Mitigated Negative Declaration (MND) may be prepared.

The IS also provides sufficient information for Responsible and Trustee Agencies to use as the basis for CEQA compliance, such as the California Regional Water Quality Control Board – Lahontan Region (Lahontan), California Department of Fish and Wildlife (CDFW), California Department of Transportation (Caltrans), Tahoe Paradise Recreation and Park District (Tahoe Paradise Park), and California Department of Forestry and Fire Protection (Calfire). The IS is not, in and of itself, a decision

document. The document's purpose is to evaluate the environmental consequences of implementing the Project and to identify measures if necessary to avoid significant impacts.

Although the lead agency must consider the information in the IS, the document's conclusions do not dictate the lead agency's discretion to approve or disapprove the project. The decision making document is the MND that records the agency's decision and is also circulated for public review. The minimum content requirements for an MND are:

- Description and title of the Project;
- Location of the Project, preferably shown on a map;
- Name of the Project Applicant;
- A proposed finding that the Project will not have a significant effect on the environment;
- An attached copy of the Initial Study documenting reasons to support the finding; and
- Mitigation measures, if any, included in the Project to avoid potentially significant effects.

The County will file the MND at the County Clerk's office and publish a Notice of Intent to Adopt a (Mitigated) Negative Declaration for a 30 day review period to accept comments on the environmental document. Whereas there are state level Trustee and Responsible Agencies reviewing this project, the State Clearinghouse (SCH) also circulates the environmental documentation for agency review and requests a completed Notice of Completion (NOC) form to be submitted with the 15 copies of the draft MND. This form facilitates the processing of environmental documents and is circulated to state agencies together with the MND. The information from the NOC form is entered into the SCH database. The normal review period for a MND submitted to the SCH is 30 calendar days (see CEQA Guidelines, Section 15105). Comments are forwarded to the SCH prior to the end of the assigned review period. At the end of the state review period, comments from the reviewing state agencies are collected at the SCH. A closing letter and a complete package of comments are forwarded to the Lead Agency on the day following the close of the review period.

The Project must comply with Clean Water Act (CWA) Section 401 Water Quality Certification (if impacts to delineated wetlands or waters will occur) and CWA Section 402 National Pollutant Discharge Elimination System (NPDES) construction permits issued by Lahontan. CDFW may require issuance of a Streambed Alteration Agreement for the Upper Truckee River bridge span depending on the final design of the bridge. El Dorado County issues an encroachment permit for the portion of the Project crossing the street right-of-way (ROWs). The United States Army Corps of Engineers (USACE) reviews the preliminary wetland delineation and will determine whether the Project requires a jurisdictional determination.

The County does not issue any permits during environmental analysis or as part of the request to have the County Board of Supervisors approve environmental documentation. Assuming the environmental documentation is approved by the County along with approval of the Project, design review of the Project by the County's Design Review Committee will occur, followed by pursuit of various permits and approvals for construction from respective agencies such as El Dorado County, Caltrans, TRPA and Lahontan. Within five working days of approving a project for which an MND has been adopted, the County must file a Notice of Determination (NOD). The filing of the NOD begins a 30-calendar-day statute of limitations on court challenges to the project approval under CEQA.

1.1.2 Tahoe Regional Planning Agency – Tahoe Regional Planning Compact Lead Agency

The project area is entirely located in the Lake Tahoe Basin and is therefore under the jurisdiction of the TRPA. TRPA is the lead agency under the Tahoe Regional Planning Compact (TRPC, PL 96-551 94 Statute 3233). As such, this IEC is prepared in accordance with Article VII of the TRPC, TRPA revised

Code Section 3.3, specifically Subsection 3.3.2, and Article VI of the TRPA Rules of Procedure. The responsible body for the TRPA is the Governing Board. The Governing Board's decisions involve adopting a FONSE, ensuring consistency of the Project with the TRPA Regional Plan and Environmental Threshold Carrying Capacities and approving the linear public service permit for the Project.

TRPA utilizes an IEC, which is used to determine whether an EIS shall be prepared for a project. The IEC provides information identifying the environmental effects of the project. The IEC includes:

- An identification of the environmental effects;
- A discussion of proposed mitigation for significant adverse effects, if any;
- The name of the person who prepared the responses; and
- Supporting data or evidence to support the responses.

1.2 PROJECT TITLE

The *San Bernardino Class 1 Trail Project* (Project) serves as the project title for the proposed project.

1.3 LEAD AGENCY

The County (CEQA) and TRPA (TRPA Rules of Procedure) serve as joint lead agencies for the Project.

1.4 CONTACT PERSON AND PHONE NUMBER

Donaldo Palaroan, P.E., Senior Civil Engineer, County of El Dorado, Department of Transportation, is the project manager for the Project. His contact information is: donaldo.palaroan@edcgov.us and (530) 573-7920

1.5 PROJECT LOCATION

The Project is located entirely within eastern El Dorado County, California, specifically near the unincorporated community of Meyers (Figure 1-1). The Project corridor begins at the eastern terminus of West San Bernardino Avenue at North Upper Truckee Road, and follows West San Bernardino Avenue to its end on USFS property. At this point the roadway pavement ends and a locked gate is in place to prevent public vehicle access to the dirt utility road. From there, the corridor follows an unpaved dirt utility road located on either side of the Upper Truckee River to the paved parking lot and roadways of Tahoe Paradise Park (Park) and along East San Bernardino Avenue to just east of the intersection with Apache Avenue. Land ownership within the project area includes El Dorado County right-of-way along West and East San Bernardino Avenues, Tahoe Paradise Park, and USFS National Forest System (NFS) lands.

In addition to roadway right-of-way of West and East San Bernardino Avenues, the Project is included within El Dorado County Assessor's Parcel Numbers (APNs) that include: 034010022, 034-010013, 034020017, 034020014, and 034020012.

The topography of the Park and adjacent NFS lands lends itself to many types of outdoor recreation on a year-round basis. The Project is situated on land that ranges from flat to hilly and is not easily seen from offsite locations. Within the project area, development of public roadways, recreational trails and infrastructure at the Park, as well as the creation of informal trails along the Upper Truckee River, has occurred gradually since the Park's inception in 1965. NFS lands managed by the LTBMU surround a majority of the Park and also include sections of the Upper Truckee River.

The Upper Truckee River is located within the western boundary of the Park and is accessed by an informal trail network on both the Park side (east) and NFS (west) side of the river. The Upper Truckee River is located in the Upper Truckee hydrologic area, the largest watershed in the Lake Tahoe Basin. The Upper Truckee River the only river tributary to Lake Tahoe. The banks of the Upper Truckee River exhibit destabilization of the stream corridor, displaying erosion and contribute significant amounts of sedimentation into the river. These areas are publicly accessible and used for passive recreation.

Project area sections to the west and east of the Park are located within the Santini-Burton/Urban Forest Parcels Management Area as defined in the LTBMU Land Management Plan. The management emphasis within this management area is on protecting watershed conditions and community open space. Urban Forest Parcels provide opportunity for dispersed recreation within the urban setting, such as walking/hiking, wildlife viewing, cross-country skiing, and access to streams and lakes. When appropriate, recreational improvements such as system trails and shared-use pathways may occur on urban forest parcels.

Finally, the remainder of the project area and the locations of proposed improvements are located within road right of way managed by El Dorado County. East San Bernardino Avenue provides access to the Park and includes Class 3 bike route pavement markings and signage improvements. West San Bernardino Avenue provides access to the Class 1 shared-use pathway on the west side of the Upper Truckee River and will also include new Class 3 bike route pavement markings and signage. Both East and West San Bernardino Avenues are residential streets, with single family homes located on both sides of these streets. Overhead utility lines are present along both streets for the duration of the Class 3 Bike Route; however, no sidewalks or curb and gutter are developed along these roads.

1.6 PROJECT SPONSOR'S NAME AND ADDRESS

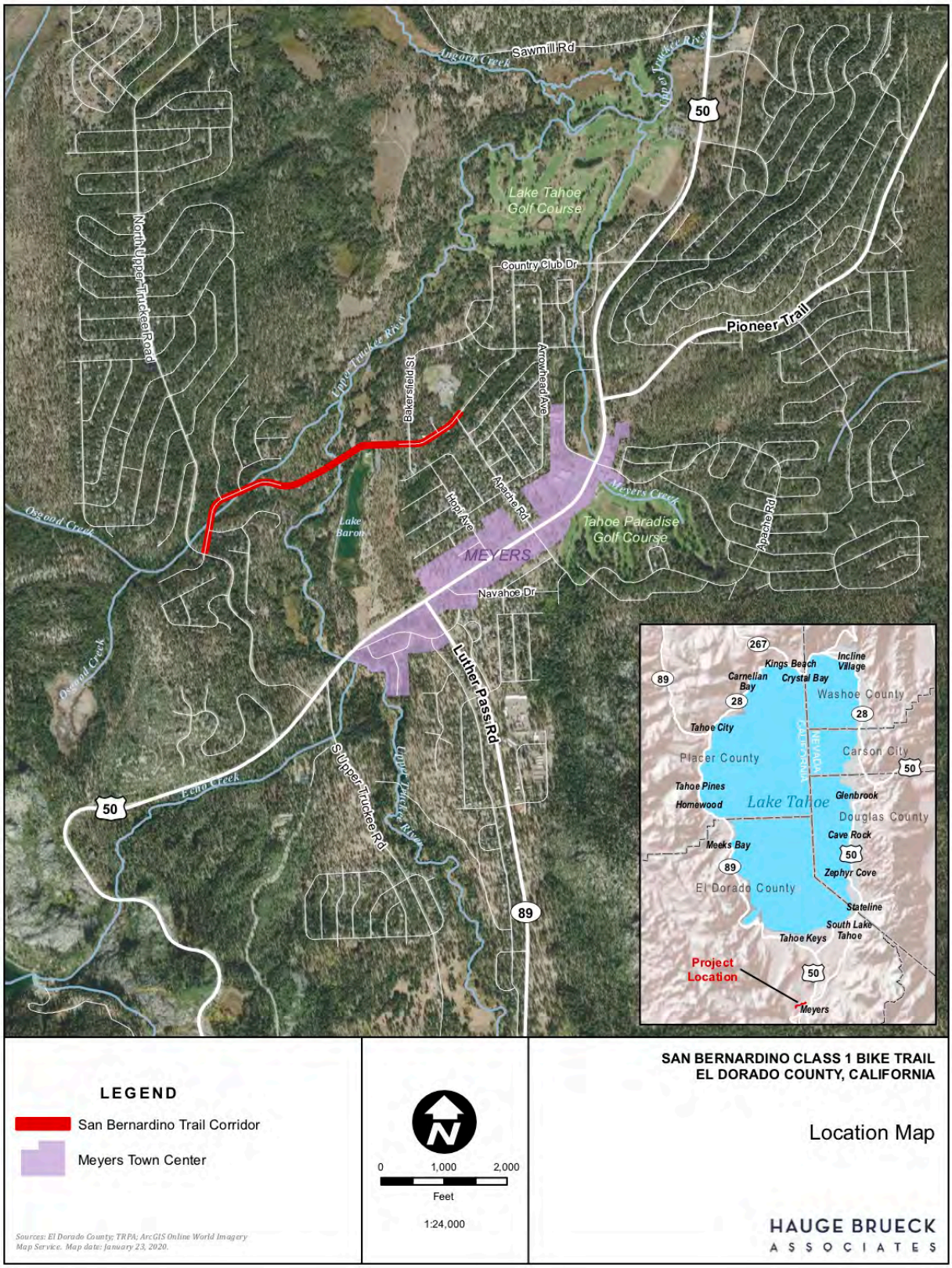
County of El Dorado, Department of Transportation
924 B Emerald Bay Road
South Lake Tahoe, CA 96150

1.7 GENERAL PLAN DESIGNATION/ZONING

Applicable regional general plans and county general plans include the TRPA Regional Plan for the Lake Tahoe Basin and County of El Dorado General Plan. The Class 1 portion of the Project is located within the Meyers Community Plan, crossing land designated as Conservation and zoned Upper Truckee River Corridor – MAP 5, and designated as Recreation and zoned Meyers Recreation – MAP-4. According to the Community Plan, non-motorized public trails are a permitted use in both zones. These lands are also within TRPA Plan Area Statement (PAS) 119 – Country Club Meadows and designated as Recreation.

TRPA Plan Area Statements (PAS) provide a description of land use for a plan area, identify planning issues, and establish specific direction for planning policy for regional goals and policies. The Class 3 portions of the Project are located within PAS 133 Tahoe Paradise-Upper Truckee (West San Bernardino Avenue) and PAS 124 - Meyers Residential (East San Bernardino Avenue). Both PAS 133 and PAS 124 have a Land Use Classification of Residential, with a "Mitigation" Management Strategy. The Planning Statement for PAS 124 states, "The area should continue to be residential, maintaining the existing character of the neighborhood." The Planning Statement for PAS 133 indicates, "The area should remain residential, maintaining the existing character of the neighborhood." Within both PAS 133 and 124, trails are an allowed use and transportation routes are a special use. The County adopted TRPA's PAS, which act as a zoning equivalent in the Lake Tahoe Basin.

Figure 1-1 Project Location Map



1.8 SUMMARY OF PROJECT

The San Bernardino Class 1 Bike Trail Project is proposed on publicly owned lands in the unincorporated community of Meyers, California in El Dorado County. Pathway and drainage improvements are proposed within the County-maintained rights of way of East and West San Bernardino Avenues, within the Tahoe Paradise Park boundary, and on National Forest System (NFS) lands managed by the USDA Forest Service Lake Tahoe Basin Management Unit (LTBMU). A site plan map and Class 1 Bike Trail (e.g., shared-use pathway) and Class 3 Bike Route details are included in Appendix A. The 0.7 mile Class 3 Bike Route is limited to the existing paved areas of West and East San Bernardino Avenues and includes pavement striping and route signage. The 0.24 mile of Class 1 Bike Trail would be constructed over an existing dirt utility road between West and East San Bernardino Avenues and the Park paved parking lot and access road. The Class 1 Trail would consist of a paved travelway, a bridge crossing of the Upper Truckee River, and a boardwalk travelway at each approach to the bridge.

Trail development details comply with the American Association of State Highway and Transportation Officials (AASHTO) guidelines and American Disability Act (ADA) design standards.

1.9 SURROUNDING LAND USES AND SETTING

The Project's Class 1 Bike Trail alignment will be contained within a 25-foot wide construction corridor through undeveloped USFS property, over the Upper Truckee River, and through Tahoe Paradise Park property. The Class 3 Bike Route will be located within the existing pavement of West and East San Bernardino Avenues from North Upper Truckee Road to Apache Avenue. Existing land uses include residential neighborhoods along these roadways and recreational uses through the undeveloped USFS Santini-Burton lands and Park. Mature vegetation is present along the alignment in clusters and wetland vegetation species are present along the trail alignment, particularly in the vicinity of the Upper Truckee River. Existing roads and trails currently provide public access for dispersed recreational activities such as hiking and cycling in the Project area.

Beyond the immediate vicinity of the Project, the new trail/route would connect the subdivisions along North Upper Truckee Road to the Lake Valley State Recreation Area (Washoe Meadows) and the Lake Tahoe Golf Course located north of the Project alignment. An existing County pathway network is located in those areas, thereby increasing the overall connectivity in the broader Project area. The Lake Tahoe Environmental Science Magnet School is located within 200 feet of the terminus of the Class 3 portion of the Project at Apache Avenue. The Project would also connect to Lake Baron, the commercial center within Meyers, and Tahoe Paradise Golf Course, located south of the Project alignment. U.S. 50 and State Route 89 are located roughly 2,000 feet (0.4 mile) south of the Project. An existing Class 1 Bike Trail is located along U.S. 50, Sawmill Road, and parallel to Lake Tahoe Boulevard connecting Meyers to the City of South Lake Tahoe. There are also existing Class 2 trails along North Upper Truckee Road, a portion of Lake Tahoe Boulevard, Pioneer Trail, and Apache Avenue.

1.10 OTHER PUBLIC AGENCIES WHOSE APPROVAL IS REQUIRED

1.10.1 Project Approvals

The Project will require approval from the following public agencies:

1.10.1.1 United States Forest Service

The project area contains lands managed by the United States Forest Service Lake Tahoe Basin Management Unit (LTBMU) and therefore requires Forest Service review under the National Environmental Policy Act and a decision by the LTBMU supervisor on a Special Use Permit or land easement. Approximately 78 percent of the area around Lake Tahoe is public land managed by the LTBMU. Totaling over 154,851 acres, this land includes beaches, hiking and biking trails, wilderness, historic estates and developed recreation areas such as campgrounds and riding stables.

1.10.1.2 Tahoe Paradise Recreation and Park District – CEQA Responsible Agency

The Project is located within Tahoe Paradise Recreation and Park District (Tahoe Paradise Park or Park) property and as such, will require Board of Director decision on right of way dedication or land easement. The Park was founded under state law in 1965, by resolution of El Dorado County Board of Supervisors and by approval of the voters of the district. The Board of Directors was formed as a part of the original resolution, allowing for 5 board members, consisting of 4 members residing and elected from within the district and the 5th being the Supervisor in "the area which represents the district" - District V. The Board has the power to conduct all proceedings provided within the law for financing the cost of acquiring, constructing, extending, improving repairing, maintaining, operating and regulating any of the public improvements and to exercise any of the other powers in the law.

1.10.1.3 California Regional Water Quality Control Board (Lahontan) – CEQA Responsible Agency

Lahontan has a responsible agency role in the physical development of the Project (the issuance of waste discharge requirements that may be discharge standards, Total Maximum Daily Loads (TMDL) for Upper Truckee River or CWA Section 402 National Pollutant Discharge Elimination System construction permits). Lahontan has responsibility for water quality regulation in an area that covers a large portion of the eastern side of California and includes the Tahoe Basin and the Truckee River watersheds. This agency establishes non-point and effluent water quality standards, subject to approval by the State Board. By issuing waste discharge permits and requiring monitoring to show compliance, as well as other actions, Lahontan actively enforces attainment of standards. Lahontan must also certify US Army Corps of Engineers permits granted under Section 404 of the Clean Water Act. Additionally, any new development or disturbance affecting SEZs within the Lake Tahoe Basin would require exemption findings by Lahontan and may require a water quality certification.

1.10.2 Other Potential Project Approvals

The Project may require approval from the following public agencies:

- Caltrans – Funding
- Lahontan – CWA Section 401 Water Quality Certification
- USACE – CWA Section 404 Dredge and Fill Permit
- CDFW – Streambed Alteration Agreement
- South Tahoe Public Utility District (STPUD) – Design assistance for construction over or near sewer lines, especially at the river crossing sheet metal wall protecting the line within the river.
- Tahoe Metropolitan Planning Organization (TMPO) and Tahoe Transportation District (TTD) – Funding

- Calfire

As identification of project funding sources occurs, additional agencies may base decisions on this environmental documentation.

1.11 PUBLIC REVIEW

A formal public review of the San Bernardino Class 1 Trail Project IS/IEC is accomplished with the circulation of this document, responses to comments received on this document, and through public hearings held to consider approval of the Project.

The Draft IS/IEC will be circulated for public and agency review from March 20, 2020 to April 20, 2020. An electronic copy of the documents can be downloaded from the County's website at the following address: https://www.edcgov.us/government/dot/pages/CEQA.aspx.

Paper copies of the document are available for review at the following locations during business hours:

El Dorado County, Department of Transportation office (address below)

El Dorado County Library at 1000 Rufus Allen Boulevard, South Lake Tahoe, CA 96150

Comments on this document must be received by 11:59 p.m. on April 20, 2020. Written comments may be sent by postal, electronic mail or fax to:

Donaldo Palaroan, Senior Civil Engineer
El Dorado County Community Development Services
924 B Emerald Bay Road,
South Lake Tahoe, CA 96150
Email: donaldo.palaroan@edcgov.us
Phone: (530) 573-7920
Fax (530) 541-7049

1.12 FURTHER INFORMATION

If you have further questions or require additional information regarding this matter, please contact Donaldo Palaroan, Senior Civil Engineer. His contact information is: donaldo.palaroan@edcgov.us and (530) 573-7920

1.13 ACRONYMS AND ABBREVIATIONS

AASHTO	American Association of State Highway and Transportation Officials
AB 32	California Global Warming Solutions Act of 2006
ACHP	Advisory Council on Historic Preservation
ADA	American Disability Act
APCDs	Air Pollution Control Districts
AP	Area Plan
APE	Area-of-potential effect
APN	Assessor parcel number

AQMD	Air Quality Management District
ARMR	Archaeological Resources Management Reports
Basin Plan	Water Quality Control Plan Report for the North Lahontan Basin
bgs	Below Ground Surface
BMP	Best Management Practice
BPMP	Lake Tahoe Regional Bike and Pedestrian Master Plan
BSA	Biological Study Area
CAA	Federal Clean Air Act of 1970
CAAA	1990 Clean Air Act Amendments
CAAQS	California Ambient Air Quality Standards
Cal-EPA	California Environmental Protection Agency
Cal-OSHA	California Occupational Safety and Health Administration
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
Cal-SHPO	California State Historic Preservation Officer
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCIC	Central California Information Center
CDF	California Department of Forestry
CDFW	California Department of Fish and Wildlife
CDPR	California Department of Parks and Recreation
CE	NEPA Categorical Exclusion
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
cfs	Cubic Feet per Second
CGS	California Geological Survey
CHL	California Historic Landmarks
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO2	Carbon Dioxide
Code	Code of Ordinances (Tahoe Regional Planning Agency)
Conservancy	California Tahoe Conservancy
Cortese List	California's Hazardous Waste and Substance Sites List
County	El Dorado County
CSHPO	California State Historic Preservation Officer
CWA	Federal Clean Water Act of 1972
CWC	California Water Code

CWHR	California Wildlife Habitat Relationships
dB	Decibel
dBA	A-weighted decibel
dbh	Diameter at Breast Height
DCP	Dust Control Plan
DM	Decision Memo
DVTE	Daily Vehicle Trip Ends
EA	Environmental Assessment
EIP	TRPA Environmental Improvement Program
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EO	Executive Order
ESA	Endangered Species Act or Environmental Science Associates
FEMA	Flood Emergency Management Agency
FESA	Federal Endangered Species Act
FHSZ	Fire Hazard Severity Zone
FONSI	Finding of No Significant Impact
Forest Service	United States Department of Agriculture Forest Service
Fossils	Paleontological Resources
GHGs	Greenhouse Gases
HAZWOPER	Hazardous Waste Operations and Emergency Response
HCM	Highway Capacity Manual
HSC	Health and Safety Code
IBC	International Building Code
IEC	Initial Environmental Checklist
in/yr	Inches per Year
IS	Initial Study
ISA	Initial Site Assessment
Lahontan	Regional Water Quality Control Board-Lahontan Region
LCD	Land Capability District
LOS	Level of Service
LTBMU	USDA Forest Service Lake Tahoe Basin Management Unit
LVFPD	Lake Valley Fire Protection District
MBTA	Migratory Bird Treaty Act
mg/L	Milligrams per Liter
*m*g/L^3	Microgram per Cubic Liter
mg/L3	Microgram per Cubic Liter
Mgal/yr	Million Gallons per Year
mgd	Million Gallons per Day
MND	Mitigated Negative Declaration
MMP	Mitigation and Monitoring Program
MND	Mitigated Negative Declaration
MOA	Memorandum of Agreement

MOU	Memorandum of Understanding
msl	Mean sea level
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NCIC	North Central Information Center
Neg Dec	Negative Declaration
NEPA	National Environmental Policy Act
NES	Natural Environment Study
NFS	National Forest System
NHPA	National Historic Preservation Act
NO2	Nitrogen Dioxide
NOC	Notice of Completion
NOD	Notice of Determination
NOI	Notice of Intent
NOX	Oxides of Nitrogen
NPDES	National Pollutant Discharge Elimination System permit program
NRHP	National Register of Historic Places
NWP	Nationwide Permit
NWRA	Noxious Weed Resource Assessment
O_3	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
OES	Office of Emergency Services
OMMS	Operations Management and Maintenance Strategy
OPR	California Governor's Office of Planning and Research
OS	Open Space
OSHA	Occupational Safety and Health Administration
PA	Programmatic Agreement
PAOTs	Persons at One Time
PAS	Plan Area Statements
Pb	Lead
PM10	Particulate Matter Less than 10 Microns in Diameter
PM2.5	Particulate Matter Less than 2.5 Microns in Diameter
PPM	Parts per Million
PRC	Public Resource Code
Project	San Bernardino Class 1 Bike Trail Project
psi	Pounds per square inch
ROD	Record of Decision
ROG	Reactive organic gases
ROS	Recreation Opportunity Spectrum
ROW	Rights-of-Way
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Boards
SCH	California State Clearing House

SEZ	Stream Environment Zones
SH	Scenic Highway
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SO2	Sulfur Dioxide
SQIP	Scenic Quality Improvement Program
SR	State Route
State Board	California State Water Resources Control Board
STPUD	South Tahoe Public Utility District
STR	South Tahoe Refuse Company
SWPPP	Storm Water Pollution Prevention Plan
TCP	Traffic Control Plan
Thresholds	TRPA Environmental Carrying Capacity Thresholds
TKN	Total Kjeldahl Nitrogen
TMDL	Total Maximum Daily Load
TMPO	Tahoe Metropolitan Planning Organization
TP	Total Phosphorus
TRPA	Tahoe Regional Planning Agency
TTD	Tahoe Transportation District
UBC	Uniform Building Code
USA	Underground Service Alert
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USEPA	United States Environmental Protection Agency
USFS	USDA Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VMT	Vehicle Miles of Travel
VQO	Visual Quality Objectives
WDR	Waste Discharge Requirements
WUI	Wildland-Urban Interface
µg/m3	Microgram per Cubic Meter

2.0 PROJECT DESCRIPTION

This chapter describes the *San Bernardino Class 1 Bike Trail Project* (Project). Sections 2.1, 2.2 and 2.3 describe the project background, previous public involvement, and anticipated future environmental process and review, respectively. Section 2.4 details the project objectives and sections 2.5 through 2.7 detail the various components of the Project including facility features and construction controls, revegetation and restoration strategies, water quality best management practices (BMPs), and operations, maintenance and monitoring plan.

2.1 PROJECT BACKGROUND

The Project is proposed on publicly owned lands in the unincorporated community of Meyers, California in El Dorado County. Pathway and drainage improvements are proposed within the County-maintained rights of way of East and West San Bernardino Avenues, within the Tahoe Paradise Recreation and Park District (Park) boundary, and on National Forest System (NFS) lands managed by the USDA Forest Service Lake Tahoe Basin Management Unit (LTBMU).

The Park is situated on 53.5 acres of land that ranges from flat to hilly and is not easily seen from offsite locations. The Park is on the east side of the base of Echo Summit at an elevation of 6,250 feet. The topography of the Park and adjacent National Forest System (NFS) lands lends itself to many types of outdoor recreation on a year-round basis. The Upper Truckee River borders the western Park boundary and is the only river tributary to Lake Tahoe, providing many recreational opportunities.

Project area sections to the west and east of the Park are located within the Santini-Burton/Urban Forest Parcels Management Area as defined in the LTBMU *Land Management Plan.* The management emphasis within this management area is on protecting watershed conditions and community open space. Urban Forest Parcels provide opportunity for dispersed recreation within the urban setting, such as walking/hiking, wildlife viewing, cross-country skiing, and access to streams and lakes. When appropriate, recreational improvements such as system trails and shared-use pathways may occur on urban forest parcels.

The remainder of the project area and the locations of proposed improvements are located within road right of way managed by El Dorado County. East San Bernardino Avenue provides access to the Park and includes Class 3 bike route pavement marking and signage improvements. West San Bernardino Avenue provides access to the proposed Class 1 shared-use pathway on the west side of the Upper Truckee River and will also include new Class 3 bike route pavement markings and signage.

The Project has been proposed by public transportation planning agencies for several decades and is included in many applicable planning and transportation planning documents. The Project is identified as TRPA Environmental Improvement Program Project #03.01.02.0040 and will construct approximately 0.24 miles of Class 1 shared use path, and establish 0.7 miles of Class 3 Bike Route on West San Bernardino Avenue and East San Bernardino Avenue, from North Upper Truckee Road to Apache Avenue. The Class 1 Bike Trail will cross the Upper Truckee River and include connections to Washoe Meadows State Park and Tahoe Paradise Park and the Lake Tahoe Environmental Science Magnet School (LTESMS) in the community of Meyers in the Tahoe Basin.

The Project builds upon the Meyers Bikeway and provides a critical link to the bicycle network between the neighborhood on North Upper Truckee Road and the downtown community in Meyers. The Project supports the Linking Tahoe: Active Transportation Plan and Sustainable Communities Strategy, approved by the Tahoe Metropolitan Planning Organization in March 2016 and the Meyers Area Plan, approved by

the County and TRPA in March 2018. The Project will install a shared use path bridge over the Upper Truckee River just west of Tahoe Paradise Park and link the bike lane facilities along North Upper Truckee Road from the west and Apache Avenue to the east.

Opportunities exist with this Project to address traffic and pedestrian safety operations at the intersection of Apache Avenue at East San Bernardino Avenue as identified in the Lake Tahoe Unified School District Safe Routes to School Master Plan found in Appendix D of the TRPA/TMPO Linking Tahoe: Active Transportation Plan, and improving the LTESMS frontage and driveway access. This Project will also connect to the future Apache Avenue Pedestrian Safety and Connectivity Project (#03.01.01.0004) which is an El Dorado County-led effort to improve overall pedestrian and bicycle safety for students, parents and the community accessing LTESMS, Apache Avenue and Meyers.

2.2 PUBLIC INVOLVEMENT

The Project is part of a series of active transportation projects to be constructed within the Lake Tahoe Basin by the County of El Dorado, Department of Transportation (Transportation). In October 2018, Transportation held a Project Development Team (PDT) meeting and in December 2018, a public meeting was held to discuss the Feasibility Report for the Project. The Feasibility Report identified alignment alternatives, compiled Best Management Practices (BMP) alternatives for mitigating specific problem areas, and presented the evaluation of the alternatives. Following these steps, a preferred alternative was selected and documented in a Preferred Project Alternative Memoranda based on input from the public meetings, correspondence received, and the results of the analyses contained in the 2018 Feasibility Report.

2.3 FUTURE ENVIRONMENTAL PROCESS AND REVIEW

This IS/IEC meets the requirements of CEQA and the TRPA Rules of Procedures and Code of Ordinances. This environmental document serves as a joint document to meet the environmental review requirements of CEQA for the County, Caltrans (as a funding agency) Lahontan, and CDFW, and the Tahoe Regional Planning Compact for the TRPA. Each agency will use the document to make decisions based on the respective agency's planning policies and statutory requirements. Sections 1.1.1, 1.1.2 and 1.1.3 in Chapter 1 detail agency roles, policies, and decision responsibilities. This document and its supporting studies will also support decisions under the requirements of the National Environmental Protection Act (NEPA). It is anticipated that a Categorical Exclusion will be processed by the USFS LTBMU.

2.4 PROJECT PURPOSE

The purpose of the Project is to complete an accessible and continuous shared-use trail that connects neighborhoods along North Upper Truckee Road and in Meyers that are currently separated by the Upper Truckee River. The Project also establishes a convenient non-auto transportation alternative and high quality recreational experience for residents and visitors along the Upper Truckee River (that connects to Washoe Meadows State Park), within Tahoe Paradise Park, and adjacent to the Lake Tahoe Environmental Science Magnet School.

Project Goals and Objectives

The goals and objectives for each component of the Project are listed in Table 2.4-1.

Table 2.4-1

Project Goals and Objectives

No.	Goal	Objective
1	Implementation of the Project should reduce vehicle miles traveled and other environmental impacts associated with automobile use by providing alternative means of travel and increasing intermodal connectivity.	Providing a pathway link supporting TRPA's Active Transportation Plan
2	Provide connectivity to recreational opportunities on a regional scale and maximize access to recreational resources throughout the Basin and to the Meyers Area Plan via a shared use path.	Providing access to local businesses, schools, and employment for bicyclists and pedestrians to reduce vehicle miles traveled (VMT).
3	Implementation of the Project shall be consistent with General Plans, Master Plans, Area Plans, and other applicable Tahoe Regional Planning Agency (TRPA) Plans.	Enhancing recreational opportunities within the Tahoe Basin.
4	Implementation of the Project should minimize the impacts to the scenic quality of the area.	Hardscape improvements shall blend into the scenic environment to the maximum extent practicable
5	Provide drainage improvements resulting in a reduction in fine (less than 20 microns) and coarse sediment, and reduction in stormwater runoff volume and peak flows.	Reduce fine and coarse sediment, stormwater runoff volume, and peak flows by 33%, to the maximum extent practicable. Stabilize eroding cut slopes, roadside ditches, and capture road abrasives utilizing source control Best Management Practices (BMPs)

Source: El Dorado County, 2020

2.5 PROJECT AREA

Figure 1-1 in Chapter 1 presents the regional location map and illustrates the general location of the project area and Project alignment in the southern portion of the Lake Tahoe Basin. The Project is located in the southern section of the Lake Tahoe Basin in Sections 30 and 31 of Township 12 North, Range 18 East, Mount Diablo Meridian. The Project area is surrounded by steep mountainous terrain. The approximate elevation range of the Project site is from 6,315 to 6,385 feet above mean sea level, with the elevation of the watersheds conveying runoff into the area exceeding 7,600 feet above mean sea level. Project area topography mostly consists of flat terrain with isolated slopes exceeding ten percent.

The Project vicinity is bordered by the North Upper Truckee Road on the west, Washoe Meadows State Parks on the north, U.S. Highway 50 (US 50) on the south and Apache Avenue on the east. The total Project area is approximately 10.0 acres and encompasses portions of County Right of Way (ROW), Tahoe Paradise Park, and United States Forest Service (USFS) parcels. The Project is straddled between two residential areas, North Upper Truckee and Meyers.

2.6 PROJECT DESCRIPTION

The Project would construct approximately 0.24 mile (1,250 lineal feet) of Class 1 shared use trail to connect West San Bernardino Avenue and East San Bernardino Avenue, and would include San Bernardino Class 3 Bike Route improvements between the new Class 1 trail and North Upper Truckee Road and the new Class 1 trail and Apache Avenue (Figure 2-1). The trail will include a bridge crossing of the Upper Truckee River with boardwalk approaches on either side of the bridge. Total length of the trail improvements would be approximately 0.95 mile.

Along the existing road right-of-way of West and East San Bernardino Avenues, the pathway will be designated as a Class 3 Bike Route by installing appropriate signage and pavement markings, as applicable. The Class 3 bike route designation will begin at the intersection of North Upper Truckee Road and West San Bernardino Avenue and continue to the end of the subdivision limits, approximately 0.4 mile. On the east side of the Upper Truckee River from the westerly end of the parking lot of Tahoe Paradise Park, the Class 3 designation will resume by installing signage to direct users toward Bakersfield Street along East San Bernardino Avenue and terminate at the intersection at Apache Avenue, approximately 0.3 mile.

The Class 1 trail segment begins at the easterly limit of the subdivision at West San Bernardino Avenue conforming to the minimum standard section consisting of an eight-foot wide pavement with two-foot compacted aggregate base shoulders on each side. The asphalt concrete trail turns to a boardwalk as the alignment approaches the Upper Truckee River and the trail crosses over the Upper Truckee River via a weathered steel truss bridge towards Tahoe Paradise Park and ties-in at the westerly portion of the existing Tahoe Paradise Park parking lot.

2.6.1 Class 1 Trail Alignment Description

Asphalt Trail

The Class 1 portion of the Project would begin at the end of pavement at West San Bernardino Avenue for a length of approximately 600 feet, ending at the proposed boardwalk structure approaching the bridge abutment. This asphalt trail would continue from the other side of the bridge for a distance of 150 feet to the connection with the existing Tahoe Paradise Park parking lot. The Class 1 trail segment follows what is presently a compacted dirt, two-track road used for utility access.

The asphalt paved trail would measure 8 feet in width with two feet of aggregate base shoulder on either side of the alignment. Therefore, the paved portions of trail would consist of 6,000 square feet of asphalt paved trail with 3,000 square feet of aggregate base trail shoulder, or 9,000 square feet of total land coverage. Pavement thickness would consist of three inches of asphalt concrete over eight inches of compacted aggregate base. Construction of the Class 1 path would require excavation of approximately 1.5 feet in depth in the existing disturbed dirt roadway.

Bridge

The bridge crossing the Upper Truckee River would measure approximately 200 feet in length by twelve feet in width with no shoulders (2,400 square feet), spanning the entire channel of the Upper Truckee River (Figure 2-2). Bridge abutments would be constructed on each side of the bridge to span the Upper Truckee River channel. Based on the preliminary and conceptual design plans for the abutments, they would measure approximately 20 by 10 feet, and 8 feet in height, and would require possible over-excavation for additional foundation support, which would be up to eight feet deep and three feet beyond the limits of the abutment footing. To facilitate the span of approximately 200 feet from end to end, an

additional support (or bent) would be located on the west side of the river channel approximately 40 feet from the western abutment. Based on the preliminary and conceptual design plans for the bent footing, it would measure 20 by 4 feet and would be located outside the ordinary high mark /active channel area. The bridge design would be a half-through truss and would be made of weathered steel trusses with a concrete bridge deck surface. The bridge railings would be up to 10 feet in height and the elevation of the bridge deck is designed to clear the 100-year base flood elevation. Figure 2-3 provides a photograph of an example of the type of bridge proposed for the river crossing. The abutments and pier footings would be protected with riprap for scour protection, approximately 1.5 ft in depth and would be placed approximately 1.5 foot in depth below the ground surface and the bent would be placed up to three feet below ground surface. The bent may consist of driven piles based on the bridge load design. The bridge would result in approximately 480 square feet of new land coverage.

Boardwalk

To reduce potential overall ground disturbance and lessen accelerated drainage and possible sedimentation near the river, two sections of boardwalk would be located at each end of the bridge approach. On the west side, the boardwalk would begin approximately 250-feet before the bridge, ending at the western base of the bridge where the trail meets the abutment. On the east side of the bridge, the boardwalk would measure approximately 50 feet in length from the base of the bridge to the connection with the asphalt trail. The boardwalk approaches would measure twelve feet in width with no shoulder. Support for the boardwalk would consist of six-inch diameter helical piers, installed at a maximum depth of eight feet. The boardwalk travel ways would therefore occupy a total of approximately 3,600 square feet of land coverage.

Drainage/Slope Protection

Paved trail segments will include newly constructed drainage facilities as needed to slow runoff. Facilities will consist of infiltration channels/swales, rock slope protection and rock dissipators. The facilities will capture and infiltrate runoff so it does not carry sediment to the river channel. Approximately 250 feet east of the start of the Class 1 portion of the trail from West San Bernardino Avenue, a vegetated drainage channel would be located on both sides of the paved trail, boardwalk section, and at the bridge approach, ending in rock-lined dissipators. East of the bridge, a vegetated channel would be located on the south side of the trail, extending from the edge of pavement to a rock lined dissipator at approximately the eastern bridge abutment.

Tree Removal and Protection

Approximately 30 lodgepole pine trees ranging in size from 6 to 24-inches in diameter at breast height (dbh) would be removed during construction of the trail. Tree protection measures include the use of temporary four-foot tall fencing around tree driplines and eight-foot tall wooden tree trunk protection as shown on Plan Sheets EC-1 and EC-2 - Erosion Control Plan and Erosion Control Details Plan Sheets. The use of tree trunk protection, rather than fencing around tree driplines would only be used in areas where use of fencing around the driplines would prohibit construction access.

Tree protection will follow the standards in TRPA Code of Ordinances Section 33.6.10. Tree removal will be done in accordance with TRPA Code Section 61.1. Section 61.1.4.A.7 indicates trees larger than 30 inches dbh in the westside forest types may be removed when it is demonstrated that the removal is necessary for the activity. Tree removal activities will be conducted in accordance with TRPA Code of Ordinances Section 61.1.6., particularly subsection C regarding tree removal within SEZ areas.

Figure 2-1 Class 1 Bike Trail Plan

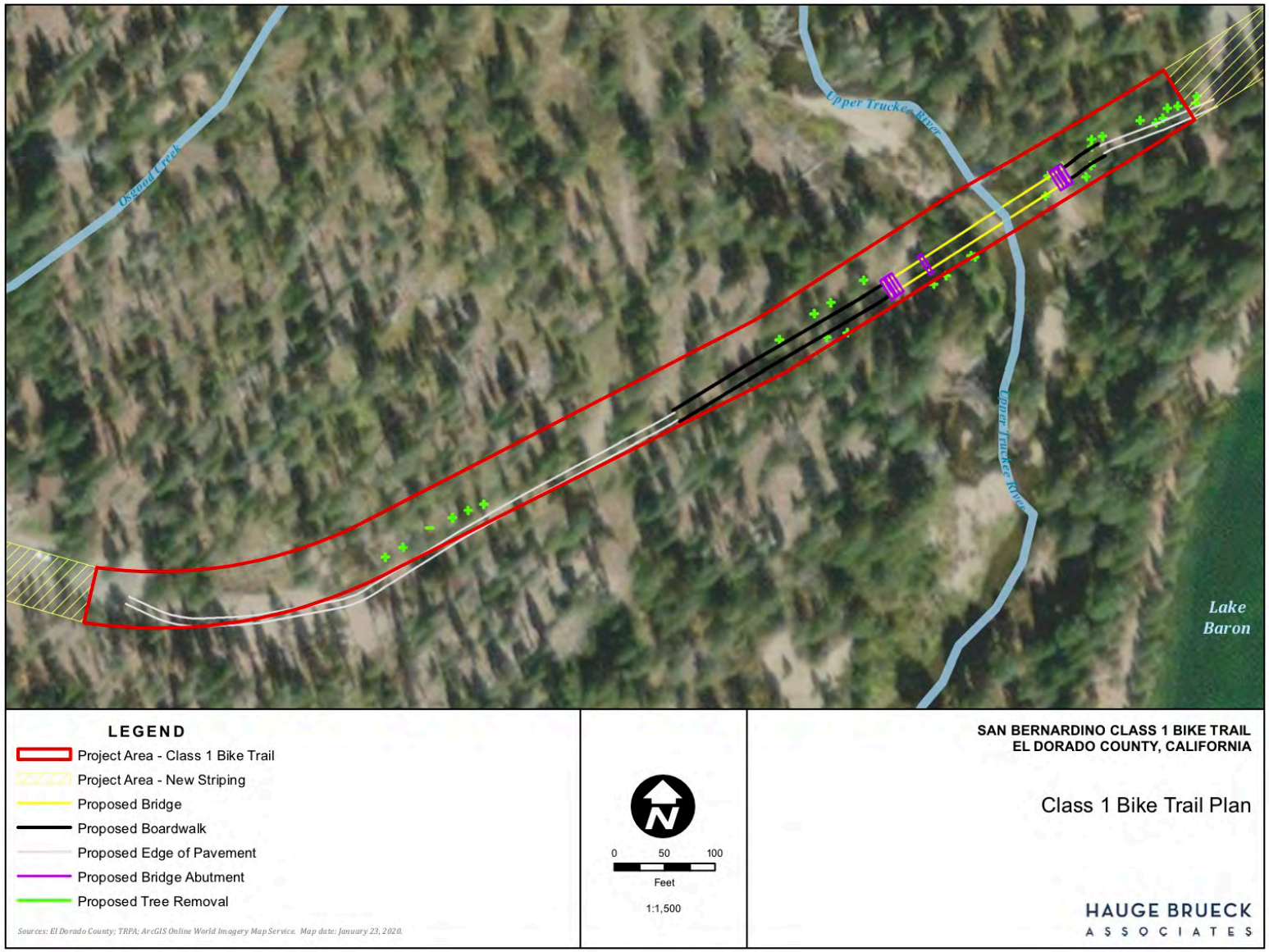
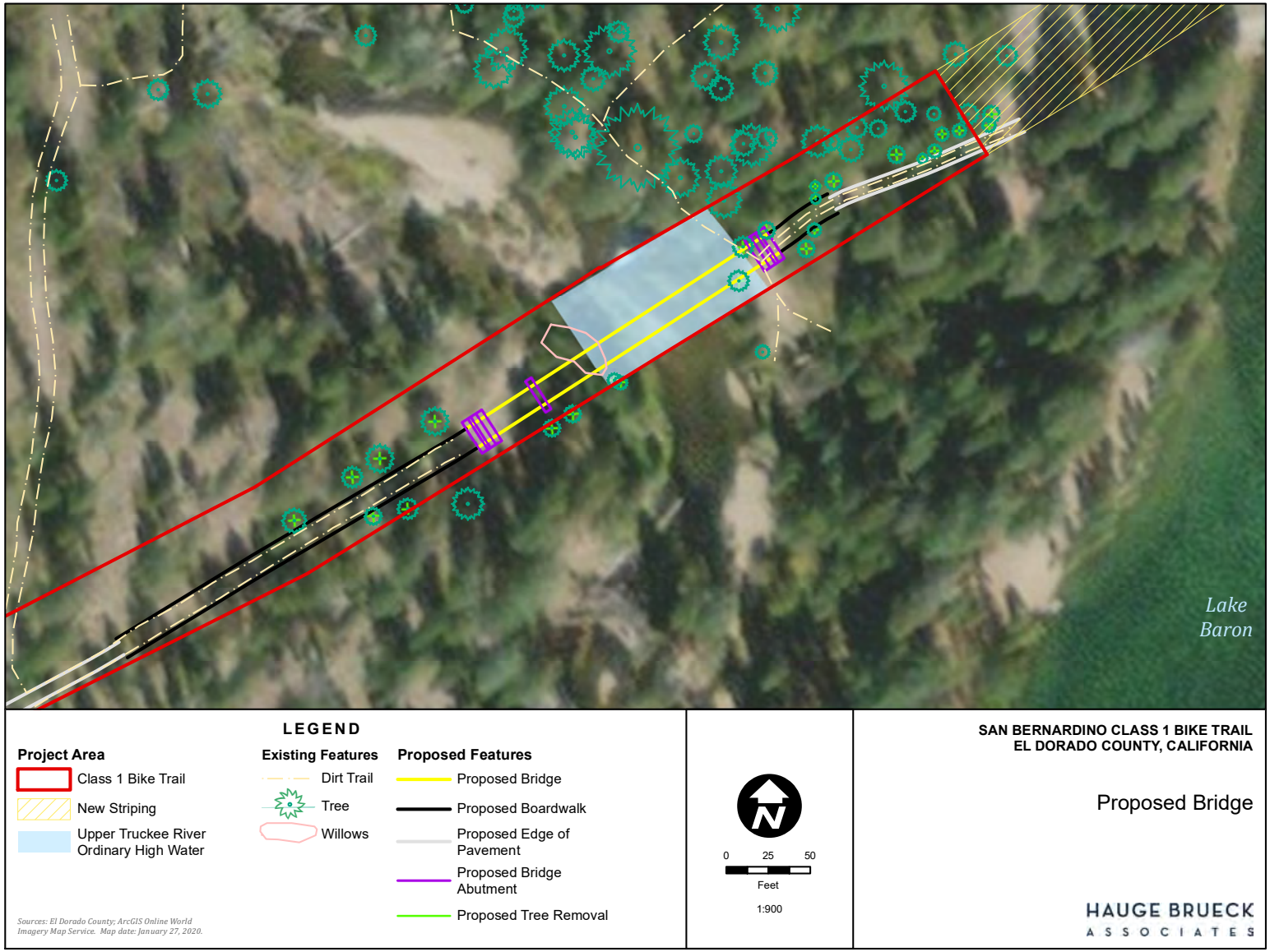


Figure 2-2 Proposed Bridge Details



Construction Dewatering

Construction of the bridge abutments and interim support require excavation in the Upper Truckee River floodplain. Groundwater interception is likely even during late summer months when river flows are at their lowest for the year. As such, temporary dewatering will be required during construction of the abutments. As part of final trail design, a construction dewatering system will be designed to consist of facilities to move the intercepted groundwater from the abutment excavation pits to a selected dewatering location upland of the river and free of erosion and sedimentation. No work will occur within surface water of the river, avoiding direct impacts to surface water.

Figure 2-2 Bridge Design Example

2.6.2 Class 3 Bike Route Alignment Description

The Project proposes to develop a Class 3 bike route along West and East San Bernardino Avenues, approximately 0.4 and 0.3 mile, respectively. No additional paving is proposed; however, signage would be installed for user direction, and the roadway would be striped to delineate the limits of the bike route. This Class 3 bike route would extend from either side of the new Class 1 trail located between the termination of the two roadways, for a total approximate length of 3,700 feet.

Signage and Striping

A total of 16 directional signs would be installed at key locations along the Class 3 travel route portion of the project. Signs are proposed at the following intersections and trail locations:

- West San Bernardino Avenue north of N. Upper Truckee Road. (southbound sign)

- West San Bernardino Avenue north of Shawnee Street (northbound sign)
- West San Bernardino Avenue approaching Normuk Street (eastbound and westbound)
- West San Bernardino Avenue approaching Cholula Street (eastbound and westbound)
- At the start of the trail at the western most end of West San Bernardino Avenue (eastbound and westbound)
- At the start of the trail at the eastern most end of East San Bernardino Avenue (eastbound and westbound)
- East San Bernardino Avenue approaching Bakersfield Street (eastbound and westbound)
- East San Bernardino Avenue approaching Indigo Way (eastbound and westbound)
- East San Bernardino Avenue approaching Apache Avenue (eastbound and westbound)

The Class 3 trail would be striped along the edges of West San Bernardino Avenue and East San Bernardino Avenue following standard Caltrans striping specifications.

Culvert Improvements

West of the intersection with Bakersfield Street at the existing culvert, the Project proposes a 3,000 square foot sediment basin, a new sediment trap and channel leading to the basin, and a new flared end section. This culvert is a highly eroded corrugated metal pipe about 24 inches across and the downstream area of the culvert is eroded with a 7 by 8-foot depression. The culvert is partially filled with sediment, has an eroded/missing top, little to no slope, and a very shallow low flow drainage. The ordinary high water mark width at this drainage is 12 inches and 0.5 inches deep. It is believed that the intermittent, riverine drainage flowing through this culvert is federally jurisdictional and measures approximately 0.0015 acres in size. East of this culvert, the Project proposes an infiltration trench and new culvert on East San Bernardino Avenue leading to the sediment trap and sediment basin at the intersection with Bakersfield Street. The flared end section and rock dissipator would place an 18-inch thickness of rock over a turf reinforcement mat to reduce erosion and sedimentation. Approximately 12-inches of rock would also cover the culvert pipe, and the disturbed areas would be revegetated. No tree removal would occur.

2.6.3 Construction Regulatory Compliance Measures and Best Management Practices

Staging

Temporary construction staging and storage would be located at the easternmost end of West San Bernardino Avenue (approximately 3,285 square feet of previously disturbed right of way) and at the existing Tahoe Paradise Park paved parking lot east of the Upper Truckee River (1,383 square feet). These staging areas and the currently unpaved portion of trail alignment would be fenced during construction. A type 1 temporary construction entrance (per Caltrans Standard Plan T58) would be located at the east end of West San Bernardino Avenue within the staging area.

Regulatory Compliance Measures and Best Management Practices

The project is required to comply with local, state, and federal regulations pertaining to protection of human health, safety, and environment. Specifically, the project would be required to comply with the TRPA Code of Ordinances, El Dorado County General Plan, Lahontan RWQCB, and Lake Tahoe Regional Plan.

The following required construction controls from local and state agencies have been incorporated into the project design.

Air Quality

The El Dorado County Air Quality Management District (EDCAQMD) District Rule 223 includes requirements for construction projects. Control measures for construction and other earth moving activities must follow the guidelines presented in Table 1 of Rule 223-1 "Best Management Practice". These requirements include, but are not limited to, creation and implementation of a Fugitive Dust Plan, trackout management practices at the construction site, visible emissions limitation, vehicle speed limitations, material handling, and control for stockpiles and disturbed areas.

Biological Resources

The project is required to implement the following applicable TRPA Code of Ordinance standards which protect biological resources:

- Vegetation shall not be disturbed, injured, or removed except in accordance with the Code or conditions of project approval. All trees, major roots, and other vegetation not specifically designated and approved for removal in connection with a project shall be protected according to methods approved by TRPA. All vegetation outside the construction site boundary, as well as other vegetation designated on the approved plans, shall be protected by installing temporary fencing pursuant to subsections 33.6.9 and 33.6.10. Disturbed areas shall be revegetated pursuant to 33.6.8.
- All hay, straw, hay bales, straw bales, seed, mulch or other material used for erosion control or landscaping shall be free of noxious weed seeds and propagules.
- All equipment brought to a project site for construction shall be thoroughly cleaned of all dirt and vegetation prior to entering the site in order to prevent importing noxious weeds.
- All materials brought to a project site, including rock, gravel, road base, sand, and topsoil, shall be free of noxious weed seeds and propagules.
- The property owner shall maintain and implement an effective program for the monitoring and control of noxious weeds.

Cultural Resources

The Project is subject to the regulations and standards established in The National Historic Preservation Act, the California Register of Historical Resources (PRC § 5024.1(a)), Public Resources Code §5097.5, Caltrans *Standard Environmental Reference,* and the TRPA Code of Ordinances. The project is required to implement the following applicable regulations and standards which protect cultural resources:

- Caltrans *Standard Environmental Reference* (SER) (revised 2015) contains procedures that shall be followed if previously unidentified archaeological resources are encountered during construction, and the following compliance measure is integrated into Project implementation:
    - In the event of inadvertent discovery during construction, the following procedures must be implemented: Caltrans district shall promptly stop construction activity near the property and implement all reasonable measures needed to avoid, minimize, or mitigate further harm to the property. Once a discovery is made, the 106 PA provides for the following actions:
        1. Caltrans district notifies CSO and SHPO within 48 hours. Caltrans district may furnish this information through correspondence, hard copy, electronic media, telephone, or meetings, at its discretion taking into account the

capabilities of the consulting parties and must document this process for the administrative record.

2. Caltrans district notifies Indian tribes and/or Native American groups that may attach religious or cultural significance to the property within 48 hours.

- TRPA Code of Ordinances (Historic Resource Protection) Section 67.3 – *Resource Projection* outlines requirements for the accidental discovery of resources during construction (subsection 67.3.1), requirements for site survey and consultation with the Washoe Tribe (subsection 67.3.2), and requirements for protection of known resources. Consultation with area tribes occurred, as did intensive pedestrian surveys of the area and no resources were identified within the Project area. Therefore, the following measures are integrated into the Project implementation plan as regulatory compliance measures:

    - If, during the course of a project or activity, a potential archaeological, cultural, or historical resource is discovered, all operations shall stop until a qualified archaeologist has evaluated the potential for significance of the resource. In the event inadvertent cultural resources are discovered as a result of project activities, the Washoe Tribe and UAIC will be notified.

- Should human remains be uncovered, the statutes of State of California Health and Safety Code Section 7050.5 must be followed. The County Coroner must be notified of the find immediately, and no further disturbance shall occur until the County Coroner has made a determination of origin and disposition pursuant to PRC Section 5097.98. If the human remains are determined to be prehistoric, the Coroner will notify the NAHC, which will determine and notify a Most Likely Descendent. The Most Likely Descendent shall complete the inspection of the site within 24 hours of notification and may recommend scientific removal and nondestructive analysis of human remains and items associated with Native American burials.

Geology and Soils

- The project would require the County to prepare and submit a Stormwater Pollution Prevention Plan (SWPPP) to the Lahontan Regional Water Quality Control Board (RWQCB) to comply with the Stormwater General Permit. The purpose of the SWPPP is to protect soil and water resources from impacts during construction, including groundwater. As part of the SWPPP, the contractor will be required to prepare and adhere to a Temporary BMP Plan, a Spill Contingency Plan, and a Dewatering Plan that will be approved by El Dorado County. The plan would designate BMPs to minimize impact from erosion and sedimentation. At a minimum, the following geology and soils controls must be implemented:

    - Temporary erosion control devices shall be placed down-gradient of dirt piles, excavated areas, or stockpiles
    - Coverings shall be placed on all dirt piles during non-working hours
    - Vegetation protection fencing shall be installed to protect existing vegetation where feasible
    - Disturbed areas shall be revegetated to stabilize soils
    - Stabilize disturbed areas with mulch until vegetation is reestablished
    - Use of tracking controls
    - Parking on paved and existing disturbed areas only

Greenhouse Gas Emissions and Green Energy

The project must implement the Basic Construction Emission Control Practices and the measures listed in the Guidance for Construction GHG Emissions Reductions developed by the Sacramento Metropolitan Air Quality Management District (SMAQMD 2016), which includes measures to improve fuel efficiency, limit emissions, use green energy sources, and recycling of materials. These include:

- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.
- Train equipment operators in proper use of equipment.
- Use the proper size of equipment for the job.
- Use equipment with new technologies (repowered engines, electric drive trains).
- Perform on-site material hauling with trucks equipped with on-road engines (if determined to be less emissive than the off-road engines).
- Use alternative fuels for generators at construction sites such as propane or solar or use electrical power.
- Use a California Air Resources Board (CARB)-approved low carbon fuel for construction equipment. (Nitrogen oxide emissions from the use of low-carbon fuel must be reviewed and increases mitigated.)
- Encourage and provide carpools, shuttle vans, transit passes, and/or secure bicycle parking for construction worker commutes.
- Reduce electricity use in the construction office by using compact fluorescent bulbs, powering off computers every day, and replacing heating and cooling units with more efficient ones.
- Recycle or salvage non-hazardous construction and demolition debris (goal of at least 75% by weight).
- Use SmartWay certified trucks for deliveries and equipment transport.
- Develop a plan to efficiently use water for adequate dust control.

Hydrology and Water Quality

The permittee must develop and implement a Stormwater Management Plan (Order No. R6T-2017-0010, National Pollutant Discharge Elimination System (NPDES) permit No. CAG616002) and a SWPPP (Tahoe Construction Permit R6T-2016-0010). As part of the SWPPP, the contractor will be required to prepare and adhere to a Temporary BMP Plan, a Spill Contingency Plan, and a Dewatering Plan that will be approved by El Dorado County. These plans must outline measures that will protect hydrology and water quality resources, including groundwater, from negative impacts during construction. The SWPPP will need to be approved by the Lahontan Regional Quality Control Board.

Additionally, TRPA Code of Ordinances Chapter 60: Water Quality – outlines standards intended to protect water quality through requirements for the installation of BMPs to protect and restore water quality, as set forth in Section 60.4.6 – Standard BMP Requirements.

Construction site stormwater BMPs would follow the Caltrans Construction Site Best Management Practices Manual (California Department of Transportation [Caltrans] 2017) and the TRPA BMP Handbook (TRPA 2014) to control and minimize the impacts of construction related activities. The following BMPs, at a minimum, are required at the site during construction:

- Temporary erosion and sediment control BMPs to prevent the transport of earthen materials and other construction waste materials from disturbed land areas, stockpiles, and staging areas during periods of precipitation or runoff (such as silt fence, erosion control fabric, fiber rolls)
- Tracking controls (such as designated ingress and egress areas) and designated staging areas outside of drainage, swale, and SEZ areas. Staging area to be restored in accordance with TRPA Code Section 61.4 (Revegetation)
- Temporary BMPs to prevent wind erosion and sediment transport of disturbed areas, such as use of water for dust control and covering of stockpiles
- Limit grading to May 1 through October 15, unless an exemption is granted by TRPA. At the end of the grading season or before completion of the project, all surplus or waste earthen materials from the project site would be removed and disposed of at a TRPA approved disposal site or stabilized on-site in accordance with TRPA regulations.
- Implement a Spill Prevention Plan (see Hazards and Hazardous Materials below). Phase III project contractors would be responsible for storing on-site materials and temporary BMPs capable of capturing and containing pollutants.
- Implement a Dewatering Plan as part of the SWPPP, to outline the process that will be required of the project contractors if groundwater is intercepted during construction. The Dewatering Plan shall be prepared and submitted for approval by Transportation, Lahontan RWQCB, and TRPA prior to commencement of construction.
- Construction sequencing shall be designed to avoid and minimize the potential of encountering groundwater during construction.
- Use of vegetation protection fencing to prevent damage to trees or other vegetation where possible
- Use of construction boundary fencing to limit land disturbance to areas not planned for construction
- Temporary erosion and sediment control devices will be placed in accordance with the shown plans to protect sediment laden runoff from discharging from the site.
- Construction fencing shall be placed around SEZ areas.

Hazards and Hazardous Materials

A Spill Contingency Plan shall be developed along with the project specific SWPPP to detail site specific BMPs and TRPA approved methods to prevent accidental spills from impacting water and land resources. The plan shall outline response protocols and information for contacting the Lahontan RWQCB and other responsible agencies. Additionally, spill containment and absorbent materials shall be kept onsite at all times, and petroleum products and hazardous waste shall be removed from the project area and disposed of at an appropriate location.

Noise During Construction

The project shall be constructed during the TRPA exempt hours of 8:00 a.m. and 6:30 p.m. per TRPA Code and the County's General Plan to reduce the impacts of temporarily increased ambient noise levels on nearby residences.

2.7 PROJECT IMPLEMENTATION SCHEDULE

The Project would be constructed over a four-month period, beginning in July 2020. Striping and signage installation for the Class 3 portion of the project would be a concurrent, but separate phase. Construction of the Class 1 trail would begin with grading and site preparation, followed by paving and installation of the boardwalk travelway and bridge elements.

2.8 OPERATIONS, MANAGEMENT AND MAINTENANCE STRATEGY

The maintenance and monitoring of the proposed Project improvements will continue in perpetuity after construction completion. Revegetation monitoring will continue for a minimum of two years following construction. Plant establishment will include irrigation and replanting, if necessary. The County will inspect all Project improvements during the spring and fall of each year. County engineering staff will direct maintenance based on results of the inspections. Photographs will be taken before and after construction for a period of two years and following significant storm events to monitor Project improvement performance. The County will also conduct snow removal to maintain trail accessibility in the winter.

3.0 ENVIRONMENTAL CHECKLIST AND IMPACT ANALYSIS

The proposed Project requires El Dorado County Board of Supervisors and TRPA Governing Board approval. Approval may also be required by the Army Corps of Engineers, U.S Fish and Wildlife, California Department of Fish and Wildlife, the California Regional Water Quality Control Board, Lahontan Region, and/or El Dorado County Air Quality Management District. Caltrans will require the County to submit a Request for Authorization to Proceed with Construction to secure federal funding per the Local Assistance Procedures Manual.

3.1 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

If environmental factors are checked below, there would be at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages. Applicable mitigation measures for general and cumulative impacts associated with the County General Plan and the TRPA RPU are incorporated into the project approval.

☐ Aesthetics	☐ Agriculture/Forest Resources	☐ Air Quality
☐ Biological Resources	☐ Cultural Resources	☐ Energy
☐ Geology Resources	☐ Greenhouse Gas Emissions	☐ Hazards/Hazardous Materials
☐ Hydrology/Water Quality	☐ Land Use/Planning	☐ Mineral Resources
☐ Noise	☐ Population/Housing	☐ Public Services
☐ Recreation	☐ Transportation/Traffic	☐ Tribal Cultural Resources
☐ Utilities/Service Systems	☐ Wildfire	☐ Mandatory Findings of Significance
	☐ None	☒ None with Mitigation Incorporated

3.2 CEQA ENVIROMENTAL DETERMINATION

On the basis of this Initial Study:

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

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

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

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

Donaldo Palaroan, P.E., Senior Civil Engineer
County of El Dorado

Date

3.3 TRPA ENVIRONMENTAL DETERMINATION (TO BE COMPLETED BY TRPA)

On the basis of this TRPA Initial Environmental Checklist:

a.	The proposed project could not have a significant effect on the environment and a finding of no significant effect shall be prepared in accordance with TRPA's Rules of Procedures	☐	Yes	☒ No
b.	The proposed project could have a significant effect on the environment, but due to the listed mitigation measures which have been added to the project, could have no significant effect on the environment and a mitigated finding of no significant effect shall be prepared in accordance with TRPA's Rules of Procedures.	☒	Yes	☐ No
c.	The proposed project may have a significant effect on the environment and an environmental impact statement shall be prepared in accordance with this chapter and TRPA's Rules of Procedures.	☐	Yes	☒ No

Signature of Evaluator

Date

Title of Evaluator

3.4 EVALUATION OF ENVIRONMENTAL IMPACTS

The following environmental analysis has been prepared using the CEQA Guidelines Appendix G: Environmental Checklist Form to complete an Initial Study (IS). This checklist also includes analysis of environmental impacts required in the TRPA Initial Environmental Checklist (IEC) found at: http://www.trpa.org/wp-content/uploads/Initial_Environmental_Checklist.pdf.

3.4.1 CEQA

CEQA requires a brief explanation for answers to the Environmental Checklist except "No Impact" responses that are adequately supported by noted information sources (see Table 3.4.1-1). Answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

Table 3.4.1-1: CEQA Defined Levels of Impact Significance

Impact Severity	Definition
No Impact	A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g., the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g., the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).
Less than Significant Impact	"Less than Significant Impact" applies where the Project's impact creates no significant impacts based on the criterion or criteria that sets the level of impact to a resource and require no mitigation to avoid or reduce impacts.
Less than Significant Impact after Mitigation	"Less than Significant Impact after Mitigation" applies where the incorporation of mitigation measures has reduced an effect from potentially "Significant Impact" to a "Less Than Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level.
Significant Impact	"Significant Impact" is appropriate if there is substantial evidence that an effect is potentially significant, as based on the criterion or criteria that sets the level of impact to a resource. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.
Source: CEQA Appendix G Environmental Checklist Form 2020	

3.4.2 TRPA

Article VI of the TRPA Rules of Procedures presents the rules governing the preparation and processing of environmental documents pursuant to Article VII of the Compact and Chapter 3 of the Revised TRPA Code of Ordinances.

TRPA uses an IEC, in conjunction with other available information, to determine whether an EIS will be prepared for a project or other matter. This could include preparation of an Environmental Assessment, in accordance with Section 3.4 of the TRPA revised Code, when TRPA determines that an IEC will not provide sufficient information to make the necessary findings for a project.

The IEC includes a series of questions categorized by and pertaining to resources regulated by TRPA. Each checklist item requires a checked response of "Yes," "No," "No, with Mitigation," or "Data Insufficient." A checked response of "Data Insufficient" or a determination that a project may have a significant effect on the environment (Section 3.3.2 of the TRPA Code) indicates that additional

environmental review in the form of an Environmental Assessment (EA) or Environmental Impact Statement (EIS) would be required. The IEC form indicates that all "Yes" and "No, with Mitigation" responses require written explanations. This IEC provides supporting narrative for all responses. Where a checked response may not be intuitive or easily understood by the reader, that response has been marked with an asterisk (*) and a brief clarifying statement supporting the rationale for the checked response is included. Based on an initial review of the Project, TRPA and City staff determined that an IEC would provide sufficient information regarding the Project to make one of the findings below. As set forth in Code Subsection 3.3.1, based on the information submitted in the IEC, and other information known to TRPA, TRPA shall make one of the following findings and take the identified action:

1. The proposed project could not have a significant effect on the environment and a finding of no significant effect shall be prepared in accordance with TRPA's Rules of Procedure.

2. The proposed project could have a significant effect on the environment, but due to the listed mitigation measures which have been added to the project, could have no significant effect on the environment and a mitigated finding of no significant effect shall be prepared in accordance with TRPA's Rules of Procedure.

3. The proposed project may have a significant effect on the environment and an environmental impact statement shall be prepared in accordance with this Chapter and TRPA's Rules of Procedure.

When completed, TRPA reviews the IEC to determine the adequacy and objectivity of the responses. When appropriate, TRPA consults informally with federal, state, or local agencies with jurisdiction over the project or with special expertise on applicable environmental impacts.

3.4.3 Aesthetics (CEQA), Scenic Resources/Community Design and Light and Glare (TRPA)

This section presents the analyses for potential impacts to aesthetics, scenic resources/community design and light and glare. Table 3.4.3-1 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 3.4.3-1: Aesthetics, Scenic Resources/Community Design and Light and Glare

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
3.4.3-1. Have a substantial adverse effect on a scenic vista? (CEQA Ia)		X		
3.4.3-2. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a state scenic highway? (CEQA Ib)				X
3.4.3-3. Substantially degrade the existing visual character or quality of the site and its surroundings? (CEQA Ic)		X		
3.4.3-4. Create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area? (CEQA Id)			X	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
3.4.3-5. Be visible from any state or federal highway, Pioneer Trail or from Lake Tahoe? (TRPA item 18a)				X
3.4.3-6. Be visible from any public recreation area or TRPA designated bicycle trail? (TRPA item 18b)		X		
3.4.3-7. Block or modify an existing view of Lake Tahoe or other scenic vista seen from a public road or other public area? (TRPA item 18c)		X		
3.4.3-8. Be inconsistent with the height and design standards required by the applicable ordinance or Community Plan? (TRPA item 18d)				X
3.4.3-9. Be inconsistent with the TRPA Scenic Quality Improvement Program (SQIP) or Design Review Guidelines? (TRPA item 18e)				X

3.4.3-10. Include new or modified sources of exterior lighting? (TRPA item 7a)				**X**
3.4.3-11. Create new illumination which is more substantial than other lighting, if any, within the surrounding area? (TRPA item 7b)				**X**
3.4.3-12. Cause light from exterior sources to be cast off-site or onto public lands? (TRPA item 7c)				**X**
3.4.3-13. Create new sources of glare through the siting of the improvements or through the use of reflective materials? (TRPA item 7d)				**X**

Environmental Setting

The project area includes existing paved residential neighborhood streets within the Class 3 portion of the alignment, and park and undeveloped public lands within the Class 1 portion of the alignment. The Class 1 portion is located on lands manage by the USFS and by the Tahoe Paradise Recreation and Park District. This area includes improved recreational amenities, such as roads and parking lots, informational signage, recreation courts and fields, clubhouse, playground, picnic areas, and undeveloped lands around the river. An existing dirt utility road is located within the trail alignment. There are no designated scenic roadways within the Project alignment and the Project is not visible from scenic roadways.

The Upper Truckee River is the dominant visual resource in the Class 1 portion of the Project area. Photo-documentation is provided in the Visual Resources Technical Memo (Appendix B), which assesses the potential impacts of the Project.

<u>El Dorado County and TRPA</u>

Portions of the project area outside of NFS lands fall under the jurisdiction of El Dorado County and the Tahoe Regional Planning Agency (TRPA). These portions of the project area fall within the Park boundary and are not visible from offsite locations. The Park is not identified as a sensitive scenic resource in either the *Meyers Area Plan* or the TRPA *Regional Plan*. As such, there are no additional scenic resource indicators that must be applied to this analysis for the County or TRPA.

<u>USFS</u>

The goal of scenic resource management on all NFS lands is to manage for the highest possible visual quality, commensurate with other appropriate public uses, costs, and benefits. Since the mid-1970s, the Forest Service has operated under the guidance of the Visual Management System (VMS) for inventorying, evaluating, and managing scenic resources on NFS lands. More recently the Scenery Management System (SMS) has been used to evaluate changes in visual character from project activities. As stated in the Land Management Plan, “Scenic integrity is a measure of the degree to which the valued scenic attributes are present within the landscape. The highest scenic integrity ratings are given to those landscapes which have little or no deviation from the character valued by constituents for its aesthetic appeal….”

The *Land Management Plan* includes minimum scenic integrity objectives for LTBMU lands (see Map 10 in Attachment B) - the minimally acceptable levels of scenic integrity for a given area. Project design and activity planning should meet or exceed minimum scenic integrity objectives for the project or activity area and should maintain or enhance scenic integrity. A Minimum Scenic Integrity Objective (MSIO) map identifies assigned MSIO levels to NFS lands. Scenic Class, which describes the relative "social value" of areas for their scenery was the starting point for determining MSIO levels. Factors that affect Scenic Class include the inherent attractiveness of the area and its visibility from key viewing areas and travel routes.

NFS lands in the Meyers area are assigned a "high" MSIO rating, which is defined as landscapes where the valued landscape character "appears" intact. Deviations may be present but must repeat the form, line, color, texture, and pattern common to the landscape character so completely and at such scale that they are not evident.

The 2016 Forest Plan standards and guidelines for scenic resources includes the following:

SG117. Scenic resource and built environment guidelines are incorporated into management activities and into the design and development of agency facilities. All resource management and permitted activities shall meet or exceed the established scenery objectives shown on the MSIO map. Utilize techniques such as:

- Size areas cleared for management objectives to meet minimum requirements for operability and safety.
- With consideration for scenic objectives, maintain clumps of trees within cleared areas if they do not pose a safety or operational risk.
- Maintain understory vegetation within cleared corridors if they do not pose a safety or operational risk.

Environmental Analysis and Mitigation Measures

3.4.3-1. Would the Project have a substantial adverse effect on a scenic vista? (CEQA Ia)

Standard of Significance: Creating visually dominant features that are out of scale with the surrounding landscape constitutes a significant impact to scenic vistas under CEQA. Points of significance include: 1) creation of strong visual contrast; 2) reduction in scenic vista area; and/or 3) non-compliance with scenic resource goals, policies or standards of federal, state of local agencies. CEQA relies on local policies to define scenic vistas.

Environmental Analysis: *Less than Significant Impact with Mitigation Measures.*

Roadway pavement markings and signage would not be noticeable off-site as no perceptible change would occur from off-site viewing distances as a result of creating Class 3 bike route designation. Likewise, repair of existing pavement in the Park and at the end of West San Bernardino Avenue would not be perceptible from off-site locations.

Class 1 trail and drainage facility construction requires grading and the removal of trees along the unpaved corridor where they are located within the excavation limits for the pathway construction. Class 1 construction would begin at the end of West San Bernardino Avenue, follow an existing user created dirt trail to the bank of the Upper Truckee River, cross the river using a new 200 foot-long elevated bridge structure, then follow an existing Park dirt trail to connect with the Park's paved parking lot. Plan sheets

(e.g., sheet L-3) in Appendix A identify the portions of the pathway where tree removal would occur. Most tree removal would occur near the river crossing, with a concentration of trees removed in the shorter distance of trail between the bridge and the Park parking lot (approximately 30 trees).

Tree removal and construction of the bridge as shown in Appendix A will create a noticeable deviation to the existing landscape character of the Upper Truckee River from viewpoints within adjacent NFS lands (west of the bridge location) by modifying existing vegetation patterns, line, color and form; the bridge construction would stand out compared to the existing mostly unaltered landscape character of the river corridor and would be evident but not dominant in degree of change. The bridge would increase the presence of man-made features that currently include several user-created foot trails, a small pump house, overhead utility lines and sheet pile that was placed perpendicularly in the river channel to protect a utility pipeline. The change created by construction of the proposed shared-use pathway bridge would not be consistent with the scenic integrity goals for the NFS lands in the project area but would mimic built elements similar to those currently located in the vicinity (Park and utility facilities, foot trails and the steel sheet pile located in the river channel).

Visibility of the bridge construction would be limited to the immediate area in which viewers are located and obscured from other locations by topography, retained trees, and other ground vegetation. For recreational users, the pathway and bridge structure would not be out of place in the river corridor landscape as recreational facilities are located in many similar NFS land locations (e.g., Saxon Creek, Blackwood Creek, Rabe Meadow) and recreational areas in the region. Measures required in the design of the bridge structure to reduce the amount of deviation to the landscape are demonstrated in Figure 6 of the Visual Resources Memorandum (Appendix B) and include low profile bridge rail design, natural appearing building materials and color consistent with adjacent landscape. Use of a low profile bridge railing with horizontal cabling rather than solid steel tubing, natural and darker paint colors (e.g., self-rusting steel with reddish/brown patina surfaces and stained concrete using darker colors), and retention of existing boulders, groundcover and shrubs in the bridge vicinity ensures that the proposed bridge structure would not be visually out of place with the adjacent landscape character when compared to other similar recreational uses on NFS lands in the LTBMU, and State and local recreation areas in the project vicinity.

Required Mitigation: **VIS-1: Bridge Design Elements**

a) The bridge structure shall include design elements to reduce visual deviation with the existing landscape or blend the structure with the existing background.

b) The truss railing shall have a low profile using horizontal cabling instead of larger steel tubing.

c) The weathered steel shall not deviate in coloration so as to cause a contrast with the landscape. The weathered steel's red/brown patina shall not create significant contrast with the surrounding vegetation.

d) To screen the bridge and maintain the characteristic tree coverage in the area, replacement trees shall be located along the boardwalk and paved trail area where tree removal has occurred. Disturbed areas not paved by the trail, shall be revegetated appropriately for the location, considering the river channel, rock slope protection areas, and drainage dissipation devices.

3.4.3-2. Would the Project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? (CEQA Ib)

Standard of Significance: See criteria listed for 3.4.3-1.

Environmental Analysis: *Less than Significant Impact.*

The Project is not visible from a State scenic highway. The majority of pathway construction would not be visible from off-site locations due to intervening topography and vegetation. New pavement at the beginning of the paved Class 1 shared-use pathway would be visible from the residential neighborhood located along West San Bernardino Avenue and would be consistent with existing pavement features currently visible in the neighborhood. The bridge crossing of the Upper Truckee River and other sections of the paved shared-use pathway would not be visible from public roadways, residential areas or offsite recreational facilities (e.g., CA State Parks land to the north).

Required Mitigation: **None**.

3.4.3-3. Would the Project substantially degrade the existing visual character or quality of the site and its surroundings? (CEQA Ic)

Standard of Significance: Degradation in visual quality or elimination of a specific scenic resource results in a significant impact to scenic resources.

Environmental Analysis: *Less than Significant Impact with Mitigation Measures.*

As discussed above in Questions 3.4.3-1 (CEQA Checklist 1a), the bridge structure would be visible within Tahoe Paradise Park and LTBMU lands and has the potential to affect the visual character of the site by placing an elevated bridge structure across the Upper Truckee River where views of the river are primarily limited to the river channel and surrounding vegetation. Although the nearby visual quality includes recreational and residential structures, it is recommended that the landscape views remain the prominent visual feature in the area. Bridge design elements that reduce the prominence of the structure and blend it into the surrounding area would reduce this impact to less than significant and help maintain the character of the site.

Required Mitigation: **VIS-1: Bridge Design Elements** - see description above.

3.4.3-4. Would the Project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area? (CEQA Id)

Standard of Significance: An increase in night lighting or glare sufficient to enter adjacent residences constitutes a significant impact on day or nighttime views in the project area.

Environmental Analysis: *Less than Significant Impact.*

No lighting is proposed. The bridge would be constructed of weathered steel trusses with a concrete deck surface. The trusses would be weathered and coated in non-reflective material to avoid creation of glare.

Required Mitigation: **None**.

3.4.3-5. Would the Project be visible from any state or federal highway, Pioneer Trail or from Lake Tahoe? (TRPA 18a)

Standard of Significance: A degradation of adopted TRPA scenic thresholds including scenic travel route or scenic quality ratings constitutes a significant impact on scenic resources

Environmental Analysis: *No Impact.*

The project is not visible from U.S. Highway 50, State Route 89, Pioneer Trail, or Lake Tahoe.

Required Mitigation: **None.**

3.4.3-6. Would the Project be visible from any public recreation area or TRPA designated bicycle trail? (TRPA 18b)

Standard of Significance: A reduction in scenic vista area viewed from foreground or middleground from a public recreation area or degradation in visual quality or elimination of a TRPA designated scenic resource constitutes a significant impact to scenic resources.

Environmental Analysis: *No, with Mitigation.*

The Project is not visible from TRPA designated public recreation area or bicycle trails. However, as discussed above in Question 3.4.3-1 (CEQA Checklist 1a), the Project is visible from USFS lands and the Tahoe Paradise Park recreation area. Since the alignment crosses the Upper Truckee River, and is just north of Lake Baron, the trail or portions of the trail may be visible from both of these areas. As discussed in the Visual Resources Technical Memorandum (Appendix B), use of low profile bridge elements and landscaping would integrate the Project into the surrounding landscape

Required Mitigation: **VIS-1: Bridge Design Elements** - see description above.

3.4.3-7. Would the Project block or modify an existing view of Lake Tahoe or other scenic vista seen from a public road or other public area? (TRPA 18c)

Standard of Significance: Creating visually dominant features that are out of scale with the surrounding landscape constituents a significant impact to Lake Tahoe or other scenic vistas. Points of significance include: 1) creation of strong visual contrast; 2) reduction in scenic vista area viewed from foreground or middleground; and/or 3) non-compliance with scenic resource goals, policies or standards of federal, state of local agencies.

Environmental Analysis: *No, with Mitigation.*

As discussed above in Questions 3.4.3-1 (CEQA Checklist 1a) and 3.4.3-6 (TRPA 18b), the Project area is not visible from Lake Tahoe and blocks no views of Lake Tahoe from public roads or areas. However, the alignment is visible from public roads and public areas. While the Class 3 portion of the Project would not result in any modifications to scenic vistas, and the majority of the Class 1 alignment is a flat trail at or near ground level, the bridge crossing the Upper Truckee River would modify the view of the river at this crossing. While there are recreational structures and facilities in this area that are compatible with a bridge addition, implementation of Mitigation Measures VIS-1 would reduce the visual contrast of the bridge with the surrounding landscape.

Required Mitigation: **VIS-1: Bridge Design Elements** - see description above.

3.4.3-8. Would the Project be inconsistent with the height and design standards required by the applicable ordinance or Community Plan? (TRPA 18d)

Standard of Significance: The TRPA Regional Plan and Code of Ordinances provide standards that are applicable to the Project. TRPA Code Chapter 37 sets forth standards for building height and are not applicable to the Project. TRPA Code Chapters 36 (Design Standards) and 66 (Scenic Quality) set forth standards to ensure projects are designed and constructed consistent with Community Design Subelement of the Regional Plan Land Use Element. An inconsistency with these standards would result in a significant impact.

Environmental Analysis: *No Impact.*

The Project is a linear bike trail with no vertical structures of significant height and would be consistent with Code Chapter 37 height standards. A bridge crossing the Upper Truckee River is proposed and would measure 200 feet in length. The bridge abutments on either side of the river would be approximately 8 feet above existing ground surface level, with the bridge railing measuring approximately 3.5 to up to 10 feet in height. The bridge would be constructed of weathered steel trusses with a concrete deck surface and is of a design used at other river and stream crossings in the area.

Required Mitigation: **None.**

3.4.3-9. Would the Project be inconsistent with the TRPA Scenic Quality Improvement Program (SQIP) or Design Review Guidelines? (TRPA 18e)

Standard of Significance: The SQIP requires that scenic roadway unit ratings be maintained. Six criteria define the ratings: 1) manmade features; 2) roadway physical distractions; 3) road structure; 4) views of Lake Tahoe; 5) landscape views; and 6) variety. Impacts to these criteria may decrease scenic quality rating. The TRPA SQIP presents the prescriptions for scenic restoration required to attain and maintain the scenic quality thresholds. The program includes design review guidelines and development standards for different visual environments, assigns implementation responsibilities, and identifies potential funding sources.

Environmental Analysis: *No Impact.*

The project area is not included in SQIP recommendations to improve scenic quality. Recommended design review guidelines and development standards of the TRPA Regional Plan, Meyers Area Plan and USFS LTBMU Forest Plan are incorporated into the trail and bridge design.

Required Mitigation: **None**.

3.4.3-10. Would the Project include new or modified sources of exterior lighting? (TRPA 7a)

Standard of Significance: An increase in night lighting or glare sufficient to enter adjacent land uses.

See discussion and analysis for Question 5.4.3-4, which concludes no significant impact.

Environmental Analysis: *No Impact*.

Required Mitigation: **None**.

3.4.3-11. Would the Project create new illumination, which is more substantial than other lighting, if any, within the surrounding area? (TRPA 7b)

Standard of Significance: An increase in lighting intensity greater than the existing condition so as to alter views or redirect the visual focus of the area.

Environmental Analysis: *No Impact*.

See discussions and analysis and for Question 3.4.3-4, which concludes no significant impact.

Required Mitigation: **None**.

3.4.3-12. Would the Project cause light from exterior sources to be cast off-site or onto public lands? (TRPA 7c)

Standard of Significance: An increase in night lighting or glare sufficient to enter adjacent public lands beyond the area intended for illumination.

Environmental Analysis: *No Impact.*

See discussions and analysis for Question 3.4.3-4, which concludes no significant impact.

Required Mitigation: **None**.

3.4.3-13 Would the Project create new sources of glare through the siting of the improvements or through the use of reflective materials? (TRPA 7d)

Standard of Significance: An increase in glare from new structural elements sufficient to enter adjacent land uses or alter views constitutes a significant impact.

Environmental Analysis: *No Impact.*

See discussion and analysis for Question 3.4.3-4, which concludes no significant impact.

Required Mitigation: **None.**

3.4.4 Agriculture and Forestry Resources

This section presents the analyses for potential impacts to agriculture and forestry resources. Some TRPA checklist items concern impacts to vegetation, which are addressed in Section 3.4.6, Biological Resources. Table 3.4.4-1 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 3.4.4-1: Agriculture and Forestry Resources

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
3.4.4-1. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the CA Resources Agency, to a non-agricultural use? (CEQA IIa)				**X**
3.4.4-2. Conflict with existing zoning for agricultural use, or a Williamson Act contract? (CEQA IIb)				**X**
3.4.4-3. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resource Code section 12220(g), timberland (as defined by Public Resource Code section 4526) or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? (CEQA IIc)				**X**
3.4.4-4. Result in the loss of forest land or conversion of forest land to non-forest use? (CEQA IId)				**X**
3.4.4-5. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? (CEQA IIe)				**X**

Environmental Setting

The project area contains no lands identified as 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, zoned for agricultural use, or a Williamson Act contract. The project area contains forestland, or timberlands, as defined by Public Resource Code (PRC) Section 4526. The project area contains no timberland or timberland zoned Timberland Production, as defined by Government Code Section 51104(g).

Environmental Analysis and Mitigation Measures

3.4.4-1. Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to a non-agricultural use? (CEQA IIa)

Standard of Significance: Conversion of Prime Farmland, Unique Farmland or Farmland of Statewide importance (i.e., Farmland) to a non-agricultural use constitutes a significant impact.

Environmental Analysis: *No Impact.*

The Project is not located in an area identified as 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, and therefore poses no impact to such lands.

Required Mitigation: **None**.

3.4.4-2. Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract? (CEQA IIb)

Standard of Significance: A conflict with areas zones for agricultural use under a Williamson Act contract constitutes a significant impact.

Environmental Analysis: *No Impact.*

No conflicts with zoning for agricultural use or a Williamson Act contract would occur because no contracts exist within the Project area.

Required Mitigation: **None**.

3.4.4-3. Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resource Code section 12220(g), timberland (as defined by Public Resource Code section 4526) or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? (CEQA IIc)

Standard of Significance: A conflict with existing zoning for forest land or timberland creates a significant impact. PRC Section 12220, Article 3 (g) defines "Forest land" as land that can support 10-percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits. PRC Section 4526 defines "Timberland" as land, other than land owned by the federal government and land designated by the board as

experimental forestland, which is available for, and capable of, growing a crop of tree of any commercial species used to produce lumber and other forest products, including Christmas trees.

Environmental Analysis: *No Impact.*

The Project conflicts with no existing zoning and causes no rezoning of forest land, timberland or timberland zoned Timberland Production. The portion of the Project requiring tree removal is a small subset of the total project area and tree removal is not concentrated, but instead spread out along the Project area and trail corridor, which does not conflict with the underlying zoning.

Required Mitigation: **None**.

3.4.4-4. Would the Project result in the loss of forest land or conversion of forest land to non-forest use? (CEQA IId)

Standard of Significance: The loss of substantial forest land, defined above for Question 3.4.4-4, or conversion of forest land to non-forest use creates a significant impact if appropriate permits are not obtained.

Environmental Analysis: *No Impact*

The Project transects moderately forested lands and provides access but results in no loss of areas designated as forest land or conversion of forest land to non-forest use by nature of passing through such areas. The Project affects less than an acre of land, the majority of which is within existing paved roadway right-of-way; therefore, a Public Agency Right-of-Way exemption with Calfire is not required.

Required Mitigation: **None.**

3.4.4-5. Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? (CEQA IIe)

Environmental Analysis: *No Impact.*

See discussions and analyses for Questions 3.4.4-2, -3, and -4 which conclude no significant impacts to farmland or forest land.

Required Mitigation: **None**.

3.4.5 Air Quality

This section presents the analyses for potential impacts to air quality. Table 3.4.5-1 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 3.4.5-1: Air Quality

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
3.4.5-1. Conflict with or obstruct implementation of the applicable air quality plan? (CEQA IIIa)			**X**	
3.4.5-2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable federal or state ambient air quality standards? (CEQA IIIb)			**X**	
3.4.5-3. Expose sensitive receptors to substantial pollutant concentrations? (CEQA IIIc)			**X**	
3.4.5-4. Result in other emissions, such as objectionable odors, adversely affecting a substantial number of people? (CEQA IIId)			**X**	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
3.4.5-5. Substantial air pollutant emissions? (TRPA 2a)				**X**
3.4.5-6. Deterioration of ambient (existing) air quality? (TRPA 2b)				**X**
3.4.5-7. Creation of objectionable odors? (TRPA 2c)				**X**

Environmental Setting

Federal, State, and regional standards apply to protect air quality within this project area, which is contained within the Lake Tahoe Air Basin. The air quality management agencies in the Project area include the US Environmental Protection Agency (USEPA), California Air Resources Board (CARB), El Dorado County Air Quality Management District (EDCAQMD) and TRPA. The USEPA establishes National Ambient Air Quality Standards (NAAQS) for which the CARB and EDCAQMD have primary implementation responsibility.

The EDCAQMD administers air quality regulations developed at the federal, state and local level and publishes the CEQA Guide to Air Quality Assessment (El Dorado County) to provide guidance regarding assessment of air quality impacts under CEQA. The analysis of potential Project air quality impacts utilizes this guidebook.

TRPA implements its own set of air quality standards and ordinances, including eight air quality standards and indicators adopted to protect air quality in the Lake Tahoe Air Basin. The 2017 TMPO RTP/SCS establishes policies, project implementation plans, and funding strategies to shape the Tahoe Region's transportation network so that environmental goals and thresholds are met. The RTP/SCS includes an analysis of its conformity with the California State Implementation Plan (SIP) to ensure that the RTP remains consistent with state and local air quality planning efforts to achieve and/or maintain the National Ambient Air Quality Standards (NAAQS).

TRPA Code provisions establish regulatory controls to implement Regional Plan policies. Code provisions relevant to the project include Code Chapter 65 which establishes air quality control requirements to aid in the implementation of TRPA air quality goals and policies for the purpose of attaining and maintaining applicable federal and state air quality standards and TRPA thresholds.

U.S. Environmental Protection Agency (USEPA) and California Air Resources Board (CARB). The federal Clean Air Act (CAA), enacted in 1963 and amended several times thereafter (including the 1990 amendments), establishes the framework for modern air pollution control. In response to the CAA, federal and state governments have established ambient air quality standards for seven criteria pollutants, all of which occur in the LTAB: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), particulate matter less than or equal to 10 microns in diameter (PM_{10}), particulate matter less than 2.5 microns in diameter ($PM_{2.5}$), and lead (Pb). Air quality regulations focus on the following air pollutants because these are the most prevalent air pollutants known to be deleterious to human health and extensive health-effects criteria documents are available, they are commonly referred to as "criteria air pollutants." Monitoring stations are located at the South Lake Tahoe Airport (1901 Airport Road South Lake Tahoe CA 96150), South Lake Tahoe–Sandy Way (3337 Sandy Way, South Lake Tahoe CA 96150), and Truckee (10046 Donner Pass Road, Truckee CA 96161).

National and California ambient air quality standards (NAAQS and CAAQS, respectively) are listed on the California Air Resources Board website (https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards). Given the unique climatic conditions within the Lake Tahoe Air Basin, the TRPA has established a standard for 8-hour CO (6 ppm (7 mg/m3)), which is more stringent than both state and national regulations.

Ozone and NO_2 (an ozone precursor) are considered regional pollutants because they affect air quality on a regional scale; oxides of nitrogen (NO_X), including NO_2, react photochemically with reactive organic gases (ROG) to form ozone some distance downwind of the source of pollutants. Pollutants such as CO, PM_{10}, and $PM_{2.5}$ are local pollutants because they tend to disperse rapidly with distance from the source. PM_{10}, and $PM_{2.5}$ are regional pollutants that travel and impact downwind areas.

The LTBMU Forest Plan provides the basis for evaluating the project's impact on air quality under NEPA. An air quality goal in the Forest Plan includes "maintaining and, where necessary, restoring the clear, clean air important to the aesthetic enjoyment of the area and the health of the people." Most of the forest management practices and forest wide standards and guidelines contained in the LTBMU Forest Plan pertain to emission sources in wilderness areas, fire protection and prevention practices, fuels treatment, and prescribed burn practices. These issues are not directly relevant to the Project and are not further addressed.

Environmental Analysis and Mitigation Measures

3.4.5-1. Would the Project conflict with or obstruct implementation of the applicable air quality plan? (CEQA IIIa)

Standard of Significance: A significant impact occurs if the Project conflicts with standards identified by the EDCAQMD or in the 2017 RTP/SCS.

Environmental Analysis: *Less than Significant Impact.*

The Project would utilize TRPA Air Quality Mitigation Funds and funds from the Congestion Mitigation and Air Quality (CMAQ) Program and has the potential to improve air quality in the area when individual motorized vehicle trips are replaced with bicycle and pedestrian trips. The Project supports the 2017 RTP/SCS by connecting neighborhoods separated by the Upper Truckee River and expanding connections to existing Bike Routes, lanes, and trails in the area. This Project is listed in the 2017 RTP/SCS as project # 03.01.02.0040. TRPA's 2017 Regional Transportation Plan: Linking Tahoe (RTP) includes an analysis of its conformity with the California State Implementation Plan to ensure that the RTP remains consistent with State and local air quality planning work to achieve and/or maintain the national ambient air quality standards (NAAQS). The Project would not alter or revise the regulations pertaining to air quality.

The Lake Tahoe Region is in attainment or designated as unclassified/attainment for all National Ambient Air Quality Standards (NAAQS) and is designated nonattainment for the PM_{10} California ambient air quality standards (CAAQS). The Project has the potential to produce air pollutant emissions during project construction but also has the potential to reduce area emissions during operations by encouraging non-motorized trips.

Short-Term Construction Emissions

Construction emissions are described as short-term or temporary in duration. Reactive Organic Gases (ROG), Carbon Monoxide (CO) and Nitrogen Oxides (NOx) (ozone precursors) emissions are primarily associated with gas and diesel equipment exhaust and the application of architectural coatings. Fugitive dust emissions (PM_{10} and $PM_{2.5}$) are primarily associated with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage or disturbance area, and vehicle travel by construction vehicles on- and off-site.

Construction activities would result in the temporary generation of ozone precursor and fugitive dust emissions from site preparation; off-road equipment, material import/export, worker commute exhaust emissions; paving; and other miscellaneous activities. Typical construction equipment includes dozers, graders, excavators, loaders, and trucks. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities.

As part of the TRPA RPU mitigation to reduce construction-generated emissions, TRPA adopted additional best construction practices policies. In Section 65.1.8.A. (Air Quality/Transportation, Idling Restrictions) of the TRPA Code of Ordinances, a new subsection was added that limits construction vehicle idling time to 15 minutes in Nevada and 5 minutes in California (previous restriction was 30 minutes). In addition to reduced idling time policies, the TRPA Standard Conditions of Approval for Grading Projects (TRPA Permit Attachment Q) includes new construction provisions that call for the use of existing power sources (e.g. power poles) or clean-fuel generators rather than temporary diesel power generators wherever feasible, location of construction staging areas as far as feasible from sensitive air pollution receptors (e.g. schools or hospitals), closure of engine doors during operation except for engine

maintenance, location of stationary equipment (e.g. generators or pumps) as far as feasible from noise-sensitive receptors and residential areas, installation of temporary sound barriers for stationary equipment, and use of sonic pile driving instead of impact pile driving, wherever feasible. As identified in Section 2.6.3 above, best management practices will be required to comply with EDCAQMD rules including, but not limited to, the following:

- Implement measures recommended by the El Dorado County Air Quality Management District.
- Prohibit open burning of debris from site clearing unless involved with fuels reduction project.
- Utilize low emission construction equipment and/or fuels and use existing power sources (e.g., power poles), wherever feasible.
- Restriction of idling of construction equipment and vehicles.
- Apply water to control dust as needed to prevent dust impacts offsite.

Long-Term Operational Emissions

Although periodic maintenance may occur on or along the trail, the use of the trail would not result in long-term operational emissions and has the potential to reduce area air emissions by replacing motorized vehicle trips with bicycle and pedestrian trips. Additionally, paving a dirt trail has the potential to reduce fugitive dust generated by walking or biking over dirt trails.

Required Mitigation: **None.**

3.4.5-2. Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under applicable federal or state ambient air quality standards (including releasing emissions which exceed quantitative thresholds for ozone precursors)? (CEQA IIIb)

Standard of Significance: A significant long-term (e.g. operational) impact results if the Project causes violations of air quality standards or contributes substantially to an existing or projected air quality violation. As identified by CARB, the EDCAQMD, and TRPA, a significant short-term (e.g., construction related) air quality impact results if construction-generated emissions of ROG, NO_X, PM_{10} (particulate matter less than 10 microns in size), or SO_2 exceed mass emissions of 82 lb/day, or construction-generated emissions of CO (carbon monoxide) exceed mass emissions of 550 lb/day.

Environmental Analysis: *Less than Significant Impact.*

The Region is designated non-attainment for PM_{10}, as presented in Table 3.4.5-2. A significant cumulative impact results if the Project causes a considerable increase in PM_{10}.

Table 3.4.5-2: Federal and State Attainment Status for the Lake Tahoe Air Basin

Pollutant	State Designation	National Designation
Ozone	Attainment	Unclassified/Attainment
PM_{10}	Non-Attainment	Unclassified/Attainment
$PM_{2.5}$	Attainment	Unclassified/Attainment
Carbon Monoxide	Attainment	Unclassified/Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified/Attainment
Sulfates	Attainment	Not Applicable (NA)
Lead	Attainment	Unclassified/Attainment

Hydrogen Sulfide	Unclassified	NA
Visibility Reducing Particles	Unclassified	NA
Source: EPA 2018; CARB 2019.		

In the project area, these pollutants relate to automobile use and potential impacts measured with VMT calculations and wood burning fireplaces and stoves. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. There is potential for fugitive dust to be created during trail construction and some mobile emissions would occur during construction from the use of equipment such as pavers, graders, and other mechanical devices. While an increase in PM_{10} emissions is possible during construction, the trail will reduce operational PM_{10} emissions caused by use of the dirt utility road.

The El Dorado County Air Quality Management District (EDCAQMD) District Rule 223 includes requirements for construction projects, which the Project would implement, as discussed in Section 2.6.3 of this IS/IEC. Control measures for construction and other earth moving activities must follow the guidelines presented in Table 1 of Rule 223-1 "Best Management Practice". These requirements include, but are not limited to, creation and implementation of a Fugitive Dust Control Plan, trackout management practices at the construction site, visible emissions limitation, vehicle speed limitations, material handling, and control for stockpiles and disturbed areas. Since these BMPs would be implemented during construction, no significant impact would occur.

Operation of the trail would result in no additional emissions and may result in a beneficial impact by reducing individual vehicle trips and replacing them with non-motorized pedestrian and bicycle trips that do not produce emissions.

The project is consistent with the Regional Plan, and implementation of the Project would result in a long-term reduction in emissions of ozone precursors. Because the increase in emissions of PM associated with construction would be below the project-level increment considered significant by TRPA (82 lb/day), the amendment would not be anticipated to lead to nonattainment of air quality standards.

Required Mitigation: **None.**

3.4.5-3. Would the Project expose sensitive receptors to substantial pollutant concentrations? (CEQA IIIc)

Standard of Significance: A sensitive receptor defines a location where human populations, especially children, seniors, and sick persons are found with a reasonable expectation of continuous human exposure according to the averaging period for ambient air quality standards. Typical sensitive receptors include residences, hospitals, and schools. A significant impact results from increases in CO that cause exceedance of NAASQS and CAAQS and diesel exhaust emissions (DPM) (note that there is no quantitative threshold for DPM).

Environmental Analysis: *Less than Significant Impact.*

The nearest sensitive receptors to this Project are residences located along the Class 3 Bike Route portion of the Project. The Lake Tahoe Environmental Science Magnet School is located approximately 200 feet from the Class 3 portion of the trail at Apache Avenue.

Short-term. Construction of the Project results in short-term emissions of air pollutants from temporary ground disturbance associated with site excavation, grading, paving, construction equipment exhaust operating at the construction site, construction worker vehicles and supply trucks, and from traffic impacts resulting from construction worker vehicle and construction equipment movements along streets. These emissions are temporary and localized and cease once construction activities have been completed in the specific project area location. Construction creates short-term DPM, which are toxic air contaminants (TACs), from on-site heavy-duty equipment. Project construction generates DPM emissions from the use of off-road diesel equipment required for construction activities.

Exposure of sensitive receptors is the primary factor used to determine health risk. Exposure is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. A longer exposure period results in a higher exposure level. Thus, the risks estimated for a maximally exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the Project. Thus, the duration of the proposed construction activities (approximately 4 months) constitutes a small percentage of the total 70-year exposure period. DPM from construction activities are not anticipated to result in the exposure of sensitive receptors to levels that exceed applicable standards and it is not anticipated that the construction of the Project results in significant short-term impacts to sensitive receptors.

Long-term. The Project, as a non-motorized transportation feature, introduces no new emission sources associated with use of the trail and thus creates no impact to sensitive receptors. Implementation of the Project results in no vehicle delay or queuing and has the potential to reduce vehicle traffic in the area, thereby resulting in a beneficial impact. The long-term operation of the Project results in no sources of toxic air emissions and no increase in existing 24-hour air quality emissions. As a result, the Project will not expose sensitive receptors to substantial TAC emissions and the impact is less than significant.

Required Mitigation: **None.**

3.4.5-4. Would the Project result in other emissions, such as objectionable odors, adversely affecting a substantial number of people? (CEQA IIId)

Standard of Significance: A significant impact results if Project construction or operation creates objectionable odors affecting a substantial number of people.

Environmental Analysis: *Less than Significant Impact.*

The occurrence and severity of odor effects depend on the nature, frequency, and intensity of the odor source, wind speed and direction, and the presence of sensitive receptors. Offensive odors rarely cause physical harm, but odors can be unpleasant and generate citizen complaints to regulatory agencies and local governments. Typical sensitive receptors include residences, hospitals, and schools. There are no hospitals located within the area; however, residences and a school are within the vicinity.

As a general matter, the types of land use development that pose potential odor problems include wastewater treatment plants, refineries, landfills, composting facilities and transfer stations, none of which are proposed or located in the Project area.

In the short-term, odor impacts occur from the use of diesel engines and asphalt concrete paving during construction. These odors are both temporary and localized, affecting only the area immediately adjacent

to the active construction area. Diesel exhaust emissions and asphalt concrete paving odors dissipate rapidly away from the source and cease upon completion of construction activities and would be addressed by the TRPA Code of Ordinances Chapter 65 (Air Quality/Transportation) idling restrictions. Implementation of the Project would not result in substantial direct or indirect exposure of sensitive receptors to offensive odors.

Required Mitigation: **None.**

3.4.5-5. Would the Project result in substantial air pollutant emissions? (TRPA 2a)

Standard of Significance:

Environmental Analysis: *No Impact*

See analysis for Question 3.4.5-1.

Required Mitigation: **None.**

3.4.5-6. Would the Project result in deterioration of ambient (existing) air quality? (TRPA 2b)

Standard of Significance:

Environmental Analysis: *No Impact.*

See analyses for Question 3.4.5-1, which conclude a less than significant impact and Question 3.4.5-5, which concludes no impact to ambient air quality.

Required Mitigation: **None.**

3.4.5-7. Would the Project result in creation of objectionable odors? (TRPA 2c)

Standard of Significance:

Environmental Analysis: *No Impact.*

See discussion and analysis for Question 3.4.5-3, which addresses the creation of objectionable odors and concludes a less than significant odor impact to short-term and long-term effects to sensitive receptors.

Required Mitigation: **None.**

3.4.6 Biological Resources (Stream Environment Zones, Wetlands, Wildlife and Vegetation)

This section presents the analyses for potential impacts to biological resources, including impacts to SEZs, wetlands, wildlife and vegetation. Table 3.4.6-1 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 3.4.6-1: Biological Resources

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
3.4.6-1. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? (CEQA IVa)		**X**		
3.4.6-2. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? (CEQA IVb)		**X**		
3.4.6-3. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (CEQA IVc)			**X**	
3.4.6-4. 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? (CEQA IVd)			**X**	
3.4.6-5. Conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance? (CEQA IVe)			**X**	

3.4.6-6. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (CEQA IVf)				**X**
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
3.4.6-7. Removal of native vegetation in excess of the area utilized for the actual development permitted by the land capability/IPES system? (TRPA 4a)				**X**
3.4.6-8. Removal of riparian vegetation or other vegetation associated with critical wildlife habitat, either through direct removal or indirect lowering of the groundwater table? (TRPA 4b)				**X**
3.4.6-9. Introduction of new vegetation that will require excessive fertilizer or water, or will provide a barrier to the normal replenishment of existing species? (TRPA 4c)				**X**
3.4.6-10. Change in the diversity or distribution of species, or number of any species of plants (including trees, shrubs, grass, crops, micro flora and aquatic plants)? (TRPA 4d)				**X**
3.4.6-11. Reduction of the numbers of any unique, rare or endangered species of plants? (TRPA 4e)				**X**
3.4.6-12. Removal of streambank and/or backshore vegetation, including woody vegetation such as willows? (TRPA 4f)				**X**
3.4.6-13. Removal of any native live, dead or dying trees 30 inches or greater in diameter at breast height (dbh) within TRPA's Conservation or Recreation land use classifications? (TRPA 4g)				**X**
3.4.6-14. A change in the natural functioning of an old growth ecosystem? (TRPA 4h)				**X**
3.4.6-15. Change in the diversity or distribution of species, or numbers of any species of animals		**X**		

(birds, land animals including reptiles, fish and shellfish, benthic organisms, insects, mammals, amphibians or microfauna)? (TRPA 5a)				
3.4.6-16. Reduction of the number of any unique, rare or endangered species of animals? (TRPA 5b)		**X**		
3.4.6-17. Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals? (TRPA 5c)				**X**
3.4.6-18. Deterioration of existing fish or wildlife habitat quantity or quality? (TRPA 5d)				**X**

Environmental Setting

NCE conducted a literature and database review to identify existing biological and botanical information within and adjacent to the project area in support of a Natural Environment Study (NES) prepared for Caltrans. The purpose of the NES was to identify a list of potential special status species (SSS) and critical habitat occurring within the project area and additional one-mile radius around the project area (herein referred to as biological survey area, or BSA). Special status species include all listed biological or botanical species with special protection or consideration under federal, state, and local regulatory policies.

NCE scientists conducted reconnaissance-level surveys in order to inventory habitats, SSS, and non-SSS. Results of the NES are presented in the following subsections.

Botanical Resources

The project area contains areas of existing developed roadway and areas of natural vegetation and stream environment associated with the Upper Truckee River, including areas of landscape vegetation. Vegetation types were initially identified with the CALVEG Alliances GIS data (USDA 2020) then verified based on reconnaissance level surveys conducted by NCE in 2019. Vegetation communities present within the project area are primarily Jeffrey pine and Lodgepole pine forest. Sierran mixed conifer and sagebrush alliance are also present. There is no mapped riparian habitat associated with the Upper Truckee River (Figure 3.4.6-1). Based on field survey, a patch of willow and alder shrubs that occur on the west bank of the Upper Truckee River constitute the extent of riparian habitat within the project area. Riparian habitat is limited to this area, then rapidly grades into upland areas of lodgepole pine. As part of the project, approximately 30 lodgepole pine trees between 6-24" dbh may be removed, and the patch of willow and alder shrubs may be pruned (refer to Figure 3.4.6-2 for locations of proposed vegetation impact).

A total of 18 special status plant species were identified within a nine-quad database search in the vicinity of the project area based on the California Natural Diversity Database and the California Native Plant Society's Rare Plant Inventory. Four of the 18 species have the potential to occur within the project area due to the presence of suitable habitat (NCE 2019). The four plants are considered to be of special concern based on federal, state, or local laws regulating their protection; however, none of these species are federally listed.

Botanical surveys were conducted by NCE on June 11, 2019 and July 10, 2019 by walking the entire biological study area following California Department of Fish and Wildlife (CDFW) protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2018).

No botanical SSS were identified within the project area during the field surveys (NCE 2019).

Invasive species

A database review, field survey, and Invasive Plant Risk Assessment (IPRA) was prepared for the project in July of 2019 to identify noxious and invasive species within the project area and provide treatment options, if necessary. Literature and database review included the *Sierra Nevada Forest Plan Amendment Table 1: Invasive non-native plant species occurrence in Sierra Nevada National Forest* (D'Antonio 2004); the *California Department of Food and Agriculture (CDFA) California Noxious Weed Species List* (CDFA, 2016); and the *Lake Tahoe Basin Weed Coordination Group Priority Invasive Weeds of Tahoe Basin List* (LTBWCG 2011).

The field survey resulted in the positive identification of three non-native/invasive plant species in the project survey area: sulphur cinquefoil (*Potentilla recta*), curly dock (*Rumex crispus*), and wooly mullein (*Verbascum Thapsus*). Weed species identified during the July 2019 field survey and their locations are presented in the attached IPRA report (Appendix C).

Wildlife

Special status species databases were reviewed to determine the potential for special status wildlife to occur within the area. The following site-specific references and background information was reviewed:

- California Natural Diversity Database (CNDDB). 2019. California Department of Fish and Wildlife, Sacramento, CA. Accessed online.

- Information for Planning and Conservation (IPaC). 2019. United States Fish and Wildlife Service. Accessed online.

The database review identified a total of 16 animal special status species known to occur or with the potential to occur within the BSA. Table 3 within the attached NES (Appendix D) lists all of the special status species that have potential to occur within the BSA as well as a brief rationale as to the possible presence or absence of the species within the project area. Of these species with potential to occur within the BSA, four avian species have the potential to occur within the project area itself due to the presence of suitable habitat, elevation, and other factors.

Figure 3.4.6-1 – Vegetation Communities

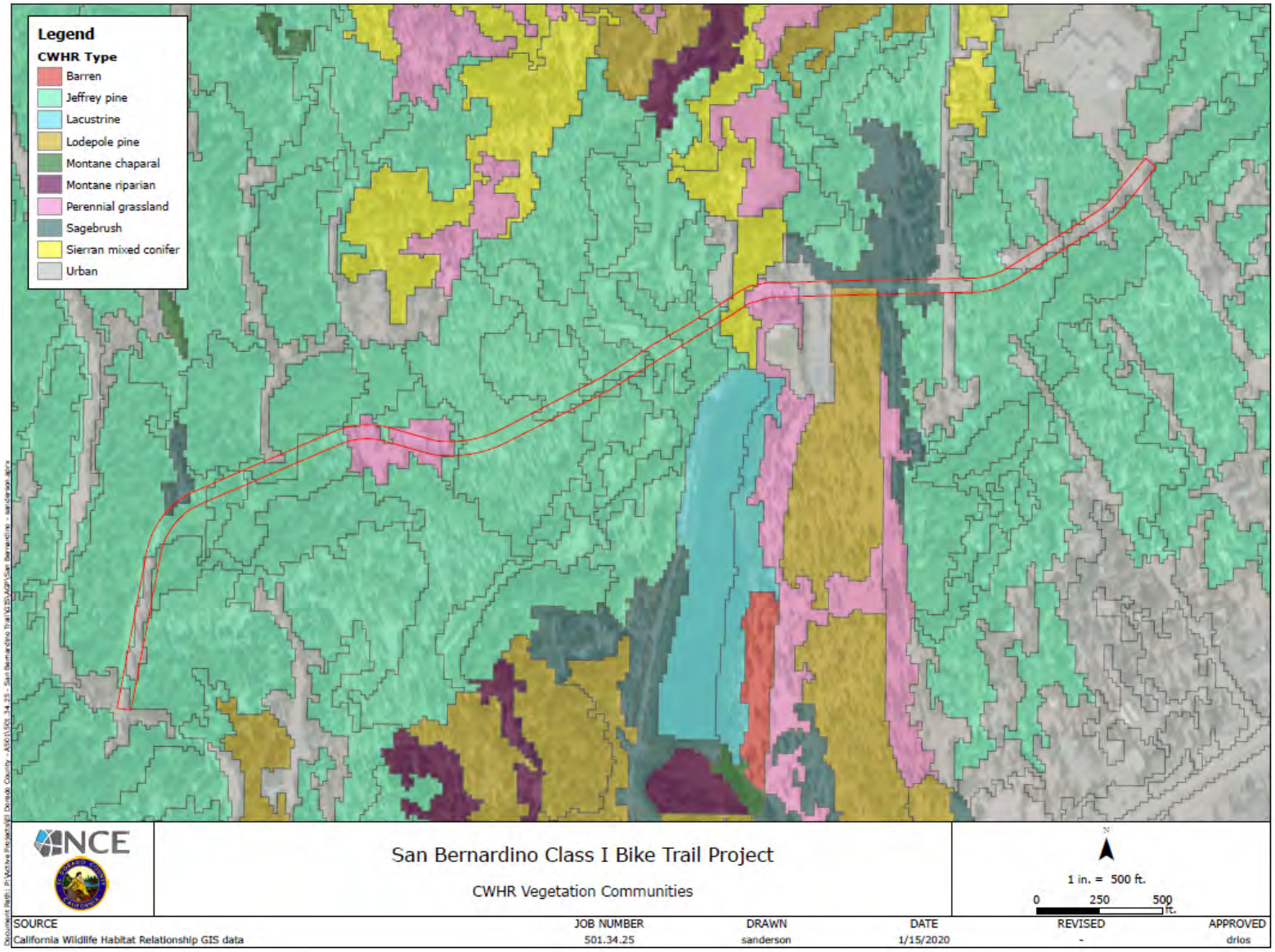


Figure 3.4.6-2 – Proposed Tree Removal

Avian Species

Database review identified four avian SSS that have potential to occur within the project area due to the presence of suitable habitat. These species include the Olive-sided flycatcher, Rufous hummingbird, Williamson's sapsucker, and the Northern goshawk. None of these species were identified during two separate field surveys (NCE 2019). Additionally, it was determined based on a review of habitat present within the project area that suitable habitat exists for the yellow warbler (*Setophaga petechia*), a Tahoe Regional Planning Agency special interest species and CDFW Species of Special Concern.

A brief summary of the surveys and habitat assessment conducted for the avian SSS as documented in the NES are as follows:

Olive-sided flycatchers: These birds frequent coniferous forests, especially with tall standing trees. They are strongly associated with spruce, fir, pine, or mixed woodland near edges and clearings. The USFS land within the proposed path alignment could potentially harbor this species due the prevalence of foraging and singing perches located in a recently thinned forest. These birds were not observed or heard during two separate surveys.

Rufous hummingbird: This species typically breeds north of the Sierra Nevada and at lower elevations than the project area elevation. They could potentially be found in the project area foraging on their migration flights north or south. These birds are attracted to colorful tubular flowers including paintbrush, columbine, and larkspur. These birds were not observed or heard during two separate surveys.

Williamson's sapsucker: These birds are year-round residents of the Sierra Nevada that prefer high elevation conifer forests. They nest in tree cavities, usually in pine, fir, or aspen. Nests are found 5 to 60 feet above ground level and are usually found in trees with a living outer layer and dead heartwood. They feed on sap from tiny holes drilled in bark that excrete sap. Insects and some small fruits are also part of their diet. These birds could be foraging in the project area but were not observed or heard during any surveys.

Northern Goshawk: These birds can be year-round residents or migratory depending on their prey population size and distribution. They typically construct nests in large conifer trees just below canopy level, often in the largest tree in the stand. Foraging goshawks move rapidly through the forest, perch to perch, punctuated with brief periods of prey searching. Northern goshawks hunt by flying rapidly along forest edges, across openings, and through dense vegetation to surprise prey. Easily startled by human activity, northern goshawks prefer to forage near intact large forests. These birds could pass through the project area, but low-quality habitat within and nearby the project area suggest breeding and primary foraging will occur elsewhere. Northern goshawks were not observed (including nests) or heard during the reconnaissance-level surveys.

Yellow Warbler: This species occurs in California principally as a migrant and summer resident. Yellow warblers generally occupy riparian vegetation in close proximity to water along streams and wet meadows. Their diet consists of over 90% insects. Habitat for yellow warbler is limited within the project area; however, there is potential for the species to nest within the patch of willow and alder on the bank of the Upper Truckee River. Yellow warbler was not observed during the reconnaissance-level surveys.

Wildlife Corridors

A wildlife corridor is an area of habitat connecting wildlife populations and larger areas of similar wildlife habitat. These corridors generally consist of native vegetation and allow wildlife species to find

water, food, shelter, and potential mates. Corridors enable the movement of animals and the continuation of viable populations, thus playing a role in the maintenance of biodiversity.

The project area includes portions of a wildlife corridor between the Lake Baron parking lot and the southern section of East San Bernardino Avenue. However, the project improvements will have little to no impact on the wildlife corridor due to the path not obstructing the movement of animals and the proposed path not altering the existing condition in any meaningful way.

The Upper Truckee River is a known corridor for two federally listed species, including the federally threatened Lahontan cutthroat trout (LCT) and the federally endangered Sierra Nevada yellow-legged frog (SNYLF). Based on potential suitable habitat for the two federal Endangered Species Act (ESA)-listed animal species, surveys were conducted for SNYLF and LCT within the project area (additional discussion is provided in the subsections below). After two surveys, neither of these species were observed in the project area (NCE 2019).

Sierra Nevada Yellow-Legged Frog

The U.S. Fish and Wildlife Service (USFWS) has designated critical habitat for SNYLF, which was listed in 2014 as threatened under the federal Endangered Species Act. In addition, the US Forest Service (USFS) Lake Tahoe Basin Management Unit has developed a SNYLF Suitable Habitat layer. The project area is outside of the USFWS designated critical habitat for SNYLF; however, the area does overlap the USFS Suitable Habitat layer (Figure 3.4.6-3).

A SNYLF Site Assessment was conducted by NCE in 2019 to assess the potential for suitable habitat within the project area and assess the potential project impacts to the species. As part of the assessment, two Visual Encounter Surveys (VES) were performed by NCE along the shoreline of the Upper Truckee River where potential suitable habitat exists for the species, and where the bridge structure is proposed. An additional 100 feet on either side of the proposed bridge crossing were surveyed. The river and shallow areas were also scanned for the presence of any individuals. While the Upper Truckee River and nearly all wet areas in the Lake Tahoe basin have been identified as suitable habitat for SNYLF, no SNYLF were observed following the two visual encounter surveys (NCE 2019).

The SNYLF Site Assessment is included as Appendix E.

Lahontan Cutthroat Trout

The project area contains potential habitat for the LCT within the Upper Truckee River. The LCT is listed as threatened under both federal and California endangered species laws. There is no critical habitat designation for this species. Additionally, no Essential Fish Habitat was identified within the project area (NCE 2019).

The LCT have been extirpated from 95 percent of their habitat in California. The introduction of non-native trout, logging, mining, road and railroad building, human land use activities, and commercial harvest of this species rapidly reduced the distribution and abundance of this species. The only high elevation, self-sustaining population of LCT known in the Sierra Nevada range is located near Meiss Meadows (USDA 2015). LCT generally occur in cool flowing water with available cover and well-vegetated, stable stream banks, in areas where there are stream velocity breaks, and in relatively silt free, rocky riffle-run areas (Purdy et al., 2014).

Figure 3.4.6-3 – SNYLF Suitable and Critical Habitat

Two reconnaissance-level surveys were conducted by NCE on June 11 and July 10, 2019; no LCT were observed during these survey efforts (NCE 2019). Results of LCT habitat assessment conducted as part of the NES indicate that the Upper Truckee River in the project area likely does not contain sufficient habitat to support the species due to several factors, including presence of a large amount of non-native trout, high stream velocities and eroded cut banks within the project area, and lack of vegetative cover (NCE 2019).

Aquatic Resources

An aquatic resources delineation was conducted by NCE wetland specialists in July of 2019 to evaluate if potential jurisdictional of waters of the United States (WOUS) are located within the project area. In total, there are four drainages within the project area that are potentially jurisdictional under Section 404 of the Clean Water Act and are additionally waters of the state of California (NCE 2019). No wetlands or other special aquatic features (seeps, springs) were identified within the project area.

Three of the delineated features contain existing culverts and are potentially jurisdictional waters of the U.S. due to their connection to the Upper Truckee River, which is a tributary to Lake Tahoe, a Traditional Navigable Waterway. NCE also delineated the section of Upper Truckee River that is located within the project area. Within the project area, the ordinary high-water mark of the Upper Truckee River is approximately 111-feet wide (Figure 3.4.6-4). The full Aquatic Resources Delineation Report is included as Appendix F.

Stream Environment Zones

The TRPA Code of Ordinances defines SEZ as, "Generally an area that owes its biological and physical characteristics to the presence of surface or ground water." This definition includes perennial, intermittent, and ephemeral streams; wet meadows, marshes, and other wetlands; riparian areas, beaches, and other areas expressing the presence or influence of surface or ground water. The TRPA regulates SEZ within the Tahoe Basin under the Clean Water Act's 208 Plan program.

Most of the project alignment is mapped as SEZ (TRPA Land Capability Class 1B) (Figure 3.4.6-5); however, this SEZ has not been verified by TRPA. Additionally, the results of the field survey and habitat assessment indicate the presence of primarily upland species within the project area (NCE 2019).

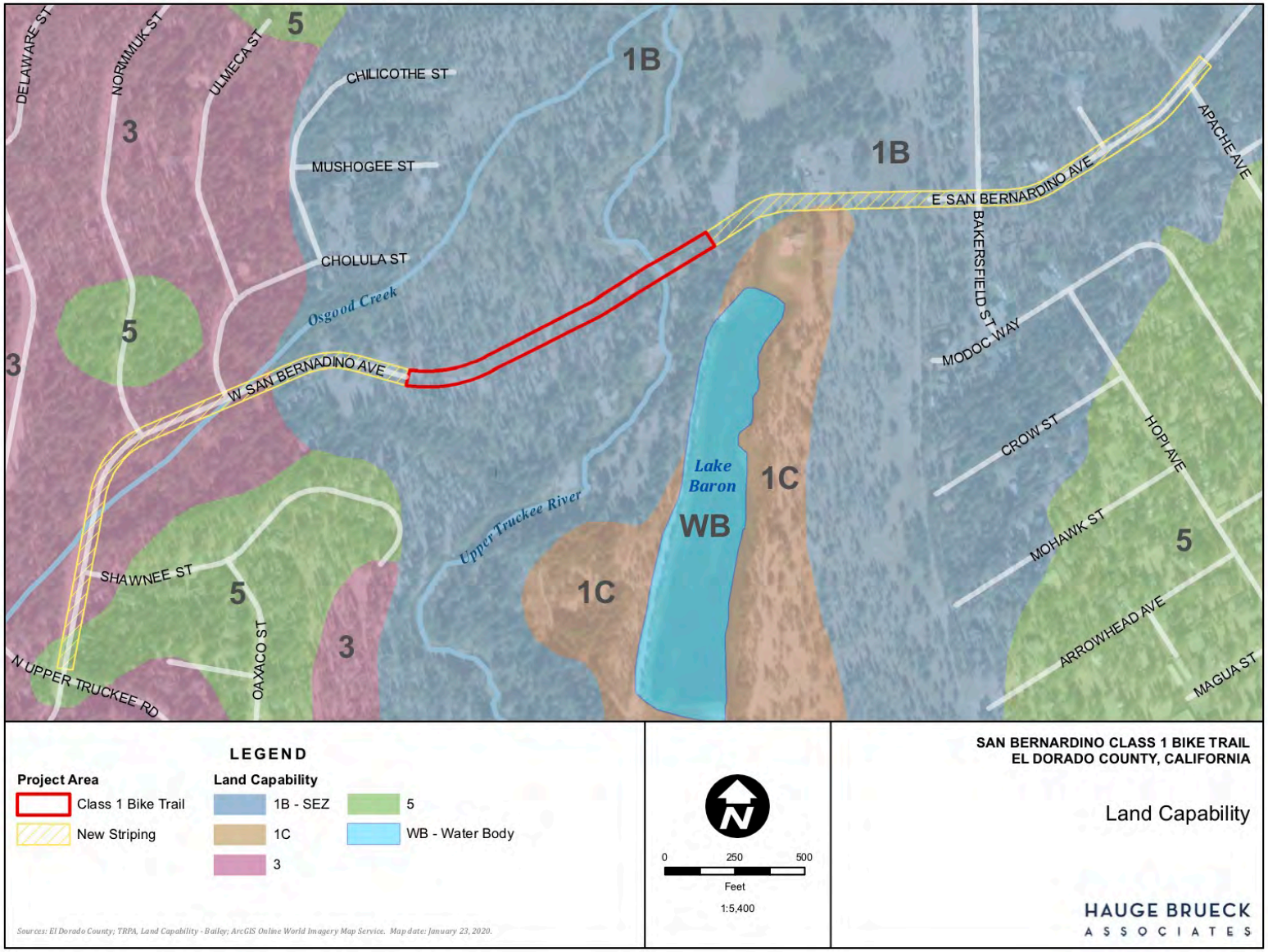
Regulatory Setting

Special Status Species

State and federal "endangered species" legislation provides the CDFW and the USFWS with a mechanism for conserving and protecting plant and animal species of limited distribution and/or low or declining populations. Species listed as threatened or endangered under provisions of the state and federal endangered species acts, candidate species for such listing, state species of special concern, and some plants listed as endangered by the California Native Plant Society are collectively referred to as "species of special status."

Figure 3.4.6-4 – Upper Truckee River Ordinary High Water Mark and Bridge Footing Locations

Figure 3.4.6-5 – TRPA Land Capability District Map



Permits may be required from both the CDFW and USFWS if activities associated with a proposed project will result in the "take" of a listed species, including migratory birds. "Take" is defined by the state of California as "to hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture or kill" (California Fish and Game Code, Section 86). "Take" is more broadly defined by the federal Endangered Species Act to include "harm" (16 United States Code [U.S.C.], Section 1532(19), 50 CFR, Section 17.3). Furthermore, the CDFW and the USFWS are Trustee agencies under CEQA. Both agencies review CEQA documents in order to determine the adequacy of their treatment of endangered species issues and to make project-specific recommendations for their conservation.

Special Status Habitats

Federal

The Clean Water Act (CWA), passed in 1972, regulates and protects surface water quality across the United States. Sections 401 and 404 relate directly to local agency planning. Section 401 of the CWA requires a State Water Quality Certification for all federal permit or license applications for any activity that may result in a discharge to a water body to ensure compliance with state water quality standards. Most Certifications are issued in connection with section 404 permits for dredge and fill discharges (City of Richmond 2012).

The USACE regulates dredge and fill activities within waters of the United States, including wetlands (WOUS) under the CWA Section 404 program. The extent of jurisdiction within drainage channels is defined by the "ordinary high-water mark" on opposing channel banks. All activities that involve the discharge of fill into jurisdictional waters are subject to the permit requirements of the USACE. This program requires that all projects impacting jurisdictional WOUS incorporate mitigation to result in 'no net loss' of size, function, and values of the aquatic resource.

State

Any entity applying for a Federal Section 404 permit must also comply with Section 401 of the CWA, requiring the applicant to receive certification from the State Water Board that the actions will comply with state water quality standards.

The CDFW is responsible for protecting and conserving fish and wildlife resources, and the habitats upon which they depend. Section 16002 of the California Fish and Game Code requires that the CDFW review any project that may do one or more of the following:

- Divert or obstruct the natural flow of any river, stream, or lake;
- Change the bed, channel, or bank of any river, stream, or lake;
- Use material from any river, stream, or lake; or
- Deposit or dispose of material into any river, stream, or lake.

Under the Lake and Streambed Alteration (LSA) Program, entities are required to notify the CDFW of proposed impacts through an LSA Notification. If it is determined by the CDFW that the activity, as described in an LSA Notification, will substantially alter a river, stream, or lake, and may substantially adversely affect existing fish or wildlife resources, then an LSA Agreement must be prepared. The LSA Agreement includes necessary mitigation measures to protect fish and wildlife resources from significant impacts.

Local – Tree Removal

The TRPA Code of Ordinance regulates the removal of trees under Code Section 33.6.5. The Code also provides requirements for retained tree protection during construction, soil and vegetation protection standards during tree removal, and prevents tree removal within SEZ unless certain conditions are met.

Environmental Analysis and Mitigation Measures

3.4.6-1. Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? (CEQA IVa)

Standard of Significance: The loss of greater than zero endangered, threatened, or rare fish or wildlife individuals or disturbance of greater than zero acres of occupied or designed critical habitat constitute a significant impact as defined by CEQA Article 5, Section 15065, CESA Sections 2062 and 2067, CDFG Code Sections 1900-1913, and TRPA Thresholds; or 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 CDFW or USFWS.

Environmental Analysis: *Less than Significant Impact with Mitigation Measures.*

As discussed in the Environmental Settings section, the project area was assessed for the presence of any threatened, endangered, or special status species that may occur in the project area.

Wildlife

All species protected under the TRPA, USFS, USFWS, and the CDFW were evaluated for the project area using CWHR, CNDDB, additional background research, and on-site investigations. As discussed in the Environmental Setting, the Upper Truckee River supports potential suitable habitat for the SNYLF and the LCT. Activities associated with the project occurring near potential suitable habitat for these species includes construction of the proposed bridge structure over the Upper Truckee River, and the boardwalk approach sections to the bridge. However, the bridge structure (including required abutments and support footing) and boardwalk approaches have been designed specifically to avoid impacting the bed, banks, or channel of the river. The following assessments for SNYLF and LCT were conducted as part of the project NES, and detail the potential for project impacts to the protected species and/or their habitats.

Sierra Nevada Yellow Legged Frog

The project proposes to construct a bridge structure across the Upper Truckee River in an area mapped by the USFS as suitable habitat for SNYLF. The project area is outside of USFWS designated critical habitat area for the species.

Based on results of the SNYLF Site Assessment, field survey, and habitat assessment, SNYLF is not anticipated to occur within the project area. As discussed in the Environmental Setting section, no SNYLF were identified during two VES efforts. Flow rate within the Upper Truckee River and lack of other habitat requirements make it unlikely for the species to utilize the area for breeding or foraging (NCE 2019). Additionally, the presence of introduced predatory fish in the Upper Truckee River system have “eliminated or reduced mountain yellow legged frog population frogs in stocked habitats” which

precludes successful breeding of SNYLF in the Upper Truckee River (USFWS 2014). Based on these factors, NCE has determined that the project area does not contain suitable habitat for the species.

Because the Upper Truckee River within the project area has been determined to not support suitable habitat for the species, and due to the fact that the project has been designed such that the bridge structure would be constructed to avoid directly impacting the Upper Truckee River banks and channel, the project is anticipated to have no impact on SNYLF.

Lahontan Cutthroat Trout

As discussed in the Environmental Setting, the Upper Truckee River contains potential habitat for LCT. As part of the NES, NCE conducted two reconnaissance-level field surveys and conducted a habitat assessment for the Upper Truckee River to determine if suitable habitat is present within the project area. No LCT were observed during the two survey efforts.

It was determined that the Upper Truckee River within the project area does not contain suitable habitat for the species. First, the Upper Truckee River contains a large amount of predatory, non-native species that are highly predatory on young LCT, making their reproductive success extremely difficult. Also absent from the project area are key habitat factors including available cover, velocity breaks, and well-vegetated stable stream banks (NCE 2019).

Based on survey efforts, habitat assessment, and due to the bridge being specifically designed to avoid placement of footings or abutments within the river channel, the project is anticipated to have no impact on LCT.

Avian Species and Migratory Birds

As discussed in the Environmental Setting, five avian SSS may have potential to occur within the project area due to the presence of suitable habitat. None were observed during two separate survey efforts (NCE 2019); however, noise and vibration associated with general construction activities, and tree removal, could result in potentially significant impacts to special status avian (including migratory bird) species should they be present during construction. The project area does not contain suitable habitat for the willow flycatcher; therefore, any potential trimming of willow required for bridge construction would have no impact on this species.

The Migratory Bird Treaty Act makes it unlawful to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid Federal permit. California Fish and Game Code Section 3500 also prohibits the destruction of any nest, egg, or nestling.

Implementation of **Mitigation Measure BIO-1** would reduce the potential impact to special status avian species (including migratory birds) to less than significant by requiring that pre-construction surveys be conducted and establishing appropriate construction avoidance buffer zones, if required.

Botanical Resources

As discussed in the Environmental Setting, no special status botanical species were identified during field surveys. Based on the urbanized nature and history of ground disturbance within the project area, it is unlikely that any SSS would occur within or adjacent to the project area in the future (NCE 2019). Since no special status plant species were identified within the project area, and are unlikely to occur there in the future, there would be no impact to botanical SSS.

Invasive Species

As discussed in the Environmental Setting, three non-native/invasive plant species were identified within the project area during field survey: sulphur cinquefoil (*Potentilla recta*), curly dock (*Rumex crispus*), and wooly mullein (*Verbascum Thapsus*). Weed species identified during the July 2019 field survey and their locations are presented in the attached IPRA report (Appendix C).

Executive Order 13112 requires federal agencies to combat the introduction or spread of invasive species in the United States. Invasive species are defined 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." Noxious weeds are defined in Title 3, Division 4, Chapter 6, Section 4500 of the California Code of Regulations and the California Quarantine Policy – Weeds.

The IPRA report (NCE 2019) contained in Appendix C, recommends implementation of BMPs in order to prevent the spread of invasive and noxious weeds during construction. Construction control measures will be implemented as part of the project (see section 2.6.3) to protect against the introduction and spread of invasive species during construction.

As detailed in the IPRA, use of the above BMPs would address the risk of spread or introduction of invasive species, and additional mitigation would not be required.

Required Mitigation: **BIO-1. Pre-Construction Avian Survey**

> The County or approved construction contractor shall retain a qualified biologist, as determined by TRPA or CDFW, to conduct a pre-construction survey of the project area to include a 100-foot buffer, as access is available, to locate active bird nests, identify measures to protect the nests, and locate any other special status species. The pre-construction survey shall be conducted no more than 14 days prior to the implementation of construction activities (including staging and equipment storage). Any special status species shall not be disturbed unless under the direction provided by a qualified biologist. If an active nest is found during construction, disturbance should not occur until young have fledged or under the direction provided by a qualified biologist.

3.4.6-2. Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? (CEQA IVb)

Standard of Significance*:* Direct or indirect impact greater than zero acres for State or Federal sensitive natural communities, and direct or indirect impact greater than zero acres to SEZ including riparian habitat constitute a significant impact.

Environmental Analysis: *Less than Significant Impact with Mitigation.*

Riparian

As discussed in the Environmental Setting, the only riparian vegetation present within the project area is an isolated patch of willow and alder shrubs that occur on the west bank of the Upper Truckee River, surrounded by upland habitats.

Trimming of the existing shrubs in this location may occur to allow for construction of the bridge span and footing placement. The project does not propose to remove willow or alder species. The project area does not contain suitable habitat for willow flycatcher; there would be no impact to this species as a result of potential willow trimming. As discussed in Question 3.4.6.2 above, Mitigation measure BIO-1 would ensure that impacts to any potentially nesting birds will be avoided. Additionally, the bridge has been specifically designed to span the width of the Upper Truckee River channel; therefore, potential impact to riparian habitat would be less than significant and would not require permitting or mitigation of impacts under Section 1602 of the CDFG Code.

Stream Environment Zone

New disturbance and land coverage in the SEZ (LCD 1B)/100-year floodplain is necessary to construct the Class 1 trail, install boardwalk approaches to the bridge, and construct the bridge structure over the Upper Truckee River. Overall, the project incorporates design features that reduce disturbance and the effects of disturbance, including use of raised boardwalk bridge approaches and a bridge span. Section 2.6.1 in the project description describes these features. These design options minimize disturbance in the SEZ and floodplain by confining users to structured trails particularly during wet conditions, accommodating seasonal surface flows and high groundwater, and allowing for some vegetative cover under boardwalks. Use of pier footings to raise the structures also minimizes total coverage required to construct the trail.

Both TRPA and Lahontan prohibit new SEZ disturbance except for limited uses, such as public service and public recreation, that can demonstrate compliance with restrictive findings. The project proposes the Class I Trail, boardwalk, and bridge features that result in 13,080 sf of new land coverage within the Upper Truckee River floodplain SEZ (LCD 1B), as outlined below. As discussed in Geology, Section 3.4.9, the project complies with required findings and results in an overall reduction in SEZ disturbance by providing restoration in the amount of 1.5/1 times the disturbance calculated for the Project.

Total proposed new coverage within SEZ 1B is as follows:

Feature	Coverage (square feet)
Class 1 Trail	9,000 SF
Boardwalk	3,600 SF
Bridge (2 abutments and footing)	480 SF
Total New Coverage	**13,080 SF**

Under the provisions of the 2014 Regional Plan Update, TRPA exempts certain shared-use trail projects from land coverage calculations, provided that they include offsetting SEZ restoration (TRPA Code 30.4.6.D.3), if findings can be made. Lahontan Basin Plan prohibitions for discharge in SEZ and 100-year floodplains (Prohibitions 5.2 and 5.3) includes exceptions to those prohibitions for outdoor recreation projects. Exemptions from Prohibitions 5.2 and 5.3 may be granted for public outdoor recreation facilities if findings can be made. Please see the analysis under Impact Question 3.4.9-7 for a discussion of these findings. As documented in the analysis and findings, the Project is exempt from TRPA land coverage requirements for SEZ, and will mitigate the new Class 1 bike trail and bridge disturbance by providing offsetting SEZ restoration in the amount of 1.5/1 as required under TRPA Code and the Lahontan Basin Plan. The details of this requirement is outlined in Mitigation Measure GEO-1 (see details in Section 3.4.9-7).

Required Mitigation: **GEO-1. SEZ Restoration Credit for New Trail Disturbance**

3.4.6-3. Would the Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (CEQA IVc)

Standard of Significance: Greater than zero acres and/or zero linear feet of disturbance or discharge to wetlands as defined by Section 404 of the CWA through direct removal, filling, hydrologic interruption or other means constitutes a significant impact as defined by the USACE jurisdictional waters regulations, 404 CFR 230 Section 404(b)(1), CDFG Section 1600 et seq, and USEPA and State of California no net loss policies.

Environmental Analysis: *Less Than Significant Impact with Mitigation.*

As discussed in the environmental setting section, an aquatic resources delineation was conducted for the project area. Potentially jurisdictional drainages under Section 404 of the Clean Water Act (CWA) were identified in the project area. The project does not include bridge or support features within the river channel. The project may require that one of the existing culverts within a potentially jurisdictional feature be replaced in order to provide for drainage functionality and protect the trail from potential stormwater impacts, thus potentially affecting a jurisdictional waterway.

Placement of fill within this feature could be a potentially significant impact and would require permitting pursuant to sections 401 and 404 of the CWA or California Department of Fish and Game Code Section 1602. With implementation of **Mitigation Measure BIO-2,** which outlines requirements for obtaining applicable permits pertaining to impact of waters of the US and state of California, the impact would be mitigated to less than significant.

No other impacts are proposed to potentially jurisdictional features within the project area, including the Upper Truckee River.

Required Mitigation: **BIO-2: Section 404/401 Permit Compliance**

> Prior to construction, the County shall apply for and obtain a U.S. Army Corps of Engineers Section 404 CWA permit for proposed impacts to a water of the U.S., including applicable permits from the state of California, including a Section 401 permit from the Lahontan Regional Water Quality Control Board and California Department of Fish and Game Code Section 1602 (Lake or Streambed Alteration Agreement), if applicable. These permit applications establish appropriate mitigation measures that protect against significant impacts to waters of the U.S., waters of the State, and their associated habitats.

3.4.6-4. Would the Project 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? (CEQA IVd)

Standard of Significance: A significant impact results from the blockage, disruption or impedance of use of greater than zero wildlife or fish corridors or native wildlife nursery sites, as defined by TRPA Code Chapters 62 and 63.

Environmental Analysis: *Less than Significant Impact.*

As discussed in the Environmental Setting, the project area contains the Upper Truckee River, a known wildlife corridor. As discussed in Question 3.4.6-1., it has been determined through field survey and habitat assessment that the Upper Truckee River within the project area does not contain suitable habitat

for either the LCT or SNYLF. The project would not adversely affect fish passage in the Upper Truckee River as the bridge is designed specifically to avoid construction within the river channel.

Additionally, it is possible for migratory species such as birds and mammals to passively use the area; however, the project does not propose to modify any existing undeveloped land areas or install structures in a manner that would impede potential migration of mammals. As provided in Mitigation Measure BIO-1, the project will be surveyed for migratory birds nesting in the project area prior to construction to prevent significant impacts to a migratory bird species during construction; therefore, additional mitigation for migratory birds would not be required and impacts would be less than significant.

Required Mitigation: **None.**

3.4.6-5. Would the Project conflict with any local policies or ordinances protecting biological resources, such as tree preservation policy or ordinance? (CEQA IVe)

Standard of Significance: If the Project conflicts with goals and policies outlined in the conservation element of the TRPA Regional Plan for vegetation, wildlife and/or fisheries a significant impact results to biological resources.

Environmental Analysis: *Less than Significant Impact.*

Within the project area, approximately 30 lodgepole pine tree species, ranging from 6 to 24-inches in diameter at breast height (dbh), would be removed during construction of the trail in unverified mapped LCD 1B (SEZ). Additionally, a small cluster of willow and alder shrubs may be pruned to allow for construction of the bridge span over this Upper Truckee River area. Refer to Figure 3.4.6-2 in the Environmental Setting for locations of proposed tree removal.

Tree protection measures implemented as part of the project would include the use of temporary four-foot tall fencing around tree driplines and eight-foot tall wooden tree trunk protection as shown on Plan Sheet EC-2 (Appendix A). The use of tree trunk protection, rather than fencing around tree driplines would only be used in areas where use of fencing around the driplines would prohibit construction access.

Tree protection will follow the standards in TRPA Code of Ordinances Section 33.6.10. Tree removal will be done in accordance with TRPA Code Section 61.1. Tree removal activities will be conducted in accordance with TRPA Code of Ordinances Section 61.1.6., particularly TRPA Code Section 61.1.6C *Tree Cutting within Stream Environment Zones:* tree cutting within SEZs may be permitted to allow for early successional stage vegetation management, sanitation salvage cuts, fuels management for fire hazard reduction, restoration or enhancement of ecosystem health and diversity, and fish and wildlife habitat improvement projects, in accordance with the standards provided in the Code Section. The project would be subject to the following requirements associated with tree removal within SEZ:

1. Vehicle Restrictions: All vehicles shall be restricted to areas outside of the SEZs or to existing roads within SEZs.

2. Soil Conditions: All work within SEZs shall be limited to times of the year when soil conditions are dry and stable, or when conditions are adequate for over-snow tree removal operations without causing significant soil disturbance and/or significant vegetation damage (See subparagraph 61.1.6.F).

3. Trees and Debris Kept from Streams: Felled trees and harvest debris shall be kept out of all perennial or intermittent streams. If deposited in the stream, the material shall be removed unless

it is determined that such logs and woody material adds structural diversity pursuant to fish and wildlife habitat improvements in accordance with Chapter 62: Wildlife Resources, and Chapter 63: Fish Resources. This determination shall be approved by TRPA.

4. Stream Crossings: The crossing of perennial streams or other wet areas shall be limited to improved crossings meeting Best Management Practices or to temporary bridge spans that can be removed upon project completion or at the end of the work season, whichever is sooner. Any damage or disturbance to the SEZ associated with a temporary crossing shall be restored within one year of its removal. In no instance shall any method requiring the placing of rock and earthen material into the stream or streambed be considered an improved crossing. Other temporary measures may be permitted for dry stream crossings in accordance with the Handbook of Best Management Practices.

5. Special Conditions: Special conditions shall be placed on all tree harvests within SEZs or within the transition or edge zone adjoining SEZs, as necessary to protect in-stream aquatic habitat values and wildlife habitat integrity and diversity.

Because the project is required to comply with the TRPA Code pertaining to tree removal within SEZ, including implementation of required protection controls, impacts would from tree removal would remain less than significant. The project additionally would not conflict with TRPA Code pertaining to the protection of wildlife, vegetation, or fisheries as the project incorporates avoidance measures or mitigation where appropriate to comply with Code requirements.

Required Mitigation: **None.**

3.4.6-6. Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan? (CEQA IVf)

Standard of Significance: If the Project conflicts with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan or other approved habitat conservation plan, a significant impact results.

Environmental Analysis: *No Impact.*

The Project does not conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan because no such plans exist for the project area.

Required Mitigation: **None.**

3.4.6-7. Would the Project result in removal of native vegetation in excess of the area utilized for the actual development permitted by the land capability/IPES system? (TRPA 4a)

Standard of Significance: Removal of greater than zero acres of native vegetation in excess of the area utilized for the actual development permitted by the TRPA land capability system results in a significant impact as defined by TRPA Code Chapters 30 and 33.

Environmental Analysis: *No Impact.*

New disturbance and land coverage are necessary within the unverified mapped LCD 1B (SEZ) to construct the Class I trail, install boardwalk approaches to the bridge, and construct the bridge structure over the Upper Truckee River. The project must comply with TRPA vegetation protection controls during construction and would only remove vegetation necessary for project implementation. Because the project would also comply with offsetting land coverage restoration requirements associated with the land capability system, significant impacts would not occur. As discussed in Question 3.4.6-2 and Question 3.4.9-7, the project is anticipated to meet the exemption conditions of TRPA Code Section 30.4.6.D.3.

Required Mitigation: **None.**

3.4.6-8. Would the Project result in removal of riparian vegetation other vegetation associated with critical wildlife habitat, either through direct removal or indirect lowering of the groundwater table? (TRPA 4b)

Standard of Significance: The direct removal or indirect lowering of the groundwater table during Project construction or long-term operations that causes loss of riparian vegetation or other vegetation associated with critical wildlife habitat constitutes a significant impact as defined by TRPA Code Chapter 61.

Environmental Analysis: *No Impact.*

As described in the response to Question 3.4.6-2 in the Stream Environment Zone section, the project incorporates design features that reduce disturbance and the effects of disturbance, including use of raised boardwalk bridge approaches and a bridge span. Additionally, riparian vegetation in the project area is limited. Only potential pruning/trimming would occur; no removal of riparian vegetation is proposed. The project is required to implement a Dewatering Plan as part of the Stormwater Pollution Prevention Plan (SWPPP) to protect against SEZ impacts including those to riparian vegetation.

Required Mitigation: **None.**

3.4.6-9. Would the Project result in introduction of new vegetation that will require excessive fertilizer or water, or will provide a barrier to the normal replenishment of existing species? (TRPA 4c)

Standard of Significance: The introduction of noxious species or the introduction of new vegetation that requires excessive fertilizer or water constitutes a significant impact as defined by TRPA Code Chapter 61.

Environmental Analysis: *No Impact.*

As discussed in the Environmental Setting section (or project description), BMPs would be implemented to prevent the spread of invasive and noxious weeds during construction as detailed in the IPRA. The use of BMPs would address the risk of spread or introduction of invasive species, and additional mitigation would not be required.

The project does not propose to introduce new vegetation that would require fertilizer or water or provide a barrier to the normal replenishment of existing species.

Required Mitigation: **None.**

3.4.6-10. Would the Project result in change in the diversity or distribution of species, or number of any species of plants (including trees, shrubs, grass, crops, micro flora and aquatic plants)? (TRPA 4d)

Standard of Significance: A change in diversity or distribution of species or number of species of plants resulting from Project construction or operations constitutes a significant impact as defined by TRPA Code Chapter 33 and 62 and 63.

Environmental Analysis: *No Impact.*

No special status plant species were identified within the project area. The project is required to comply with TRPA Code provisions for vegetation removal, tree removal, and revegetation. There project would therefore comply with requirements to preserve and protect existing vegetation where tree removal is not proposed. The majority of the trail would be constructed in existing disturbed road area where vegetation is not present. Therefore, the project would not result in a change in diversity or distribution of plants.

Required Mitigation: **None**

3.4.6-11. Would the Project result in reduction of the numbers of any unique, rare or endangered species of plants? (TRPA 4e)

Standard of Significance: The reduction of the number of any unique, rare or endangered species of plants as a result of Project construction and operations constitutes a significant impact as defined by TRPA Code Chapter 61.

Environmental Analysis: *No Impact.*

As described in the Environmental Setting, no special status plant species were identified within the project area during the 2019 surveys. The Natural Environment Study (NCE 2019) for this project contains detailed analysis for each of the special status plant species that were considered for this project. Based on the urbanized nature and history of ground disturbance within the project area, it is unlikely that any special status plant species would occur within or adjacent to the project area.

Required Mitigation: **None.**

3.4.6-12. Would the Project result in removal of streambank and/or backshore vegetation, including woody vegetation such as willows? (TRPA 4f)

Standard of Significance: TRPA revised Code Subsection 61.3.3 prohibits the removal of SEZ vegetation except as allowed by other Code provisions. Loss of riparian vegetation results in a significant impact.

Environmental Analysis: *No Impact.*

As discussed in Question 3.4.6-2, no removal of riparian species would occur. The existing willow and alder shrub thicket may be pruned to support construction of the trail. Impacts would be temporary, and the vegetation would be allowed to regrow after construction of the proposed boardwalk and bridge span design.

Required Mitigation: **None**

3.4.6-13. Would the Project result in removal of any native live, dead or dying trees 30 inches or greater in diameter at breast height (dbh) within TRPA's Conservation or Recreation land use classifications? (TRPA 4g)

Standard of Significance: TRPA Code Subsection 61.1.4 prohibits the removal of trees larger than 30-inches dbh for west side forest types in lands that are in conservation or recreation plan areas except under specific Project conditions, tree removal that does not meet findings outlined in Code Subsection 61.1.4 results in a significant impact within TRPA Conservation or Recreation land use areas.

Environmental Analysis: *No Impact*.

As discussed in the project description, no trees larger than 30-inches dbh would be removed as part of the project; there would be no impact.

Required Mitigation: **None.**

3.4.6-14. Would the Project result in a change in the natural functioning of an old growth ecosystem? (TRPA 4h)

Standard of Significance: A change in the natural functioning of an old growth ecosystem constitutes a significant impact as determined by TRPA Code Chapter 61 and Goals and Policies.

Environmental Analysis: *No Impact.*

See discussion and analysis for Question 3.4.6-13 above. The project area does not contain any ecosystems delineated as old growth. The project will not impact or change the natural functioning of old growth ecosystems.

Required Mitigation: **None.**

3.4.6-15. Would the Project result in change in the diversity or distribution of species, or numbers of any species of animals (birds, land animals including reptiles, fish and shellfish, benthic organisms, insects, mammals, amphibians or microfauna)? (TRPA 5a)

Standard of Significance: A change in the diversity or distribution of species, or numbers of any species of animals resulting from Project construction or operations constitutes a significant impact to TRPA Thresholds and TRPA goals and policies pertaining to wildlife fisheries.

Environmental Analysis: *No, with Mitigation*

Refer to discussion and analysis for Question 3.4.6-1. With mitigation, the project would have a less than significant impact on the distribution or numbers of species from construction impacts.

Required Mitigation: **Mitigation Measure BIO-1**.

3.4.6-16. Would the Project result in reduction of the number of any unique, rare or endangered species of animals? (TRPA 5b)

Standard of Significance: A significant impact occurs if the project results in the reduction of any TRPA designated, state, or federal special status species.

Environmental Analysis: *No, with Mitigation.*

See discussion and analyses for Question 3.4.6-1. Implementation of Mitigation Measure BIO-1 is required to ensure project impacts to special status avian species are reduced to less than significant.

Required Mitigation: **Mitigation Measure BIO-1**.

3.4.6-17. Would the Project result in introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals? (TRPA 5c)

Standard of Significance: The introduction of new species into the project area or the blockage or disruption of fish or wildlife corridors constitutes a significant impact by the Project to the migration or movement of animals.

Environmental Analysis: *No Impact*

See discussion and analysis for Question 3.4.6-4 above. No new species of animals are proposed for introduction into the project area as a result of the Project. No animals, insects or invertebrate species will be introduced.

Required Mitigation: **None.**

3.4.6-18. Would the Project result in deterioration of existing fish or wildlife habitat quantity or quality? (TRPA 5d)

Standard of Significance: Deterioration of existing fish or wildlife habitat quantity or quality from construction and operations of the Project constitutes a significant impact to these habitats as defined in TRPA Code Chapters 62 and 63.

Environmental Analysis: *No Impact.*

Refer to Questions 3.4.6-1 and 3.4.6-4. The project area is located within an existing trail alignment and is characterized by existing human presence and use. The project does not impact wildlife corridors, and presence of SSS suitable habitat within the project area is unlikely. The design of the project avoids impacts to potential habitat where possible by following portions of existing trail, use of boardwalk and bridge span structure. The minimal vegetation and tree removal, together with the location of the proposed trail in already disturbed areas reduces the potential impact to wildlife habitat to a level of less than significant.

Required Mitigation: **None.**

3.4.7 Cultural Resources (CEQA) and Archaeological/Historical (TRPA)

This section presents the analyses for potential impacts to cultural, archaeological and historical resources, discussing the Project impacts on cultural resources related to the disturbance of archaeological, historical, architectural cultural resources. The section also addresses disturbance of unknown archaeological resources. Table 3.4.7-1 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 3.4.7-1: Cultural Resources and Archaeological/Historical

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
3.4.7-1. Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? (CEQA Va)			**X**	
3.4.7-2. Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? (CEQA Vb)			**X**	
3.4.7-3. Disturb any human remains, including those interred outside of formal cemeteries? (CEQA Vc)			**X**	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
3.4.7-4. Will the proposal result in an alteration of or adverse physical or aesthetic effect to a significant archaeological or historical site, structure, object or building? (TRPA 20a)				**X**
3.4.7-5. Is the proposed project located on a property with any known cultural, historical, and/or archaeological resources, including resources on TRPA or other regulatory official maps or records? (TRPA 20b)				**X**
3.4.7-6. Is the property associated with any historically significant events and/or sites or persons? (TRPA 20c)				**X**

Environmental Setting

Project screening for cultural and historic resources as part of the San Bernardino Class 1 Bike Path project was conducted by NCE in 2019. Screening efforts consisted of an archival review, Native American tribal consultation, an intensive pedestrian survey, and recordation of any identified resources. An associated Archaeology Survey Report (ASR) was prepared by NCE to detail results of the screening efforts.

The ASR was used to support preparation of a Historic Property Survey Report (HPSR) consistent with Caltrans' regulatory responsibilities under Section 106 of the National Historic Preservation Act (36 CFR Part 800) and pursuant to the January 2014 *First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act* (Section 106 PA), as well as under Public Resources Code 5024 and pursuant to the January 2015 *Memorandum of Understanding Between the California Department of Transportation and the California State Historic Preservation Office Regarding Compliance with Public Resources Code Section 5024 and Governor's Executive Order W-26-92* (5024 MOU) as applicable.

In accordance with Section 106 PA Stipulation VIII.A, the Area of Potential Effects (APE) for the project was established in consultation with Lisa Machado, Caltrans Professional Qualified Staff (PQS): PI-Historical Archaeology and Co-PI-Prehistoric Archaeology, and Ross Foon, Project Local Assistance Engineer on November 12, 2019.

Key objectives of the ASR included:

- Establishing an APE; and
- Identifying prehistoric, ethnohistoric, and/or historic period archaeological resources within or immediately adjacent to the APE

In total, 6.69 acres within the project area were surveyed. Results of the field survey indicate that the majority of the APE consists of developed roadways within an urban residential setting. Most of the top two feet of ground surface for the proposed trail alignment has been previously disturbed. The central portion of the APE consists of a highly compacted dirt road, substantial forest mastication, and evidence of past episodic channel migration (NCE 2019).

Results of the HPSR/ASR indicate that no prehistoric or historic period archaeological resources were identified within the APE. Recent (less than 50 years in age) items (roadside debris) and an architectural resource (a dirt road) were observed but are considered exempt per *Type 2* and *Type* 4 exemptions as provided by Attachment 4 of the Section 106 PA (NCE 2019).

One prehistoric resource, P-09-004506, was identified adjacent to the APE. Three Native American tribes identified by the NAHC replied to inquiry letters sent by El Dorado County, and requested further project information and the records search results to determine the needs of further consultation. The Tsi Akim Maidu has deferred to the Washoe Tribe of Nevada and California for any additional follow-up or request to monitor the project. The Washoe Tribe's initial response stated there is concern for adverse impacts to archaeological resources in the APE. An electronic copy of the ASR was provided to the Washoe Tribe and UAIC for review. After reviewing the ASR, the Washoe Tribe stated are not aware of cultural resources within the project area that may be affected by the proposed project. The tribe did not have concerns about the project affecting site P-09-004506. The UAIC requested for a more intensive

pedestrian survey of the site to establish that the resource did not extend into the project APE. Upon request of the United Auburn Indian Community (UAIC), NCE conducted an additional intensive pedestrian survey for this site and verified that the resource did not extend into the project area/APE. Results of this additional survey effort were submitted back to the UAIC for concurrence. The UAIC responded that their concerns had been addressed and they had no further issues or concerns that the proposed project may impact the prehistoric site or known cultural resources. In the event inadvertent cultural resources are discovered as a result of project activities it is Caltrans policy that the Washoe Tribe and UAIC will be notified.

Details of Native American consultation in accordance with Assembly Bill 52 (AB 52) conducted for the project can be found in Section 3.4.20 - *Tribal Cultural Resources*.

Because there are no historic properties within the APE, or significant tribal cultural resources associated with the project, Caltrans issued a Finding of '**No Historic Properties Affected**' for the project.

The full Caltrans HPSR report, with the ASR attached, is included as Appendix G.

Regulatory Setting

As discussed above, an HPSR/ASR was prepared with intensive pedestrian surveys of the area, records searches, and consultation with area tribes, which meet the requirements of federal, state, and TRPA regulations and standards. The Project description includes the regulatory compliance measures integrated as part of project implementation that ensure resource protection.

The National Historic Preservation Act (NHPA) was enacted by Congress in 1966 to establish national policy for historic preservation in the United States. The NHPA establishes the role and responsibilities of the federal government in historic preservation. The NHPA directs agencies to identify and manage historic properties under their control; to undertake actions that will advance the Act's provisions and avoid actions contrary to its purposes; to consult with others while carrying out historic preservation activities; and to consider the effects of their actions on historic properties.

The California Register of Historic Resources (CRHR) is a guide to cultural resources that must be considered when a government agency undertakes a discretionary action subject to CEQA. The CRHR helps government agencies identify and evaluate California's historical resources and indicates which properties are to be protected, to the extent prudent and feasible, from substantial adverse change (PRC § 5024.1(a)). Any resource listed in, or eligible for listing in, the CRHR is to be taken into consideration during the CEQA process.

The California Department of Transportation (Caltrans) must comply with federal and state environmental laws and regulations designed to protect cultural resources significant in American archaeology, architecture, history, culture, and engineering. Because Caltrans must comply with federal and state laws and regulations regarding cultural resources, the same policy also forms the core of Caltrans general cultural resources policy. Caltrans *Standard Environmental Reference* (SER) (revised 2019) contains provisions for the discovery of previously unidentified cultural resources. Chapter 2 Section 2.4.4 "Post-Review Discoveries," offers guidance to assist Caltrans personnel in planning for the possibility of unexpected discovery of cultural resources and of unexpected effects on known historic properties. Chapter 3 outlines procedures that shall be followed if human remains are discovered during any Caltrans activity, in accordance with Section 7050.5 of the California Health and Safety Code. Chapter 5 outlines procedures that shall be followed if previously unidentified archaeological resources are encountered during construction:

PRC § 5097.5 prohibits excavation or removal of any "… archaeological… or historical feature, situated on public lands, except with express permission of the public agency having jurisdiction over such lands." Public lands are defined to include lands owned by or under the jurisdiction of the state or any city, county, district, authority or public corporation, or any agency thereof. PRC § 5097.5 states that any unauthorized disturbance or removal of archaeological or historical or sites located on public lands is a misdemeanor.

The project is subject to Section 67 of the TRPA Code of Ordinances (Historic Resource Protection). Section 67.3 – *Resource Projection* outlines requirements for the accidental discovery of resources during construction (subsection 67.3.1), requirements for site survey and consultation with the Washoe Tribe (subsection 67.3.2), and requirements for protection of known resources.

Environmental Analysis and Mitigation Measures

3.4.7-1. Would the Project cause a substantial adverse change in the significance of a historical resource as defined in §15064.5(a)? (CEQA Va)

Standard of Significance: If the Project adversely affects important examples of major periods of California history or pre-history, a significant impact results to historical resources. Impacts to eligible or potentially eligible resources include those resulting from construction, operation, or maintenance activities that adversely impact the integrity of historic resources and are unavoidable based on the Project trail placement.

Environmental Analysis: Less than Significant Impact.

As discussed in the Environmental Setting, an Archaeological Survey Report and Caltrans specific Historic Properties Survey Report were prepared for the project to document project impacts to potential cultural and historic resources of significance within the project area. Results of the ASR/HPSR efforts indicate that there are no known historic resources of concern within the project area. The historic maps and aerial imagery reviewed did not show historic roads or other features over 50 years old within the APE. No historic features were identified during the field surveys. Additionally, it was determined through the archival research that the potential for previously undiscovered subsurface historic resources to exist within the APE is low.

Implementation of federal and state regulations, Caltrans policy, TRPA Code (Chapter 67) and General Plan policies address protection of historic, cultural, and archaeological resources and provide processes to protect against significant impacts to these resources. Therefore, any potential impacts would remain less than significant and additional mitigation would not be required.

Required Mitigation: **None**.

3.4.7-2. Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5(c)? (CEQA Vb)

Standard of Significance: If the Project causes "a substantial adverse change in the significance of an archaeological resource" (i.e. physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings) pursuant to PRC Section 15064.5, a significant impact results to archaeological resources.

Environmental Analysis: *Less Than Significant Impact.*

The proposed project has the potential for direct impacts from general construction activities and use of temporary staging areas. The project will involve excavation of earth with heavy equipment, stockpiling of material, and heavy equipment driving over the ground.

The APE consists various forms of disturbance including existing roadways and their associated shoulders, drainage ditches, and underground utilities. The Upper Truckee River within the APE also exhibits signs of disturbance due to natural and anthropogenic induced channel meandering and erosion/sediment deposition (NCE 2019). The intensive pedestrian survey conducted by NCE along the proposed location of the Class 1 path indicated high levels of previous disturbance throughout the APE associated with an unimproved utility access road. Further from the San Bernardino roadway, there was evidence of previous braided stream erosion and mastication to thin forests for fire prevention. As such, the majority of the ground surface within the APE has undergone some level of disturbance (NCE 2019). The San Bernardino roadway, proposed to become the Class 1 path, is presently a compacted dirt, two-track road used for utility access. Construction of the Class 1 path would require excavation of approximately 1.5 feet in depth in the existing disturbed roadway area, or within the approximate prism of previous access road related disturbance. Due to existing disturbance and placement of fill for the roadway, it is unlikely this area contains cultural material that could be impacted by the project (NCE 2019).

For the proposed bridge over the Upper Truckee River, bridge abutments would be constructed on each side of the bridge to span the Upper Truckee River channel. Bridge abutments would be constructed at depths up to 8 feet below ground surface (bgs). To facilitate the span of approximately 200 feet from end to end, an additional support (or bent) would be located on the west side of the river channel approximately 40 feet from the west side abutment and would be constructed approximately 3 feet below ground surface. The boardwalk approach at each end of the bridge would require installation of helical piers, each constructed up to a maximum of 8 feet bgs.

As discussed, the Upper Truckee River channel alignment has changed dramatically overtime. Therefore, the potential for subsurface deposits with the Upper Truckee River is limited to floodplain areas adjacent to the stream channel that have, overtime, been modified by normal stream dynamics. Any resources present in these deposits would be of a secondary nature, lacking contextual integrity or association and therefore the potential to impact a resource of significance is low (NCE 2019).

Compliance with federal, state, Caltrans, TRPA, and General Plan policies developed to avoid or mitigate for impacts to cultural resources would ensure the project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5; therefore, potential impacts would remain less than significant.

Required Mitigation: **None**.

3.4.7-3. Would the Project disturb any human remains, including those interred outside of formal cemeteries? (CEQA Vc)

Standard of Significance: A significant impact results if the Project affects human remains.

Environmental Analysis: *Less Than Significant Impact.*

Based on the prehistoric and historic uses of the area and the prior ground disturbance of the project area, human remains are not expected to be discovered during construction activities. However, the potential still exists to pose a significant impact to human remains should they be encountered during construction related ground disturbing activities (Section 7050.5 of the California Health and Safety Code states that it is a misdemeanor to knowingly disturb a human grave).

Section 7050.5(b) of the California Health and Safety Code and Section 5097.98 of the State Public Resources Code specify required protocol to implement when human remains are discovered. If human remains are discovered, the Codes require work to cease within the immediate area and notification of the County Coroner. If the remains are determined to be Native American, the coroner will notify the Native American Heritage Commission, and the procedures outlined in CEQA Section 15064.5(d) and (e) shall be followed including notification of the Washoe and UAIC tribes.

Because the project is required to comply with these requirements to implement controls to protect human remains against significant impact during ground-disturbance activities, the project would not alter or adversely affect or result in the loss of these resources and their associated ethnic and cultural values. Therefore, all potential impacts to human remains would remain less than significant.

Required Mitigation: **None**.

3.4.7-4. Will the Project result in an alteration of or adverse physical or aesthetic effect to a significant archaeological or historical site, structure, object or building? (TRPA 20a)

Standard of Significance: A significant impact occurs if the Project adversely affects significant historical or archaeological resources in violation of Section 67 of the TRPA Code of Ordinances.

Environmental Analysis: *No Impact.*

See discussion in Questions 3.4.7-1 and 3.4.7-2 above. No significant archaeological, historic sites, structures, objects, or buildings were identified for the project area; there would be no impact.

Required Mitigation: **None**.

3.4.7-5. Is the Project located on a property with any known cultural, historical, and/or archaeological resources, including resources on TRPA or other regulatory official maps or records? (TRPA 20b)

Standard of Significance: A significant impact occurs if the Project adversely affects significant historical or archaeological resources in violation of Section 67 of the TRPA Code of Ordinances.

Environmental Analysis: *No Impact.*

See discussion in Questions 3.4.7-1 and 3.4.7-2 above. As discussed in the Environmental Setting, the project area does not contain any known cultural, historical, and/or archaeological resources, including resources on TRPA or other regulatory official maps or records; there would be no impact.

Required Mitigation: **None**.

3.4.7-6. Is the Project associated with any historically significant events and/or sites or persons? (TRPA 20c)

Standard of Significance: A significant impact occurs if the Project adversely affects significant historical or archaeological resources in violation of Section 67 of the TRPA Code of Ordinances.

Environmental Analysis: *No Impact.*

As discussed in fully in the Tribal Cultural Resources Section 3.4.20, tribes were invited to consult on the project. No tribal cultural resources, including historically significant events and/or sites or persons were identified for the project area; there would be no impact.

Required Mitigation: **None**.

3.4.8 Energy (CEQA/TRPA)

This section presents the analyses for potential impacts to energy. Table 3.4.8-1 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 3.4.8-1: Energy

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
3.4.8-1. Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? (CEQA VIa)			**X**	
3.4.8-2. Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? (CEQA VIb)				**X**
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
3.4.8-3. Use of substantial amounts of fuel or energy? (TRPA 15a)				**X**
3.4.8-4. Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy? (TRPA 15b)				**X**

Environmental Setting

The Project Area consists of residential neighborhoods, NFS land, and land within the Tahoe Paradise Park, crossing the Upper Truckee River. Since this is a partially developed area, there are energy sources in the vicinity that serve urban uses, including overhead power lines. Energy used in the area includes electricity, natural gas, gasoline and diesel fuel, and renewable energies.

Environmental Analysis and Mitigation Measures

3.4.8-1. Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? (CEQA VIa)

Standard of Significance: A significant impact occurs if Project construction or operations uses a quantity of fuel greater than average for a use of this type or that proposes to consume large quantities of energy.

Environmental Analysis: *Less than Significant Impact.*

The Project proposes a trail that would not require the long-term use of energy resources and that has the potential to reduce fuel consumption by providing access and connection to other trail systems for pedestrian and bicycle use. The Project, therefore, would not consume energy resources once construction is complete and has the potential to reduce overall fuel consumption in the area. Non-renewable energy resources such as gasoline and diesel are consumed during the construction process. Because construction would be limited and would not require quantities of energy resources beyond those of typical trail construction, and since the Project has the potential to reduce automotive trips in the area on an operational basis, the Project would not result in substantial depletion or wasteful use of energy resources during construction or operation.

Required Mitigation: **None.**

3.4.8-2. Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency? (CEQA VIb)

Standard of Significance: A significant impact would occur if a conflict with renewable energy policies or programs occurs or if policies and programs regarding energy efficiency are violated.

Environmental Analysis: *No Impact.*

The Project would implement a program in the 2017 RTP/SCS and reduces fuel consumption by replacing automotive trips with pedestrian and bicycle trips. No lighting or other features that consume energy are proposed for the Project, outside of the construction process. Therefore, the Project actively supports plans for energy efficiency and would not obstruct plans to develop or expand renewable energy or energy efficiency programs.

Required Mitigation: **None**.

3.4.8-3. Would the Project use substantial amounts of fuel or energy? (TRPA 15a)

Standard of Significance: Significant impacts occur if Project features or components use large quantities of fuel above the volume required for such operations.

Environmental Analysis: *No Impact.*

Refer to Question 3.4.8-1. Project operations would not require fuel consumption outside of regular maintenance activities that already occur in the area. Construction would require fuel consumption; however, no fuels would be consumed at a higher rate than average and standard idling and equipment use restrictions would prevent wasteful use of fuel.

Required Mitigation: **None.**

3.4.8-4. Will the Project substantially increase the demand upon existing sources of energy, or require the development of new sources of energy? (TRPA 15b)

Standard of Significance: A significant impact occurs if the use proposed results in an increase in demand such that current supply cannot be met or additional energy sources are required.

Environmental Analysis: *No Impact.*

The Project would not consume large quantities of construction fuel that could not be supplied or that would require new energy development. Operations include no features that would regularly consume fuel.

Required Mitigation: **None.**

3.4.9 Geology and Soils (CEQA) and Land (TRPA)

This section presents the analyses for potential impacts to geology, soils and land. Table 3.4.9-1 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 3.4.9-1: Geology and Soils and Land

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
3.4.9-1. Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42? ii) Strong seismic ground shaking? iii) Seismic-related ground failure, including liquefaction? iv) Landslides? (CEQA VIIa)			**X**	
3.4.9-2. Result in substantial soil erosion or the loss of topsoil? (CEQA VIIb)			**X**	
3.4.9-3. 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? (CEQA VIIc)			**X**	
3.4.9-4. 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? (CEQA VIId)			**X**	

3.4.9-5. 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? (CEQA VIIe)				**X**
3.4.9-6. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (CEQA VIIf)				**X**
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
3.4.9-7. Compaction or covering of the soil beyond the limits allowed in the land capability or Individual Parcel Evaluation System (IPES)? (TRPA 1a)		**X**		
3.4.9-8. A change in the topography or ground surface relief features of site inconsistent with the natural surrounding conditions? (TRPA 1b)				**X**
3.4.9-9. Unstable soil conditions during or after completion of the proposal? (TRPA 1c)				**X**
3.4.9-10. Changes in the undisturbed soil or native geologic substructures or grading in excess of 5 feet? (TRPA 1d)				**X**
3.4.9-11. The continuation of or increase in wind or water erosion of soils, either on or off the site? (TRPA 1e)				**X**
3.4.9-12. Changes in deposition or erosion of beach sand, or changes in siltation, deposition or erosion, including natural littoral processes, which may modify the channel of a river or stream or the bed of a lake? (TRPA 1f)				**X**
3.4.9-13. Exposure of people or property to geologic hazards such as earthquakes, landslides, backshore erosion, avalanches, mud slides, ground failure, or similar hazards? (TRPA 1g)				**X**

Environmental Setting

Lake Tahoe lies within the Sierra Nevada Geomorphic Province, occupying a basin surrounded by peaks of the Sierra Nevada Mountains with Freel Peak the highest at 10,891 feet. The eastern and western sides of the basin are composed of granite rock, with minor amounts of older metamorphic rock. Volcanic rock, some deposited as recently as 2.5 million years ago, covers most of the northern and some of the southern part of the basin. The Sierra Nevada is a gently sloping fault block mountain range that was uplifted along its eastern edge. This range is bounded on the east and west by a series of interconnected fault segments. The displacement has been greater on the eastern margin, giving the Sierra Nevada a western tilt. South of Lake Tahoe, there is a single crest dividing the gentle western slope from the steep eastern scarp. The crest splits south of the lake, with one crest trending northwesterly and the other crest trending northward creating the Carson Range. This range separates the Carson Valley from Lake Tahoe. Lake Tahoe occupies the basin between the two uplifted crests.

Geology. The Lake Tahoe Basin was formed two to three million years ago by geologic block faulting between the northwest-trending Sierra Nevada to the west and the north-trending Carson Ridge to the east. Lake Tahoe occupies the depression, or fault-produced graben, between these two uplifted mountain ranges. During the past two million years, glaciers played an active role in shaping the Sierra Nevada Mountains and Lake Tahoe. Alpine glaciers extended below the current lake level along the west shoreline and Emerald Bay. The basement geology of the Lake Tahoe Basin is divided into three categories: granitic, metamorphic and volcanic (Hyne et al. 1972).

Soils. Most of the soils in the Lake Tahoe Basin are of granitic or volcanic parent material. The soils are geologically young and poorly developed. Most soils are shallow, coarse textured, and have low cohesion, and contain small amounts of organic material. These attributes account for a high erosion potential on steeper slopes in the Tahoe Basin. Soils within the Project area include:

- Pits and dumps (7031). (0.3% of the area).
- Tahoe complex, 0 to 5 percent slopes (7042). This complex is typically along riparian corridors, floodplains and valley flats. The parental material consists of alluvium derived from granitic and volcanic rocks. The soil is poorly drained. Shrink-swell potential is low, and the soil is frequently flooded. Surface runoff is very high. The hydrologic soil group is A/D. (18.5% of the area).
- Celio series, 0 to 5 percent slopes (7431). This complex is typically found in the southern part of the Basin. The parental material consists of alluvium and/or outwash. The soil is somewhat poorly drained. Shrink-swell potential is low, and the soil is rarely flooded. Surface runoff is high. The hydrologic soil group is A/D. (63.0% of the area).
- Meeks gravelly loamy coarse sand, 5 to 15 percent slopes, stony (7482). This complex is typically found in the southwestern part of the Basin. The parental material consists of outwash and/or till derived from granodiorite. The soil is somewhat excessively drained. Shrink-swell potential is low, and the soil has no potential for flooding. Surface runoff is very low. The hydrologic soil group is A. (18.2% of the area).

Seismicity. The potential for seismic activity within an area is primarily related to the proximity of faults. Faults are fractures or zones of related fractures where the rocks on one side have been displaced with respect to rocks on the other side. An “active fault” is defined as one that has had surface displacement within the past 11,000 years, the Holocene. Potentially active faults are defined as those that have ruptured between 11,000 and 1.6 million years before the present (Quaternary). Faults are generally considered inactive if there is no evidence of displacement during the Quaternary period.

The Lake Tahoe Basin is located in a region of Holocene age and early Quaternary age, as evidenced by the features and historical data published in Natural Hazards of the Lake Tahoe Basin (Cooper, Clark and Associates 1974) and Preliminary Maps of Pleistocene to Holocene Faults in the Lake Tahoe Basin, California and Nevada (Saucedo 2005). Movements have taken place along faults adjacent to the basin within historical time (Lawson 1912; Kachadoorian 1967). Sediments at the bottom of Lake Tahoe show offsets or displacements that are indicative of faulting, and steep cliffs (30 to 45 degree slopes) and other topographic features associated with active faulting are found on both sides of Lake Tahoe (Hyne et al. 1972).

A north-south fault zone, located about six miles east of the Lake Tahoe Basin, separates the eastern edge of the Sierra Nevada from the parallel fault-block mountains of Nevada and Utah. The north-south faults along the shores of Lake Tahoe appear to be the longest continuous faults traversing the basin area. Of these faults, the fault along the west side of the lake appears to be the longest, with a surface length of approximately 50 miles. A fault of this length could potentially generate a 7.5 magnitude earthquake (Cooper, Clark and Associates 1974).

The Preliminary Resource Element for Sugar Pine Point State Park (CDPR 1991) characterizes the seismicity of the Lake Tahoe Basin. The fault activity has played a major, geologically recent role in the evolution of the Tahoe Basin, and the potential for a large destructive earthquake sometime in the future should be considered to be high. Relative to much of the rest of California, however, the earthquake shaking potential (Branum et al. 2008) and earthquake hazard (USGS and CGS 2010) in the Project area are low. Rather than a single linear fault, the Sierra Nevada frontal fault system is a complex zone of faults along the eastern face of the Sierra Nevada. The western Lake Tahoe boundary fault, and the mountains that rise above the western edge of Emerald Bay, very likely represent a segment of the Sierra Nevada fault system.

Based upon physiographic evidence, the main fault on the west side of the Lake Tahoe Basin probably lies less than a mile east of the shore at Ed Z'berg-Sugar Pine Point State Park, about 0.5 mile east of the shore at Rubicon Point, and continues south immediately offshore of Eagle Point at the mouth of Emerald Bay, heading inland at Baldwin Beach.

Since the 1900s, a number of earthquakes with an intensity of less than 5.0 Richter magnitude have been recorded in the Basin, although historical epicenters are more common to the north of Lake Tahoe and to the south-southeast of the Lake Tahoe Basin along the Sierra Nevada frontal fault system. Both of these areas have experienced moderate to high magnitude earthquake activity measuring between 5.0 and 7.5 on the Richter scale.

Liquefaction and Landslide Hazards. Secondary seismic hazards, such as liquefaction and landslides, may occur during an earthquake. Liquefaction could occur in loose, granular materials (alluvium) below the water table, such as along stream channels and in unconsolidated, disturbed materials. It takes place when a granular material is transformed from a solid state to a liquid state during earthquake events. The potential for liquefaction as a result of seismic events is high in areas of unconsolidated and saturated fine-grained alluvium such as at the mouth of creeks.

Landslides and debris flows triggered by earthquake ground shaking have historically been the cause for a great deal of property damage and loss of life. Areas most susceptible to earthquake-induced landslides are generally on steep slopes or adjacent to existing landslide deposits. The possibility of landslides and seismically induced slope instability is considered low due to topography in the vicinity of the trail alignment.

Land Capability and Coverage. The TRPA established a land capability system based upon the Bailey Land Classification System methodology (Bailey 1974). Land capability classification delineates the amount of impermeable development coverage (e.g. base allowable land coverage) that may exist within a land capability district (LCD). LCDs 1 to 3 are more sensitive to development, with LCD 1 being the most environmentally fragile. LCD 1b (also referred to as Stream Environment Zones or SEZ) is assigned whenever land is influenced by a stream or high groundwater.

A land capability verification has not been prepared for the Project area. TRPA Bailey mapping for the project vicinity shows LCDs 1b and 1c land capability with the trail corridor entirely within Class 1b (SEZ) boundaries. Existing coverage within the Project area includes dirt roads and trails, Tahoe Paradise park facilities, and paved roadways and parking.

Regulations. There are regulatory laws governing geologic protection and safety from geological hazards. For geologic and topographic features, the key federal law is the Historic Sites Act of 1935, which establishes a national registry of natural landmarks and protects "outstanding examples of major geological features." Topographic and geologic features are also protected under CEQA.

Federal regulations include the Earthquake Hazard Reduction Act of 1977, Executive Order 12699 on Seismic Safety of Federal Buildings, and the Uniform Building Code (superseded in California by the 2016 California Building Code). State regulations include the Alquist-Priolo Earthquake Zone Act, the Field Act, the 2016 California Building Code, the Seismic Hazards Mapping Act, and the Historic Structures Act (California PRC 5028).

In the Lake Tahoe Basin, TRPA Goals and Policies, Soils (1986), Goal #1 is stated as "Minimize soil erosion and the loss of soil productivity." This goal is to maintain soil productivity and existing vegetation cover and prevent excessive sediment and nutrient transport to streams and lakes.

PRC § 5097.5 prohibits excavation or removal of any "vertebrate paleontological site […] or any other … paleontological … feature, situated on public lands, except with express permission of the public agency having jurisdiction over such lands." Public lands are defined to include lands owned by or under the jurisdiction of the state or any city, county, district, authority or public corporation, or any agency thereof. PRC § 5097.5 states that any unauthorized disturbance or removal of paleontological materials or sites located on public lands is a misdemeanor.

Environmental Analysis and Mitigation Measures

3.4.9-1. Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

3.4.9-1.i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42? (CEQA VIIa).

Standard of Significance: For Question 5.4.9-1i through iv, the location of facilities within an Alquist-Priolo earthquake fault zone or known active fault zone or the location of facilities within areas of unstable soil without appropriate design features or construction controls constitutes a significant impact.

Environmental Analysis: *Less than Significant Impact.*

The Alquist-Priolo Earthquake Fault Zoning Act of 1972 was implemented to regulate development near active faults and to prevent construction of buildings for human occupancy on or near active faults (i.e., that have ruptured within the past 11,000 years). The designated zone extends from 200 to 500 feet on both sides of known active fault traces. Under the Act, no buildings intended for human occupancy may be constructed on or within fifty feet of an active fault trace. The Project is not located within an Alquist-Priolo Earthquake Fault Zone as designated by the California Geological Survey (CGS 2007) and proposes no structures that are designed for human occupancy. Therefore, there is no expected adverse effect on people or structures with regard to earthquake rupture as a result of implementation of this Project. The risk of fault rupture is a less than significant impact based on existing published data of officially recognized faults and proximity of the project area to such faults.

Required Mitigation: **None.**

3.4.9-1.ii) Strong seismic ground shaking?

Environmental Analysis: *Less than Significant Impact.*

See discussion and analysis for Question 3.4.9-l.i above.

Required Mitigation: **None.**

3.4.9-1.iii) Seismic-related ground failure, including liquefaction?

Environmental Analysis: *Less than Significant Impact.*

The California Department of Conservation and California Geological Survey maps do not identify the Project area as prone to liquefaction or landslides. The boardwalk and bridge structures would be engineered to Caltrans and CBC requirements.

Required Mitigation: **None.**

3.4.9-1.iv) Landslides?

Environmental Analysis: *Less than Significant Impact.*

The area is relatively flat, located on existing paved roadways, or dirt utility roads. The Class 1 trail would include sections of raised boardwalk and a bridge crossing of the Upper Truckee River. There are no nearby cliffs or areas of steep slopes in which a landslide could occur. The possibility of landslides and seismically induced slope instability is considered low due to topography in the vicinity of the trail alignment.

Required Mitigation: **None**.

3.4.9-2. Would the Project result in substantial soil erosion or the loss of topsoil? (CEQA VIIb)

Standard of Significance: Significant impacts result from non-compliance with TRPA Code Chapters 30, 33 and 60, the 208 Plan, the Lahontan Basin Plan (Chapter 5) or construction permit conditions requirements for the control of erosion on and off-site and the stabilization of soils during and upon completion of excavation, grading and fill activities.

Environmental Analysis: *Less than Significant Impact.*

See discussions and analyses for Questions 3.4.9-8, 3.4.9-9 and 3.4.9-10 below.

Required Mitigation: **None**.

3.4.9-3. Would the Project 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? (CEQA VIIc)

Standard of Significance: The location of new structures of facilities within areas subject to unstable soil conditions resulting from grading, excavation or fill constitutes a significant impact.

Environmental Analysis*: Less than Significant Impact*.

See discussions and analyses for Questions 3.4.9-1.i through 3.4.9-1.iv above and Question 3.4.9-4 below.

Required Mitigation: **None**.

3.4.9-4. Would the Project 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? (CEQA VIId)

Standard of Significance: Significant impacts result if the Project locates facilities within areas of moderate to high soil risk potential identified by geotechnical assessments, of unstable soils, or of expansive or corrosive soils without appropriate geotechnical and engineering measures.

Environmental Analysis: *Less than Significant Impact.*

Soils in the Class 1 bike trail Project area consist primarily of (7431) Celio Loamy Coarse Sand 0-5% slopes and (7042) Tahoe Complex 0-5% Slopes. These soils have low expansive soil/plasticity ratings. The trail and bridge structure would be engineered per the California Building Code standards to avoid risks to persons using the trail and bridge or damage to the trail or bridge during a seismic event.

Required Mitigation: **None**.

3.4.9-5. Would the Project 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? (CEQA VIIe)

Standard of Significance: Development of septic systems or alternative wastewater disposal systems in areas of soils that are inadequate of support such a use results in a significant impact.

Environmental Analysis: *No Impact.*

The Porter-Cologne Water Quality Act requires all sewage and wastewater to be disposed of outside the Lake Tahoe Basin. Therefore, use of septic tanks or alternative wastewater disposal are prohibited in the Lake Tahoe Region.

Required Mitigation: **None.**

3.4.9-6. Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (CEQA VIIf)

Standard of Significance: A significant effect on the environment occurs if the project has the potential to pose a significant impact to paleontological resources identified during construction related ground disturbing activities, if any paleontological resources are identified during construction, as provided in PRC Section 5097.98, or if the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature. The significance of paleontological resources is determined in part by compliance with the Antiquities Act of 1906. Fossil remains of vertebrates are considered significant resources.

Environmental Analysis: *No Impact.*

The Project area contains no known unique paleontological resources or fossiliferous geologic features, and therefore, no paleontological resources or unique geologic features will be directly or indirectly destroyed by the Project. However, in the event of inadvertent discovery during construction, Caltrans is required to implement procedures to comply with state and federal law pertaining to the protection of resources.

Required Mitigation: **None**.

3.4.9-7. Would the Project result in compaction or covering of the soil beyond the limits allowed in the land capability or Individual Parcel Evaluation System (IPES)? (TRPA 1a)

Standard of Significance: Project proposals that do not comply with provisions of TRPA Code Section 30.4 for maximum coverage (note: maximum land coverage for linear public facilities equals the minimum amount necessary to achieve the public purpose), Section 30.5 for additional coverage in low capability lands, or Section 30.6 for existing excess coverage create a significant impact.

Environmental Analysis: *No with Mitigation Measures.*

Tahoe Regional Planning Agency

TRPA Code Chapter 30 contains the criteria pertinent to land coverage for the project area. The Project proposal includes new land coverage and disturbance of SEZs (LCD 1b) for the Class 1 trail and bridge construction, which is partially located within the 100-year floodplain but by following FEMA requirements and the Caltrans design standards for bridge structures within floodplains, does not adversely affect floodplain function. Analysis of the biological and hydrological impacts from SEZ disturbance are not repeated in this section.

In 2013, TRPA adopted a revised Regional Plan and Code of Ordinances (TRPA, 2013) altering the review and required offsetting restoration for certain shared use trail projects in SEZ. TRPA Code section 30.4.6.D.3 allows exemption from general SEZ disturbance prohibitions for shared use trail projects which meet certain criteria. The following discussion identifies that the entire San Bernardino Class 1 trail section meet these criteria:

a. Accessibility. The San Bernardino Class 1 trail is a public trail available at no cost.

b. Trail Route Design. The Class 1 trail alignment is the most direct rail alignment that minimizes disturbance to sensitive lands, riparian vegetation, and large trees by reducing overall length in wetlands and SEZ and avoiding large trees where possible, and would be constructed in primarily existing disturbed roadway.

c. Trail Design. The Class 1 trail alignment targets use of boardwalks and bridges to protect the wettest soils and most sensitive habitat and to avoid creating obstacles in floodplains and accommodating seasonal surface flows and high groundwater, In drier parts of the SEZ, outer parts of the floodplain, the proposal provides for typical asphalt trail design. Design details for elevated boardwalk sections allow for wildlife passage either under or over the trail. The project also incorporates drainage design features to offset potential impacts of new paved coverage associated with the Class I trail segment. These drainage facilities consist of infiltration channels/swales, rock slope protection and rock dissipators and would be installed, where required, to slow runoff, capture runoff, and allow for infiltration of surface runoff to groundwater. The Project would also implement a groundwater Dewatering Plan as a SWPPP component during construction and would not remove riparian vegetation as discussed in Section 3.4.6, which would only be pruned. Tree removal would also be minimized and tree removal protection measures would be implemented.

d. Limit on Exemption. The Class 1 trail alignment is identified in each of the Lake Tahoe Regions transportation and recreational planning documents (e.g., 2019 Federal Transportation Improvement Program and 2016 LinkingTahoe: Active Transportation Plan) and therefore qualifies for the exemption.

Based on this review, the San Bernardino Class 1 bike trail project is exempt from land coverage transfer under the TRPA Code requirements. However, as described below, the project must still restore disturbed SEZ to offset the new trail features.

Lahontan

Lahontan adopted Basin Plan amendments in 2014 (Lahontan, 2014) which include prohibitions for discharge in SEZ and 100-year floodplains (Prohibitions 5.2 and 5.3) as well as possible exceptions to those prohibitions for outdoor recreation projects. The Regional Board may grant exemptions from Prohibitions 5.2 and 5.3 under the following circumstances:

(a) By their nature projects must be located in SEZ. By their very nature, roads, trails, and utilities traverse large areas of the landscape, following an alignment chosen to connect different locations (Siller Ranch Resolution No. R6T-2006-0021, page 6). The bowl-like nature of the Tahoe Region in South Lake Tahoe creates drainages with their attendant soil types that travel from the surrounding mountains to Lake Tahoe; creating a non- motorized transportation network within this context cannot avoid surface waters and associated SEZ. Therefore, such features by their very nature interact with SEZs in areas where crossings are necessary.

(b) No feasible alternative exists. To connect neighborhoods served by West and East San Bernardino Avenues for bike and pedestrian users, a trail and bridge must be constructed between the existing terminus of the two roadways. To connect these neighborhoods, there is no alternative other than the proposed trail and bridge that will cross the Upper Truckee River and associated SEZ.

Alternatives for the project were analyzed in a Feasibility Study prepared by the County. The FS identified the potential alignment alternatives, all which would require creation of a trail crossing of the Upper Truckee River. The FS also compiled BMP alternatives for mitigating specific problem areas and presented the evaluation of the alternatives. Following these steps, a preferred alternative was selected and documented in a Preferred Project Alternative Memoranda based on input from the public meetings, correspondence received, and the results of the analyses contained in the 2018 Feasibility Report. Both the Feasibility Report and Alternative Memoranda are attached (Appendices H and I).

Alternative 1 (Project) was chosen based on being able to construct the majority of the trail within already disturbed roadway and the ability to implement design features which minimize disturbance and encroachment within the Upper Truckee River floodplain/SEZ. The Project does not require direct impacts within the Upper Truckee River by including a bridge structure that would span the river and utilize a raised boardwalk approach to minimize disturbance to hydrologic function.

(c) Impacts are fully mitigated. The proposal includes two design details intended to reduce impacts to riparian areas. The project would construct a 200 foot long bridge that spans the 100 year floodplain to maintain existing habitat and hydrology below the bridge structure, and boardwalks with helical pier footings at the bridge approaches to eliminate the need to excavate footings and allow free surface and groundwater flow. These actions avoid dewatering the downslope soils with the attendant potential for effect to riparian vegetation. Offsetting restoration is identified below.

The project also incorporates drainage design features to offset potential impacts of new paved coverage associated with the Class I trail segment. These drainage facilities consist of infiltration channels/swales, rock slope protection and rock dissipators and would be installed, where required, to slow runoff, capture runoff, and allow for infiltration of surface runoff to groundwater.

The project would also implement a groundwater Dewatering Plan as a SWPPP component during construction which would include the capture, storage, and appropriate discharge for groundwater. Components of the Dewatering Plan would require that excavation sites be protected with sandbags, water berms, siltation fences, or other Lahontan approved techniques. Localized pumping shall clear the construction area of turbid standing water. Pumped water could be used to irrigate planted vegetation, sprayed on uplands to allow infiltration within the project area, held in Baker Tanks, or otherwise treated to remove suspended sediment to comply with the requirements of Board Order No. R6T-2017-0010.

The project area contains limited riparian environment, limited to the west bank of the river in a small cluster of willow and alder shrubs. The project does not propose to remove these shrubs. The shrubs may be pruned to allow for construction of the bridge span. Additionally, a portion of the raised boardwalk structure and entire bridge span would allow for vegetative growth to continue underneath.

(d) SEZs are restored in an amount of 1.5:1 of the project disturbance. Project modifications (asphalt trail, bridge, and boardwalk trail) will disturb at maximum 13,080 sf (0.30 acres) of SEZ, requiring 19,620 sf (0.45 acres) of offsetting restoration. Restoration of disturbed SEZ will first be completed by the removal and restoration of existing land coverage/disturbance in the Upper Truckee River vicinity (e.g., footpaths adjacent to the river, former staging areas near the terminus of West San Bernardino Avenue). Any additional restoration credits required for the Project will originate from locations under the jurisdiction of El Dorado County, or if unavailable, from the California Land Bank. As of 2016, the land bank identified restoration credit available of approximately 144,000 sf.

The Project proposal, including the provisions for BMPs and on-site SEZ restoration where possible, meets the findings necessary to avoid significant impact from additional encroachment in low capability lands.

Required Mitigation: **GEO-1. SEZ Restoration Credit for New Trail Disturbance**

> Under the provisions of the Regional Plan Update, TRPA exempts certain trails from land coverage calculations. However, compliance with the Lahontan Basin Plan requires new disturbance in SEZ meeting certain criteria to be offset with SEZ restoration at a 1:1.5 ratio. To mitigate the impact to SEZ, the County will first look for existing SEZ land coverage or disturbance in the immediate project vicinity that can be restored and permanently protected. If

there is insufficient SEZ restoration potential in the project vicinity, the County will utilize SEZ restoration credits from projects previously restored and banked. These projects, or others eligible at the time of final project approvals, include:

- 2010 Angora Creek Stream Environment Zone Restoration Project near View Circle in El Dorado County restored/enhanced 6.85 acres (298,392 square feet) of SEZ and/or wetlands within and adjacent to Angora Creek – up to 257,396 sf (5.91 acres) of restoration is still banked and available from implementation of this project.

These restoration projects, or others as approved, include successful soil and habitat restoration that are expected to offset floodplain and wetland disturbance as well as the TRPA and Lahontan required SEZ disturbance. If needed for this Project, a wetland delineation for the restoration projects will be reviewed to determine the amount and type of wetland restoration/credit that is available, should it be needed for the San Bernardino Bike Trail project permitting.

3.4.9-8. Will the Project result in a change in the topography or ground surface relief features of site inconsistent with the natural surrounding conditions? (TRPA 1b)

Standard of Significance: Changes in topographic features of the project area that are inconsistent with the surrounding conditions results in a significant impact to topography or ground surface relief features.

Environmental Analysis: *No Impact*.

Field evaluations identify no unique geologic or physical features within the project area that could be destroyed, covered or modified.

The Project proposal complies with the TPRA Code Site Development Provisions and Grading and Construction Provisions, creates no impact to native geologic substructures, and minimizes changes in topography. The proposal locates the Class 1 bike trail in areas of moderate slope – no portion of trail grades exceed 5 percent. Excavation for the bridge abutments do not exceed 8 feet bgs, and cut and fill slopes along the shared-use bike trail alignment do not exceed 5 feet in depth below existing grades.

Required Mitigation: **None.**

3.4.9-9. Will the Project result in unstable soil conditions during or after completion of the proposal? (TRPA 1c)

Standard of Significance: Significant impacts result from non-compliance with TRPA Code Chapters 30, 33 and 60, the 208 Plan and the Lahontan Basin Plan (Chapter 5), which require the control of erosion on and off-site and the stabilization of soils during and upon completion of excavation, grading and fill activities.

Environmental Analysis: *No Impact*.

The project description in Chapter 2 includes provisions to prevent short-term erosion from construction impacts and long-term erosion from operational and maintenance activities.

Short-Term. The potential for erosion is greatest during the construction period and prior to establishment of revegetation plantings. Construction of the Project involves soil disturbance and vegetation removal from clearing and grubbing activities, grading for cut and fill slopes necessary to achieve final bike trail grades and the actual construction of the trail, boardwalk and bridge. Construction

activities could cause temporary, short-term increases in runoff, soil erosion, wind erosion and sedimentation within and down gradient of the project area. When disturbed sites are not adequately stabilized and revegetated, wind can dislodge soil particles and make them airborne. When runoff bypasses natural processes, this water is not infiltrated and filtered by soils to provide contribution to local groundwater supplies. Excess runoff can overwhelm stream channels with increased water volumes and pollutant concentrations and result in stream bank erosion, loss of vegetation, and reductions in functional aquatic habitat and SEZ.

The facility features and construction controls incorporated into the Project proposal to reduce short-term erosion potential include construction phasing to limit the duration of construction and extent of disturbance present at one time and temporary BMPs. Temporary BMPs provide dust control, protect and stabilize stored materials, define work zones, staging and access areas to limit disturbance, slow runoff velocity and intercept sediment during storm events, and stabilize slopes during Project construction and initial vegetation establishment periods.

Because of a lack of steep slopes and the presence of fertile soils with good ground cover, the project area would not have site challenges to construction that could limit the effectiveness of standard construction controls and facility features.

Long-term. The Project proposal includes hydrologic source controls to infiltrate runoff from the trail surface into the adjacent clear zones and avoid off-site impacts to soils. The Project stabilizes and revegetates areas disturbed during construction and maintains these areas as detailed in the project description. Long-term maintenance of these areas minimizes long-term effects to soils. The Project proposal minimizes soil disturbance and loss of topsoil through:

- Revegetation specifications that respond to site-specific conditions;
- Stabilization of cut and fill slopes;
- Adequate cross drainage;
- Installation of culverts in areas with evidence of surface drainage;
- Bridge span to avoid Upper Truckee River channel and associated floodplain; and
- Installation of asphalt concrete trail on permeable fill/vented trail if needed in areas with evidence of seasonal surface hydrology.

This evaluation concludes that the Project proposal includes facility features and construction controls that are appropriate and adequate to minimize erosion on and off-site and stabilize soils during and upon completion of excavation, grading and fill activities. The Project conforms to federal, regional, State and local codified regulations for the control of soil erosion, thereby reducing potential impacts to a level of less than significant.

Required Mitigation: **None.**

3.4.9-10. Will the Project result in changes in the undisturbed soil or native geologic substructures or grading in excess of 5 feet? (TRPA 1d)

Standard of Significance: TRPA Code Subsection 33.3.6 prohibits excavation in excess of 5 feet in depth or where there exists a reasonable possibility of interference or interception of a water table except under

defined and permitted conditions. If groundwater interception or interference will occur as demonstrated by a soils hydrologic report, excavations can be made and significant impacts avoided through inclusion of facility measures to protect groundwater flows to avoid adverse impacts to SEZ vegetation, if any would be affected, and to prevent groundwater or subsurface water from leaving the project area as surface flow.

Environmental Analysis: *No Impact.*

Preliminary field evaluations identified no severe soil constraints that preclude grading and construction activities with the exception of areas of potential shallow groundwater along the Upper Truckee River near the bridge abutments. The Project proposal addresses these geotechnical constraints by placing a bridge span over the Upper Truckee River channel and floodplain.

The Project avoids cut slopes in SEZ. Construction of the Project requires very little excavation or importation of fill materials, as the proposal utilizes relatively flat areas in the project area, with transportation of excess cut materials off-site to a TRPA approved disposal site to be identified during Project permitting. Because grading occurs throughout the construction period of a linear project and not all at once, no more than two to three truckloads (20 cubic yard capacity) of material would be hauled off-site daily, if the Class 1 trail is completed within one construction period spanning May 1 through October 15.

TRPA prohibits excavations deeper than five feet because of the potential for groundwater interception or interference, except under defined and permitted conditions. The Project requires cuts of up to eight (8) feet in depth for the two bridge abutments. A soils hydrology report will be required to include measures to protect groundwater quality. Compliance with TRPA Code Subsection 33.3.6 reduces the potential impacts from excavations to a level of less than significant through conformance with codified regulations and groundwater protections.

Required Mitigation: **None**.

3.4.9-11. Will the Project result in the continuation of or increase in wind or water erosion of soils, either on or off the site? (TRPA 1e)

Standard of Significance: A significant impact occurs if the Project causes a continuation of or increase in wind erosion or water erosion of soils, either on or off-site, creating non-compliance with TRPA Code Chapters 30, 33 and 60, the 208 Plan and the Lahontan Basin Plan (Chapter 5), which require the control of erosion on and off-site and the stabilization of soils during and upon completion of excavation, grading and fill activities.

Environmental Analysis: *No Impact.*

See discussion and analysis for Question 3.4.9-9 above.

Required Mitigation: **None**.

3.4.9-12. Will the Project result in changes in deposition or erosion of beach sand, or changes in siltation, deposition or erosion, including natural littoral processes, which may modify the channel of a river or stream or the bed of a lake? (TRPA 1f)

Standard of Significance: Effects that modify the channel of a river or stream or the bed of a lake create a significant impact.

Environmental Analysis: *No Impact.*

The project area does not include shorezone area. The Project avoids encroachments to the Upper Truckee River channel below its 100-year floodplain at the bridge span, and therefore, creates no significant impacts to river channels.

Required Mitigation: **None**.

3.4.9-13. Will the Project result in exposure of people or property to geologic hazards such as earthquakes, landslides, backshore erosion, avalanches, mudslides, ground failure, or similar hazards? (TRPA 1g)

Standard of Significance: The location of facilities within an Alquist-Priolo earthquake fault zone or known active fault zone or the location of facilities within areas of unstable soil without appropriate design features or construction controls constitutes a significant impact.

Environmental Analysis: *No Impact.*

See analysis for Question 3.4.9-1, which addresses CEQA checklist item VIIa and concludes potential impacts from hazardous conditions to be less than significant.

Required Mitigation: **None.**

3.4.10 Greenhouse Gas Emissions (CEQA) and Air Quality (TRPA)

This section presents the analyses for potential impacts to greenhouse gas (GHG) emissions. Table 3.4.10-1 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 3.4.10-1: Greenhouse Gas Emissions and Air Quality

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
3.4.10-1. Greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (CEQA VIIIa)			**X**	
3.4.10-2. Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (CEQA VIIIb)				**X**
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
3.4.10-3. Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally? (TRPA 2d)				**X**
3.4.10-4. Increased use of diesel fuel? (TRPA 2e)				**X**

Environmental Setting

Greenhouse gases (GHG) such as carbon dioxide and methane trap heat in the earth's atmosphere. Increased concentrations of these gases over time produce an increase in the average surface temperature of the earth. The rising temperatures can in turn produce changes in precipitation patterns, storm severity, and sea level, resulting in what is commonly referred to as "climate change."

Global climate change is caused in large part by anthropogenic (human caused) emissions of GHGs released into the atmosphere through the combustion of fossil fuels and by other activities that affect the global GHG budget, such as deforestation and land use change. According to the California Energy Commission (CEC), GHG emissions in California are attributable to human activities associated with industrial/manufacturing, utilities, transportation, residential, and agricultural sectors as well as natural processes (California Energy Commission, 2006a).

Carbon Dioxide (CO_2) is the primary GHG attributed to the Project. CO_2 accounts for more than 75% of anthropogenic GHG emissions. Increasing concentrations of CO_2 in the atmosphere are largely due to

emissions from the burning of fossil fuels, gas flaring, cement production, and land use changes such as vegetation removal and large-scale agriculture.

In order to simplify reporting and analysis, methods have been set forth to describe emissions of GHGs in terms of a single gas. The most commonly accepted method to compare GHG emissions is the "global warming potential" methodology defined in the Intergovernmental Panel on Climate Change (IPCC) reference documents (IPCC 1996; IPCC 2001). The IPCC defines the global warming potential (GWP) of various GHG emissions in terms of CO_2 equivalents (CO_2e), which compares the GHG in question to that of the same mass of CO_2 (by definition, CO_2 has a global warming potential (GWP) of 1.0).

CARB completed a GHG inventory of California's 2006 GHG emissions in 2009 and the state's 2017 GHG emissions in 2019. Their 2009 report states that 1990 emissions amounted to 433.3 million metric tons (MMT) of carbon dioxide equivalent (CO_2e), while 2006 emissions levels rose to 483.9 MMT of CO_2e (CARB 2009). Based on California's 2006 population of 37,114,598, this amounted to approximately 13 metric tons of CO_2e per person (State of California, Department of Finance 2008). The 2017 inventory showed GHG emissions decreasing, where 2017 GHG emissions accounting for 424 MMT of CO_2e, which was 5 MMT of CO_2e less than 2016 levels, despite economic and population growth. Since 2016 GHG emissions have been below the 2020 limit of 431 MMT of CO_2e (CARB 2019)

The California State law and policies have been implemented to reduce the amount of GHG generated each year. As stated in Assembly Bill 32, Global Warming Solutions Act (AB 32), passed in 2006; "The State of California found that Global Warming would have detrimental effects on some of California's largest industries including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry." AB 32 requires statewide GHG emissions in California be reduced to 1990 levels by the year 2020 and requires the CARB to adopt rules and regulations to achieve this goal.

In California, CDPR has developed a "Cool Parks" initiative to address climate change within the State Park system. Cool Parks proposes that CDPR itself, as well as resources under its care, adapt to the environmental changes resulting from climate change. In order to fulfill the Cool Parks initiative, CDPR is dedicated to using alternative energy sources, low emission vehicles, recycling and reusing supplies and materials, and educating staff and visitors on climate change (CDPR 2008).

Some GHG such as carbon dioxide occur naturally and are emitted to the atmosphere through natural processes and through human activities. Naturally occurring greenhouse gasses include water vapor, carbon dioxide, methane, nitrous oxide, and ozone.

In 2013, the California Tahoe Conservancy Regional Greenhouse Gas Emissions Inventory for the Lake Tahoe Region found the region-wide annual GHG emissions levels to be 1,398,554 metric tons of CO_2e, caused primarily by wildfire and prescribed burns and transportation sources. By comparison, the primary source of GHG emissions in both California and Nevada were electricity consumption, followed by transportation. (TRPA Sustainable Communities Program, 2013)

Standards. The EDCAQMD has adopted a Guide to Air Quality Assessment and has adopted the state and federal threshold but has not established thresholds for GHG emissions. For GHGs, the Council on Environmental Quality has established a project emissions threshold level of 25,000 MT CO_2eGHG emissions. For the Lake Tahoe Region, the standards used include a De Minimis level for operations of 1,100 metric tons of CO_2e per year, 10,000 metric tons of CO_2e per year for the construction and operational phase of projects, and daily thresholds measured in pounds per day (82 lbs/day) for reactive organic gases, oxides of nitrogen, and particulate matter. Each of the thresholds would be the equivalent of a 617 unit single family dwelling project or a 249,1000 square foot commercial building. In 2017, California Air Resources Board released *California's 2017 Climate Change Scoping Plan: The Strategy*

for Achieving California's 2030 Greenhouse Gas Target, which guides future actions to reach the 2030 target of a 40 percent reduction in GHG emissions below 1990 statewide GHG emissions that was established by Executive Order B-30-15 and Senate Bill 32. To assess consistency with California's 2030 GHG target of 40 percent below 1990 levels, the SMAQMD threshold of 1,100 MTCO2e/year, established for the purpose of reducing 2020 statewide emission to 1990 levels (2020 target), has been adjusted down by 40 percent to 660 MTCO2e/year (2030 target).

GHG planning guidance for the Lake Tahoe Basin is outlined in the TMPO Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) which anticipates reducing GHG emissions per person by 12% in 2020 and 7% in 2035, to be accomplished by focusing on regional land use and transportation policies. Strategies in the 2017 RTP/SCS include transit programs (free-to-the-user transit, transit priority access, transit schedule coordination, etc.), parking management, and others, one of which is proposed by this project (shared-use trail).

Environmental Analysis and Mitigation Measures

3.4.10-1. Would the Project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? (CEQA VIIIa)

Standard of Significance: An increase in greenhouse gas emissions would be considered significant if the project would obstruct implementation of any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions.

Environmental Analysis*: Less than Significant Impact.*

The Project would have a beneficial impact on greenhouse gas emissions by improving opportunities for non-motorized transportation (pedestrian and bicycle use), which may reduce vehicle dependence and associated mobile emissions.

Project construction will result in short term GHG emissions from construction equipment emissions and emissions from workers' vehicles traveling to and from the construction sites. Construction phase emissions cease at the completion of construction. Due to the small size of the project, construction emissions would not exceed thresholds. Since the Project promotes a shift in transportation mode from autos to non-motorized users, it results in a net reduction of regional VMT. Therefore, the operational phase of the project creates a small beneficial effect on long-term vehicle-related GHG emissions and climate change.

Required Mitigation: **None.**

3.4.10-2. Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases? (CEQA VIIIb)

Standard of Significance: A significant impact occurs if the project conflicts with the 2017 TMPO RTP/SCS or with EDCAQMD regulations.

Environmental Analysis*: No Impact.*

The Project is proposed within the 2017 TMPO RTP/SCS to reduce dependence on automotive travel, reduce VMT, and improve air emissions levels. Therefore, the Project supports and implements adopted plans that reduce greenhouse gas emissions.

Required Mitigation: **None.**

3.4.10-3. Would the Project result in alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally? (TRPA 2d)

Standard of Significance: A significant occurs if project facilities or emissions alter the movement of air or change the ambient moisture or temperature levels.

Environmental Analysis*: No Impact.*

The Project has the potential to result in a beneficial impact by replacing automotive trips with pedestrian and bicycle trips where a decline in emissions may occur. Although some emissions would occur during construction, they would not alter air movement, temperature or moisture levels such that climate change would occur. Construction activities would take place over a temporary, 4-month period. Operations have the potential to result in long-term decreases in emissions that affect climate.

Required Mitigation: **None.**

3.4.10-4. Would the Project result in increased use of diesel fuel? (TRPA 2e)

Standard of Significance: A significant impact would occur if the Project results in long-term increases in diesel fuel consumption.

Environmental Analysis: *No Impact.*

The Project is proposed within the 2017 TMPO RTP/SCS to reduce dependence on automotive travel, reduce VMT, and improve air emissions levels. The project would help to reduce long-term diesel fuel use by improving connectivity for pedestrian and bicycle transportation. Although some diesel fuel would be consumed during construction, this temporary use of fuel would be offset by the beneficial decrease in automotive dependency.

Required Mitigation: **None.**

3.4.11 Hazards and Hazardous Materials (CEQA) and Risk of Upset and Human Health (TRPA)

This section presents the analyses for potential impacts to hazards and hazardous materials and risk of upset and human health. Table 3.4.11-1 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 3.4.11-1: Hazards and Hazardous Materials and Risk of Upset and Human Health

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
3.4.11-1. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (CEQA IXa)			**X**	
3.4.11-2. 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? (CEQA IXb)			**X**	
3.4.11-3. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? (CEQA IXc)			**X**	
3.4.11-4. Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? (CEQA IXd)				**X**
3.4.11-5. For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area? (CEQA IXe)				**X**

3.4.11-6. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (CEQA VIIIf)				**X**
3.4.11-7. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? (CEQA IXg)			**X**	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
3.4.11-8. Involve a risk of an explosion or the release of hazardous substances including, but not limited to, oil, pesticides, chemicals, or radiation in the event of an accident or upset conditions? (TRPA 10a)				**X**
3.4.11-9. Involve possible interference with an emergency evacuation plan? (TRPA 10b)				**X**
3.4.11-10. Creation of any health hazard or potential health hazard (excluding mental health)? (TRPA 17a)				**X**
3.4.11-11. Exposure of people to potential health hazards? (TRPA 17b)				**X**

Environmental Setting

The Project area includes the neighborhood streets of West and East San Bernardino Avenues, and an existing dirt utility road on each side of the Upper Truckee River. Project actions include striping and signage installation for a new Class 3 bike route on the existing pavement of West and East San Bernardino Avenues between North Upper Truckee Road and Apache Avenue, and the creation of a new Class 1 bike trail that follows an existing dirt road, crossing the Upper Truckee River. The Class 1 trail includes a paved travelway, boardwalk travelway at each end of the bridge crossing, and a low-profile bridge crossing the river. No trail facilities would be located within Waters of the United States but would span above them.

Hazardous Materials. According the Department of Toxic Substances Control, no hazardous waste facilities or contaminated sites are identified within the construction area or trail alignment (EnviroStor and GeoTracker, 2020).

Airports and Schools. The Lake Tahoe Environmental Science Magnet School is located approximately 200 feet from the Class 3 portion of the trail at Apache Avenue. The South Lake Tahoe Airport is located approximately 1.5 miles northeast of the Project area. The Project area is located outside the airport Safety zones as mapped in the 2019 Airport Land Use Compatibility Plan.

Fire. Portions of the Project area, outside LTBMU-managed lands, are located within the Very High Hazard State Responsibility Area (CalFire, 2020). CalFire mapping does not indicate that the Project area is within a local responsibility area but does identify areas of Federal responsibility. The LTBMU Forest Plan Wildland Urban Interface (WUI) map indicates the Project area is located within the Defense Zone of the Wildland Urban Interface.

Environmental Analysis and Mitigation Measures

3.4.11-1. Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (CEQA IXa)

Standard of Significance: Non-compliance with state and federal standards for transport and use of hazardous materials during construction of operation of the Project constitutes a significant impact. The Federal Hazardous Materials Transportation Act, California Health and Safety Code Division 20, and California Code of Regulations Titles 8 and 19 determine the regulatory standards.

Environmental Analysis: *Less than Significant Impact.*

No hazardous materials would be used or generated by Project operations. Construction activities may use fuels, lubricants, oils and other fluids to operate machinery. Generally, these materials would be stored within the paved staging areas and within the construction equipment. Hazardous materials used during construction would be transported, stored, and used in accordance with federal, state, and local regulations (e.g., CAA, CWA, Comprehensive Environmental Response, Compensation and Liability Act and the Toxic Substances Control Act). To minimize potential impact resulting from accidental spills or release, preparation of a Spill Response Plan, which is a required component of construction and operational SWPPPs, is required as discussed in the regulatory measures of the Project Description.

Required Mitigation: **None**.

3.4.11-2. Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? (CEQA IXb)

Standard of Significance: Non-compliance with state and federal standards for transport and use of hazardous materials during construction of operation of the Project constitutes a significant impact. The Federal Hazardous Materials Transportation Act, California Health and Safety Code Division 20, and California Code of Regulations Titles 8 and 19 determine the regulatory standards.

Environmental Analysis: *Less than Significant Impact.*

Project design and committed practices and compliance with federal and state regulations and permit programs avoid and minimize hazards to the public or the environment involving the release of hazardous materials into the environment. No hazardous materials would be present during operations and construction materials and equipment would be confined to the construction and staging area and remove following trail completion. As discussed in Question 3.4.11-1, the required spill response plan and SWPPP would ensure no hazardous release occurs.

Required Mitigation: **None**.

3.4.11-3. Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? (CEQA IXc)

Standard of Significance: The transport or use of hazardous materials within one-quarter mile of a school constitutes a significant impact if the Project includes no measures ensuring public health and safety.

Environmental Analysis: *Less than Significant Impact.*

The Lake Tahoe Environmental Science Magnet School is located approximately 200 feet from the Class 3 portion of the trail at Apache Avenue. In this location, the project proposes to stripe the existing pavement and install directional signage. No substantially hazardous materials would be used for this process. The Class 1 trail would be located more than one-quarter mile from the school. While construction may use fuels, lubricants, oils, and other fluids used to operate machinery, Project operations would not emit or handle such materials. Regulatory compliance, as discussed in the Project Description, would ensure hazardous materials used during construction are not released and are handled properly.

Required Mitigation: **None**.

3.4.11-4. Would the Project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment? (CEQA IXd)

Standard of Significance: Project location on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 creates a significant hazard to the public or the environment.

Environmental Analysis: *No Impact.*

No hazardous waste facilities or contaminated sites are identified within the construction area or trail alignment (EnviroStor and GeoTracker, 2020).

Required Mitigation: **None.**

3.4.11-5. For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the project area? (CEQA IXe)

Standard of Significance: Creation of a safety hazard to people residing or working in the vicinity of a private airstrip or public airport, or within the South lake Tahoe ALUCP results in a significant impact.

Environmental Analysis: *No Impact.*

The South Lake Tahoe Airport is located northeast of the Project area. The Project area is over 1.5 miles from the airport and is located completely outside the airport safety zones as mapped on Figure 4-4 of the airport's 2019 Airport Land Use Compatibility Plan (ALUCP) and is outside the noise impact area as mapped on Figure 4-1 of the ALUCP. The Project area is within the overflight notification zone; however, no safety hazard or excessive aircraft noise would be present.

Required Mitigation: **None.**

3.4.11-6. Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (CEQA IXf)

Standard of Significance: If impediments to emergency response or evacuation routes occur or response times fall below emergency response plan standards because of Project construction or operations, a significant impact occurs.

Environmental Analysis: *No Impact.*

The Project would construct Class 1 and Class 3 bicycle facilities and would improve connectivity between existing neighborhoods currently separated by the Upper Truckee River. Creation of the trail and connectivity between the immediate neighborhoods as well as with other existing trails in the area would improve emergency response and evacuation. Construction activities would not interfere with emergency response or evacuation as striping would not impair access and creation of the Class 1 trail would be outside area roadways.

Required Mitigation: **None.**

3.4.11-7. Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires? (CEQA IXg)

Standard of Significance: Project exposure of 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 a creates significant impact.

Environmental Analysis: *Less than Significant Impact.*

The Project does not propose new homes or habitable structures that would expose persons to increased wildfire risk. Development of the bike trail and bike route would not increase the wildfire risk for existing residences and recreational facilities in the area. The trail would improve evacuation and creates a fire break if wildland fire should occur.

Required Mitigation: **None**.

3.4.11-8. Will the Project involve a risk of an explosion or the release of hazardous substances including, but not limited to, oil, pesticides, chemicals, or radiation in the event of an accident or upset conditions? (TRPA 10a)

Standard of Significance: Non-compliance with local, state and federal standards for transport and use of hazardous materials during construction of operation of the Project constitutes a significant impact. The Federal Hazardous Materials Transportation Act, California Health and Safety Code Division 20, and California Code of Regulations Titles 8 and 19 determine the regulatory standards. The County General Plan sets forth the goals, policies, and implementation plans related to public safety and hazards associated with hazardous materials that are applicable to the Project. Lahontan Board Order No. R6T-2016-0010 also outlines requirements for storage and handling of hazardous substances for construction projects within the California portion of the Lake Tahoe Basin.

Environmental Analysis: *No Impact.*

Construction of the Project involves the short-term use and storage of hazardous materials typical of a shared-use trail construction project (e.g., asphalt concrete, fuel, and paint for striping). Materials will be

used, stored, and disposed of in accordance with applicable federal, state, and local laws including Cal-OSHA, and Lahontan NPDES construction permit conditions and manufacturer's instructions. For transport to the project area, the CHP regulates transportation of hazardous materials on area roadways. The NPDES construction permit includes preparation of a site-specific spill prevention plan that addresses hazardous materials use, storage, transport, and disposal and management and containment of hazardous materials in the event of a spill. Compliance with NPDES construction permit requirements is sufficient to minimize risks associated with hazardous materials use.

Required Mitigation: **None**.

3.4.11-9. Will the Project involve possible interference with an emergency evacuation plan? (TRPA 10b)

Standard of Significance: If impediments to emergency response or evacuation routes occur or response times fall below emergency agency standards because of Project construction or operations, a significant impact occurs.

Environmental Analysis: *No Impact.*

See discussion and analysis for Question 3.4.11-6 above that concludes that implementation of the Project will not impact existing emergency evacuation plans.

Required Mitigation: **None.**

3.4.11-10. Will the Project result in creation of any health hazard or potential health hazard (excluding mental health)? (TRPA 17a)

Standard of Significance: Non-compliance with state and federal standards for transport and use of hazardous materials during construction of operation of the Project constitutes a significant impact. The Federal Hazardous Materials Transportation Act, California Health and Safety Code Division 20, and California Code of Regulations Titles 8 and 19 determine the regulatory standards.

Environmental Analysis: *No Impact.*

See discussions and analyses for Questions 3.4.11-1 through 3.4.11-4 above.

Required Mitigation: **None.**

3.4.11-11. Will the Project result in exposure of people to potential health hazards? (TRPA 17b)

Standard of Significance: Non-compliance with state and federal handling and disposal regulations and procedures during construction of operation of the Project constitutes a significant impact. The Federal Hazardous Materials Transportation Act, California Health and Safety Code Division 20, and California Code of Regulations Titles 8 and 19 determine the regulatory standards.

Environmental Analysis: *No Impact.*

See discussions and analyses for Questions 3.4.11-1 through 3.4.11-4 above.

Required Mitigation: **None.**

3.4.12 Hydrology and Water Quality

This section presents the analyses for potential impacts to hydrology and water quality. Table 3.4.12-1 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 3.4.12-1: Hydrology and Water Quality

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
3.4.12-1. Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality? (CEQA Xa)			**X**	
3.4.12-2. Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? (CEQA Xb)			**X**	
3.4.12-3. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would i) Result in substantial erosion or siltation on- or off-site; ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site; iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or iv) Impede or redirect flood flows? (CEQA Xc)			**X**	
3.4.12-4. In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? (CEQA Xd)			**X**	

3.4.12-5. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? (CEQA Xe)				**X**
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
3.4.12-6. Changes in currents, or the course or direction of water movements? (TRPA 3a)				**X**
3.4.12-7. Changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff so that a 20 yr. 1 hr. storm runoff (approximately 1 inch per hour) cannot be contained on the site? (TRPA 3b)				**X**
3.4.12-8. Alterations to the course or flow of 100-year flood waters? (TRPA 3c)				**X**
3.4.12-9. Change in the amount of surface water in any water body? (TRPA 3d)				**X**
3.4.12-10. Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity? (TRPA 3e)				**X**
3.4.12-11. Alteration of the direction or rate of flow of ground water? (TRPA 3f)				**X**
3.4.12-12. Change in the quantity of groundwater, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations? (TRPA 3g)				**X**
3.4.12-13. Substantial reduction in the amount of water otherwise available for public water supplies? (TRPA 3h)				**X**
3.4.12-14. Exposure of people or property to water related hazards such as flooding and/or wave action from 100-year storm occurrence or seiches? (TRPA 3i)				**X**
3.4.12-15. The potential discharge of contaminants to the groundwater or any alteration of groundwater				**X**

quality? (TRPA 3j)				
3.4.12-16. Is the Project located within 600 feet of a drinking water source? (TRPA 3k)				**X**

Environmental Setting

The project area is located within the largest watershed in the Lake Tahoe Basin, the Upper Truckee River watershed. The Upper Truckee River watershed is approximately 10 miles in length and 6.5 miles in width with a slightly elongated shape and a spur in the northwest region encompassing the Echo Lake drainage. In general, the watershed consists of mountainous terrain within the unincorporated area of El Dorado County at elevation ranges from 6,320 feet to 9,590 feet. The banks of the Upper Truckee River exhibit destabilization of the stream corridor, displaying erosion and contribute significant amounts of sedimentation into the river. In addition to the Upper Truckee River, the project area contains three existing culverts to convey stormwater runoff underneath the existing roadway system.

The project is within the jurisdictional limits of the State of California, Lahontan Regional Water Quality Control Board (Lahontan). Lahontan uses the Water Quality Control Plan for the Lahontan Region (Basin Plan) as its regulating document. Lahontan identifies beneficial uses for the Upper Truckee River in Table 2-1 in the Basin Plan as: municipal and domestic supply, agricultural supply, groundwater recharge, navigation, water contact recreation and noncontact recreation, commercial and sport fishing, cold freshwater habitat, wildlife habitat, migration of aquatic organisms, spawning, reproduction, and development of fish and wildlife.

A Feasibility Study (FS) was developed by the County pursuant to the Storm Water Quality Improvement Committee (SWQIC) guidelines for EIP projects in the Tahoe Basin. The Feasibility Report, included as Appendix H provides figures, methodology, and detailed information about the hydrology, hydraulics, and water quality at the proposed project site.

The FS identifies water quality objectives for the project. Objectives represent physical conditions that can be measured to assess the success of a project in achieving a project goal. As discussed in the Project Description, one of the project goals is to provide drainage improvements resulting in a reduction in fine (less than 20 microns) and coarse sediment, and reduction in stormwater runoff volume and peak flows leaving the project site and discharging into the Upper Truckee River.

The FS identifies the following water quality objectives:

- Reduce fine and coarse sediment, stormwater runoff volume, and peak flows by 33%, to the maximum extent practicable; and,
- Stabilize eroding cut slopes, roadside ditches, and capture road abrasives utilizing source control BMPs.

<u>Hydrologic Conditions</u>

A Draft Hydrologic Analysis Report prepared by the County in 2019 identified the following flows and water surface elevations along the Upper Truckee River in the vicinity of the proposed bridge crossing:

Return Period (flood frequency)	Peak Flow (cfs)*	Water Surface Elevation (feet)
50-year	4072	6296.96
100-year	8477	6297.55

*cfs: cubic feet per second

There are varying regulatory requirements associated with bridge design for freeboard between water surface elevation and bridge elevation (discussed in Regulatory Environment below).

Soil characteristics and Groundwater

Corestone Engineering, Inc. conducted a geotechnical investigation of the proposed project area. As part of the investigation, soil borings were collected in the vicinity of the proposed Upper Truckee River bridge crossing. Soil borings were completed in May of 2019. The soils profile throughout the project area typically consist of surficial silty to poorly graded sand with some gravel through 5 feet depth below existing ground surface and through a slightly deeper horizon (12.5 feet) near the Upper Truckee River. Beneath the gravelly soils are silt or very fine silty sand soils from about 5 to 10 feet beneath the ground surface. The underlying soils consist of fine to medium silty sand through the maximum depth of exploration, 41.5 feet beneath the existing ground surface.

Groundwater was encountered in each soil boring sample at variable depths ranging between 1.5 to 7 feet below the existing ground surface. Within the project alignment, the depth to groundwater generally becomes shallower as the site move towards the Upper Truckee River. Near the Upper Truckee River, the groundwater matched the existing river water level (County of El Dorado 2019).

The full Geotechnical Report is attached as Appendix J.

Floodplain and Regulatory Flood Zones

The Federal Emergency Management Agency (FEMA) has designated a floodplain associated with the Upper Truckee River (see Figure 3.4.12-1). Flood maps, known officially as Flood Insurance Rate Maps (FIRM), show areas of high- and moderate- to low-flood risk areas, designated by 'zones.' The floodplain designation for the project area is identified on FIRM map panels 06017C0632E and 06017C0631E, effective September 26, 2018.

The floodplain designations within the project area include:

- Zone AE: The bridge structure, abutments and footing, and the boardwalk approach structure is proposed within Zone AE, a 'Special Flood Hazard Area' regulatory floodway associated with the Upper Truckee River. This zone is also known as the 100-year floodplain. An area designated AE is considered high-risk represents a 1% annual chance of flooding with known base flood elevations provided.

- Zone X: Areas between the limits of the 100-year and 500-year flood. Zone X is the 0.2% annual chance (or 500-year) flood hazard, including areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile. Zone X is considered a 'moderate' flood hazard area.

REGULATORY SETTING

Federal

Clean Water Act (CWA)

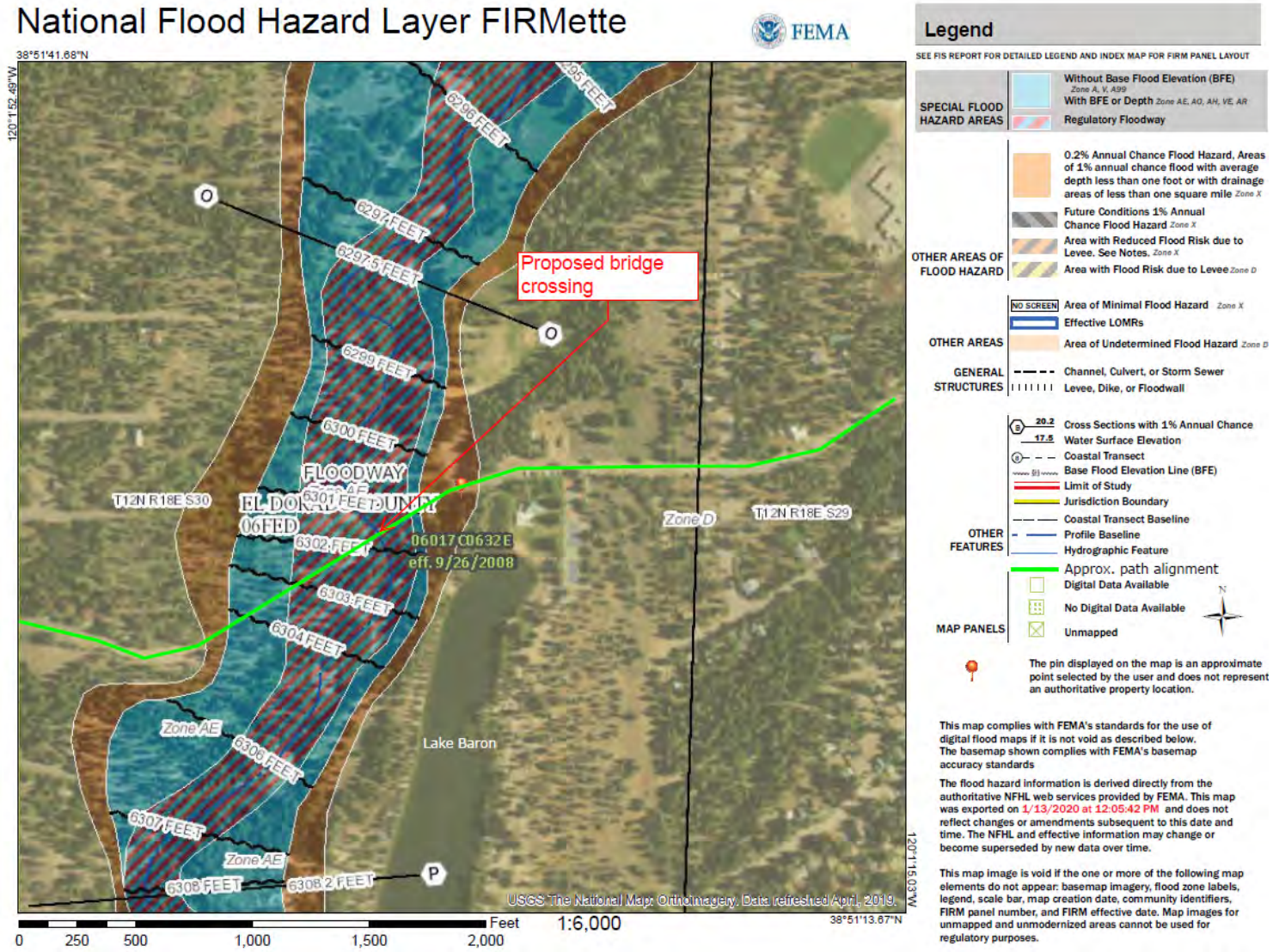
The CWA, passed in 1972, regulates and protects surface water quality across the United States. Sections 401 and 404 relate directly to local agency planning. Section 401 of the CWA requires a State Water Quality Certification for all federal permit or license applications for any activity that may result in a discharge to a water body to ensure compliance with state water quality standards. Most Certifications are issued in connection with Section 404 permits for dredge and fill discharges. Activities in waters of the U.S. that are regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports) and mining projects.

Section 303(d) of the CWA authorizes the US Environmental Protection Agency to assist jurisdictions in listing impaired waters and developing TMDLs for these waterbodies. A TMDL establishes the maximum amount of a pollutant allowed in a waterbody and serves as the starting point or planning tool for restoring water quality. In California, the State and Regional Water Boards assess water quality monitoring data for the state's surface waters every two years to determine if they contain pollutants at levels that exceed protective water quality standards. Water body and pollutants that exceed protective water quality standards are placed on the state's 303(d) List. The determination is governed by the Water Quality Control Policy for developing California's Clean Water Act Section 303(d) List. Currently, the 2016 303(d) list is in effect.

Federal Emergency Management Agency

FEMA implements the National Flood Insurance Program. Per Section 60.3(d)(3) of the National Flood Insurance Program regulations regarding floodplain management, the placement of fill, new construction, substantial improvements, and other development within the adopted regulatory floodway cannot result in any increase in flood levels during occurrence of the base flood discharge (100-year event).

Figure 3.4.12-1 – Upper Truckee River Floodplain



Source: Federal Emergency Management Agency (FEMA) map panels 06017C0632E and 06017C0631E, effective September 26, 2018 (https://msc.fema.gov/portal/home)

State

As noted above, the project is within the jurisdictional limits of the State of California, Lahontan Regional Water Quality Control Board. Lahontan uses the Water Quality Control Plan for the Lahontan Region (Basin Plan) as its regulating document. The Basin Plan sets forth water quality standards for the surface and ground waters of the Region.

The project is subject to Order No. R6T-2017-0010 which renewed the updated waste discharge requirements and National Pollutant Discharge Elimination System (NPDES) Permit (No. CAG616001) for stormwater and urban runoff discharges from portions of El Dorado County lying within the Lake Tahoe Hydrologic Unit. Under this order, El Dorado County is required as a 'permittee' to develop and implement a Stormwater Management Plan (SWMP) to minimize water quality impacts resulting from various municipal activities.

Because the proposed project would disturb more than 1 acre, it is subject to the Lahontan Region Construction General Permit Order R6T-2016-0010, which regulates stormwater leaving construction sites in the Lake Tahoe Hydrologic Unit. Under this order, site owners must notify the state and implement a Stormwater Pollution Prevention Plan (SWPPP) prepared by a Qualified SWPPP Developer. The SWPPP must outline measures which will protect hydrology and water quality resources, including groundwater, from negative impacts during construction through implementation of BMPs, a Dewatering Plan, Spill Prevention Plan, and monitoring the effectiveness of BMPs. This permit is administered by the State Water Resources Control Board and overseen by the Water Board.

Caltrans

The drainage analysis conducted by El Dorado County (2019) was prepared to ensure that the proposed bridge will meet the specific design standards provided by El Dorado County, Department of Transportation (DOT) and Caltrans. DOT does not provide specific freeboard (the vertical clearance between the lowest structural member and the water surface elevation of the design flood) design criteria. However, the County has a practice of designing freeboard based on Caltrans Highway Design Manual. The proposed bridge design will satisfy the following standards and design criteria:

- County of El Dorado Drainage Manual, dated March 1995
- Caltrans Local Assistance Procedure Manual, Chapter 11, dated July 23, 20062
    - The basic rule for hydraulic design of bridges is that they should be designed to pass the two percent (2%) probability flood or tide (50-year) or the flood-of-record, whichever is greater without causing objectionable backwater, excessive flow velocities, or encroaching on through traffic lanes. Sufficient freeboard, the vertical clearance between the lowest structural member, and the water surface elevation of the design flood should be provided. A minimum freeboard of 2 feet is often assumed for preliminary bridge design.
    - The final design should be able to convey the base flood, (100-year food)
    - The minimum design flood for foundation analysis should be the base flood. Bridges with scourable beds should withstand the effects of the base flood without failure.
- Caltrans Highway Design Manual, dated December 2018

- The basic rule for the hydraulic design of bridges is that they should pass a 2% probability flood (50-year).

- Freeboard, sufficient to accommodate the effects of the bedload and debris should be provided. Alternatively, a waterway area sufficient to pass the 1 percent probability flood without freeboard should be provided. Two feet of freeboard is often assumed for preliminary bridge design.

Local

Tahoe Regional Planning Agency

The TRPA Code of Ordinances contains requirements and standards intended to achieve water quality thresholds, goals, and policies. TRPA Code Chapter 60 - *Water Quality*, includes requirements for installation of best management practices (BMPs) and standards for grading and excavation. The following TRPA water quality standards that apply to the project are as follows: Section 60.4 – runoff shall be controlled with implementation of BMPs; Chapter 35 – regulations pertaining to development, grading or filling of lands within 100-year floodplains, recognition of natural hazards including development within floodplains (with certain exceptions for public service projects); Chapter 33.3 – standards for grading and excavation, including requirement of grading to take place between May 1 and October 15.

Environmental Analysis and Mitigation Measures

3.4.12-1. Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality? (CEQA Xa)

Standard of Significance: A significant impact results if the project results in a violation of any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

Environmental Analysis: *Less than Significant Impact.*

Grading, excavation and general ground disturbance associated with construction of the project may have the potential to cause direct and indirect short-term impacts to surface water and beneficial uses and contribute to polluted stormwater runoff discharging to the Upper Truckee River. For the proposed bridge and boardwalk structures, shallow groundwater associated with SEZ may be encountered during installation of abutments and pier footings, requiring dewatering during construction.

As a water quality protection design feature, the project proposes to install drainage facilities as needed for the paved Class 1 trail segments to slow runoff. Facilities would consist of infiltration channels/swales, rock slope protection and rock dissipators. The facilities would capture runoff and allow for infiltration to prevent sediment transport to the Upper Truckee River; therefore, concentrated runoff from modified impervious surfaces and slopes associated with construction of the Class 1 trail is not anticipated and there would be no long-term impacts to water quality once constructed.

As discussed in the Regulatory Environment, the project would require the County to prepare and submit a SWPPP to Lahontan to comply with the Stormwater General Permit. The purpose of the SWPPP is to protect soil and water resources from impacts during construction, including groundwater. Protection of soil and water resources during construction would protect the beneficial uses of the Upper Truckee River. As part of the SWPPP, the contractor will be required to prepare and adhere to a Temporary BMP

Plan, a Spill Contingency Plan, and a Dewatering Plan that will be approved by El Dorado County. The plan would designate BMPs to minimize impact from erosion and sedimentation. Construction site stormwater BMPs would follow the Caltrans Construction Site BMPs Manual (Caltrans 2017) and the TRPA BMP Handbook (TRPA 2014) to control and minimize the impacts of construction related activities to water quality. Design features and construction controls have been incorporated into the project during planning and design and are intended to avoid, reduce and minimize potential effects to surface water quality and beneficial uses.

The following controls, at a minimum, would be required at the site during construction:

- Temporary erosion and sediment control BMPs to prevent the transport of earthen materials and other construction waste materials from disturbed land areas, stockpiles, and staging areas during periods of precipitation or runoff (such as silt fence, erosion control fabric, fiber rolls)

- Tracking controls (such as designated ingress and egress areas) and designated staging areas outside of drainage, swale, and SEZ areas. Staging area to be restored in accordance with TRPA Code Section 61.4 (Revegetation).

- Temporary BMPs to prevent wind erosion and sediment transport of disturbed areas, such as use of water for dust control and covering of stockpiles

- Limit grading to May 1 through October 15, unless an exemption is granted by TRPA, and a variance from the LRWQCB. At the end of the grading season or before completion of the project, all surplus or waste earthen materials from the project site would be removed and disposed of at a TRPA approved disposal site or stabilized on-site in accordance with TRPA and Lahontan regulations.

- Include a Spill Prevention Plan as part of the SWPPP to plan for responding to and avoiding accidental spills during construction. Project contractors would be responsible for storing on-site materials and temporary BMPs capable of capturing and containing pollutants.

- Develop and implement a Dewatering Plan as a SWPPP component.

- Use of vegetation protection fencing to prevent damage to trees or other vegetation where possible

- Use of construction boundary fencing to limit land disturbance to areas not planned for construction

Because the project must comply with requirements to implement a project specific SWPPP, SWMP, and the associated BMPs, potential construction related impacts to surface water quality and beneficial uses of the Upper Truckee River would be less than significant.

For groundwater resources, the project would require placement of support abutments/footings for the bridge and boardwalk structure approximately 8 feet in depth below ground surface. As indicated by the groundwater boring data collected in 2019, groundwater was encountered as shallow as 1.5 feet below ground surface. Therefore, groundwater interception during construction is anticipated.

According to the TRPA Code of Ordinances, excavations over 5 feet in depth or that may interfere with groundwater is prohibited unless the following findings can be made (TRPA Code subsection 33.3.6B):

- A soils/hydrologic report has been prepared and approved by TRPA, and demonstrates that no interference or interception of groundwater will occur as a result of project excavation; and

- The excavation is designed such that no tree removal occurs to mature trees, except where tree removal is allowed pursuant to Subsection 33.6.5: Tree Removal, including root systems and hydrologic conditions of the soil. To ensure the protection of vegetation necessary for screening, a special vegetation protection report shall be prepared by a qualified professional identifying measures necessary to ensure damage will not occur as a result of the excavation; and

- Excavated material is disposed of pursuant to subsection 33.3.4: Disposal of Materials, and the project area's natural topography is maintained. If groundwater interception or interference will occur as demonstrated by a soils/hydrologic report, then the excavation can be made as an exception provided that measures are included in the project to maintain groundwater flows to avoid adverse impacts to SEZ vegetation and to prevent any groundwater or subsurface water flow from leaving the project area as surface flow.

The project design element directly addresses and minimizes impacts from excavation, grading or filling to reduce potential impacts to soils and will continue to do so as part of the final design. For construction of the bridge and boardwalk approach structures within SEZ, additional measures would be implemented to avoid water quality impacts from interception of groundwater. These measures include defining specific work zones and protection for existing vegetation through measures such as dry-season construction and protection of existing vegetation. Project boardwalk design that includes helical piers avoids significant amounts of ground disturbance for footings construction. Excavation for the bridge abutment and support footing would likely encounter groundwater. The Dewatering Plan, a SWPPP component, requires project features to include capture, storage, and appropriate discharge for groundwater.

Components of the Dewatering Plan would require that excavation sites be protected with sandbags, water berms, siltation fences, or other Lahontan approved techniques. Localized pumping shall clear the construction area of turbid standing water. Pumped water could be used to irrigate planted vegetation, sprayed on uplands to allow infiltration within the project area, held in Baker Tanks, or otherwise treated to remove suspended sediment to comply with the requirements of Board Order No. R6T-2017-0010.

Additionally, as part of the final project approvals, the County is required to submit an obtain a TRPA Soils/Hydrologic report (TRPA Code subsection 33.3.6B). The report includes a summary of the geologic, soil, and hydrologic conditions expected to be encountered within the project corridor and the qualifications of the personnel conducting the soil/hydrologic investigation. The report would also be required to including measures to ensure groundwater flows are maintained to avoid impact to SEZ vegetation and to prevent groundwater from leaving the site as surface water. Compliance with TRPA Code subsection 33.3.6B would ensure groundwater quality, movement, and SEZ vegetation is minimized during construction.

Because the project is required to comply with local, state, and federal requirements for protection of surface and groundwater quality during construction, implementation of the required controls would ensure that the project would not result in a violation of any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality.

Required Mitigation: **None.**

3.4.12-2. Would the Project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? (CEQA Xb)

Standard of Significance: A significant impact results if the Project installs improvements that intercept groundwater or otherwise cause substantial changes in existing groundwater quality, quantity, elevations or movement; requires excavations greater than five (5) feet that will intercept groundwater; or fails to comply with Lahontan requirements for disposal of groundwater during construction, as outlined in TRPA revised Code Chapters 33 and 60, Lahontan Basin Plan Chapter 5.7 and Lahontan Board Order No R6T-2011-0101.

Environmental Analysis: *Less than Significant Impact.*

As discussed in the Environmental Setting and Question 3.4.12-1, the project area contains shallow groundwater. Construction of bridge abutments and support footing, in addition to construction of the raised boardwalk structure, could intercept groundwater for a period of time during construction, affecting both groundwater quantity and movement. The project will address this effect, if necessary, by constructing during the driest conditions possible, and by implementing a Dewatering Plan that reduces short-term impacts. Once constructed, the project would have no effect on groundwater quantity.

As part of project design, groundwater infiltration of surface runoff is accommodated along the length of the shared-use trail alignment. Trail drainage design elements, including the installation of drainage facilities where required to slow runoff, would capture and allow for infiltration. These drainage features, in addition to the Dewatering Plan implemented during construction, would maintain the existing direction and rate of groundwater.

Implementation of the Dewatering Plan and design drainage features of the trail ensures compliance with requirements for protection of groundwater during construction as outlined in TRPA Code 33 and Lahontan Basin Plan Chapter 5.7 and Board Order No. R6T-2017-0010.

Required Mitigation: **None.**

3.4.12-3. Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would (CEQA Xc):

3.4.12-3.i) Result in substantial erosion or siltation on- or off-site?

Standard of Significance: A significant impact occurs if the project results in alteration to existing drainage patterns, including addition of impervious surface, in a matter that results in substantial erosion or siltation.

Environmental Analysis: *Less than Significant Impact*.

The project does not propose impacts within the Upper Truckee River channel; there would be no impact to the existing drainage pattern of the river with potential to result in erosion or siltation offsite.

The project does propose an addition of impervious surface to the site by paving the proposed Class I trail segment in an existing two-track dirt road. The Class I segment of trial would begin at the end of pavement at West San Bernardino Avenue for a length of approximately 600 feet, ending at the proposed boardwalk structure approaching the bridge abutment. This asphalt trail would continue from the other

side of the bridge for a distance of 150 feet to the connection with the existing Tahoe Paradise Park parking lot, for a total addition of 750 linear feet of impervious surface paved trail (or 6,000 square feet total paved asphalt).

One of the goals of the proposed project is to provide treatment for sediment sources and other pollutants of primary concern. To address potential issues associated with addition of impervious surface, the project proposes drainage design features which would slow, capture, and infiltrate potential sediment laden runoff and prevent an increase in runoff volumes which have potential to cause erosion. Therefore, once the project is constructed, it would not result in substantial erosion or siltation on or off site, and would correct existing areas of erosion, thereby creating a beneficial impact.

During construction, implementation of the SWPPP and Dewatering Plan would ensure construction activities would not result in an increase in erosion or siltation on or off site.

Required Mitigation: **None.**

3.4.12-3.ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Standard of Significance: A significant impact occurs if the project results in alteration to existing drainage patterns, including addition of impervious surface, in a matter that results in on or off-site flooding.

Environmental Analysis: *Less than Significant Impact.*

As discussed in the Environmental Setting, one of the goals of the proposed project is to reduce peak flows and volumes within the project area, while providing treatment for sediment sources and other pollutants of primary concern. The project proposes to obtain this by providing drainage design features, where required, to slow, capture, and infiltrate runoff to prevent runoff from leaving the project area as surface flow and discharging to the Upper Truckee River. These drainage features may include infiltration channels/swales, rock slope protection and rock dissipators. These design features address potential risk of flooding on or off site by capturing runoff from modified impervious surfaces and allowing for infiltration. Therefore, once the project is constructed, an improved storm water system would be in place, surface flows and volumes would likely be reduced from their existing condition, and significant impact would not occur as a result of the project.

During construction, grading and excavation would take place that may have a potential to cause increased surface runoff. However, with implementation of the required erosion and sediment construction control BMPs, construction of the proposed project would not substantially increase the rate or amount of surface runoff. Therefore, the proposed project will have a less than significant impact.

Required Mitigation: **None.**

3.4.12-3.iii) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Standard of Significance: A significant impact occurs if the project results in alteration to existing drainage patterns, including addition of impervious surface, in a matter that results in substantial runoff that exceeds system capacity or creates polluted runoff.

Environmental Analysis: *Less than Significant Impact.*

Refer to discussion for Question 3.4.12-3.ii above. The project proposes drainage design features to accommodate surface runoff along the length of the shared-use trail alignment to prevent significant runoff from modified impervious areas. The drainage facilities would capture runoff, allow for infiltration, reduce volume of flow leaving the project site, and would ultimately improve quality of water entering the Upper Truckee River system consistent with the water quality goals and objectives for the project. Therefore, the project would not contribute to runoff in a manner which would exceed the capacity of existing or future stormwater drainage systems.

As noted Question 3.4.12-3.i above, grading and excavation would take place during construction that may have the potential to cause erosion. However, implementation of the required water quality construction controls, including use of erosion and sediment BMPs, SWPPP and Dewatering Plan would ensure potential impacts resulting from erosion and sediment transport during construction are less than significant.

Required Mitigation: **None.**

3.4.12-3.iv) Impede or redirect flood flows?

Standard of Significance: If the Project places structures that impede or redirect 100-year flood flows, a significant impact results.

Environmental Analysis: *Less than Significant Impact.*

The project proposes to construct a bridge structure and raised boardwalk approach that requires placement of fill within the FEMA designated 100-year flood zone.

As discussed in the Environmental Setting above, the County has a practice of designing freeboard based on the Caltrans Highway Design Manual (December 2018). The County has determined that compliance with the Caltrans bridge design requirements listed in the Environmental Setting is sufficient to avoid potentially significant flooding hazards.

Because it is County practice to design bridge structures in accordance with Caltrans bridge design requirements, final design of the bridge structure would ensure that the structure can retain the two percent (2%) probability flood (50-year) or the flood-of-record, whichever is greater, without causing objectionable backwater, excessive flow velocities, or encroaching on through traffic lanes; and be able to convey the base flood, (100-year flood), and withstand effects of the 100-year base-flood on scour without failure. Additionally, use of a raised boardwalk design with helical footings would further reduce impact within the floodplain.

Therefore, design elements would ensure that construction of the bridge structure and boardwalk approach within the 100-year flood zone (Zone AE) would not result in any increase, redirection, or impediment of flood flows during occurrence of the 100-year event, consistent with FEMA regulatory floodplain design requirements.

TRPA

The TRPA prohibits additional development, grading, and filling of lands within the 100-year floodplain except under conditioned project approvals that support the findings outlined in TRPA Code Subsection 35.4.2, which are presented as follows for proposed project:

Additional development, grading, and filling of lands within the 100-year floodplain are prohibited, except as follows:

TRPA Code Subsection 35.4.2.B: *Public Service Facilities*

TRPA may permit additional public service facilities within the 100-year floodplain if TRPA finds that:

1. The project is necessary for public health, safety, or environmental protection

Public health and safety: The project is necessary to address traffic and pedestrian safety operations at the intersection of Apache Avenue at East San Bernardino Avenue as identified in the Lake Tahoe Unified School District Safe Routes to School Master Plan found in Appendix D of the TRPA/TMPO Linking Tahoe: Active Transportation Plan, and improving the LTESMS frontage and driveway access. This Project will also connect to the future Apache Avenue Pedestrian Safety and Connectivity Project (EIP #03.01.01.0004) which is an El Dorado County-led effort to improve overall pedestrian and bicycle safety for students, parents and the community accessing LTESMS, Apache Avenue and Meyers. Implementation of the project would result in creation of a safe, non-motorized transportation network designed to AASHTO and ADA standards.

Environmental protection: The San Bernardino Class 1 Bike Trail Project is identified as TRPA Environmental Improvement Program Project #03.01.02.0040. Construction of the shared-use trail will create an alternative (non-motorized) transportation system which would have beneficial impact to improved air quality and reduced atmospheric contribution to water quality degradation. Air quality and climate change analyses determine that project contributes to improvements in air quality and GHG emissions.

2. There is no reasonable alternative, including spans, that avoids or reduces the extent of encroachment in a floodplain area; or

The Feasibility Report prepared by the County identified alignment alternatives, compiled BMP alternatives for mitigating specific problem areas, and presented the evaluation of the alternatives. Following these steps, a preferred alternative was selected and documented in a Preferred Project Alternative Memoranda based on input from the public meetings, correspondence received, and the results of the analyses contained in the 2018 Feasibility Report. Both the Feasibility Report and Alternative Memoranda are attached (Appendices H and I).

Three alignment alternatives were evaluated for the project, for the Class 1 section of the path, as it was assumed the remaining portion of the project will be a Class 3 along the existing roadway sections. A brief summary of the Alternatives considered are as follows. A detailed discussion is provided in the Feasibility Report.

Alternative 1: Most direct alignment following the existing disturbed, compacted trail
Alignment 1 generally follows the existing disturbed trail beginning just east of West San Bernardino Avenue. Alternative 1 impacts floodplain, avoids direct impact to river.

Alternative 2: Avoids the steel sheet pile, proposed alignment is downstream to avoid conflicts
Alignment 2 is similar to Alternative 1 with a differing alignment and crossing point over the Upper Truckee River downstream of the existing steel sheet pile, to the paved parking lot at the Park. Alternative 2 impacts floodplain, avoids direct impact to river.

Alternative 3: Utilizes the sewer access road in the northerly direction and potentially avoids floodplain impacts; requires work in active Upper Truckee River channel
Alignment 3 is longer alignment veering to the north along the utility access road and crosses the Park just south of the existing picnic area. This alignment would require bank stabilization and work in the active river to remove log jam and debris field, would require longer path length, and would result in potentially greater disturbance in environmentally sensitive areas.

Results: As discussed throughout, the preferred project proposes design features specific to reducing impact to the floodplain, SEZ, and avoids direct impact to the Upper Truckee River channel. The bridge structure is designed span the width of the active river channel and to clear the 100-year base flood elevation. Use of a boardwalk approach structure with helical pier footings instead of a paved trail approach reduces overall impact within the floodplain. The County has determined that this preferred alternative reduces the extent of encroachment in a floodplain to the extent possible.

3. The impacts on the floodplain are minimized.

As discussed in item 2 above, the preferred alternative minimizes impacts on the floodplain to the extent possible. The project incorporates design features that reduce disturbance and the effects of disturbance, including alignment location, use of boardwalk and bridge spans.

Required Mitigation: **None.**

3.4.12-4. Would the Project occur in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation? (CEQA Xd)

Standard of Significance: An increased risk of pollutant release during inundation as a result of Project installation constitutes a significant impact.

Environmental Analysis: *Less than Significant Impact.*

As discussed in the Environmental Setting and Question 3.4.12-3, a portion of the project area is within Special Flood Hazard Zone AE, associated with the Upper Truckee River floodplain. The project does not propose to construct features, which once in place, would have potential to release pollutants in the event of flooding. As a permanent BMP drainage feature, paved trail segments would include newly constructed drainage facilities as needed to slow and capture runoff for infiltration; therefore, in the event of flooding, sediment would not be carried as a pollutant to the Upper Truckee River.

Implementation of the project SWPPP, including the Spill Prevention Plan and Dewatering Plan, and use of required erosion and sediment BMPs would prevent the risk of pollutants being released during construction.

Required Mitigation: **None.**

3.4.12-5. Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? (CEQA Xe)

Standard of Significance. A significant impact would occur if the project conflicts with or obstructs implementation of a water quality control plan or sustainable groundwater management plan.

Environmental Analysis: *No Impact.*

The Project would not violate, alter, or revise the regulations pertaining to water quality control plans or sustainable groundwater management plans applicable to the area. The Lahontan Basin Plan sets forth water quality standards for the surface and ground waters of the Region. As discussed in Question 3.4.12-1, the proposed project would not result in a violation of the applicable water quality standards and therefore would comply with the Basin Plan. Additionally, the project would comply with Chapter 60 of the TRPA Code of Ordinances (Water Quality) which includes standards for discharge limits to surface and ground waters by implementing a project SWPPP, Dewatering Plan, and permanent drainage design features to comply with TRPA discharge limits. The TRPA Lake Tahoe Water Quality Management Plan (208 Plan) would continue to apply to the area and the project proposes no changes to this plan.

Required Mitigation: **None.**

3.4.12-6. Will the Project result in changes in currents, or the course or direction of water movements? (TRPA 3a)

Standard of Significance. *A significant impact occurs if the Project reroutes water movements such that new channels are formed or flow rates increase.*

Environmental Analysis: *No Impact.*

Refer to the discussion and analysis for Question 3.4.12-3ii. Project does not propose features which have potential to result in change to currents, or the course or direction of water movements. There are no proposed impacts within the Upper Truckee River channel.

Required Mitigation: **None.**

3.4.12-7. Will the Project result in changes in absorption rates, drainage patterns, or the rate and amount of surface water runoff so that a 20 yr. 1 hr. storm runoff (approximately 1 inch per hour) cannot be contained on the site? (TRPA 3b)

Standard of Significance: A significant impact to surface water occurs if the Project results in increases in runoff from disturbed area because of compaction, vegetation removal and impervious surfaces such that the 20-year, 1-hour storm volume cannot be captured by existing or proposed stormwater drainage systems, as defined by TRPA Code Chapter 60. TRPA Code Subsection 60.4.6 requires infiltration facilities to discharge runoff to groundwater except as provided in Subsection 60.4.8, which allows for approval of alternative BMPs to meet water quality standards under special circumstances that include bike trails.

Environmental Analysis: *No Impact.*

See discussions and analyses for Question 3.4.12-3. Drainage design features would be constructed as part of the project to ensure the 20 yr. 1 hr. storm runoff (approximately 1 inch per hour) is contained on site. The project would comply with TRPA Code Chapter 60.

Required Mitigation: **None.**

3.4.12-8. Will the Project result in alterations to the course or flow of 100-year floodwaters? (TRPA 3c)

Standard of Significance. See Question 3.4.12-iv

Environmental Analysis: *No Impact.*

See discussions and analysis for Question 3.4.12-iv that concludes the project boardwalk and bridge structures would not impede or redirect 100-yr floodwaters and the level of impact is less than significant. The project is anticipated to meet the TRPA Code exemption requirements for filling within 100-year floodplain per subsection 35.4.2.B – *Public Service Facilities*.

Required Mitigation: **None.**

3.4.12-9. Will the Project result in change in the amount of surface water in any water body? (TRPA 3d)

Standard of Significance: If the Project results in a change in the amount of surface water in a water body, a significant impact results as defined by TRPA Code Chapter 60.

Environmental Analysis: *No Impact.*

The project proposes to implement a raised boardwalk feature, bridge span, and drainage features associated with the paved path segments to avoid interruption of existing surface water and groundwater movement towards the river and SEZ. The three existing culverts located underneath the existing roadway system in the project area would be maintained, or replaced, to provide improved drainage function; flows in the three existing culvert locations would be maintained.

Required Mitigation: **None.**

3.4.12-10. Will the Project result in discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity? (TRPA 3e)

Standard of Significance. See Question 3.4.12-1.

Environmental Analysis: *No Impact.*

See discussions and analysis for Question 3.4.12-1 above which concludes the level of impact to surface water quality and beneficial uses is less than significant. Construction and operation of the project would not cause alternation to surface water quality nor contribute towards non-attainment of TRPA Thresholds.

Required Mitigation: **None.**

3.4.12-11. Will the Project result in alteration of the direction or rate of flow of ground water? (TRPA 3f)

Standard of Significance: See Question 3.4.12-2.

Environmental Analysis: *No Impact.*

See analysis for Question 3.4.12-2, which concludes the level of impact to groundwater movement is less than significant.

Required Mitigation: **None.**

3.4.12-12. Will the Project result in change in the quantity of groundwater, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations? (TRPA 3g)

Standard of Significance. See Questions 3.4.12-1 and 3.4.12-2.

Environmental Analysis: *No Impact.*

See discussions and analyses for Questions 3.4.12-1 and 3.4.12-2 which conclude the level of impact to groundwater quantity is less than significant.

Required Mitigation: **None.**

3.4.12-13. Will the Project result in substantial reduction in the amount of water otherwise available for public water supplies? (TRPA 3h)

Standard of Significance: If the Project creates a demand that exceeds available water supplies, a significant impact to source water occurs as defined in TRPA Code Chapter 60.

Environmental Analysis: *No Impact.*

The project does not propose features which would result in the demand for new or expanded water supplies; therefore, there is no impact.

Required Mitigation: **None.**

3.4.12-14. Will the Project result in exposure of people or property to water related hazards such as flooding and/or wave action from 100-year storm occurrence or seiches? (TRPA 3i)

Standard of Significance: See Question 3.4.12-3iv

Environmental Analysis: *No Impact.*

See discussion and analysis for Question 3.4.12-3iv, which concludes that the project would not result in the creation of significant hazards associated with the 100-year storm occurrence.

The project does not increase exposure of people or property to other significant water related hazards such as wave action or seiches.

Required Mitigation: **None.**

3.4.12-15. Will the Project result in potential discharge of contaminants to the groundwater or any alteration of groundwater quality? (TRPA 3j)

Standard of Significance: See Questions 3.4.12-1 and 3.4.12-2.

Environmental Analysis: *No Impact.*

See discussions and analyses for Questions 3.4.12-1 and 3.4.12-2 above. Potential project impacts to groundwater would be less than significant.

Required Mitigation: **None.**

3.4.12-16. Is the Project located within 600 feet of a drinking water source? (TRPA 3k)

Standard of Significance: A contaminating land use within 600 feet of a drinking water source identified on TRPA Source Water Assessment Maps constitutes a significant impact as defined by TRPA Code Section 60.3.

Environmental Analysis: *No Impact.*

The project area is not located within 600 feet of drinking water sources and is outside the mapped source water protection zones for existing wells.

Required Mitigation: **None.**

3.4.13 Land Use and Planning

This section presents the analyses for potential impacts to land use and planning. Table 3.4.13-1 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 3.4.13-1: Land Use and Planning

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
3.4.13-1. Physically divide an established community? (CEQA XIa)				**X**
3.4.13-2. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? (CEQA XIb)			**X**	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
3.4.13-3. Include uses which are not listed as permissible uses in the applicable Plan Area Statement, adopted Community Plan, or Master Plan? (TRPA 8a)				**X**
3.4.13-4. Expand or intensify an existing non-conforming use? (TRPA 8b)				**X**

Environmental Setting

The Project is located on land managed by the USFS LTBMU, Tahoe Paradise Park and Recreation District, and El Dorado County.

The Class 1 portion of the Project is located within the Meyers Community Plan, crossing land designated as Conservation and zoned Upper Truckee River Corridor – MAP 5, and designated as Recreation and zoned Meyers Recreation – MAP-4. According to the Community Plan, non-motorized public trails are a permitted use in both zones. These lands are also within TRPA Plan Area Statement (PAS) 119 – Country Club Meadows and designated as Recreation. The areas are characterized in the Meyers Area Plan as follows:

> Meyers Recreation (MAP-4) - The Meyers Recreation District provides outdoor recreation amenities for residents and visitors within walking distance of commercial and residential uses.

This district contains a variety of recreational opportunities including parks, a golf course, and developed campsites.

Upper Truckee River Corridor (MAP-5) - The Upper Truckee River Corridor includes public land surrounding the Upper Truckee River. The area is managed primarily for environmental values including watershed functions, conservation, and wildlife habitat connectivity. This district also provides for dispersed recreational uses including trails, trailheads, and cross-country skiing.

This Project is included in the Meyers Area Plan Transportation Element Recreation Element, and Implementation Element.

TRPA Plan Area Statements (PAS) provide a description of land use for a plan area, identify planning issues, and establish specific direction for planning policy for regional goals and policies. The Class 3 portions of the Project are located within PAS 133 Tahoe Paradise-Upper Truckee (West San Bernardino Avenue) and PAS 124 - Meyers Residential (East San Bernardino Avenue). Both PAS 133 and PAS 124 have a Land Use Classification of Residential, with a "Mitigation" Management Strategy. The Planning Statement for PAS 124 states, "The area should continue to be residential, maintaining the existing character of the neighborhood." The Planning Statement for PAS 133 indicates, "The area should remain residential, maintaining the existing character of the neighborhood." Within both PAS 133 and 124, trails are an allowed use and transportation routes are a special use. The County adopted TRPA's PAS, which act as a zoning equivalent in the Lake Tahoe Basin.

LTBMU Forest Plan. The project area is partially located on Santini-Burton/Urban Forest Parcels Management Area as defined in the LTBMU *Land Management Plan.* The management emphasis within this management area is on protecting watershed conditions and community open space. Urban Forest Parcels provide opportunity for dispersed recreation within the urban setting, such as walking/hiking, wildlife viewing, cross-country skiing, and access to streams and lakes. When appropriate, recreational improvements such as system trails and shared-use pathways may occur on urban forest parcels. The desired conditions, management strategies and management objectives are consistent with General Conservation Management Areas. According to the Forest Plan, "The Forest Service manages urban forest parcels as undeveloped open space for the purpose of preserving the hydrologic function of sensitive lands and conserving natural forest conditions within the urban setting."

- Manage urban forest as undeveloped parcels that provide open space and dispersed recreation opportunity.
- Manage stand densities on urban forest parcels to achieve and maintain healthy forest characteristics.
- Manage the continuity and arrangement of live and dead fuels to reduce risk of catastrophic fire, and to complement defensible space efforts on adjoining private lands. Urban Forest parcels are located within the urban zone of the wildland urban interface (WUI).
- Retain, protect, and restore aspen and riparian plant communities to enhance wetland function and provide habitat for disturbance tolerant species that utilize urban forests.
- Restore areas of existing human-caused disturbance, generally related to residential development, to control erosion and support natural watershed function.
- Prevent the introduction of non-native, invasive species and noxious weeds and contain existing populations.
- Mitigate all identified hazard trees as quickly as possible.

The Forest Plan includes the following objectives and standards related to Santini-Burton Acquired Lands/Urban Forest Parcels:

- **Obj42.** Complete initial fuels reduction and forest health restoration treatments as needed on all urban forest parcels by 2019.
- **Obj43.** Conduct follow-up fuels treatments every 10-15 years in urban forest parcels.
  Obj44. Restore and re-vegetate areas of existing disturbance on up to 20 urban forest parcels annually.
- **SG181.** Improvements shall not be placed on Santini-Burton acquired lands, other than for dispersed recreation, erosion control projects or permitted activities. [Standard]
- **SG182.** Manage Santini-Burton lots, or lots acquired under other authorities (including restricting certain recreation activities) consistent with the purpose by which the lot was acquired. [Standard]

Environmental Analysis and Mitigation Measures

3.4.13-1. Would the Project physically divide an established community? (CEQA XIa)

Standard of Significance: A significant impact results if the Project installs a structural impediment to vehicle or pedestrian movement in the community. The TRPA Regional Plan, Plan Area Statements and Code, and County General Plans determine this level of impact significance.

Environmental Analysis: *No Impact*.

The Project constructs a Class 1 trail through undeveloped land, joining residential neighborhoods with commercial and community service areas in the Meyers area. Development of the Class 3 Bike Route along existing roadway pavement would not result in a community division. This segment of the trail connects to other trail segments, providing greater non-motorized access in the community. The trail would provide a shared-use bicycle and pedestrian connection between the North Upper Truckee and Meyers neighborhoods currently separated by the Upper Truckee River. The trail alignment would also connect to user created trails along the Upper Truckee River (that connect to Washoe Meadows State Park), Tahoe Paradise Park, and the Lake Tahoe Environmental Science Magnet School. Since the Project provides a number of connections to services utilized by the local community and visitors, the Project does not divide the established community, rather it provides greater opportunities for movement and remediates an existing physical division.

Required Mitigation: **None.**

3.4.13-2. Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect? (CEQA XIb)

Standard of Significance: A significant impact results from non-compliance of the Project with land use plans, goals, policies, regulations or provisions as established by the TRPA Regional Plan Element and Code Chapter 21, Community Plans, and the Plan Area Statements the County General Plan, and the LTBMU Forest Plan.

Environmental Analysis: *Less than Significant Impact*.

The proposed trail and route are allowed uses. The Class 1 trail is within the Meyers Community Plan, which allows non-motorized trails in the MAP-4 and 5 zones. The Class 3 route is within Plan Area Statements 124 and 133, which allow transportation routes as a special use. Since the Class 3 portion would not create a new roadway, but merely utilize the existing roadways of East and West San Bernardino Avenues, no new transportation route is proposed, but a dual use of an existing route is proposed as signage and striping for the bike route would be added to these existing roads. The findings in TRPA Code Chapter 21.1 are easily met:

A. The project to which the use pertains is of such a nature, scale, density, intensity, and type to be an appropriate use for the parcel on which and surrounding area in which it will be located.
    1. A Class 3 bike route is proposed on existing roads. This route is appropriate for neighborhood streets and would not cause an increase in land use density or use intensity.
B. The project to which the use pertains will not be injurious or disturbing to the health, safety, enjoyment of property, or general welfare of persons or property in the neighborhood, or general welfare of the region, and the applicant has taken reasonable steps to protect against any such injury and to protect the land, water, and air resources of both the applicant's property and that of surrounding property owners.
    1. The use is beneficial to the neighborhood and the region. As discussed in the Project Description, the project would utilize best management practices and would comply with required permits and documentation to ensure resources are appropriately protected. The Class 3 construction would be limited to signage and striping, which would not result in property or impact to land, water, and air resources. Operation of the route would have a beneficial air quality impact.
C. The project to which the use pertains will not change the character of the neighborhood, or detrimentally affect or alter the purpose of the applicable planning area statement, community plan, and specific or master plan, as the case may be.
    1. The Class 3 trail on existing roadways would not alter the neighborhood character and would be a benefit to area neighborhoods. The purpose of the PAS and Community Plan would not change.

In addition, the 2017 RTP/SCS lists the Project within the implementation program to reduce environmental effects of air emissions and associated VMT. Therefore, the Project would support this existing plan and the projects within the plan to reduce environmental effects.

The Meyers Community Plan includes policies related to the Project, which support Transportation Element Goal 6 "Encourage pedestrian and bicycle linkages between land uses. Accommodate pedestrians throughout the Area Plan by providing safe, functional pathways":

> Policy 6.2: Support development of bicycle and pedestrian facilities identified in the Linking Tahoe: Active Transportation Plan including, but not limited to, the Greenway Multi-Use Trail, and the Upper Truckee River crossing at San Bernardino Avenue.
>
> Policy 6.7: Promote non-motorized trail access between residential areas including the North Upper Truckee and Country Club Estates neighborhoods, Meyers Town Center, and recreation sites.

And goals within the Recreation Element "Provide multi-use trails to connect Meyers with nearby recreation areas, residential neighborhoods, existing trails, and provide safe routes to school and other transportation benefits consistent with the Transportation Element."

> Policy 2.1: Develop trail connections within and adjacent to the Plan Area. Specific projects include: constructing the South Tahoe Greenway Multi-Use Trail linking Meyers with South Lake Tahoe; and trail connections between Meyers and nearby national forest and Tahoe Conservancy lands, Washoe Meadows State Park, and Tahoe Paradise Park. Provide bike racks and short-term storage lockers in the Meyers Town Center to encourage bicycle use.

Therefore, the Project implements goals and policies in the Meyers Community Plan.

Portions of the Project alignment are within USFS LTBMU managed lands. These lands are within Santini-Burton Acquired Lands/Urban Forest Parcels. Urban Forest Parcels consist mainly of lands that have been acquired by purchase or donation, under authority of Public Law 96-586 (Santini-Burton Act) of December 23, 1980. The acquisition of environmentally sensitive lands authorized by this act is often referred to as the urban lot program. Trails are a suitable use in this area. The portion of the Upper Truckee River in the Project area is not identified within the Upper Truckee River Wild and Scenic River.

Many of the acquisitions are small lots (less than 1 acre) in urban subdivisions. The acquisition of urban lots serves three purposes:

1. Preventing residential development of environmentally sensitive lands;
2. Maintaining important areas within a watershed in a natural, undisturbed condition, allowing snowmelt water to infiltrate the soil surface and remove suspended sediments; and
3. Restoring lands in poor hydrologic condition.

LTBMU requires consistency with best practices for trail siting, as outlined in USFS Trails Management Handbook. The design of the trail crossing LTBMU-managed lands is compatible with practices outlined in this handbook. This handbook primarily addresses non-paved hiking trails; however, it also includes guidelines for general trail accessibility, boardwalks and other features. The Project is designed in compliance with ADA standards and Forest Service Trail Accessibility Guidelines, meeting the accessibility guidelines in the Handbook. Where the Project is located within LTBMU-managed urban lands (Santini-Burton Acquired Lands/Urban Forest Parcels), the trail utilizes appropriate design measures for an urban setting. SEZ exists in the alignment and the Project proposes a mixture of paved trail and boardwalk over an existing dirt utility road.

Required Mitigation: **None.**

3.4.13-3. Will the Project include uses which are not listed as permissible uses in the applicable Plan Area Statement, adopted Community Plan, or Master Plan? (TRPA 8a)

Standard of Significance: A significant impact results from inconsistency with permissible land uses established in Plan Area Statements 133 and 124, and the Meyers Area Plan.

Environmental Analysis: *No Impact*.

See response to Question 3.4.13-2.

Required Mitigation: **None.**

3.4.13-4. Will the Project expand or intensify an existing non-conforming use? (TRPA 8b)

Standard of Significance: A significant impact results from expansion of an existing non-conforming use that is in conflict with permissible land uses as established in TRPA Plan Area Statements or Area Plan.

Environmental Analysis: *No Impact*.

Construction of an approved trail, considered a special use, will not expand or intensify an existing non-conforming use because the Project is a new use and not an existing non-conforming use. Pedestrian and bike trails are conforming uses.

Required Mitigation: **None.**

3.4.14 Mineral Resources (CEQA) and Natural Resources (TRPA)

This section presents the analyses for potential impacts to mineral resources and natural resources. Table 3.4.14-1 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 3.4.14-1: Mineral Resources and Natural Resources

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
3.4.14-1. 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? (CEQA XIIa)				**X**
3.4.14-2. 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? (CEQA XIIb)				**X**
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
3.4.14-3. A substantial increase in the rate of use of any natural resources? (TRPA 9a)				**X**
3.4.14-4. Substantial depletion of any non-renewable natural resource? (TRPA 9b)				**X**

Environmental Setting

According to the California Department of Conservation, the Project area contains no mineral resources of value to the region or residents of the State of California (CDOC 2020), nor does it include the substantial use of any non-renewable natural resources.

Environmental Analysis and Mitigation Measures

3.4.14-1. Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state? (CEQA XIIa)

Standard of Significance: A significant impact occurs if the Project creates a loss of availability of mineral resources that are valuable to the region.

Environmental Analysis: *No Impact.*

The project area contains no mineral resources areas, and therefore, the Project creates no impact to such resources.

Required Mitigation: **None.**

3.4.14-2. Would the Project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? (CEQA XIIb)

Standard of Significance: A significant impact occurs if the Project creates a loss of availability of locally important mineral resource recovery sites.

Environmental Analysis: *No Impact.*

The project area contains no mineral resource recovery sites, and therefore, the Project creates no impact to such sites. See discussion and analysis for Question 5.4.14-1 above.

Required Mitigation: **None.**

3.4.14-3. Will the Project result in a substantial increase in the rate of use of any natural resources? (TRPA 9a)

Standard of Significance: A significant impact occurs if the Project creates a substantial increase in the rate of use of natural resources.

Environmental Analysis: *No Impact.*

The Project does not create population increases or facilities that could substantially increase the rate of use of natural resources and thus creates no impact to such resources.

Required Mitigation: **None.**

3.4.14-4. Will the Project result in a substantial depletion of any non-renewable natural resource? (TRPA 9b)

Standard of Significance: A significant impact occurs if the Project creates a substantial depletion of non-renewable resources.

Environmental Analysis: *No Impact.*

The Project does not include facilities or actions that cause depletion of non-renewable natural resources and thus creates no impact to such resources.

Required Mitigation: **None.**

3.4.15 Noise

This section presents the analyses for potential impacts related to noise. Table 3.4.15-1 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 3.4.15-1: Noise

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
3.4.15-1. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or other applicable local, state, or federal standards? (CEQA XIIIa)			**X**	
3.4.15-2. Generation of excessive groundborne vibration or groundborne noise levels? (CEQA XIIIb)			**X**	
3.4.15-3. For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels? (CEQA XIIIc)				**X**
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
3.4.15-4. Increases in existing Community Noise Equivalency Levels (CNEL) beyond those permitted in the applicable Plan Area Statement, Community Plan or Master Plan? (TRPA 6a)				**X**
3.4.15-5. Exposure of people to severe noise levels? (TRPA 6b)				**X**
3.4.15-6. Single event noise levels greater than those set forth in the TRPA Noise Environmental Threshold? (TRPA 6c)				**X**
3.4.15-7. The placement of residential or tourist accommodation uses in areas where the existing CNEL exceeds 60 dBA or is otherwise incompatible? (TRPA 6d)				**X**

3.4.15-8. The placement of uses that would generate an incompatible noise level in close proximity to existing residential or tourist accommodation uses? (TRPA 6e)				**X**
3.4.15-9. Exposure of existing structures to levels of ground vibration that could result in structural damage? (TRPA 6f)				**X**

Environmental Setting

Land uses in the project area include recreation, open space, and residential uses. The main sources of noise are from vehicular traffic along residential roadways and park events.

Noise. *Sound* is mechanical energy transmitted by pressure waves in a compressible medium such as air. *Noise* can be defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level is the most common descriptor used to characterize the loudness of an ambient sound level. The decibel (dB) scale is used to quantify sound intensity. Because sound pressure can vary enormously within the range of human hearing, a logarithmic loudness scale is used to keep sound intensity numbers at a convenient and manageable level. The human ear is not equally sensitive to all frequencies in the entire spectrum, so noise measurements are weighted more heavily for frequencies to which humans are sensitive in a process called *A-weighting,* which is written "dBA." In general, human sound perception is such that a change in sound level of 3 dB is just noticeable; a change of 5 dB is clearly noticeable; and a change of 10 dB is perceived as doubling or halving sound level.

Different types of measurements are used to characterize the time-varying nature of sound. Below are brief definitions of these measurements and other terminology used in this analysis.

- **Sound.** A vibratory disturbance created by a vibrating object, which, when transmitted by pressure waves through a medium such as air, is capable of being detected by a receiving mechanism such as the human ear or a microphone.

- **Noise.** Sound that is loud, unpleasant, unexpected, or otherwise undesirable.

- **Ambient Noise.** The composite of noise from all sources near and far in a given environment exclusive of particular noise sources to be measured.

- **Decibel (dB).** A unit less measure of sound on a logarithmic scale, which indicates the squared ratio of sound pressure amplitude to a reference sound pressure amplitude. The reference pressure is 20 micro-pascals.

- **Maximum and Minimum Sound Levels (L_{max} and L_{min}).** The maximum or minimum sound level measured during a measurement period.

- **Community Noise Equivalent Level (CNEL).** The energy average of the A-weighted sound levels occurring during a 24-hour period with 5 dB added to the A-weighted sound levels

occurring during the period from 7:00 p.m. to 10:00 p.m. and 10 dB added to the A-weighted sound levels occurring during the period from 10:00 p.m. to 7:00 a.m.

Noise Sources. Noise sources in the area include noise from traffic traveling on roadways, aircraft overflights, and recreational activities.

Noise Sensitive Land Uses. Noise sensitive land uses are generally defined as locations where people reside or where the presence of noise could adversely affect the use of the land. Typical noise-sensitive land uses include residences schools, hospitals, and parks. Recreational activities found in the project area are not considered to be noise-sensitive land uses because they are transitory in nature with exposure of users typically being less than one hour. Noise-sensitive land uses in the project area that could be affected by the project include adjacent residences and the Lake Tahoe Environmental Science Magnet School.

Blasting. Blasting is unlikely given the soil conditions in the Project area. The two primary environmental effects of blasting are airblast and groundborne vibration. Blasting creates seismic waves that radiate along the surface of the earth and downward into the earth. These surface waves can be felt as ground vibration. Ground vibration can result in effects ranging from annoyance of people to damage of structures. Varying geology and distance will result in different vibration levels containing different frequencies and displacements. In all cases, vibration amplitudes decrease with increasing distance. As seismic waves travel outward from a blast, they excite the particles of rock and soil through which they pass and cause them to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is the commonly accepted descriptor of the vibration amplitude, referred to as the peak particle velocity (ppv).

Vibration. Operation of heavy construction equipment, particularly pile driving and other impact devices, such as pavement breakers, create seismic waves that radiate along the surface of the earth and downward into the earth. These surface waves can be felt as ground vibration. Vibration from operation of this equipment can result in effects ranging from annoyance of people to damage of structures. Varying geology and distance will result in different vibration levels containing different frequencies and displacements. In all cases, vibration amplitudes will decrease with increasing distance. Perceptible ground-borne vibration is generally limited to areas within a few hundred feet of construction activities. As seismic waves travel outward from a vibration source, they excite the particles of rock and soil through which they pass and cause them to oscillate. The actual distance that these particles move is usually only a few ten-thousandths to a few thousandths of an inch. The rate or velocity (in inches per second) at which these particles move is the commonly accepted descriptor of the vibration amplitude, referred to as the peak particle velocity (PPV).

State, TRPA and County Noise Regulations. There are no applicable state regulations that pertain to noise in the project area.

The 1987 Regional Plan for the Lake Tahoe Basin provides for the achievement and maintenance of the adopted environmental threshold carrying capacities (thresholds) while providing opportunities for orderly growth and development. TRPA noise thresholds are contained in the Land Use Element of Regional Plan. Noise thresholds have been established for aircraft noise sources; single-event noise sources (i.e., noise from boats, motor vehicles, motorcycles, off-road vehicles, and snowmobiles that occur in a nonregular or nonrepetitive manner); and community noise levels, which are used to determine land use compatibility. The TRPA community noise threshold for high density residential and for urban outdoor recreation areas is 55 dBA and low-density residential areas is 50 dBA.

TRPA and the County adopted an outdoor CNEL standard for PAS 124 (50 CNEL), PAS 133 (50 CNEL), and the Meyers Area Plan (50 dBA for the upper Truckee River Corridor and 55 dBA for the Upper Truckee Residential/Tourist District and the Meyers Recreation District.

Chapter 68 (Noise Limitations) from the TRPA Code establishes noise limitations for areas within TRPA's jurisdiction. Section 68.9 stipulates that TRPA-approved construction or maintenance projects, or the demolition of structures, are exempt from TRPA's Code of Ordinances Noise Limitations if the activities occur between the hours 8:00 a.m. and 6:30 p.m.

El Dorado County's General Plan noise policies provide protection from noise by requiring noise analysis and mitigation when proposed uses are likely to exceed established noise limits (See policies under Health Safety and Noise Element Objective 6.5.1). The analysis will address the potential for adverse noise levels based on the criteria contained in Table 6-2 of the County General Plan.

Environmental Analysis and Mitigation Measures

3.4.15-1. Would the Project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or other applicable local, state, or federal standards? (CEQA XIIIa)

Standard of Significance: Exceedance of CNEL limits stated in project area PASs and Regional and County noise ordinances constitutes a significant noise impact.

Environmental Analysis: *Less than Significant Impact.*

Even the busiest shared-use trails in the United States are extremely quiet, with little noise created other than the occasional low volume conversation, barely audible beyond 10 or 20 feet of the trail edge. Walking, running, dog walking, and bicycling, by their nature, generate virtually no noise. Potential sources of greater volumes, such as platoons of bicyclists or congregating teenagers, are occasional and sporadic. Operation of the Class 1 and Class 3 route would not result in an increase in ambient noise levels as the trails would be used for non-motorized pedestrian and bicycle access. Noise levels would essentially remain the same. The Project has the opportunity to reduce motorized vehicle noise by replacing individual auto trips with pedestrian and bicycle trips.

Construction would result in noise producing activities, representing a short term impact at any one location. Based on standard equipment noise levels , noise levels at 50 feet from individual pieces of equipment would typically range from between 83 to 96 dBA for the project (US Environmental Protection Agency, 1991). Along the Class 3 segment, the construction nearest to sensitive receptors would consist of pavement striping and signage placement. Along the Class 1 segment of the Project, in which heavy construction equipment would be used, two nearbv residences are located approximately 100 feet from the beginning of the Class 1 portion of the alignment. A majority of residences are 200 to 300 feet from the beginning of the Class 1 trail and farther from the trail segments closer to the Upper Truckee River. Based on a typical noise-attenuation rate of 6 dBA per doubling of distance, noise levels at the typical sensitive receptor (homes on West San Bernardino Avenue) would be less than 55 dBA. For some homes at the end of West San Bernardino Avenue, and during construction at the entrance to the Class 1 trail, daytime noise levels could exceed 65 dBA. Project compliance measures place noise controls on construction equipment, locate construction equipment and staging areas to minimize noise effects, restrict construction vehicle idling during periods of non-use, and restrict noise-generating construction activities to the hours between 8:00 a.m. and 6:30 p.m., Monday through Saturday, during which such activities are exempt from the TRPA noise standards. Compliance with TRPA noise control measures would reduce construction noise impacts to a less than significant level.

Required Mitigation: **None.**

3.4.15-2. Would the Project generate excessive groundborne vibration or groundborne noise levels? (CEQA XIIIb)

Standard of Significance: 30 CFR Part 816 defines a significant impact as a vibrational increase greater than 1 inch/second peak particle velocity, as based on typical characteristics of Project equipment and materials.

Environmental Analysis: *Less than Significant Impact*.

Trail operations do not create groundborne vibration. Construction activities associated with the operation of heavy equipment during construction could generate localized groundborne vibration. Vibration from non-impact construction activity is typically below the threshold of perception when the activity is more than 50 feet from the receptor. Additionally, vibration from these activities is of limited duration and ends when construction is completed. The trail passes close to residences along West and East San Bernardino Avenues; however, in these areas, construction would be limited to pavement striping and signage installation. Construction groundborne vibration will be temporary and intermittent.

Vibration and airblast could occur if blasting techniques are used for the bridge abutments. Based on soil analyses along the project area, blasting is unlikely and only minimal blasting would occur if needed at the bridge loation. Blasting requirements depends on the soundness of the rock. Human response to blast vibration and airblast is difficult to quantify. Vibration and airblast can be felt or heard well below the levels that produce any damage to structures. The duration of the event has an effect on human response, as does blast frequency. Blast events are relatively short, on the order of several seconds for sequentially delayed blasts. Generally, as blast duration and vibration frequency increase, the potential for adverse human response increases. Areas of trail that may require blasting would be over 800 feet from residences such that the potential for impacts to structures or residences from groundbourne vibration is reduced to a level of less than significant.

Required Mitigation: **None.**

3.4.15-3. For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the project area to excessive noise levels? (CEQA XIIIc)

Standard of Significance: Exposure of people residing or working in the project area to excessive noise levels from aircraft results in a significant impact.

Environmental Analysis: *No Impact.*

The South Lake Tahoe Airport is located northeast of the Project area. The Project area is over 1.5 miles from the airport and is located completely outside the airport safety zones as mapped on Figure 4-4 of the airport's 2019 Airport Land Use Compatibility Plan (ALUCP) and is outside the noise impact area as mapped on Figure 4-1 of the ALUCP. The Project area is within the overflight notification zone; however, no noise hazard would be present.

Required Mitigation: **None.**

3.4.15-4. Would the Project result in increases in existing Community Noise Equivalency Levels (CNEL) beyond those permitted in the applicable Plan Area Statement, Area Plan or Master Plan? (TRPA 6a)

Standard of Significance: Exceedance of CNEL limits stated in project area PASs, Area Plan, and Regional noise ordinances constitutes a significant noise impact.

Environmental Analysis: *No Impact.*

See the response to Question 3.4.15-1, above.

Required Mitigation**: None.**

3.4.15-5. Would the Project result in exposure of people to severe noise levels? (TRPA 6b)

Standard of Significance: Exceedance of CNEL limits stated in project area PASs, Area Plan, and Regional noise ordinances constitutes a significant noise impact.

Environmental Analysis: *No Impact.*

See the response to Question 3.4.15-1, above.

Construction activities associated typically involve the use of noise-generating equipment such as excavators, pavers, graders, dump trucks, generators, backhoes, compactors, and loaders. Noise levels associated with these types of equipment are typically between 83 and 96 dBA at 50 feet. In unique circumstances, specialized construction equipment (such as pile drivers) or techniques (such as blasting) that are inherently louder than typical construction equipment (typically between 94 and 101 dBA at 50 feet) may be required (TRPA 2012a: pages 3.6-16 and 3.6-17). Construction activities that occur between 8:00 a.m. and 6:30 p.m. are exempt from TRPA CNEL standards.

TRPA adopted (November 20, 2013) additional best construction practices policies regarding noise generation. The TRPA Standard Conditions of Approval for Grading Projects (TRPA Permit Attachment Q) include new construction provisions that call for the location of construction staging areas as far as feasible from sensitive air pollution receptors (e.g. schools or hospitals), closure of engine doors during operation except for engine maintenance, location of stationary equipment (e.g. generators or pumps) as far as feasible from noise-sensitive receptors and residential areas, installation of temporary sound barriers for stationary equipment, and use of sonic pile driving instead of impact pile driving, wherever feasible.

Project operations would result in no severe noise events. Therefore, the Project would not result in a significant impact.

Required Mitigation: **None.**

3.4.15-6. Will the Project result in single event noise levels greater than those set forth in the TRPA Noise Environmental Threshold? (TRPA 6c)

Standard of Significance: Exceedance of CNEL limits stated in project area PASs, Area Plan, and Regional noise ordinances constitutes a significant noise impact.

Environmental Analysis: *No Impact.*

See Question 3.4.15-2. It would be highly unlikely that blasting would be required. If needed, it would be within an area away from sensitive receptors. Noise experienced in the surrounding neighborhoods during construction would not exceed noise thresholds.

Required Mitigation: **None.**

3.4.15-7. Will the Project result in the placement of residential or tourist accommodation uses in areas where the existing CNEL exceeds 60 dBA or is otherwise incompatible? (TRPA 6d)

Standard of Significance: A significant impact occurs if residential or tourist accommodations are located in an area where the existing ambient noise level exceeds 60 dBA.

Environmental Analysis: *No Impact.*

The Project does not propose new residential or tourist accommodations and is not located in an area where the existing CNEL exceeds 60 dBA.

Required Mitigation: **None.**

3.4.15-8. Will the Project result in the placement of uses that would generate an incompatible noise level in close proximity to existing residential or tourist accommodation uses? (TRPA 6e)

Standard of Significance: A significant impact occurs if trail use generates noise levels above 60 dBA in areas of residential or tourist accommodation uses.

Environmental Analysis: *No Impact.*

See Question 3.4.15-1. Operation and use of the trail would not generate noise such that ambient noise levels would rise above existing conditions.

Required Mitigation: **None.**

3.4.15-9. Will the Project expose existing structures to levels of ground vibration that could result in structural damage? (TRPA 6f)

Standard of Significance: 30 CFR Part 816 defines a significant impact as a vibrational increase greater than 1 inch/second peak particle velocity, as based on typical characteristics of Project equipment and materials.

Environmental Analysis: *No Impact.*

See the response to Question 3.4.15-2, above.

Required Mitigation: **None.**

3.4.16 Population and Housing

This section presents the analyses for potential impacts to population and housing. Table 3.4.16-1 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 3.4.16-1: Population and Housing

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
3.4.16-1. Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? (CEQA XIVa)			**X**	
3.4.16-2. Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? (CEQA XIVb)				**X**
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
3.4.16-3. Alter the location, distribution, density, or growth rate of the human population planned for the Region? (TRPA 11a)				**X**
3.4.16-4. Include or result in the temporary or permanent displacement of residents? (TRPA 11b)				**X**

3.4.16-5. Affect existing housing, or create a demand for additional housing? To determine if the proposal will affect existing housing or create a demand for additional housing, please answer the following questions: (1) Will the proposal decrease the amount of housing in the Tahoe Region? (2) Will the proposal decrease the amount of housing in the Tahoe Region historically or currently being rented at rates affordable by lower and very-low-income households? (TRPA 12a)				**X**
3.4.16-6. Will the proposal result in the loss of housing for lower-income and very-low-income households? (TRPA 12b)				**X**

Environmental Setting

The Project is located in El Dorado County in the unincorporated community of Meyers. The alignment runs along County right of way, USFS LTBMU managed land, and the Tahoe Paradise Park, connecting the North Upper Truckee and Meyers neighborhoods. The population in Meyers is approximately 29,100 persons, or roughly 11,700 households. There are approximately 24,350 housing units in the area, of which roughly half are resident occupied. According to 2017 statistics, approximately 3,770 people live below the poverty line, with the median household income at 53,060 (2017 US Census American Community Survey).

The Meyers Area Plan directs the growth of population and residential uses in the Meyers Area.

Environmental Analysis and Mitigation Measures

3.4.16-1. Would the Project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? (CEQA XIVa)

Standard of Significance: A significant impact results from direct and indirect population growth in excess of the growth anticipated in the TRPA Regional Plan, as disclosed in the Land Use Element and PASs.

Environmental Analysis: *Less than Significant Impact.*

The Project installs a shared-use trail linking existing neighborhoods to commercial centers and neighborhood facilities but proposes no new homes or businesses. A temporary increase in population due to construction activities would not occur as the construction would most likely be completed by the existing labor pool in the area.

The addition of the Project to the community could increase the desirability of the adjacent neighborhoods because the shared-use trail offers an alternative transportation link to various sites within the community. However, the Project proposal provides for no long-term employment, educational opportunities, or other population-generating features known to increase local populations.

Required Mitigation: **None.**

3.4.16-2. Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? (CEQA XIVb)

Standard of Significance: Displacement of substantial numbers of people or housing that necessitates construction of replacement housing elsewhere creates a significant impact.

Environmental Analysis: *No Impact.*

The Project does not displace people or housing and thus creates no impact.

Required Mitigation: **None.**

3.4.16-3. Will the Project alter the location, distribution, density, or growth rate of the human population planned for the Region? (TRPA 11a)

Standard of Significance: Alteration to land use patterns not envisioned by the Regional Plan or City General Plan constitutes a significant impact to human population planned for the Region.

Environmental Analysis: *No Impact.*

The Project creates no new housing units or permanent employment opportunities. Because the Project improves non-motorized access between existing neighborhoods and community facilities, the desirability of residential neighborhoods benefitted by the trail has the potential to increase. No overall change in housing density or availability will occur, however, because housing is regulated and limited by TRPA. With no residential displacement, permanent employment opportunities or new housing developments, the Project results in no alteration of the location, distribution, density, or growth rate of the human population planned for the Region beyond that envisioned by the Regional Plan.

Required Mitigation: **None.**

3.4.16-4. Will the Project include or result in the temporary or permanent displacement of residents? (TRPA 11b)

Standard of Significance: Significant temporary or permanent displacement of residents results in a significant impact.

Environmental Analysis: *No Impact.*

See discussion and analysis for Question 3.4.16-1 above.

Required Mitigation: **None.**

3.4.16-5. Will the Project affect existing housing, or create a demand for additional housing?

(1) Will the proposal decrease the amount of housing in the Tahoe Region? (2) Will the proposal decrease the amount of housing in the Tahoe Region historically or currently being rented at rates affordable by lower and very-low-income households? (TRPA 12a)

Standard of Significance: A significant impact occurs if the project results in a reduction in housing units, particularly affordable housing units.

Environmental Analysis: *No Impact.*

(1) No decrease in housing is proposed.

(2) There are no homes located in the Project alignment. Construction of a bike trail would not affect existing or future housing, or housing rented at affordable rates.

Required Mitigation: **None.**

3.4.16-6. Will the Project result in the loss of housing for lower-income and very-low-income households? (TRPA 12b)

Standard of Significance: A significant impact occurs if the project results in a reduction in housing units for lower- or very low-income households.

Environmental Analysis: *No Impact.*

See discussion and analysis for Question 3.4.16-5 above.

Required Mitigation: **None.**

3.4.17 Public Services

This section presents the analyses for potential impacts to public services. Table 3.4.17-1 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 3.4.17-1: Public Services

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
3.4.17-1. Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?			**X**	
Police protection?			**X**	
Schools?			**X**	
Parks?			**X**	
Other public facilities? (CEQA XVa)			**X**	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
Will the proposal have an unplanned effect upon, or result in a need for new or altered governmental services in any of the following areas?				
3.4.17-2. Fire protection? (TRPA 14a)				**X**
3.4.17-3. Police protection? (TRPA 14b)				**X**
3.4.17-4. Schools? (TRPA 14c)				**X**
3.4.17-5. Parks or other recreational facilities? (TRPA 14d)				**X**
3.4.17-6. Maintenance of public facilities, including roads? (TRPA 14e)				**X**
3.4.17-7. Other governmental services? (TRPA 14f)				**X**

Environmental Setting

Law Enforcement: The El Dorado County Sheriff's Office provides law enforcement services within the area. The office is located at 1360 Johnson Boulevard, in South Lake Tahoe. The California Highway Patrol (CHP) Valley Division, which consists of the greater Sacramento area and the Sierra Nevada foothills to the west, is responsible for all traffic related incidents and assists the El Dorado County Sheriff's Department when necessary. The CHP area office is located at 2063 Hopi Avenue in Meyers. The Valley Division oversees four major highways and miles of county roads in the Region including US 50 and SR 89. Jail facilities are managed by the El Dorado County Sheriff's Department and are located at 1051 Al Tahoe Boulevard. The jail is a Type II facility and may house both pre-sentenced and post-sentenced male and female defendants. The jail has a capacity of 158 beds. The El Dorado County General Plan public service policies ensure that the County would provide adequate law enforcement services and the necessary funding to ensure adequate law enforcement services and future facilities to meet demands (Public Services and Utilities Element Policy 5.7.3.1).

On LTBMU parcels, the Forest Service Law Enforcement and Investigation Department enforce federal laws protecting the land, resources, and visitors. The LTBMU office is located at 35 College Drive in South Lake Tahoe. Uniformed Law Enforcement Officers (LEOs) enforce federal laws governing National Forest Lands and resources. While they patrol for safety and provide emergency medical aid, they also investigate timber theft and wildfires, protect archaeological and biological resources, and enforce federal laws and regulations. The Law Enforcement and Investigation Department works in cooperation with local law enforcement agencies.

Fire Protection: The Lake Valley Fire Protection District (LVFPD) is a municipal fire department that is primarily organized, equipped, and trained to perform fire suppression duties in structural firefighting, initial attack wildland firefighting, vehicular fires, and initial attack for most incipient events. The LVFPD also provides local paramedic ambulance service. The LVFPD operates Station 7 in the Meyers community. In addition, the LVFPD maintains mutual aid agreements with other fire and emergency response agencies in the Tahoe Region, including the South Lake Tahoe Fire District, and the Forest Service, providing for area-wide fire response and ambulance services both in and outside the community. The LTBMU Tallac Hand Crew provides land management agencies with wildland fire suppression and fuel management resources. In the summer, as many as 130 to 150 staff members are based out of the Meyers Work Center. The LTBMU also operates a fire station (formerly the LVFD station) next to the new LVFD fire station on Keetak Street in the Meyers Industrial District.

Depending on the initial location of the fire and mutual aid agreements, wildfire suppression in the project area or vicinity is provided by the Lake Valley Fire Protection District, Calfire, or the LTBMU. A MOU between these agencies provides mutual aid and assistance to suppress wildfires and protect structures. Initial wildfire suppression responsibilities are divided into three categories based on land ownership or MOUs: Local Responsibility Areas (LRAs) include City and County areas, State Responsibility Areas (SRAs) include State lands, and Federal Responsibility Areas (FRAs) include LTBMU lands.

Schools: The Lake Tahoe Unified School District (LTUSD) serves a 10.1 square mile area that includes the Meyers community. LTUSD operates one school, the Lake Tahoe Environmental Science Magnet School, near the Project area on Apache Avenue.

Parks: The Project is located within the Tahoe Paradise Park and Recreation District facilities. This park includes Lake Baron, south of the alignment, for non-motorized aquatic recreation, sport courts, picnic areas, a clubhouse, playground, and trails. Washoe Meadows State Park is located north of the Project area, along with the Lake Tahoe Golf Course. Washoe Meadows remains undeveloped and consists of

valley meadows and woodlands. The Project also passes through USFS LTBMU land, specifically land managed as Santini-Burton/Urban Forest.

Other Government Facilities: The Project area is served by El Dorado County. There are numerous public service facilities in the Meyers community, including: the Meyers Post Office located in the Meyers Community Center District; the California Highway Patrol Area Office near the agricultural inspection station in the Meyers Community Center District; the Caltrans Meyers Maintenance Station in the Meyers Industrial District; the Department of Food and Agriculture Meyers Inspection Station along US 50 near the center of the Plan Area; the California Conservation Corps (CCC) facility in the Meyers Community Center District; the Lake Valley Fire Protection District fire station and training center (Station 7) in the Meyers Industrial District; the El Dorado County Community Development Agency, Transportation Division (EDCTD) road maintenance and snow removal facility in the Meyers Industrial District; El Dorado County Animal Services animal control facility and shelter in the Meyers Industrial District; El Dorado County Search and Rescue – Lake Tahoe Unit in the Meyers Community Center District; and the LTBMU Meyers Work Center and Meyers Inter-Agency Visitors Center in the in the Meyers Community Center District.

Environmental Analysis and Mitigation Measures

3.4.17-1. Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Fire protection? Police protection? Schools? Parks? Other public facilities? (CEQA XVa)

Standard of Significance: A significant impact results to governmental and public services if the Project causes an increase demand for personnel, equipment or infrastructure beyond that planned by public service entities, the TRPA Regional Plan or County General Plan.

Environmental Analysis: *Less than Significant Impact.*

Demand for fire protection could increase during construction. Construction equipment operation potentially increases fire risk, particularly in areas of brush or other ground-level fuel. The project includes a compliance measure for development and implementation of a Fire Suppression and Management Plan, to avoid impacts associated with construction-related fire events. The Fire Control Plan includes fire precaution, pre-suppression and suppression measures and includes requirements for on-site provision of equipment devices such as spark arrestors and fire extinguishers.

Class 3 trail construction along neighborhood roadways requires temporary lane closures but requires no full road closures, allowing for continued emergency vehicle and general circulation during construction. Class 1 trail construction occurs along a dirt utility road that is not accessible for non-emergency vehicles.

Demand for fire and police protection will remain at existing levels during trail operation. The trail will be built to a standard that allows emergency vehicles to pass and respond to emergencies on the trail. The project improves access between East and West San Bernardino Avenues, creating improved emergency access. Trail operations would not increase demand for fire and law enforcement protection.

The Project improves access to the Lake Tahoe Environmental Science Magnet School by improving bicycle and pedestrian access to the school from the Upper Truckee Residential neighborhood, which is currently cut off from the Meyers residential neighborhood by the Truckee River.

This connection also improves access for a wide diversity of users to Tahoe Paradise Park. Coordination with park managers during development of construction scheduling minimizes disruption of park use during construction.

See discussion and analysis in Question 3.4.17-5, below, for parks and recreation impacts.

Although maintenance of the trail would increase the need for government services, trail maintenance is planned by the County and would not require new government personnel or facilities to be developed. No other impact to government services would occur

Required Mitigation: **None.**

3.4.17-2. Will the Project have an unplanned effect upon, or result in a need for new or altered governmental services: fire protection? (TRPA 14a)

Standard of Significance: A significant impact results if the Project causes an increase demand for personnel, equipment or infrastructure beyond that which is planned.

Environmental Analysis: *No Impact.*

See discussion and analysis for Question 3.4.17-1 above.

Required Mitigation: **None.**

3.4.17-3. Will the Project have an unplanned effect upon, or result in a need for new or altered governmental services: police protection? (TRPA 14b)

Standard of Significance: A significant impact results if the Project causes an increase demand for personnel, equipment or infrastructure beyond that which is planned.

Environmental Analysis: *No Impact.*

See discussion and analysis for Question 3.4.17-1 above.

Required Mitigation: **None.**

3.4.17-4. Will the Project have an unplanned effect upon, or result in a need for new or altered governmental services: schools? (TRPA 14c)

Standard of Significance: A significant impact results if the Project causes an increase demand for personnel, equipment or infrastructure beyond that which is planned.

Environmental Analysis: *No Impact.*

See discussion and analysis for Question 3.4.17-1 above.

Required Mitigation: **None.**

3.4.17-5. Will the Project have an unplanned effect upon, or result in a need for new or altered governmental services: parks or other recreational facilities? (TRPA 14d)

Standard of Significance: A significant impact results if the Project causes an increase demand for personnel, equipment or infrastructure beyond that which is planned

Environmental Analysis: *No Impact.*

See discussion and analysis for Question 3.4.17-1 above. The Project improves access to recreational facilities, but does not result in an increase in demand.

Required Mitigation: **None.**

3.4.17-6. Will the Project have an unplanned effect upon, or result in a need for new or altered governmental services in maintenance of public facilities, including roads? (TRPA 14e)

Standard of Significance: If the Project creates new or altered unplanned effects to governmental services in maintenance of roads, a significant impact results.

Environmental Analysis*: No Impact.*

See discussion and analysis for Question 3.4.17-1 above.

Required Mitigation: **None.**

3.4.17-7. Will the Project have an unplanned effect upon, or result in a need for new or altered governmental services in other governmental services? (TRPA 14f)

Standard of Significance: If the Project creates new or altered unplanned effects to governmental services in maintenance of roads, a significant impact results.

Environmental Analysis*: No Impact.*

Outside of maintenance, which was planned when the project was authorized for permitting in 2019, the Project would not affect government services.

Required Mitigation: **None.**

3.4.18 Recreation

This section presents the analyses for potential impacts to recreation. Table 3.4.18-1 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 3.4.18-1: Recreation

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
3.4.18-1. 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? (CEQA XVIa)			**X**	
3.4.18-2. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? (CEQA XVIa)			**X**	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
3.4.18-3. Create additional demand for recreation facilities? (TRPA 19a)				**X**
3.4.18-4. Create additional recreation capacity? TRPA 19b)				**X**
3.4.18-5. Have the potential to create conflicts between recreation uses, either existing or proposed? (TRPA 19c)				**X**
3.4.18-6. Result in a decrease or loss of public access to any lake, waterway, or public lands? (TRPA 19d)				**X**

Environmental Setting

The Project is located within the boundary of the Tahoe Paradise Park and Recreation District and USFS LTBMU national forest lands. The Park includes Lake Baron, south of the alignment, for non-motorized aquatic recreation, sport courts, picnic areas, a clubhouse, playground, and trails. The Project would connect the existing Park parking lot to a new Class 1 bike trail that would cross the Upper Truckee River to connect with West San Bernardino Avenue. Washoe Meadows State Park is located north of the

Project area, along with the Lake Tahoe Golf Course. Washoe Meadows remains undeveloped and consists of valley meadows and woodlands. The Project also passes through USFS LTBMU land west of the Upper Truckee River, specifically land managed as Santini-Burton/Urban Forest.

Environmental Analysis and Mitigation Measures

3.4.18-1. Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated? (CEQA XVIa)

Standard of Significance: A significant impact results if the Project improves access to recreation facilities or public lands used for recreation by numbers sufficient to create new disturbance.

Environmental Analysis: *Less than Significant Impact.*

Although the trail would improve neighborhood connections and connection through Tahoe Paradise Park by non-motorized traffic, access to the Tahoe Paradise Park, Washoe Meadows State Park, and LTBMU lands currently exists. By increasing non-motorized access, park patrons may be encouraged to access these recreation areas by foot or bicycle rather than by motorized methods. Therefore, while access would increase, use of the park facilities is expected to remain nearly the same with a change only in the way patrons access the parks. No physical deterioration of the parks would occur as a result of the project.

Required Mitigation: **None.**

3.4.18-2. Would the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? (CEQA XVIb)

Standard of Significance: A significant impact results if the Project requires the construction or expansion of recreational facilities that cause an adverse physical effect on the environment. The TRPA Regional Plan Recreation Element, PASs or Area Plans, and Thresholds determine this level of impact significance.

Environmental Analysis: *Less than Significant Impact*.

The trail serves primarily as a transportation route, although it may be use for recreational purposes. Impacts to the environment are analyzed in each subsection of Chapter 3 and appropriate mitigation measures are proposed. No new parks facilities are proposed.

Required Mitigation: **None.**

3.4.18-3. Will the Project create additional demand for recreation facilities? (TRPA 19a)

Standard of Significance: The Project does not create additional recreation demand; it meets existing recreation and transportation needs.

Environmental Analysis: *No Impact*.

Class 1 shared-use trails like the Project provide long, continuous routes for commuting or recreation trips. When they access destinations like parks and playing fields, they provide alternatives to automobile use that influence lifestyle choices for families and individuals. Trails create inexpensive and safe

opportunities for outdoor exercise and healthy lifestyles, including the opportunity for people to integrate exercise into their daily activity. Trails also create opportunities for personal interaction, neighborhood socialization, and community unity that can't occur when people are utilizing their cars. Since the Project provides access opportunities and does not increase population, a new demand for recreation facilities does not result.

Required Mitigation: **None.**

3.4.18-4. Will the Project create additional recreation capacity? (TRPA 19b)

Standard of Significance: Recreation capacity at Lake Tahoe is measured by TRPA with the allocation of Persons at One Time (PAOTs).

Environmental Analysis: *No Impact.*

Summer day use PAOTs are not assigned to new transportation facilities, such as the Project (TRPA Code Subsection 50.8.3.A.1).

Required Mitigation: **None.**

3.4.18-5. Will the Project have the potential to create conflicts between recreation uses, either existing or proposed? (TRPA 19c)

Standard of Significance: Elimination of or decreased viability of an existing or proposed recreation use caused by the construction and operation of the Project constitutes a significant impact.

Environmental Analysis: *No Impact.*

Recreational conflicts intensify when an increasingly diverse mix of social, cultural, and political interest groups make claim to what they perceive to be their fair share of a public resource. This can be due to perceived dissimilarity of attitudes and values associated to activities of different user groups. Four major factors have the potential to produce conflict when there is social contact between recreational users: activity style, resource specificity, mode of experience, and lifestyle tolerance. The Project proposal promotes shared-use by providing adequate width and acceptable grades capable of allowing different users simultaneous access without conflict. No conflict would occur between the use of the trail and the use of the park facilities.

Required Mitigation: **None.**

3.4.18-6. Will the Project result in a decrease or loss of public access to any lake, waterway, or public lands? (TRPA 19d)

Standard of Significance: A decrease or loss of public access to lakes, waterways or public lands as a result of Project construction and operation constitutes a significant impact.

Environmental Analysis: *No Impact.*

Project construction results in temporary (four month) restricted access along the Class 1 segment for purposes of public health and safety. Construction will not decrease public access to existing parks and neighborhoods outside of the active construction corridor.

Project operation would lead to an increase of non-motorized, public access to public lands and to the lake through non-motorized means, thereby supporting TRPA Recreation Threshold R-1. The Project connects with existing bike trails and pathways with connections to area neighborhoods and existing bike trails.

Required Mitigation: **None.**

3.4.19 Transportation (CEQA) and Traffic and Circulation (TRPA)

This section presents the analyses for potential impacts to transportation, traffic and circulation. Table 3.4.19-1 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 3.4.19-1: Transportation, Traffic and Circulation

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
3.4.19-1. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities? (CEQA XVIIa)			**X**	
3.4.19-2. Conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? (CEQA XVIIb)			**X**	
3.4.19-3. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (CEQA XVIIc)			**X**	
3.4.19-4. Result in inadequate emergency access? (CEQA XVIId)			**X**	
TRPA Initial Environmental Checklist Item	**Yes,**	**No, With Mitigation**	**Data Insufficient**	**No**
3.4.19-5. Generation of 100 or more new Daily Vehicle Trip Ends (DVTE)? (TRPA 13a)				**X**
3.4.19-6. Changes to existing parking facilities, or demand for new parking? (TRPA 13b)				**X**
3.4.19-7. Substantial impact upon existing transportation systems, including highway, transit, bicycle or pedestrian facilities? (TRPA 13c)				**X**
3.4.19-8. Alterations to present patterns of circulation or movement of people and/or goods? (TRPA 13d)				**X**
3.4.19-9. Alterations to waterborne, rail or air traffic? (TRPA 13e)				**X**
3.4.19-10. Increase in traffic hazards to motor vehicles,				**X**

bicyclists, or pedestrians? (TRPA 13f)				

Environmental Setting

The Project is located in Meyers, CA along West and East San Bernardino Avenues, along land owned by the Tahoe Paradise Park and Recreation District, and on undeveloped USFS land. Currently there is no connection between these neighborhoods along North Upper Truckee Road and east Meyers except at US 50 to the south and Lake Tahoe Boulevard to the north. The Upper Truckee River divides these areas with no access other than at US 50 or Lake Tahoe Boulevard. West and East San Bernardino are paved county neighborhood roadways. The Class 1 portion of the Project would follow an existing dirt utility road.

Existing bike lanes are located along US 50 (Class 1) south of the Project, Apache Avenue (Class 2) at the eastern end of the Project, and North Upper Truckee Road (Class 2) at the western end of the Project. There are intermittent trails that extend from North Upper Truckee Road to Lake Tahoe Boulevard. At US 50, the existing Class 1 trail extends to Pioneer Trail, which has a Class 2 trail, and up to Sawmill Road (Class 1) which connects to the Class 2 Trail at Lake Tahoe Boulevard and extends to South Lake Tahoe.

The South Lake Tahoe Airport is located 1.5 miles northeast of the Project area, and the Project is located outside the airport's hazard zones and noise contour areas.

The Meyers Area Plan identifies the Project within the Implementation Element supporting Transportation and Circulation Element Goal 6 and Policies 6.1 and 6.2:

6. Goal: Encourage pedestrian and bicycle linkages between land uses. Accommodate pedestrians throughout the Area Plan by providing safe, functional pathways.

   Policy 6.1: Continue to participate and support the TRPA and Lake Tahoe Unified School District Safe Routes to school program.

   Policy 6.2: Support development of bicycle and pedestrian facilities identified in the Linking Tahoe: Active Transportation Plan including, but not limited to, the Greenway Multi-Use Trail, and the Upper Truckee River crossing at San Bernardino Avenue.

TRPA is the designated Regional Transportation Planning Agency in the Lake Tahoe Region and has established Level of Service (LOS) standards for roadways and intersections and Vehicle Miles of Travel (VMT) standards. TRPA and TMPO administer regional programs to reduce Vehicle Miles Travelled (VMT) and achieve regional VMT standards in the Tahoe Basin. The effect of daily trip generation is important as it relates to region-wide VMT. VMT is dependent on the origin and destination of persons traveling to and from uses within the area and the net increase in region-wide trips after accounting for transferred development. VMT is a measure of automobile travel within the transportation system, and an indicator of the degree of integration between the transportation system and planned uses (i.e., a lower VMT indicates greater beneficial integration of transportation systems and land uses to reduce personal vehicle travel). VMT is also a proxy for regional traffic congestion, as well as for air quality. TRPA adopted a VMT Threshold Standard of 2,067,600 VMT for air quality purposes, which represents a 10 percent reduction from the 1981 VMT level. The most recent estimate of annual VMT provided by TRPA is 1,937,070 (Linking Tahoe: Regional Transportation Plan, 2017).

Environmental Analysis and Mitigation Measures

3.4.19-1. Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities? (CEQA XVIIa)

Standard of Significance: Project conflicts with applicable plans, ordinances or policies regarding the circulation system.

Environmental Analysis: *Less than Significant Impact.*

The Project builds upon the Meyers Bikeway and provides a critical link to the bicycle network between the neighborhood on North Upper Truckee Road and the community of Meyers. The Project supports the Linking Tahoe: Active Transportation Plan, approved by the Tahoe Metropolitan Planning Organization in March 2016 and the Meyers Area Plan, approved in March 2018, as the Project is promoted in both documents.

The Project also addresses traffic and pedestrian safety operations at the intersection of Apache Avenue at East San Bernardino Avenue as identified in the Lake Tahoe Unified School District Safe Routes to School Master Plan. This Project will also connect to the Apache Avenue Pedestrian Safety and Connectivity Project (#03.01.01.0004) which is an El Dorado County-led effort to improve overall pedestrian and bicycle safety for students, parents and the community accessing LTESMS, Apache Avenue and Meyers.

The Project has a beneficial impact by implementing this improvement that is listed in various planning documents in regard to transportation improvements.

Required Mitigation: **None.**

3.4.19-2. Would the Project conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? (CEQA XVIIb)

Standard of Significance: An impact would occur if the Project causes a net increase in vehicle miles traveled (VMT) conflicting with adopted VMT thresholds.

Environmental Analysis: *Less than Significant Impact.*

Since the Project proposes an alternative, non-motorized travel route, a beneficial impact may result by replacing motorized VMT with pedestrian and bicycle trips. Creation of the Class 1 and 3 trail would improve school access safety as well, improving the number of students accessing the Lake Tahoe Environmental Science Magnet School by foot or bicycle. Therefore, the Project could result in a net decrease in VMT in the area. The Project would not alter, revise or conflict with an applicable congestion management program including but not limited to, level of service standards and travel demand measures, or other standards established by the congestion management agency for designated roads or highways. Improving bicycle facilities and connectivity would result in beneficial transportation impacts. No VMT increase is anticipated, therefore, potential impacts related to the VMT standard are considered to be less than significant.

Required Mitigation: **None.**

3.4.19-3. Would the Project substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (CEQA XVIIc)

Standard of Significance: Substantial increases in hazards resulting from the Project proposal or incompatible use of the trail create a significant impact.

Environmental Analysis: *Less than Significant Impact.*

No sharp curves are proposed. The Class 3 portion of the Project would be located on and follow the existing pavement of West and East San Bernardino Avenues. The new Class 1 segment would follow an existing dirt utility road but does not contain sharp turns and does not intersect with highly trafficked roads. Intersecting roads consist of other neighborhood roadways and access roadways within Tahoe Paradise Park. The trail would be used by residents and visitors in the area, and no incompatible uses would interfere with trail use. Like other roadways in the area, snow removal may occur; however, snow removal equipment serves to maintain use of the trail and new hazardous situations would not be created.

Required Mitigation: **None.**

3.4.19-4. Would the Project result in inadequate emergency access? (CEQA XVIId)

Standard of Significance: Inadequate access for emergency responders during Project construction and operations constitutes a significant impact.

Environmental Analysis: *Less than Significant Impact.*

See discussion and analysis for Questions 3.4.11-6, 3.4.11-9, and 3.4.17-1 above that conclude that implementation of the Project will not impact emergency evacuation plans or access.

Required Mitigation: **None.**

3.4.19-5. Will the Project result in generation of 100 or more new Daily Vehicle Trip Ends (DVTE)? (TRPA 13a)

Standard of Significance: If the Project results in the generation of 100 or more new DVTE, a significant impact results.

Environmental Analysis: *No Impact.*

As discussed in Question 3.4.19-2, no increase in traffic would occur and construction would not result in the generation of traffic above the 100 DVTE threshold.

Required Mitigation: **None.**

3.4.19-6. Will the Project result in changes to existing parking facilities, or demand for new parking? (TRPA 13b)

Standard of Significance: Change in use of existing parking facilities that create an unmet demand for new parking as a result of Project operations constitutes a significant impact.

Environmental Analysis: *No Impact.*

The Project would have no significant increase in trip generation and has the potential to promote pedestrian and non-auto access, potentially resulting in beneficial impacts. By improving access from the west to Tahoe Paradise Park, the demand for parking may decrease as vehicle trips are replaced with pedestrian and bicycle trips.

Required Mitigation: **None.**

3.4.19-7. Will the Project result in substantial impact upon existing transportation systems, including highway, transit, bicycle or pedestrian facilities? (TRPA 13c)

Standard of Significance: If the Project causes delay which degrades level of service on roadways to LOS E for more than four hours/day impacting vehicles and transit, or hinders pedestrian or bicycle travel, a significant impact results.

Environmental Analysis: *No Impact.*

See discussions and analyses for Questions 3.4.19-3, 3.4.19-5, 3.4.19-6, 3.4.19-8, 3.4.19-9 and 3.4.19-10. The Project would support the transportation system and improve bicycle and pedestrian facilities, expanding access and connections to neighborhoods currently limited by the Upper Truckee River. The Project implements the programs and policies in area planning and transportation plans.

Required Mitigation: **None.**

3.4.19-8. Will the Project result in alterations to present patterns of circulation or movement of people and/or goods? (TRPA 13d)

Standard of Significance: If the Project results in an alteration to present patterns so that circulation is substantially disrupted and/or public access cannot be met, a significant impact results.

Environmental Analysis: *No Impact.*

As discussed in Question 3.4.19-2, no increase in trip generation or VMT would result from Project implementation. The Project may reduce trips along US 50 by improving pedestrian and bicycle access between the Meyers and Upper Truckee neighborhoods. Residents of these areas may travel by foot or bicycle rather than individual vehicles, potentially reducing traffic on US 50 and associated VMT.

Required Mitigation: **None.**

3.4.19-9. Will the Project result in alterations to waterborne, rail or air traffic? (TRPA 13e)

Standard of Significance: Alterations to waterborne, rail or air traffic by Project construction or operations that result in service disruptions.

Environmental Analysis: *No Impact.*

No alterations to waterborne, rail or air traffic are proposed or would occur as a result of the Project.

Required Mitigation: **None.**

3.4.19-10. Will the Project result in an increase in traffic hazards to motor vehicles, bicyclists, or pedestrians? (TRPA 13f)

Standard of Significance: Increases to traffic hazards at trail crossing locations.

Environmental Analysis: *No Impact.*

See Questions 3.4.19-1, 3.4.19-3, and 3.4.19-4. The Project has the potential to reduce traffic hazards by designating a Class 3 bike route on existing roadways with no bicycle or pedestrian facilities, and by creating a Class 1 trail off the Class 3 trail to create a non-motorized trail linkage between uses. The Project would have a beneficial impact and would promote implementation of the Lake Tahoe Unified School District Safe Routes to School Master Plan.

Required Mitigation: **None.**

3.4.20 Tribal Cultural Resources (CEQA) and Archaeological/Historical (TRPA)

This section presents the analyses for potential impacts to tribal cultural, archaeological and historical resources, discussing the Project impacts on tribal cultural resources related to the disturbance of archaeological, historical, and Native American/traditional heritage resources. Table 3.4.20-1 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 3.4.20-1: Tribal Cultural Resources and Archaeological/Historical

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
Has a California Native American Tribe requested consultation in accordance with Public Resources Code section 21080.3.1(b)? Yes: X No:				
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
3.4.20-1. 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)? (CEQA XVIIIa)			**X**	
3.4.20-2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe. (CEQA XVIIIb)			**X**	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
3.4.20-3. Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values? (TRPA 20d)				**X**

3.4.20-4. Will the proposal restrict historic or pre-historic religious or sacred uses within the potential impact area? (TRPA 20e)				**X**

Environmental Setting

As of the mid-1800s, the Washoe inhabited the region of the study area. A Hokan-speaking hunting and gathering group, the Washoe inhabited the chain of valleys along the eastern slope of the Sierra Nevada, from Honey Lake to Antelope Valley. The Pine Nut Mountains and the Virginia Range formed the eastern boundary of Washoe territory, while the western boundary extended several miles beyond the Sierra crest.

A great deal of information has been written about Washoe land use in the Tahoe Basin and their use of the region's resources. Lake Tahoe is the center of the Washoe world, both geographically and socially. Legendary and mythological associations to places within the basin are common. While they were an informal and flexible political collectivity, Washoe ethnography hints at a level of technological specialization and social complexity uncharacteristic of their neighbors in the Great Basin. Semi-sedentism and higher population densities, concepts of private property, and communal labor and ownership are reported and may have developed in conjunction with their residential and subsistence resource stability.

As discussed in Cultural Resources Section 3.4.7, based on the archival research and site reconnaissance conducted as part of the cultural resource investigations, the project area has low potential to contain undocumented pre-historic resources. Section 3.4.7 also details Caltrans, TRPA, and additional regulatory requirements that would be implemented during construction should undocumented resources be discovered during construction, including notification of the Washoe and UAIC tribes.

Native American Consultation

In accordance with Assembly Bill 52, as identified in the PRC Section 21080.3.1(b)(2) of CEQA and Section 106 of the National Historic Preservation Act, Native American tribes (tribes) identified by the Native American Heritage Commission (NAHC), must be invited to consult on projects.

Native American correspondence was initiated by NCE with a letter and attached maps to the NAHC on November 29, 2018. The letter requested a search of their Sacred Lands File (SLF) and a contact list for regional tribes that may have knowledge of cultural or tribal resources in the vicinity of the APE. A response was received from the NAHC on December 5, 2018 which indicated negative SLF results within the APE. An inquiry letter was mailed on County letterhead to the tribes identified by NAHC on January 3, 2019.

As of May 3, 2019, three of the identified Native American tribes have replied to the County's inquiry letters. The United Auburn Indian Community (UAIC) requested further project information and the NCIC records search results to determine the needs of further consultation. The Tsi Akim Maidu has deferred to the Washoe Tribe of Nevada and California for any additional follow-up or request to monitor the Project. The Washoe Tribe's initial response stated there is concern for adverse impacts to archaeological resources in the APE. It was requested by both the Washoe Tribe and UAIC that any should cultural resources be discovered during the intensive survey or in the event inadvertent cultural resources are discovered as a result of Project activities, that they be informed of the findings.

The County contacted the Washoe Tribe and the UAIC by telephone on August 22, 2019 and provided an electronic copy of the draft ASR to each tribe via email. The Washoe Tribe responded on August 22, 2019, stating they are not aware of cultural resources within the project area that may be affected by the proposed project.

As discussed in Section 3.47 - Cultural Resources, the UAIC had concerns that the extent of NCEs inventory did not include a prehistoric resource adjacent to the project APE and requested additional intensive survey be completed. Therefore, NCE conducted an additional intensive pedestrian survey for this site and verified that the resource does not extend into the project area/APE. Results of this additional survey effort were submitted back to the UAIC for concurrence. The UAIC responded that their concerns had been addressed and they had no further issues or concerns that the proposed project may impact the prehistoric site or known cultural resources.

The NAHC letter and response, and copies of tribal correspondence are provided in the attached ASR/HPSR (Appendix G).

Environmental Analysis and Mitigation Measures

3.4.20-1. Would the Project cause a substantial adverse change in the significance of a tribal cultural resource 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)? (CEQA XVIIIa)?

Standard of Significance: A significant impact would occur if the Project fails to implement consultation under AB 52, or results in an adverse change in the significance of a tribal cultural resource 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).

Environmental Analysis: *Less than Significant.*

In accordance with Assembly Bill 52 (AB 52), tribes identified by the NAHC were invited to consult on the proposed project. There are no resources within the project area listed or recommended eligible for listing in CRHR, or in a local register of historical resources as defined in PRC § 5020.1(k) (NCE 2019e). As discussed in the Environmental Setting section, the Washoe Tribe stated they are not aware of cultural resources within the project area that may be affected by the proposed project. After additional survey was conducted by NCE, the UAIC responded that there were no other concerns that the project may impact the prehistoric site adjacent to the APE or known cultural resources.

The tribes were consulted in accordance with AB 52 and there are no tribal cultural resources associated with the project. In addition, the project excavation depths would be less than 8 feet in depth (up to 8 feet for the two bridge abutments, other areas would require less cut) thus there is a negligible chance construction would reveal unanticipated resources. As discussed in Cultural Resources Section 3.47, in the event of inadvertent discovery, both the Washoe and UAIC would be notified, and compliance with federal, state, Caltrans, TRPA, and General Plan policies developed to avoid or mitigate for impacts associated with inadvertent discoveries, the project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5; therefore, potential impacts would remain less than significant.

Required Mitigation: **None**

3.4.20-2. Would the Project cause a substantial adverse change in the significance of a tribal cultural resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1? ***In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.*** **(CEQA XVIIIb)**

Standard of Significance: Significant impacts to a Tribal Cultural Resource (TCR) are those that diminish the integrity, research potential, or other characteristics that make a TCR significant or important. To be considered a TCR, a resource must be either: (1) listed, or determined to be eligible for listing, on the national, state, or local register of historic resources, or (2) a resource that the lead agency chooses, in its discretion, to treat as a TCR and meets the criteria for listing in the state register of historic resources pursuant to the criteria set forth in Public Resources Code Section 5024.1(c).

Environmental Analysis: *Less than Significant.*

See discussion and analysis for Question 3.4.20-1 above. Consultation with the Washoe and UAIC tribes confirmed there are no tribal cultural resources that could be affected by the project. TCRs that meet significant or importance criteria as defined in Public Resources Code Section 5024.1(c) were not identified within the project area, and the potential for unanticipated discoveries is very low with measures in place to mitigate the effects of discoveries during construction.

Required Mitigation: **None**

3.4.20-3. Does the Project have the potential to cause a physical change which would affect unique ethnic cultural values? (TRPA 20d)

Standard of Significance: Significant impact occur if the Project alters or significantly affects cultural resources or conflicts with Section 67 of the TRPA Code of Ordinances.

Environmental Analysis: *No Impact.*

See discussions and analyses for Questions 3.4.7-1, 3.4.7-4, and 3.4.7-5.

Implementation of federal and state regulations, TRPA Code (Chapter 67) and General Plan policies address protection of historic, cultural, archaeological and paleontological resources and provide processes to avoid or mitigate impacts to these resources. Therefore, any development associated with the project would not result in an adverse effect on unique ethnic cultural values.

Required Mitigation: **None.**

3.4.20-4. Will the Project restrict historic or pre-historic religious or sacred uses within the potential impact area? (TRPA 20e)

Standard of Significance: Significant impact occur if the Project alters or significantly affects cultural resources or conflicts with Section 67 of the TRPA Code of Ordinances.

Environmental Analysis: *No Impact.*

As discussed in Question 3.4.20-1 above, there were no tribal cultural resources, including historic or pre-historic religious or sacred uses, associated with the project area; therefore, there would be no impact.

Required Mitigation: **None.**

3.4.21 Utilities and Service Systems (CEQA) and Utilities (TRPA)

This section presents the analysis for potential impacts to utilities and service systems. Table 3.4.21-1 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 3.4.21-1: Utilities and Service Systems

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
3.4.21-1. Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects? (CEQA XIXa)				**X**
3.4.21-2. Have sufficient water supplies available to serve the and reasonably foreseeable future development during normal, dry, and multiple dry years? (CEQA XIXb)				**X**
3.4.21-3. 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? (CEQA XIXc)				**X**
3.4.21-4. Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? (CEQA XIXd)			**X**	
3.4.21-5. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? (CEQA XIXe)				**X**

TRPA Initial Environmental Checklist Item	Yes	No, With Mitigation	Data Insufficient	No
Except for planned improvements, will the proposal result in a need for new systems, or substantial alterations to the following utilities:				
3.4.21-6. Power or natural gas? (TRPA 16a)				**X**
3.4.21-7. Communication systems? (TRPA 16b)				**X**
3.4.21-8. Utilize additional water which amount will exceed the maximum permitted capacity of the service provider? (TRPA 16c)				**X**
3.4.21-9. Utilize additional sewage treatment capacity which amount will exceed the maximum permitted capacity of the sewage treatment provider? (TRPA 16d)				**X**
3.4.21-10. Storm water drainage? (TRPA 16e)				**X**
3.4.21-11. Solid waste and disposal? (TRPA 16f)				**X**

Environmental Setting

Water and Wastewater. Water service and sewage collection and treatment is provided by South Tahoe Public Utility District (STPUD). STPUD collects, treats, and exports the wastewater to Alpine County. Wastewater and water service are provided through underground pipes beneath the pavement of West and East San Bernardino Avenues. STPUD has installed sheet pile in the Upper Truckee River near the proposed bridge to protect an existing water line. The Project is not located in a source water protection zone. The nearest source water point is active well 03481105W11 located near the Lake Tahoe Environmental Science Magnet School.

Storm Water Drainage. El Dorado County operates storm water drainage facilities. Culvert 1 consists of a 24-inch diameter corrugated pipe with a dirt drainage collection and outlet channel on each side of the roadway. This culvert is located on East San Bernardino Avenue at Bakersfield Street. Culvert 2 is a 52-inch diameter metal culvert located beneath the pavement of West San Bernardino Avenue at Normuck Street. This culvert also flows through a dirt channel. Culvert 3 consists of 2 62-inch diameter metal culverts beneath West San Bernardino Avenue north of Shawnee Street that handles lows of Osgood Creek on either side of the roadway. A drainage channel parallels the road. Roadside drainage ditches run along the shoulder of San Bernardino Avenue.

Solid Waste. South Tahoe Refuse (STR) is under contract with this portion of El Dorado County to collect solid waste from area households and businesses as well as to process and transfer all solid waste for disposal or recycling. STR's main facility, which consists of a transfer station, materials recovery facility, and the Tahoe Basin Container Service, has a total permitted capacity of 370 tons per day, but currently receives 200 to 250 tons per day. Solid waste is transported to Lockwood Regional Landfill in

Storey County, NV, which receives approximately 4,000 tons per day and has a lifespan of approximately 150 years.

Electricity and Natural Gas. Electricity is provided to the area by Liberty Utilities, and natural gas is provided by Southwest Gas. Gas distribution lines are located beneath the pavement of West and East San Bernardino Avenues. Overhead utility poles support electrical lines along the area roadways.

Telecommunications. Telecommunication services are provided by a number of companies including AT&T and Charter. These companies provide television, internet, and telephone connection services throughout the Project area through above-ground infrastructure, as utility poles parallel the trail alignment.

Environmental Analysis and Mitigation Measures

3.4.21-1. Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunication facilities, the construction or relocation of which could cause significant environmental effects? (CEQA XIXa)

Standard of Significance: Construction of new water, stormwater, wastewater, electric power, natural gas, or telecommunication facilities or expansion of existing facilities as a result of the Project constitutes a significant impact if new construction creates significant and immitigable environmental effects.

Environmental Analysis: *No Impact.*

The Project proposal includes no new housing that could increase resident populations in need of these services, no new non-residential facilities, and does not propose fixtures or features (e.g., restrooms) that require connections to water or wastewater. The Project installs no new permanent irrigation, restrooms, water fountains, lighting, or other fixtures requiring electrical or natural gas power. No new communications are proposed.

The Project proposes to construct a drainage channel along portions of the Class 1 trail. Approximately 250 feet east of the start of the Class 1 portion of the trail from West San Bernardino Avenue, a vegetated drainage channel would be located on both sides of the paved trail, boardwalk section, and at the bridge approach, ending in rock-lined dissipators. East of the bridge, a vegetated channel would be located on the south side of the trail, extending from the edge of pavement to a rock lined dissipator at approximately the eastern bridge abutment. The channels and basins would be located within upland habitat and would address existing erosion and sedimentation caused along the dirt utility road, thereby addressing an existing runoff inadequacy. TRPA Code Chapter 32 provides regulations for utilities and services. The Project complies with these regulations as no new water or wastewater utilities are required to operate the trail.

Required Mitigation: **None.**

3.4.21-2. Would the Project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years? (CEQA XIXb)

Standard of Significance: As significant impact occurs if the Project creates a demand in water supply that requires new or expanded entitlements or resources to assure continuation of sufficient water supply to the public.

Environmental Analysis: *No Impact*.

The Project requires no new water service and therefore avoids significant effect on water supplies, entitlements or resources.

Required Mitigation: **None.**

3.4.21-3. Would the Project result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments? (CEQA XIXc)

Standard of Significance: A significant impact results if the project creates additional demand that prohibits STPUD from meeting existing provider commitments with existing wastewater treatment capacity.

Environmental Analysis: *No Impact.*

The Project requires no wastewater service.

Required Mitigation: **None.**

3.4.21-4. Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals? (CEQA XIXd)

Standard of Significance: Noncompliance with statutes and regulations regarding solid waste results in a significant impact as defined by TRPA Regional Plan Goals and Policies, the County General Plan and state (Title 14 and 27 CCR) and federal solid waste regulations.

Environmental Analysis: *Less than Significant Impact.*

The Project provides an alternative transportation route through the area and would not create solid waste. Existing waste disposal bins at Tahoe Paradise Park would serve trail users and no significant increase in trash would be generated. Construction would result in a temporary increase in solid waste generation; however, the quantity of solid waste would not cause an impact to collection, or capacity limits. Construction waste would be recycled to the extent feasible and would not interfere with waste reduction goals. Both the STR main facility and the Lockwood Regional Landfill have sufficient capacity to manage construction waste. Therefore, this impact is considered to be less than significant.

Required Mitigation: **None.**

3.4.21-5. Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste? (CEQA XIXe)

Standard of Significance: Construction of new solid waste systems or disposal sites constitutes a significant impact.

Environmental Analysis: *No Impact.*

The Lockwood Regional Landfill receives solid waste generated in the area and has sufficient capacity to serve the area well into the future. Existing resource recovery operations provide recycling of various

materials, including green waste and construction material, which further reduces the quantity of waste sent to the landfill pursuant to state law. Trail operation would not generate solid waste.

Required Mitigation: **None**.

3.4.21-6. Except for planned improvements, will the Project result in a need for new systems, or substantial alterations to power or natural gas? (TRPA 16a)

Standard of Significance: Substantial alteration to power or natural gas or the requirement for new systems by the Project results in a significant impact as defined by TRPA Regional Plan Conservation Element**.**

Environmental Analysis: *No Impact.*

See Question 3.4.8-3 above that concludes no impact would occur as no facilities that utilize power are proposed.

Required Mitigation: **None.**

3.4.21-7. Except for planned improvements, will the Project result in a need for new systems, or substantial alterations to communication systems? (TRPA 16b)

Standard of Significance: The need for new systems or substantial alteration to communication systems as a result of the Project constitutes a significant impact.

Environmental Analysis: *No Impact.*

Project construction and operation has no effect on demand for communication service as no increase in population, housing, or commercial units results from the Project. The Project includes no new communication facilities. Communication lines within the project area are above ground on existing utility poles and will not be removed or altered.

Required Mitigation: **None.**

3.4.21-8. Except for planned improvements, will the Project result in a need for new systems, or substantial alterations to utilize additional water which amount will exceed the maximum permitted capacity of the service provider? (TRPA 16c)

Standard of Significance: Construction of new water facilities or expansion of existing facilities as a result of the Project constitutes a significant impact if new construction creates significant and immitigable environmental effects.

Environmental Analysis: *No Impact*.

See Questions 3.4.21-1 and 3.4.21-2 above that conclude the Project creates no impacts. The Project creates no demand to water or wastewater systems requiring alterations to existing systems.

Required Mitigation: **None.**

3.4.21-9. Except for planned improvements, will the Project result in a need for new systems, or substantial alterations to utilize additional sewage treatment capacity which amount will exceed the maximum permitted capacity of the sewage treatment provider? (TRPA 16d)

Standard of Significance: Construction of new wastewater facilities or expansion of existing facilities as a result of the Project constitutes a significant impact if new construction creates significant and immitigable environmental effects.

Environmental Analysis: *No Impact*.

See Questions 3.4.21-1 and 3.4.21-3 above, which conclude that the Project creates no impact to wastewater systems. The Project creates no demand to wastewater systems requiring alterations to sewage systems

Required Mitigation: **None.**

3.4.21-10. Except for planned improvements, will the Project result in a need for new systems, or substantial alterations to storm water drainage? (TRPA 16e)

Standard of Significance: Construction of new stormwater drainage facilities or expansion of existing facilities as a result of the Project constitutes a significant impact if new construction creates significant and immitigable environmental effects.

Environmental Analysis: *No Impact*.

See discussion and analysis for Question 3.4.21-1 above. The Project proposes improvements to existing Culvert 1 near Bakersfield Street. These improvements would correct an existing deficiency in which an eroded channel has formed, causing sedimentation and inadequate management of runoff. The majority of the Project merely restripes existing pavement to create a bike route. The new Class 1 portion of the project includes additional paved areas; however, a vegetated drainage channel would parallel the path to collect runoff.

Required Mitigation: **None.**

3.4.21-11. Except for planned improvements, will the Project result in a need for new systems, or substantial alterations to solid waste and disposal? (TRPA 16f)

Standard of Significance: Construction of new solid waste systems or disposal sites constitutes a significant impact.

Environmental Analysis: *No Impact*.

Large quantities of trash will not be generated because the Project serves as a transportation route with primarily through-travel users and, the Project does not require the development of new landfills. Therefore, new collection equipment, personnel, or infrastructure is not needed. However, a receptacle should be located near the trail to avoid the accumulation of debris along the trail

Required Mitigation: **None.**

3.4.22 Wildfire (CEQA)

This section presents the analysis for potential impacts related to wildfire. Table 3.4.22-1 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 3.4.22-1: Wildfire

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
Is the Project located in or near state responsibility areas or lands classified as high fire hazard severity zones? Yes: X No:				
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
3.4.22-1. Substantially impair an adopted emergency response plan or emergency evacuation plan? (CEQA XXa)				**X**
3.4.22-2. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? (CEQA XXb)			**X**	
3.4.22-3. Require the installation of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? (CEQA XXc)			**X**	
3.4.22-4. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? (CEQA XXd)				**X**

Environmental Setting

Portions of the Project area, outside LTBMU-managed lands, are located within the Very High Hazard State Responsibility Area (CalFire, 2020). CalFire mapping does not indicate that the Project area is within a local responsibility area but does identify areas of Federal responsibility. The LTBMU Forest Plan Wildland Urban Interface (WUI) map indicates the Project area is located within the Defense Zone of the Wildland Urban Interface. The Forest Plan includes direction for operations within the WUI, although mostly in relation to USFS actions to manage vegetation and habitat in the area, rather than in relation to projects and facilities. The following direction and standards are applicable:

> **DC25.** Unplanned fires in the Wildland-Urban Interface (WUI) and in Jeffrey pine/mixed conifer forests tend to spread slowly to moderately, depending on winds, and burn as a surface fire. Occasional single- tree or group torching might occur when the fire burns through a dense clump of young trees. This burning thins the stand, promotes rapid growth of surviving trees, and creates occasional large snags by killing adjacent large trees. Unplanned fires occurring outside of the WUI in densely stocked fir or lodgepole pine forests may produce intense, stand-replacing events consistent with natural fire regimes.
>
> **DC26.** WUI zones (Map 7), are open canopied and dominated primarily by larger, fire-tolerant trees (e.g., thick-barked, self-pruning pine species). The WUI incorporates patterns of fuel condition that modify wildfire behavior by slowing large fire spread and reducing overall fire intensity and severity. Defensible space exists for all structures on Forest Service administrative sites, Forest Service permit authorization sites, and within 100 feet of non-federal structures.
>
> **SG27.** Suppress all unplanned ignitions in the WUI defense zone. [Standard]

Environmental Analysis and Mitigation Measures

3.4.22-1. Would the Project substantially impair an adopted emergency response plan or emergency evacuation plan? (CEQA XXa)

Standard of Significance: A significant impact occurs if the project conflicts with or interferes with the implementation of an emergency response or evacuation plan.

Environmental Analysis: *No Impact.*

See discussion and analysis for Questions 3.4.11-6, 3.4.11-9, and 3.4.17-1 above that conclude that the Project would not interfere with an adopted emergency response or evacuation plan. Development of the trail improves access and connection between existing neighborhoods currently disconnected by the Upper Truckee River. While the trail would not serve as a new vehicle route for personal automotive use, the trail may be used in some situations for emergency vehicle access and would serve as an evacuation resource for persons on bicycle or on foot. The project has the potential to be beneficial in emergency situations.

Required Mitigation: **None.**

3.4.22-2. Due to slope, prevailing winds, and other factors, would the Project exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire? (CEQA XXb)

Standard of Significance: A significant impact occurs if Project activities or components or the location of the project have the capability of increasing wildfire risk.

Environmental Analysis: *Less than Significant Impact.*

The Project would not be located on steep slopes and does not propose structures that would be occupied by people. Development and use of a trail would not increase wildfire risk to the area. The presence of the trail may aid in firefighting efforts by improving access and serving as a fire break. Therefore, no significant impact would occur.

Required Mitigation: **None**.

3.4.22-3. Would the Project require the installation of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment? (CEQA XXc)

Standard of Significance: A significant impact occurs if the project extends required infrastructure into areas of high fire risk such that the fire risk level increases or causes additional environmental impact.

Environmental Analysis: *Less than Significant Impact.*

See discussion and analysis for Question 3.4.22-2 above. The Project is a transportation route for non-motorized transportation types such as bicycles and pedestrians. Therefore, the Project itself would install a transportation route within a high fire hazard area; however, no associated infrastructure is proposed. There are existing overhead utility lines along the project alignment, as well as water infrastructure (water lines and fire hydrants).

The new Class 1 trail would pave an existing dirt utility road, thereby reducing wildfire risk of emergency vehicles driving across vegetated areas. Construction of the trail would involve the use of heavy machinery and vegetation removal; however, all equipment would include spark arrestors, fire extinguishers would be located on heavy equipment to control any sparks, and other best management practices would be implemented as discussed in the Project Description. The risk of wildfire associate with use of the trail would not increase above existing conditions.

Required Mitigation: **None.**

3.4.22-4. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes? (CEQA XXd)

Standard of Significance: A significant impact occurs if, after a wildfire, the Project would expose persons to flooding or landslides due to slope instability and alteration to drainage patterns.

Environmental Analysis: *No Impact.*

See discussion and analysis for Questions 3.4.9-1, 3.4.9-8, 3.4.9-11, 3.4.9-13, and 3.4.12-3 above. The Project does not propose residences or alteration to the landscape so as to cause flooding or landslides that may affect existing residences in the area. The Project would not significantly alter drainage patterns and proposes drainage improvements in the area to address existing drainage insufficiencies.

Required Mitigation: **None.**

3.4.23 Mandatory Findings of Significance

This section presents the analyses for mandatory findings of significance. Table 3.4.23-1 identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 3.4.23-1: Mandatory Findings of Significance

CEQA Environmental Checklist Item	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
3.4.23-1. Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory? (CEQA XXIa)		**X**		
3.4.23-2. Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? (CEQA XXIb)		**X**		
3.4.23-3. Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? (CEQA XXIc)			**X**	
TRPA Initial Environmental Checklist Item	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
3.4.23-4. Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish population to drop below self-		**X**		

sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California or Nevada history or prehistory? (TRPA 21a)				
3.4.23-5. Does the Project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (A short-term impact on the environment is one which occurs in a relatively brief, definitive period of time, while long-term impacts will endure well into the future.) (TRPA 21b)				**X**
3.4.23-6. Does the Project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environmental is significant?) (TRPA 21c)		**X**		
3.4.23-7. Does the Project have environmental impacts which will cause substantial adverse effects on human being, either directly or indirectly? (TRPA 21d)				**X**

Environmental Analysis and Mitigation Measures

3.4.23-1. Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of an endangered, rare or threatened species, or eliminate important examples of the major periods of California history or prehistory? (CEQA XXIa)

Standard of Significance: Refer to standards defined for Biological Resources checklist items in Section 3.4.6.

Environmental Analysis: *Less than Significant Impact with Mitigation Measures*

The Project proposes a new bike trail across the Upper Truckee River in the location of an existing dirt utility road. While the trail structures would be located outside the river channel, avoiding impacts to aquatic species and aquatic habitat, project construction may affect protected nesting avian species.

Impacts to protected nesting avian species are mitigated through pre-construction surveys and nest avoidance, if present (Mitigation Measure BIO-1).

Although the trail does not affect riparian habitat or enter the river channel, the alignment is located within a Stream Environment Zone. The TRPA and Lahontan generally prohibit new SEZ disturbance, but TRPA will allow an exemption for shared-use trails (TRPA Code Section 30.4.6.D.3) if findings can be made. As disclosed in Question 3.4.6-2, the proposed alignment is the most direct route and utilizes an existing disturbed utility road to minimize new impacts. The project also includes bridge and boardwalk components to avoid disturbance to surface flows and habitat. Similarly, Lahontan may grant an exemption for trails if findings can be made, including no feasible alternatives that avoid the SEZ. Since the Upper Truckee River divides the community, there are no feasible alternatives to avoid crossing it and the SEZ surrounding it. As part of the exemption, Lahontan requires that the SEZ is restored in a 1.5:1 ratio of the project disturbance. Mitigation Measure BIO-2 would implement this restoration of 0.45 acre (19,620 square feet) in conjunction with coordination between the County and Lahontan.

As discussed in Question 3.4.6-3 an existing culvert within a potentially jurisdictional feature along East San Bernardino Avenue near Bakersfield Street may require replacement in order to provide for drainage functionality and protect the trail from existing stormwater facility deficiencies. Mitigation Measure BIO-3 requires Section 404 and Section 401 permitting, including Section 1602. Compliance with the permit measures ensure these waters and associated habitat are protected.

No rare, threatened, or endangered species would be affected by the Project.

As discussed in Section 3.4.7, no cultural, historical, and archaeological resources would be affected by the Project. Should an inadvertent discovery occur, the Project would implement the regulatory compliance measures listed in Section 2.6.3 to protect unknown resources.

The Project achieves environmental improvement and maintains environmental threshold carrying capacities. Since no changes to existing policies regarding habitats, special status plant or animal communities, or to cultural, historical, and archeological resources are proposed, and federal, state, and TRPA protections are already in place, implementation of the Project would not result in the degradation of these resources. Overall, the Project would result in beneficial impacts to the environment by replacing vehicle trips with non-polluting and non-energy consuming pedestrian and bicycle trips. This action improves air quality, traffic, noise levels, and access to recreation and other public services. The Project would also improve accessibility and safety for the Lake Tahoe Environmental Science Magnet School.

Required Mitigation: **See Mitigation Measures for biological and geology resources including:**

BIO-1: Pre-Construction Avian Survey
BIO-2: **Section 404/401 Permit Compliance**
GEO-1: SEZ Restoration Credit for New Trail Disturbance

3.4.23-2. Does the Project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? (CEQA XXIb)

Standard of Significance: When the Project's incremental contribution is "cumulatively considerable", the following analysis addresses the environmental resource of concern. The projects that could have a cumulative impact on the resources in the project area when considered incrementally with the Project are referred to as "related projects".

Environmental Analysis: *Less than Significant Impact with Mitigation.*

The Project contributes to cumulatively considerable beneficial impacts by reducing air and greenhouse gas emissions, noise levels, and individual vehicle trips. The trail also addresses existing erosion and sedimentation issues that occur at the Upper Truckee River as a result of the use of a dirt utility road located on each side of the river. Since SEZ restoration would occur, the impact of placing the trail within the SEZ would be mitigated through restoration credits. As discussed in Question 3.4.23-1, impacts to biological resources are avoided through design or are mitigated. Tree removal would occur but would not contribute to a cumulative impact. The areas disturbed by the project would be revegetated. Additionally, the Project would not affect historic or cultural sites or resources. The Project would locate a bridge structure across the river, altering existing views; however, Mitigation Measure VIS-1 would be implemented to better blend the man-made structure in with the surrounding landscape.

The Tahoe Paradise Recreation and Park District are in the initial planning stages for potential improvements to Park facilities including improvements to the clubhouse, courts and playground, enhanced ball fields and picnic area, and new facilities (e.g., ADA loop trail around Lake Baron, pavilion near the picnic area, and restroom across from the clubhouse). Neither of the proposed facility improvements or expansions would be visible from the location of the proposed shared-use pathway crossing of the Upper Truckee River. Because erosion control projects would be the only improvements visible at the location of the proposed river crossing, Park improvements would not result in cumulatively significant impacts to the landscape/scenic quality and would contribute to a cumulatively beneficial impact. Besides ongoing maintenance of existing Park facilities, proposed Park improvements and facilities, and the identification of necessary restoration of erosion along the banks of the Upper Truckee River, no other cumulative effects are anticipated in the vicinity of the Project.

Required Mitigation: **See Mitigation Measures for biological, geology and scenic resources including:**

BIO-1: Pre-Construction Avian Survey
BIO-2: **Section 404/401 Permit Compliance**
GEO-1: SEZ Restoration Credit for New Trail Disturbance
VIS-1: Bridge Design Elements

3.4.23-3. Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? (CEQA XIXc)

Standard of Significance: Project environmental effects that cause direct or indirect substantial adverse effects to humans create a significant impact.

Environmental Analysis: *Less than Significant Impact.*

As discussed in this IS/IEC, the Project would result in no significant effects related to air quality, noise, or hazards that would adversely affect humans. The bike trail connection between West and East San Bernardino Avenue will positively affect humans through improvement of the non–automobile transportation network, providing safer and more convenient alternatives to the automobile.

Required Mitigation: **None.**

3.4.23-4. Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or

endangered plant or animal or eliminate important examples of the major periods of California or Nevada history or prehistory? (TRPA 21a)

Standard of Significance: See Question 3.4.23-1

Environmental Analysis: *No, with mitigation.*

Question 3.4.23-1 concludes implementation of the proposed amendments would not degrade the quality of the environment, reduce habitat of a fish population, threaten or eliminate a plant or animal community or eliminate important examples of a major period of California or Nevada history or prehistory.

Required Mitigation: **See Mitigation Measures for biological and geology resources including:**

BIO-1: Pre-Construction Avian Survey
BIO-2: **Section 404/401 Permit Compliance**
GEO-1: SEZ Restoration Credit for New Trail Disturbance

3.4.23-5. Does the Project have the potential to achieve short-term, to the disadvantage of long-term, environmental goals? (TRPA 21b)

Standard of Significance: A short-term impact on the environment is one that occurs in a relatively brief, definitive period of time, while long-term impacts will endure well into the future.

Environmental Analysis: *No Impact.*

The Project includes additional development in sensitive soils and vegetation communities that cannot be avoided based on the linear nature of the transportation facility. The Project also provides opportunity for the permanent protection and restoration (approximately 19,620 square feet) of SEZ lands. The success of new SEZ restoration may not be known in the short-term if new restoration is performed in the project vicinity. However, with monitoring and management strategies, the project has the potential to achieve long-term environmental goals through an overall reduction in disturbance of sensitive vegetation communities and soils.

Required Mitigation: **None**.

3.4.23-6. Does the Project have impacts which are individually limited, but cumulatively considerable? (A project may impact on two or more separate resources where the impact on each resource is relatively small, but where the effect of the total of those impacts on the environmental is significant?) (TRPA 21c)

Standard of Significance: When the Project's incremental contribution is "cumulatively considerable" the following analysis addresses the environmental resource of concern. The projects that could have a cumulative impact on the resources in the project area when considered incrementally with the Project are referred to as "related projects."

Environmental Analysis: *No with Mitigation.*

Refer to the analysis for Question 3.4.23-2, which addresses CEQA checklist Item XXIb and concludes the level of impact is less than significant with mitigation.

Required Mitigation: **See Mitigation Measures for biological, geology and scenic resources including:**

BIO-1: Pre-Construction Avian Survey
BIO-2: **Section 404/401 Permit Compliance**
GEO-1: SEZ Restoration Credit for New Trail Disturbance
VIS-1: Bridge Design Elements

3.4.23-7. Does the Project have environmental impacts which will cause substantial adverse effects on human being, either directly or indirectly? (TRPA 21d)

Standard of Significance: Project environmental effects that cause direct or indirect substantial adverse effects to humans create a significant impact

Environmental Analysis: *No Impact.*

Refer to the analysis for Question 3.4.23-3, which addresses CEQA checklist Item XIXc and concludes the level of impact is less than significant.

Required Mitigation: **None.**

3.5 CERTIFICATION [TRPA ONLY]

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this initial evaluation to the best of my ability, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

Tahoe Regional Planning Agency Date

3.6 PREPARERS

Document preparers include:

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APPENDICES

Appendix A – Plan Sheets for the San Bernardino Bike Trail Project

Appendix B – Visual Resources Technical Memorandum

Appendix C – Invasive Plant Risk Assessment (IPRA)

Appendix D – Natural Environment Study (NES)

Appendix E – Sierra Nevada Yellow-Legged Frog Site Assessment

Appendix F – Aquatic Resources Delineation Report

Appendix G – Historic Property Survey Report (HPSR)

Appendix H – Feasibility Report

Appendix I – Preferred Alternative Memorandum

Appendix J – Geotechnical Report

APPENDIX A

PLAN SHEETS FOR THE SAN BERNARDINO BIKE TRAIL PROJECT

INDEX OF SHEETS

SHEET NO.	SHEET NAME	TITLE
1	i	TITLE SHEET
2	ii	GENERAL NOTES, ABBREVIATIONS, AND LEGEND
X	L-1	LAYOUT STA 10+ 00 – 14+00
X	L-2	LAYOUT STA 14+00 – 18+00
X	L-3	LAYOUT STA 18+00 – XX+XX
X	C-1	CONSTRUCTION DETAILS
X	EC-1	TEMPORARY EROSION CONTROL PLAN
X	EC-2	TEMPORARY EROSION CONTROL DETAILS
X	PD-1	SIGNING AND PAVEMENT DELINEATION
X	PD-2	SIGNING AND PAVEMENT DELINEATION
X	PD-3	SIGNING AND PAVEMENT DELINEATION

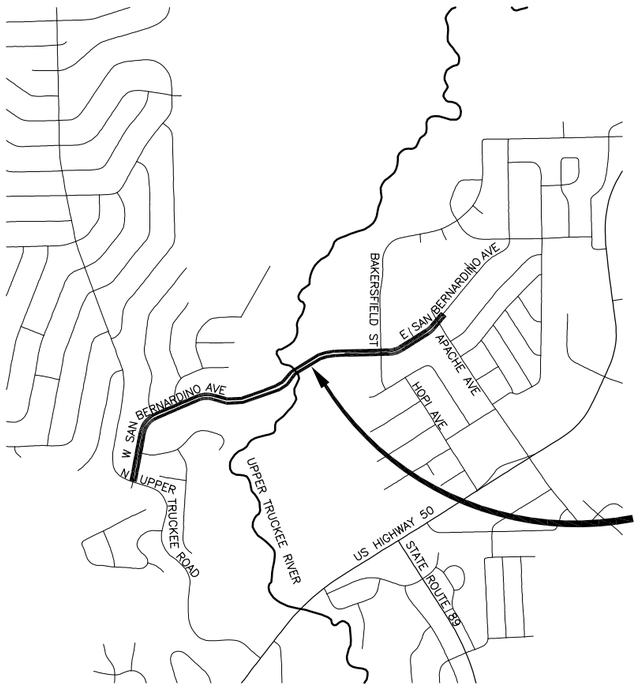
COUNTY OF EL DORADO, CA
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR THE CONSTRUCTION OF THE 2020

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT

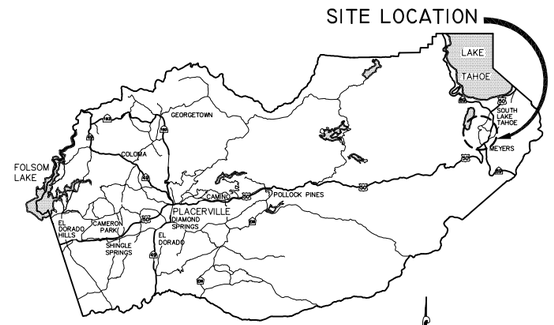
IN THE COUNTY OF EL DORADO, DISTRICT 5,
PORTION OF SEC 29, PORTION OF EAST 1/4 SEC 30, PORTION OF
SOUTH 1/4 SEC 20, T12N, R18E, MDM

To be supplemented with 2015 Standard Plans and Specifications of the California Department of Transportation, unless otherwise noted.



LOCATION MAP

SCALE: 1" = 1000'



VICINITY MAP

COUNTY OF EL DORADO

FUNDING AGENCY

CONGESTION MITIGATION AND AIR QUALITY PROGRAM
TAHOE REGIONAL PLANNING AGENCY

CONTRACTOR'S LICENSE CLASSIFICATION: Bidders shall be properly licensed to perform the Work pursuant to the State Contractor's License Law (Business and Professions Code section 7000 et seq.) and shall possess a CLASS A LICENSE or equivalent combination of Classes required by the categories and type of Work included in the Contract Documents and Plans, at the time the Contract is awarded, and shall maintain a valid license through completion and acceptance of the Work including guarantee and warranty period. If the Contractor possesses a Class A license instead of the equivalent combination of Classes required by the categories and type of work included in the Contract Documents and Plans, then the Contractor or a subcontractor must also possess a CLASS C27 "Landscaping Contractor" license. Failure of the successful Bidder to obtain proper and adequate licensing for an award of the Contract shall constitute a failure to execute the Contract, and shall result in forfeiture of the Bidders security.

REVISIONS

MARK	DATE	BY	

Preliminary

For informational purposes only.
Not for construction.

MONTH XX, 20XX

SUBMITTED BY: DONALDO S. PALAROAN P.E. DATE
SENIOR CIVIL ENGINEER
STATE OF CALIFORNIA NO. C66083

BOARD OF SUPERVISORS

JOHN HIDAHL	I
SHIVA FRENTZEN	II
BRIAN K. VEERKAMP	III
LORI PARLIN	IV
SUE NOVASEL	V

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

(530) 573-7900 (530) 621-5900
924 B EMERALD BAY ROAD 2850 FAIRLANE CT
SOUTH LAKE TAHOE, CA PLACERVILLE, CA
96150 95667

ADOPTED AND APPROVED BY:

SUE NOVASEL
CHAIR, EL DORADO COUNTY BOARD OF SUPERVISORS

DATE

APPROVED BY:

RAFAEL MARTINEZ, DIRECTOR
DEPARTMENT OF TRANSPORTATION

DATE

JOHN H. KAHLING, P.E. NO. C52426
DEPUTY DIRECTOR, ENGINEERING

DATE

CONTRACT NO. ????, CIP NO. 95117

SAN BERNARDINO CLASS I
BIKE TRAIL PROJECT

TITLE SHEET

SHEET 1 OF ?

Drawing name: \\CDAData5\TD-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MPLAN\01_SB_ 1_Title.dwg

GENERAL NOTES

1. ALL IMPROVEMENTS WILL BE ACCOMPLISHED UNDER THE APPROVAL, INSPECTION, AND TO THE SATISFACTION OF THE COUNTY OF EL DORADO DEPARTMENT OF TRANSPORTATION (DOT). IMPROVEMENT CONSTRUCTION MUST COMPLY WITH THESE PLANS AND THE 2015 CALTRANS STANDARD PLANS, UNLESS NOTED OTHERWISE. ALL REFERENCES TO THE "STANDARD SPECIFICATIONS" MEAN THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION (CALTRANS) 2015 STANDARD SPECIFICATIONS. CONSTRUCTION NOT SPECIFIED ON THESE PLANS OR IN SPECIFIC COUNTY OF EL DORADO (COUNTY) ORDINANCES MUST CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS. YOU ARE OBLIGATED TO BE FAMILIAR WITH APPLICABLE SECTIONS OF THE STANDARD SPECIFICATIONS NOT DISCUSSED IN THE GENERAL NOTES. THE CONTRACT SPECIAL PROVISIONS SUPERSEDE THE STANDARD SPECIFICATIONS WHERE DISCREPANCIES OCCUR.

2. CONSTRUCTION HOURS WILL BE WEEKDAYS BETWEEN 8:00 A.M. AND 6:30 P.M. UNLESS PRIOR APPROVAL IS RECEIVED FROM DOT.

3. THE LOCATIONS AND EXTENT OF UNDERGROUND UTILITIES IN THE WORK AREA AS SHOWN ARE APPROXIMATE AND ARE NOT NECESSARILY COMPLETE. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE UTILITIES BASED UPON AVAILABLE RECORDS. YOU MUST DETERMINE THE TYPE, LOCATION, SIZE, AND/OR DEPTH OF THE UTILITIES WITHIN THE WORK AREA BEFORE STARTING WORK. YOU OR ANY SUBCONTRACTOR FOR THIS CONTRACT ARE RESPONSIBLE FOR DAMAGES DUE TO THE FAILURE TO EXACTLY LOCATE AND PRESERVE UNDERGROUND UTILITIES. YOU MUST CONTACT UNDERGROUND SERVICE ALERT AT (800) 642–2444 AT LEAST 48 HOURS BEFORE ANY CONSTRUCTION. YOU ASSUME COMPLETE RESPONSIBILITY FOR DAMAGED UTILITIES.

4. UNLESS SHOWN OTHERWISE, YOU ARE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SURVEY MONUMENTS AND OTHER SURVEY MARKERS, INCLUDING CONSTRUCTION STAKES DURING CONSTRUCTION AND YOU ARE RESPONSIBLE FOR THE COST TO REPLACE ANY SUCH SURVEY MONUMENTS, MARKERS, OR STAKES.

5. YOU WILL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAGGERS, PILOT CAR, OR OTHER DEVICES NECESSARY TO CONTROL TRAFFIC THROUGH THE JOB SITE AND FOR PUBLIC SAFETY UNDER THESE PLANS, THE STANDARD SPECIFICATIONS, AND CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

6. YOU AGREE TO ASSUME SOLE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF THE WORK, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, AND FURTHER AGREE THAT THIS REQUIREMENT APPLIES CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS UNDER THE CONTRACT AND STANDARD SPECIFICATIONS.

7. THERE WILL BE NO GRADING OR LAND DISTURBANCE BETWEEN OCTOBER 15 AND MAY 1 UNLESS APPROVALS ARE OBTAINED FROM THE TAHOE REGIONAL PLANNING AGENCY (TRPA), AS PROVIDED IN THE LIMITED EXEMPTION DESCRIBED IN CHAPTER 64, SUBSECTION 64.2.B. OF THE TRPA CODE OF ORDINANCES. APPROVALS FOR GRADING BETWEEN OCTOBER 15 AND MAY 1 MUST ALSO BE OBTAINED FROM THE LAHONTAN REGIONAL WATER QUALITY CONTROL BOARD. IF REQUIRED, DOT WILL OBTAIN THESE APPROVALS.

8. YOU WILL MAINTAIN A SET OF PLANS ON THE JOB SITE SHOWING "AS–CONSTRUCTED" CHANGES MADE TO DATE. UPON COMPLETION OF THE WORK, YOU WILL GIVE TO THE COUNTY A SET OF PLANS, MARKED UP TO THE SATISFACTION OF DOT, REFLECTING THE AS–CONSTRUCTED MODIFICATIONS.

9. ALL CONTROL STATIONING AND DATA DIMENSIONING REFERENCE THE CENTERLINE OF THE FACILITY SHOWN, UNLESS NOTED OTHERWISE.

10. YOU WILL NOT CLOSE OFF ANY UTILITY LINES OR OPEN VALVES OR TAKE ANY OTHER ACTION WHICH WOULD AFFECT THE OPERATION OF WATER OR SEWER SYSTEMS WITHOUT APPROVAL FROM THE SOUTH TAHOE PUBLIC UTILITY DISTRICT (STPUD). APPROVAL MUST BE REQUESTED AT LEAST 48 HOURS BEFORE INTERRUPTION OF THE UTILITY SERVICE IS REQUIRED. ANY INTERRUPTION TO ACTIVE WATER OR SEWER SERVICES, INCLUDING FIRE HYDRANTS, WHETHER INTENTIONAL OR NOT, MUST BE KEPT TO A MINIMUM TIME PERIOD. IF SERVICE TO BUILDINGS IS TO BE OFF FOR MORE THAN FOUR HOURS, YOU MUST ADVISE STPUD.

11. YOU ARE REQUIRED TO IMPLEMENT DUST CONTROL MEASURES TO ENSURE THAT DUST RESULTING FROM YOUR ACTIVITIES IS CONTROLLED AND COMPLIES WITH THE PROVISIONS OF SECTION 7, "LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC," AND SECTION 14, "ENVIRONMENTAL STEWARDSHIP," OF THE STANDARD SPECIFICATIONS, COUNTY, AND LOCAL ORDINANCES.

12. YOU ARE RESPONSIBLE FOR IMPLEMENTING ALL TEMPORARY EROSION CONTROL MEASURES. THE TEMPORARY EROSION CONTROL MEASURES MUST COMPLY WITH THE TRPA "HANDBOOK OF BEST MANAGEMENT PRACTICES" AND THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP). DOT WILL CONTACT TRPA BEFORE THE START OF THE WORK FOR A PRE–GRADE INSPECTION OF THE INSTALLED TEMPORARY EROSION CONTROL FACILITIES. YOU ARE RESPONSIBLE FOR THE MAINTENANCE AND PERFORMANCE OF THE TEMPORARY EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE WORK.

13. CONSTRUCTION LIMITS SHOWN DELINEATE THE BOUNDARIES FOR YOUR ACTIVITIES BEYOND THE COUNTY ROAD RIGHT–OF–WAY. TEMPORARY FENCE (TYPE ESA) MUST BE ERECTED ALONG THESE BOUNDARIES BEFORE WORK STARTS. VEGETATION WITHIN THESE LIMITS MUST BE PROTECTED TO THE EXTENT FEASIBLE. ALL TREES MUST BE PROTECTED UNLESS SHOWN TO BE REMOVED.

14. UNLESS NOTED OTHERWISE, ALL REVEGETATION IS TO BE COMPLETED BY OTHERS.

15. YOU WILL ONLY USE THE DESIGNATED SITES SHOWN FOR STORAGE OF EQUIPMENT AND MATERIALS. YOU ARE RESPONSIBLE FOR THE SECURITY OF EQUIPMENT AND MATERIALS.

16. IT IS YOUR AND YOUR SUBCONTRACTOR(S) RESPONSIBILITY TO EXAMINE THE JOB SITE BEFORE THE OPENING OF BID PROPOSALS. YOU MUST BECOME FAMILIAR WITH THE NATURE AND LOCATION OF THE WORK AND THE GENERAL AND LOCAL CONDITIONS, PARTICULARLY THOSE AFFECTING THE AVAILABILITY OF TRANSPORTATION, THE DISPOSAL, HANDLING, AND STORAGE OF MATERIALS, AVAILABILITY OF LABOR, WATER, ELECTRICITY, ROADS, THE UNCERTAINTIES OF WEATHER, THE CONDITIONS OF THE GROUND, SURFACE AND SUBSURFACE MATERIALS, THE EQUIPMENT AND FACILITIES NEEDED FOR AND DURING THE PERFORMANCE OF THE WORK. FAILURE BY YOU OR YOUR SUBCONTRACTOR(S) TO ACQUAINT YOURSELVES WITH THE INFORMATION AVAILABLE WILL NOT RELIEVE YOU OR YOUR SUBCONTRACTOR(S) FROM RESPONSIBILITY FOR PROPERLY ESTIMATING THE DIFFICULTY AND COST OF SUCCESSFULLY PERFORMING THE WORK.

17. ELEVATIONS FOR PIPE INVERTS, FLOWLINES, TOPS OF GRATES, RIMS, ETC., ARE BASED ON THE TOPOGRAPHIC INFORMATION SHOWN. YOU WILL VERIFY ALL NECESSARY SURFACE ELEVATIONS IN THE FIELD AND NOTIFY THE TD OF ANY DISCREPANCIES WHICH MIGHT AFFECT THE OPERATION OF THE NEW FACILITIES BEFORE BREAKING GROUND FOR THE INSTALLATION. DOT MUST BE CONTACTED IF ELEVATIONS ARE INCORRECT SO PROPER ADJUSTMENTS CAN BE MADE BEFORE THE INSTALLATION OF THE FACILITIES.

18. EXCEPT FOR THOSE OBTAINED BY DOT, YOU MUST OBTAIN, AT YOUR EXPENSE, ALL PERMITS, LICENSES, INSURANCE POLICIES, ETC., NECESSARY TO COMPLY WITH STATE AND LOCAL LAWS ASSOCIATED WITH THE PERFORMANCE OF THE WORK.

19. YOU ARE RESPONSIBLE TO REVIEW THE CONTRACT DOCUMENTS FOR SUBMITTALS REQUIRED FOR COUNTY REVIEW AND ACCEPTANCE.

20. THE COUNTY WILL PROVIDE CONSTRUCTION STAKING IN COMPLIANCE WITH SECTION 5–1.26 OF THE STANDARD SPECIFICATIONS.

21. THE PLANS SHOW SLOPE LENGTHS FOR PIPE ROUNDED TO THE NEAREST FOOT. ALL PIPE LENGTHS AND INVERT ELEVATIONS SHOWN ON THE PLANS ARE TO THE CENTERLINE OF THE STRUCTURES TO WHICH THE PIPES ARE ATTACHED. SEE THE STANDARD SPECIFICATIONS FOR THE MAXIMUM ALLOWABLE DEFLECTION ANGLE AT EACH PIPE JOINT.

22. YOU ARE RESPONSIBLE TO MAINTAIN THE GRADING LIMITS AS SHOWN ON THE PLANS, DETAILS, CROSS SECTIONS, AND AS DIRECTED BY THE ENGINEER.

ABBREVIATIONS

NOTE: LOWER CASE TEXT WITHIN PLAN SET INDICATES EXISTING

△	DELTA = DEFLECTION ANGLE	MAT'L	MATERIAL
A	ARCH OR ASPEN	MISC	MISCELLANEOUS
AB	AGGREGATE BASE	MOC	MID POINT ON CURVE
ABAND	ABANDONED	MOD	MODIFIED
ABC	ARTICULATED BLOCK CHANNEL	N	NORTH
AC	ASPHALT CONCRETE	NIC	NOT IN CONTRACT
AP	ANGLE POINT	NGVD	NATIONAL GEODETIC VERTICAL DATUM
APN	ASSESSOR'S PARCEL NUMBER	NTS	NOT TO SCALE
BC	BEGIN CURVE	OAE	OR APPROVED EQUAL
BCR	BEGIN CURB RETURN	OC	ON CENTER
BGN	BEGIN	OD	OUTSIDE DIAMETER
BLC	BLANKET–LINED CHANNEL	OG	ORIGINAL GROUND
BV	BAY VIEW	OH	OVERHEAD
BVCE	BEGIN VERTICAL CURVE ELEVATION	OVEREX OR O/X	OVEREXCAVATION
BVCS	BEGIN VERTICAL CURVE STATION	P	PINE
C	CEDAR	PC	POINT OF BEGINNING OF CURVE
CALCS	CALCULATIONS	PCC	PORTLAND CEMENT CONCRETE OR POINT OF COMPOUND CURVE
CATV	CABLE TELEVISION		
CC	CENTER TO CENTER	PERF	PERFORATED
CF	CUBIC FEET OR CURB FACE	PL	PROPERTY LINE
CHD	CHORD DIRECTION	PCVCE	POINT OF COMPOUND VERTICAL CURVE ELEVATION
CIR	CIRCLE	PCVCS	POINT OF COMPOUND VERTICAL CURVE STATION
℄	CENTERLINE	POR	PORTION
CL	CLASS OR CENTERLINE	PRVCE	POINT OF REVERSE VERTICAL CURVE ELEVATION
CLR	CLEAR	PRVCS	POINT OF REVERSE VERTICAL CURVE STATION
CO	CURB OPENING OR CLEANOUT	PP	POWER/UTILITY POLE
CO.	COUNTY	PRC	POINT OF REVERSE CURVE
CONC	CONCRETE	PROP	PROPOSED
CONST	CONSTRUCT	PT	POINT OR POINT OF TANGENCY
CMP	CORRUGATED METAL PIPE	PUE	PUBLIC UTILITY EASEMENT
CR	CEDAR RIDGE	PVC	POLYVINYL CHLORIDE
CSP	CORRUGATED STEEL PIPE	PVIE	POINT OF VERTICAL INTERSECTION ELEVATION
CT	CALTRANS OR COURT	PVIS	POINT OF VERTICAL INTERSECTION STATION
CTC	CALIFORNIA TAHOE CONSERVANCY	PVMT	PAVEMENT
CY	CUBIC YARD	R	RADIUS
C&G	CURB AND GUTTER	R&R	REMOVE & REPLACE
D	DEPTH	RC	RELATIVE COMPACTION
DBL	DOUBLE	RCP	REINFORCED CONCRETE PIPE
DET	DETAIL	RD	ROAD
DI	DRAINAGE INLET OR DUCTILE IRON	REF	REFERENCE
DIA OR ⌀	DIAMETER	REQ'D	REQUIRED
DISS	DISSIPATOR	RLC	ROCK–LINED CHANNEL
DR	DRIVE	ROW	RIGHT–OF–WAY
D/W	DRIVEWAY	RSP	ROCK SLOPE PROTECTION
E	EAST	RT	RIGHT
EA	EACH	RW	RETAINING WALL
EC	END OF CURVE	S	SOUTH OR SANITARY SEWER
ECR	END OF CURB RETURN	SCO	SEWER CLEAN OUT
ELEV	ELEVATION	SD	STORM DRAIN
ELEC	ELECTRIC	SDMH	STORM DRAIN MANHOLE
ENGR	ENGINEER	SED FB	SEDIMENT FOREBAY
EP	EDGE OF PAVEMENT	SEZ	STREAM ENVIRONMENT ZONE
ESA	ENVIRONMENTALLY SENSITIVE AREA	SF	SQUARE FEET
ESMT	EASEMENT	SHT	SHEET
EVCE	END VERTICAL CURVE ELEVATION	SL	SLOPE LENGTH
EVCS	END VERTICAL CURVE STATION	SMH	SEWER MANHOLE
EX OR EXIST	EXISTING	ST	SEDIMENT TRAP OR STREET
F	FIR	STA	STATION
FES	FLARED END SECTION	STD	STANDARD
FG	FINISHED GRADE	STL	STEEL
FH	FIRE HYDRANT	STPUD	SOUTH TAHOE PUBLIC UTILITY DISTRICT
FL	FLOWLINE	SWPPP	STORM WATER POLLUTION PREVENTION PLAN
FS	FINISH SURFACE	T	TELEPHONE
G	GAS	TBC	TOP BACK OF CURB
GA	GAUGE	TBD	TOP BACK OF DIKE
GB	GRADE BREAK	TD	TOP OF DIKE
GLS	GRASS–LINED SWALE	TBR	TO BE REMOVED
GW	GROUND WATER	TG	TOP OF GRATE
H	HORIZONTAL	TTL	TOTAL
HDPE	HIGH DENSITY POLYETHYLENE	TRANS	TRANSITION
HP	HIGH POINT	TRM	TURF REINFORCEMENT MAT
HWL	HIGH WATER LINE	TRPA	TAHOE REGIONAL PLANNING AGENCY
ID	INSIDE DIAMETER	TYP	TYPICAL
IE	INVERT ELEVATION	UG	UNDERGROUND
INCR	INCREASE	UKN	UNKNOWN
INST	INSTALL	USFS	UNITED STATES FOREST SERVICE
INTRXN	INTERSECTION	V	VERTICAL
L	LENGTH	W	WEST OR WATER
LC	LENGTH OF CHORD	W/	WITH
LF	LINEAR FEET	W/O	WITHOUT
LP	LOW POINT	WC	WILLOW CLUSTER
LT	LEFT	WV	WATER VALVE
LTD	LAKE TAHOE DATUM		

LEGEND

EXISTING

- (SCREENED AND/OR DASHED) — EXISTING (AS NOTED)
- RIGHT–OF–WAY OR PROPERTY LINE
- DRAINAGE OR SLOPE EASEMENT
- UTILITY (PUE) EASEMENT
- LAND CAPABILITY BOUNDARY
- 10' SEZ SETBACK
- OR — ROCK
- FOUND MONUMENT
- SURVEY CONTROL POINT
- XXXX.X — ELEVATION
- SEWER MANHOLE
- SCO — SEWER CLEAN OUT
- DRAINAGE INLET
- GM — GAS METER
- WV — WATER VALVE
- WM — WATER METER
- MONITORING WELL
- WATER LINE
- SEWER LINE
- GAS LINE
- STORM DRAIN
- OVERHEAD UTILITIES
- POWER/UTILITY POLE
- UTILITY POLE & GUY ANCHOR
- FIRE HYDRANT
- FENCE
- FLOWLINE
- 28"P — TREE, DIAMETER AND TYPE
- STUMP
- WC — WILLOW CLUSTER
- LANDSCAPE LIGHTING

PROPOSED

- CENTERLINE
- SAWCUT (AS NOTED)
- AC PAVEMENT
- AC REMOVAL
- XXXX.XX — ELEVATION
- ELEVATION, EG CL, PROPOSED (PROFILE ONLY)
- CSP INLET/RISER OR STORM DRAIN MANHOLE, DRAINAGE INLET
- CUT OR FILL SLOPE
- DETAIL REF NUMBER SHEET NUMBER
- ROCK
- SD PIPE (MATERIAL AS NOTED)
- –RSF — ESA– — REINFORCED SILT FENCE AND TYPE ESA FENCE
- FLARED END SECTION
- #:# — SLOPE RATIO, H:V
- ARTICULATED BLOCK CHANNEL
- BLANKET–LINED CHANNEL
- TREE REMOVAL
- FLOWLINE
- —c—c—c— CUT
- —f—f—f— FILL

UTILITIES

CABLE TELEVISION	CHARTER COMMUNICATIONS, (775) 233–8706
NATURAL GAS	SOUTHWEST GAS, (530) 543–3225
ELECTRIC	LIBERTY UTILITIES, (530) 541–6400
SEWER & WATER	SOUTH TAHOE PUD, (530) 544–6474
TELEPHONE	AT&T, (530) 888–2031
STORM DRAIN	CO. OF EL DORADO DOT, (530) 573–3180

Preliminary

For informational purposes only.

Not for construction.

REVISION NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER — MONTH XX, 20XX

DATE:

DESIGNED: KIS	DRAWN: KIS
CHECKED: DSP	DATE: 08/08/19
ROAD NUMBER: ---	

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
GENERAL NOTES, ABBREVIATIONS, AND LEGEND

SHEET ii
2 OF ?
CONTRACT NO. ????
CIP No. 95117

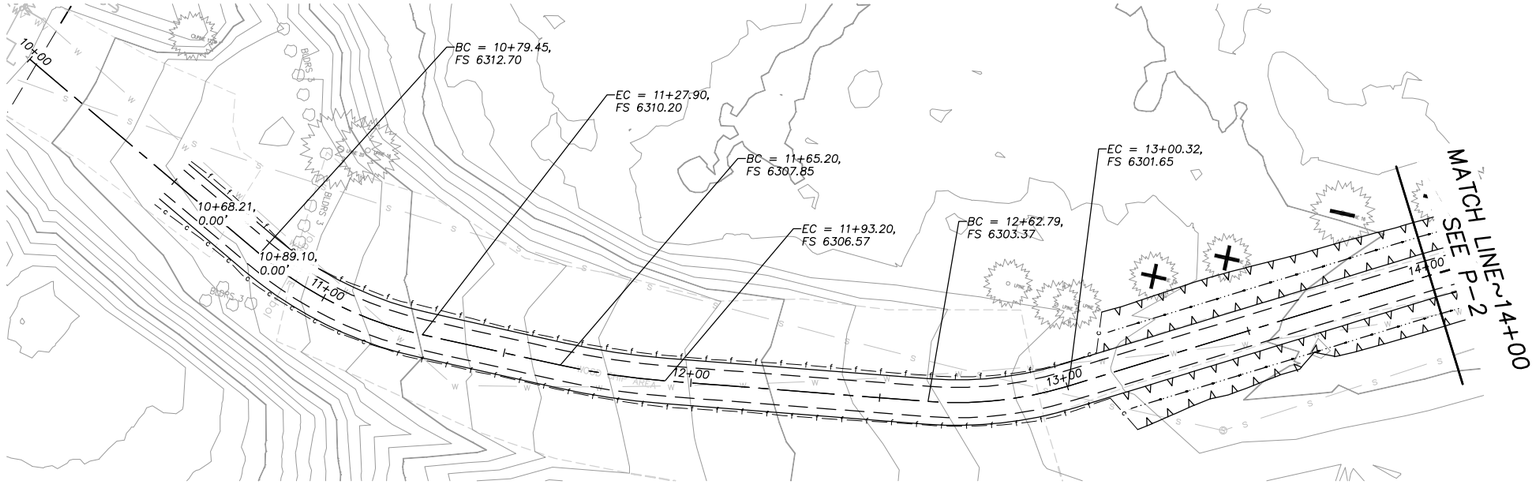
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2

Drawing name: \\DATAdocs\TD-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MPLAN\V02_SB_ ILNOTES.dwg

NOTE:
THIS PROJECT IS LOCATED IN AN ENVIRONMENTALLY SENSITIVE AREA. YOU MUST EXERCISE UTMOST CARE TO PROTECT AND MAINTAIN EXISTING VEGETATION AND MINIMIZE SOIL COMPACTION WITHIN CONSTRUCTION AREAS.

!! WARNING !!

THE LOCATION AND/OR ELEVATION OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE ONLY APPROXIMATE. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF ALL EXISTING UNDERGROUND UTILITIES.

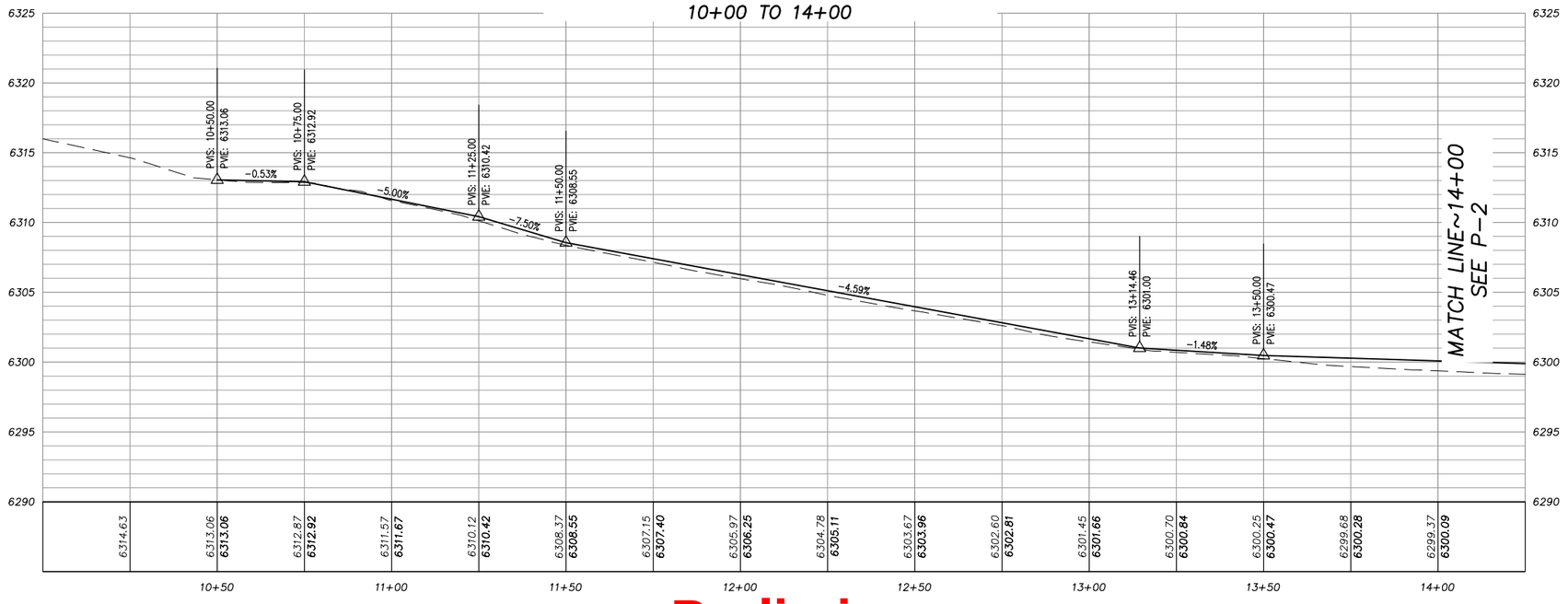


2 / PD-5

1 / D-1

PLAN & PROFILE

SCALE: HORIZ 1"= 20'
VERT 1"= 5'



Preliminary

For informational purposes only.
Not for construction.

REVISION				
NUMBER	DATE	DESCRIPTION	BY	

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER

DATE: APRIL 23, 2019

DESIGNED: KIS	DRAWN: KIS
CHECKED: DSP	DATE: 04/19
ROAD NUMBER: ---	

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
LAYOUT STA 10+ 00 – 14+00

SHEET L–1 X OF ?
CONTRACT NO. ????
CIP No. 95117

FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES

Drawing name: \\DMStor\TD-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MP\LAYOUT\SBL_MP_LAY.dwg

NOTE:
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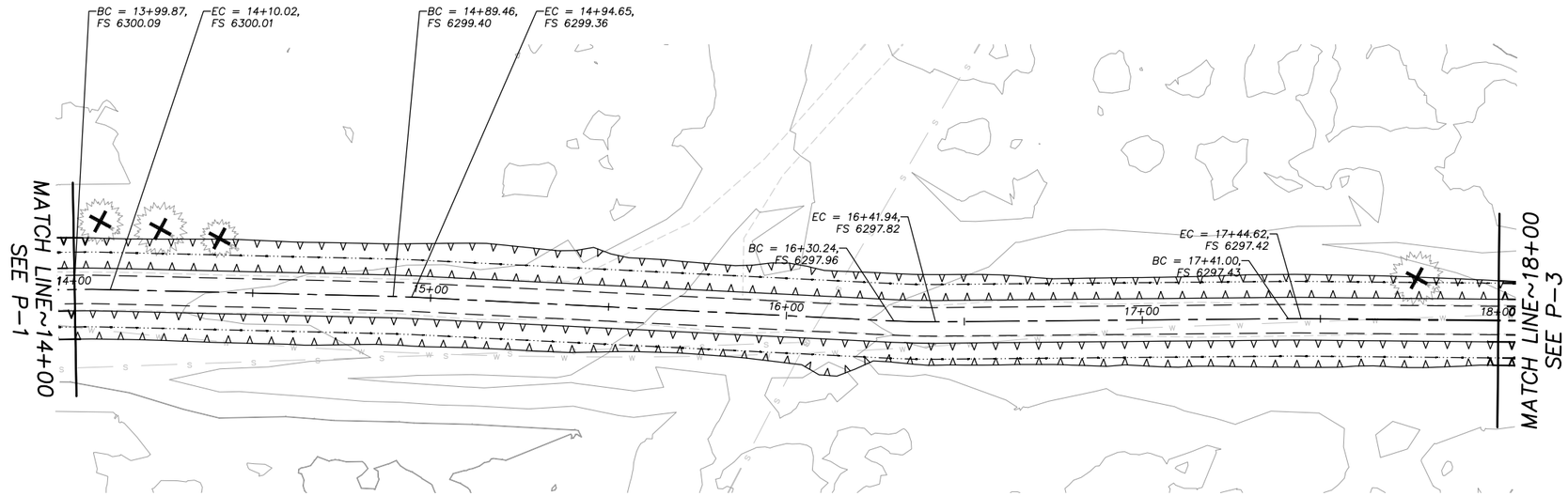
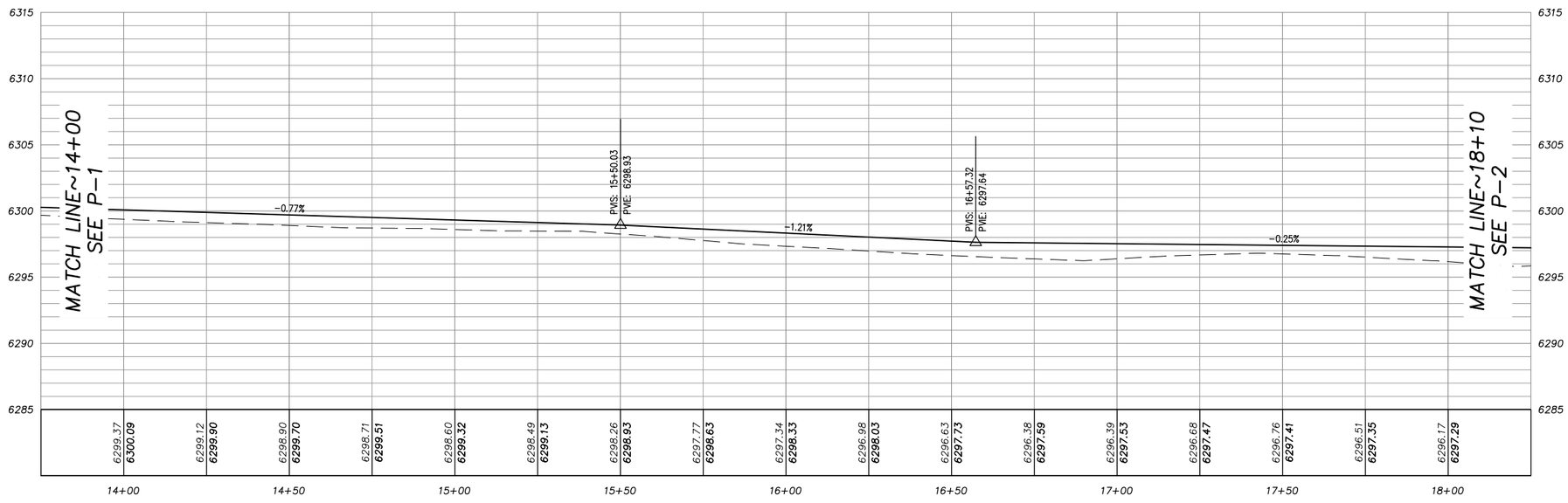


PLAN & PROFILE

SCALE: HORIZ 1"= 20'
VERT 1"= 5'

14+00 TO 18+00



Preliminary

For informational purposes only.
Not for construction.

REVISION			
NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER — APRIL 23, 2019
DATE:

DESIGNED: KIS	DRAWN: KIS
CHECKED: DSP	DATE: 04/19
ROAD NUMBER:	---

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
LAYOUT STA 14+00 – 18+00

SHEET L-2 X OF ?
CONTRACT NO. ????
CIP No. 95117

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2
Drawing name: \\DOAData5\TP-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MP\LAYOUT\SB_MP_LAYOUT.dwg

NOTE:
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!! WARNING !!

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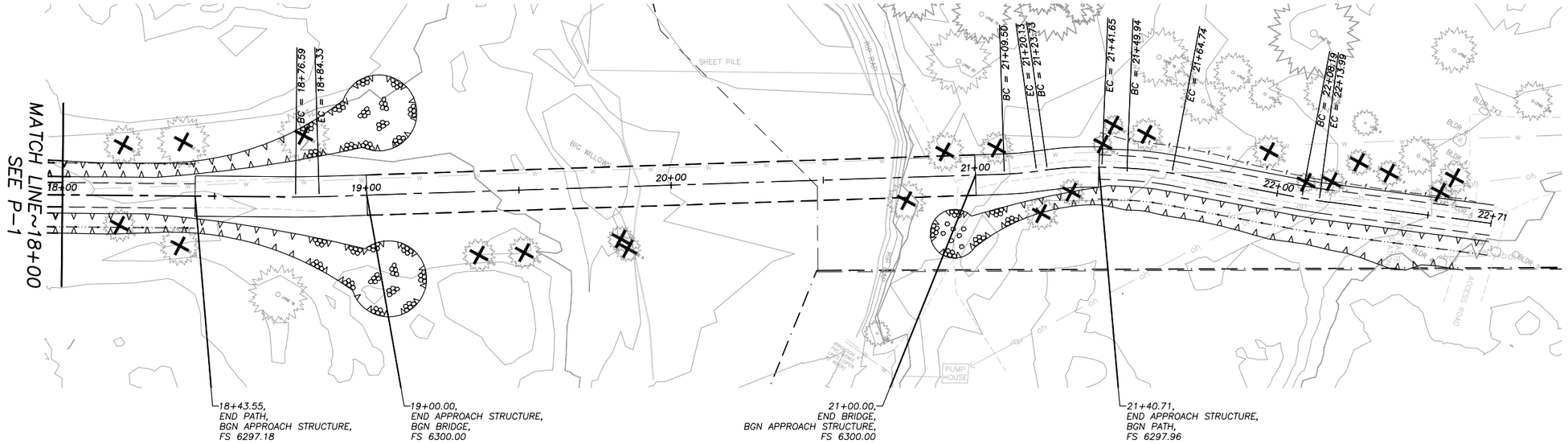
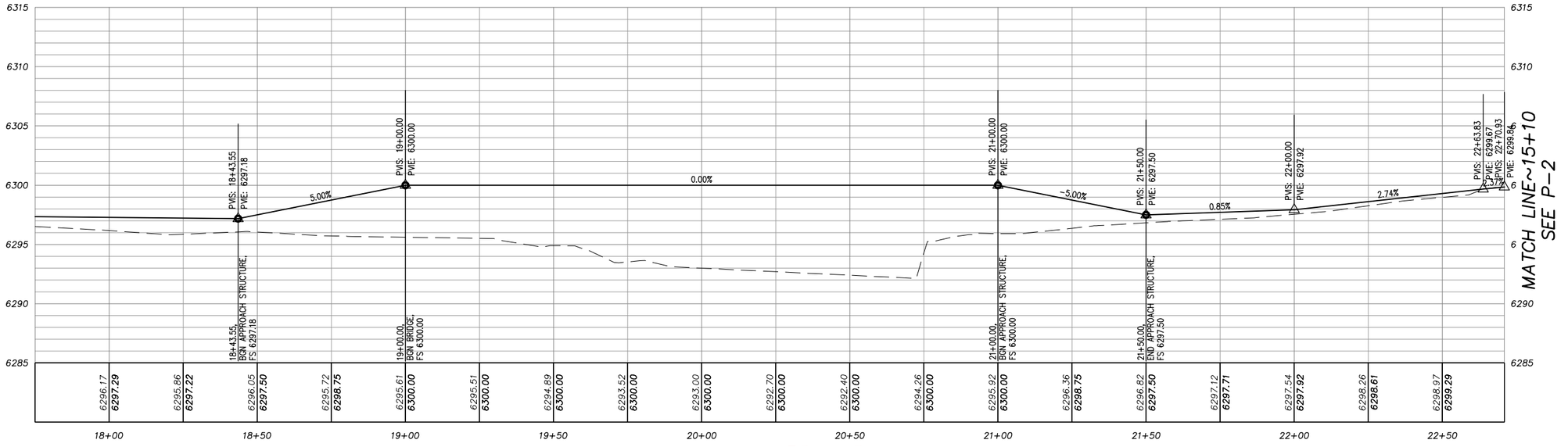


PLAN & PROFILE

SCALE: HORIZ 1"= 20'
VERT 1"= 5'

18+00 TO 22+70.93



Preliminary

For informational purposes only.
Not for construction.

REVISION			
NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER — APRIL 23, 2019
DATE:

DESIGNED: KIS	DRAWN: KIS
CHECKED: DSP	DATE: 04/19
ROAD NUMBER: ---	

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
LAYOUT STA 18+00 – XX+XX

SHEET L-3
X OF ?
CONTRACT NO. ????
CIP No. 95117

FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES

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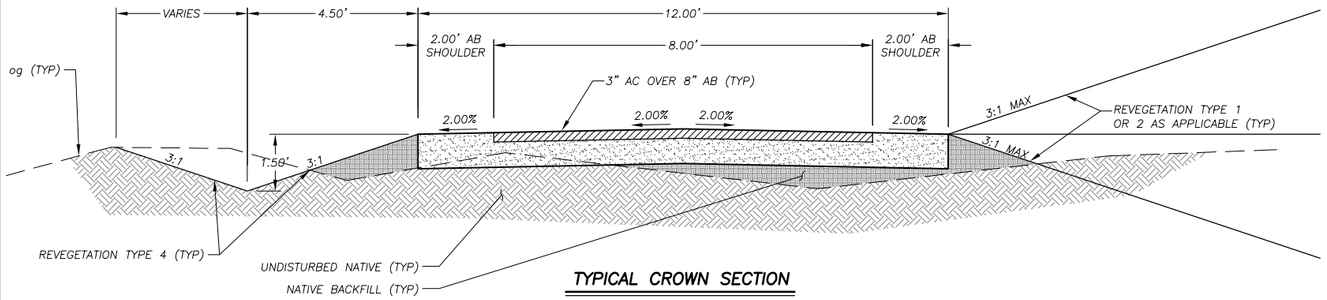
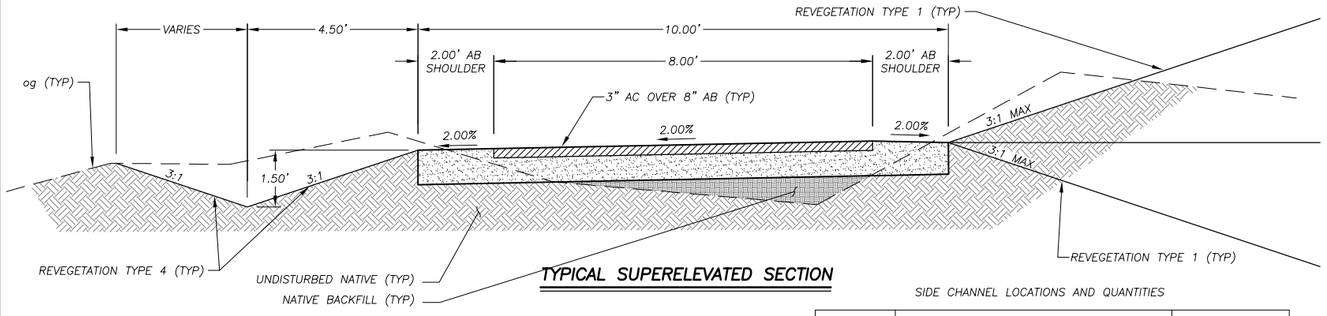


TYPICAL CROWN SECTION



TYPICAL SUPERELEVATED SECTION

NOTES:

1. ABOVE SHOWS A CROWNED SECTION, A SUPERELEVATED SECTION TO ONE SIDE AND A CHANNEL ON ONE SIDE. THE ACTUAL CONFIGURATION COULD HAVE A SUPERELEVATED TO EITHER SIDE, A CHANNEL EITHER SIDE, BOTH SIDES, OR NEITHER SIDE. THE ACTUAL CONFIGURATION IS PER PLAN. SEE TABLE FOR CHANNEL LOCATIONS AND QUANTITIES.
2. THE TIE-IN DISTANCE VARIES AND IS TYPICALLY 10' MAX. THE ACTUAL DISTANCES ARE SHOWN ON THE CROSS SECTIONS SHEETS AND WILL BE ADJUSTED IN THE FIELD TO MINIMIZE THE IMPACT TO THE EDGE OF SHOULDER.

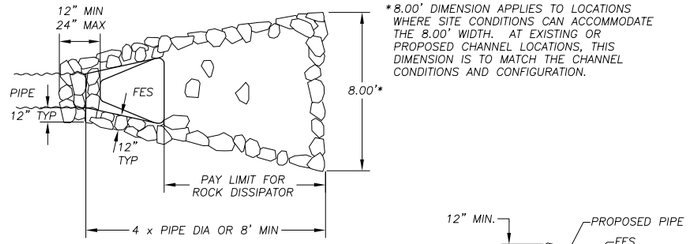
SIDE CHANNEL LOCATIONS AND QUANTITIES

PLAN SHEET	STATIONING	EXCAVATION (CY)
P-2	16+10 11.5' LT – 19+95.18 11.5' LT	84
P-2	18+65 11.5' RT – 20+16.06 11.5' RT	23
P-3	20+35.67 11.5' RT – 21+45.14 11.5' RT	17
P-3	23+20 11.5' LT – 23+70 11.5' RT	8

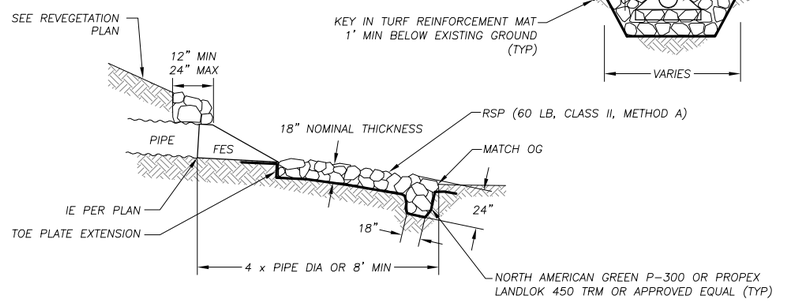
PATH

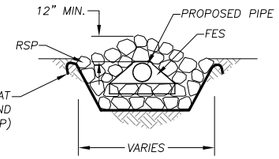
NTS

1 / D-1



* 8.00' DIMENSION APPLIES TO LOCATIONS WHERE SITE CONDITIONS CAN ACCOMMODATE THE 8.00' WIDTH. AT EXISTING OR PROPOSED CHANNEL LOCATIONS, THIS DIMENSION IS TO MATCH THE CHANNEL CONDITIONS AND CONFIGURATION.



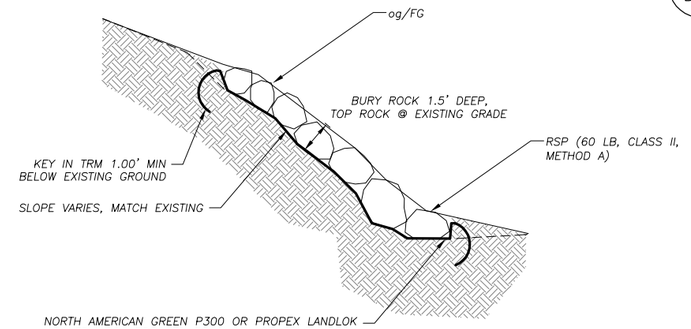


PLAN SHEET	STREET AND STATIONING	ROCK (CY)	EXCAVATION (CY)	AVERAGE LENGTH, L	AVERAGE WIDTH, W
P-2, P-12	19+95.18 11.5' LT	6	8	12'	8.5'
P-3, P-12	21+45.14 11.5' RT	4	5	12'	7.0'
P-3, P-12	23+70 11.5' LT	7	11	13'	9'

FLARED END SECTION AND ROCK DISSIPATOR

NTS

3 / D-1



PLAN SHEET	STATIONING	ROCK/EXCAVATION (CY)
P-6	NEAR 35+25 LT	61
P-12	NEAR 21+73 LT	2

ROCK SLOPE PROTECTION

NTS

4 / D-1

Preliminary

For informational purposes only.

Not for construction.

REVISION NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER

DATE: AUGUST 9, 2019

DESIGNED:	DRAWN:
KIS	KIS
CHECKED:	DATE:
DSP	08/08/19
ROAD NUMBER:	

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
CONSTRUCTION DETAILS

SHEET C-1 X OF ?

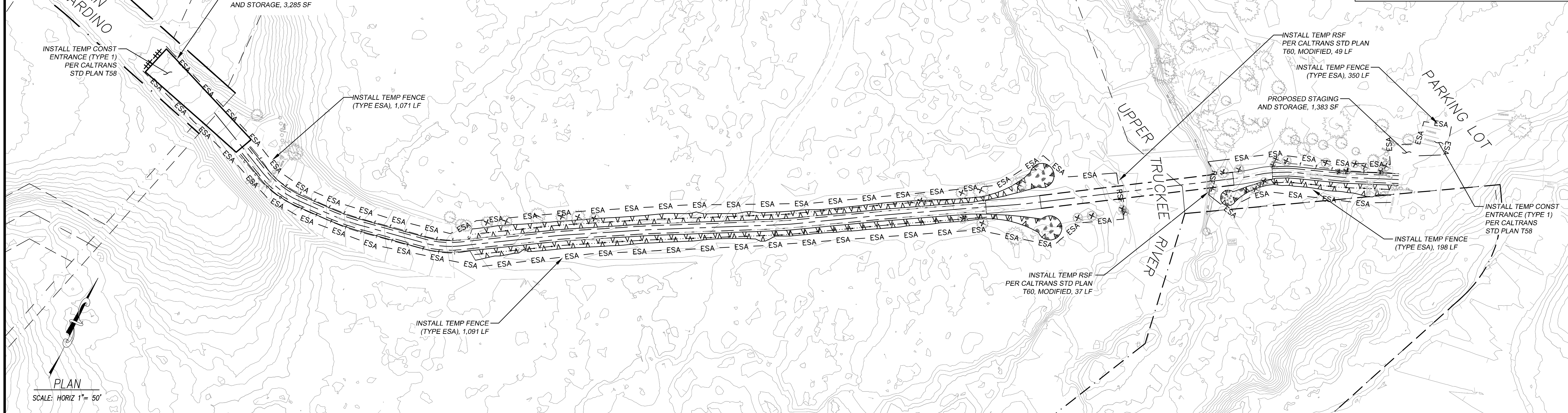
CONTRACT NO. ????

CIP No. 95117

FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES

Drawing name: \\CDAData5\TD-SLT-Engineering\C1TL 3D PROJECTS\95117\Engineering\MPLANS\SS_DT.dwg

NOTE:
THIS PROJECT IS LOCATED IN AN ENVIRONMENTALLY SENSITIVE AREA. YOU MUST EXERCISE UTMOST CARE TO PROTECT AND MAINTAIN EXISTING VEGETATION AND MINIMIZE SOIL COMPACTION WITHIN CONSTRUCTION AREAS.



LEGEND

- SEDIMENT CONTROL
- TRAFFIC BARRICADE
- TREE TRUNK PROTECTION
- 7 LAND CAPABILITY DESIGNATION
- LAND CAPABILITY DESIGNATION
- LAND CAPABILITY 1B SETBACK
- RSF — RSF — RSF REINFORCED SILT FENCE
- ESA — ESA — ESA TEMPORARY FENCE (TYPE ESA)
- EDGE OF PAVEMENT
- RIGHT OF WAY/PROPERTY LINE
- PROPOSED ROCK
- PROPOSED CHANNEL
- PROPOSED STAGING, STORAGE, OR TIRE WASH AREAS

NOTES:

1. FOR ACCESS TO CONSTRUCTION AREA ADJACENT TO BARBARA AVE, THE ACCESS AT SIERRA BLVD AND MARTIN AVE ARE FOR ENTRANCE ONLY. TO LEAVE THE WORK AREA, USE THE ACCESS WITH THE TIRE WASH NEAR THE STA 19+50 LT.
2. FOR STAGING AND STORAGE AREAS ON PAVEMENT, PLACE TEMPORARY FENCE (TYPE ESA) IN SHOULDER AND PLACE FIBER ROLLS ON EP TO CONTAIN SEDIMENT WITH IN THE PAVED AREAS.
3. YOUR ATTENTION IS DIRECTED TO THE SWPPP, TEMPORARY EROSION CONTROL SHEETS, REVEGETATION PLAN SHEET, AND THE SPECIAL PROVISIONS REGARDING TEMPORARY EROSION CONTROL REQUIREMENTS FOR STAGING AREAS.
4. STAGING AREAS SHOWN ARE FOR THE TEMPORARY STORAGE OF CONSTRUCTION MATERIALS AND EQUIPMENT WHICH ARE TO BE USED ON THIS PROJECT.

TEMPORARY EROSION CONTROL SUMMARY OF QUANTITIES

	TEMPORARY CONSTRUCTION ENTRANCE	DRAIN INLET PROTECTION	TEMPORARY FIBER ROLL	REINFORCED SILT FENCE	TEMPORARY FENCE (TYPE ESA)	TEMPORARY FENCE (TYPE ESA) TREE TRUNK PROTECTION
	–	–	–	–	–	–

Preliminary
For informational purposes only.
Not for construction.

REVISION	NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER — AUGUST 9, 2019 — DATE:

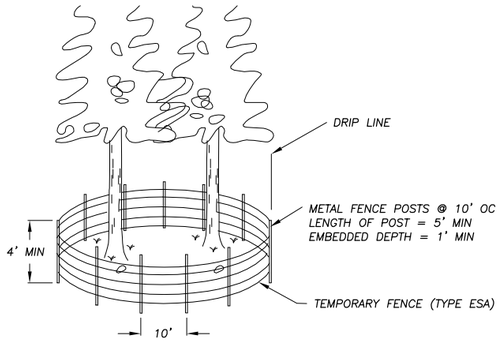
DESIGNED: KIS | DRAWN: KIS | CHECKED: DSP | DATE: 08/08/19 | ROAD NUMBER: ---

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
TEMPORARY EROSION CONTROL PLAN

SHEET EC–1 X OF ?
CONTRACT NO. ????
CIP No. 95117

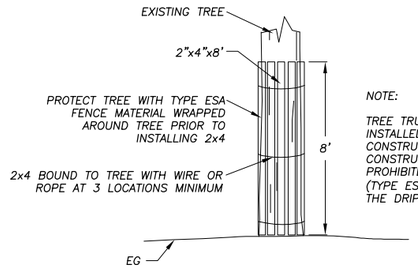
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2



TEMPORARY FENCE (TYPE ESA) AT DRIPLINES

1 EC-2

NTS



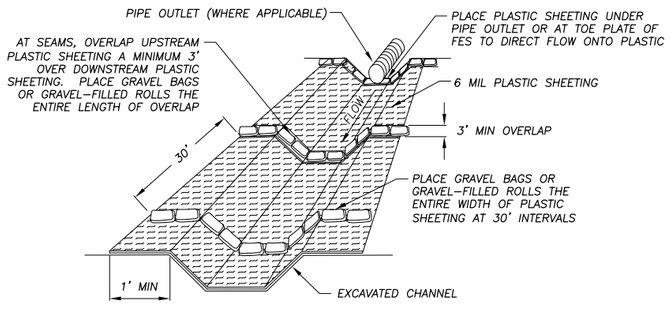
NOTE:

TREE TRUNK PROTECTION SHALL BE INSTALLED AT LOCATIONS WITHIN THE CONSTRUCTION AREA WHERE CONSTRUCTION ACCESS WOULD BE PROHIBITED IF TEMPORARY FENCE (TYPE ESA) WERE INSTALLED AROUND THE DRIPLINE OF TREES.

WOODEN TREE TRUNK PROTECTION

2 EC-2

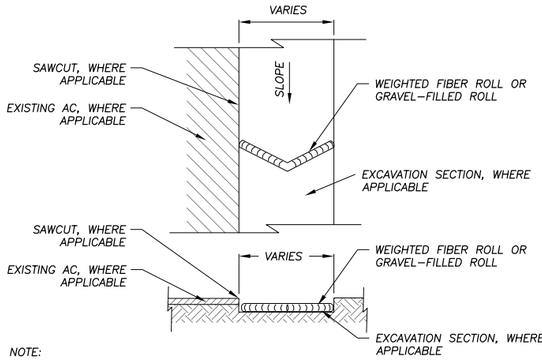
NTS



PLASTIC SHEETING WITH GRAVEL BAGS OR GRAVEL-FILLED ROLLS

3 EC-2

NTS



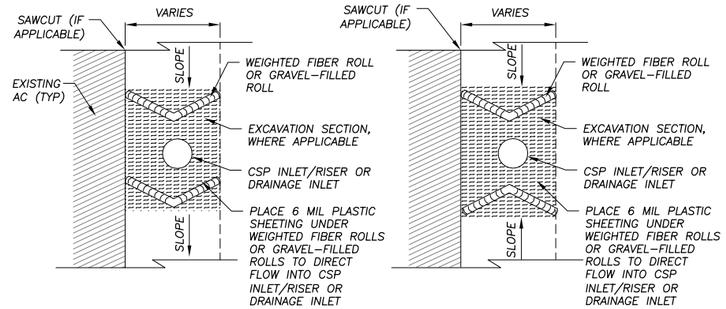
NOTE:

SPACING INTERVALS FOR WEIGHTED FIBER ROLL OR GRAVEL-FILLED ROLL TEMPORARY SEDIMENT CONTROL ON GRADE SHALL BE AT 50' OC FOR SLOPES GREATER THAN 5% AND AT 100' OC FOR SLOPES LESS THAN OR EQUAL TO 5%.

WEIGHTED FIBER ROLLS OR GRAVEL-FILLED ROLLS

4 EC-2

NTS



NOTE:

SEE ALSO TYPE 2 OR TYPE 3A, CALTRANS STD PLANS T61 AND T62.

DRAIN INLET PROTECTION

5 EC-2

NTS

NOT USED

6 EC-2

NTS

GENERAL NOTES:

1. LOCATIONS AND LF OF TEMPORARY REINFORCED SILT FENCE REQUIRED FOR THE STAGING AREAS ARE NOT SHOWN. YOU ARE TO INCLUDE THESE AREAS IN YOUR TEMPORARY EROSION CONTROL PLAN SUBMITTAL.
2. LENGTHS OF TEMPORARY REINFORCED SILT FENCE AND TEMPORARY FENCE (TYPE ESA) DOES NOT INCLUDE MINIMUM LIMITS FOR TREE PROTECTION. TREE PROTECTION FENCING IS TO BE AS SHOWN AND/OR AS DETERMINED IN THE FIELD.

Preliminary

For informational purposes only.

Not for construction.

REVISION				
NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER

AUGUST 9, 2019

DATE:

DESIGNED: KIS	DRAWN: KIS
CHECKED: DSP	DATE: 08/08/19
ROAD NUMBER: ---	

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
TEMPORARY EROSION CONTROL DETAILS

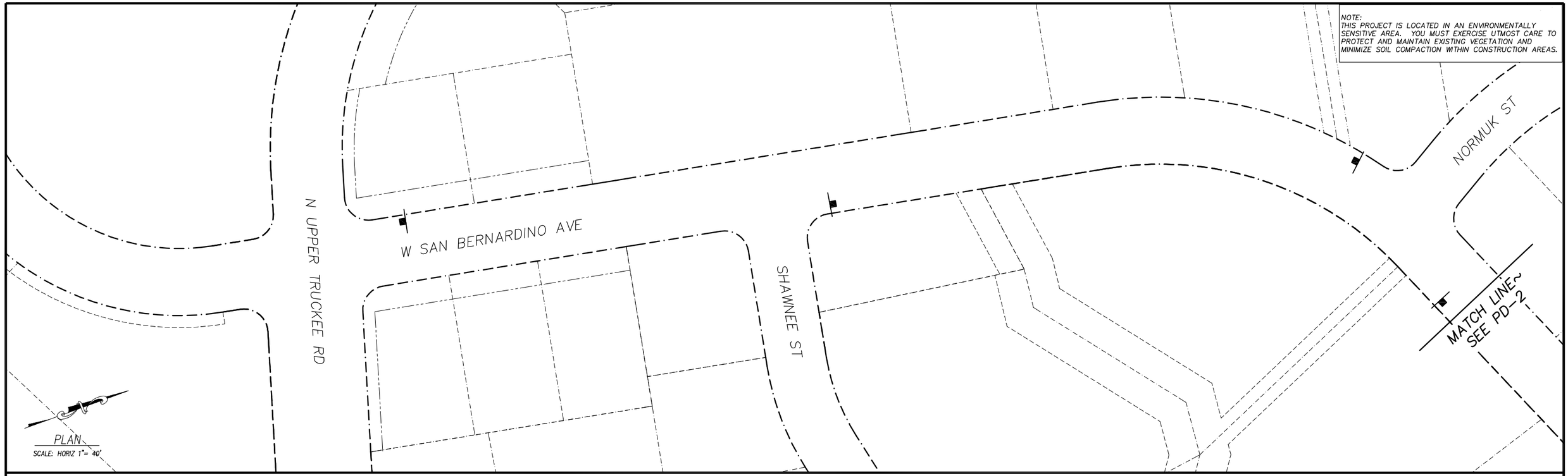
SHEET EC-2 X OF ?

CONTRACT NO. ????

CIP No. 95117

FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES

Drawing name: \\CDAData5\TP-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MPLAN\SS3_EC2.dwg



SIGNING LEGEND

- XX — SIGN NUMBER, SEE TABLE DETAILS
- ○ — EXIST SIGN
- ■ — INSTALL SIGN
- ■ — INSTALL DOUBLE SIDED SIGN
- ✳ — REMOVE AND REPLACE

CONSTRUCTION NOTES:

(A) — 4" SOLID YELLOW STRIPE PAINTED PER DIMENSIONS SHOWN

(B) — 1' WIDE X 5' WHITE PAINTED LIMIT LINE PER CALTRANS RSP A24E

(C) — "STOP" PAVEMENT MARKING (H=48", W=38") PER CALTRANS RSP A24D (½ SIZE) PLACE 5' ℄ FROM LIMIT LINE

(D) — DASHED CENTERLINE STRIPING PER CAMUTCD FIG 9C-2

NOTES:
1) FINISH ON BACK OF SIGN: MIDNIGHT GREEN ENDURA SHIELD IV, TNEMEC SEMIGLOSS HIGH BUILD ACRYLIC POLYURETHANE ENAMEL NO. 75-J7751

2) ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD).

3) ASTM DESIGNATION APPLIES TO ALL COLORS ON SIGN OR RAIL. BLACK SHALL BE NON-REFLECTIVE.

ROADWAY AND BIKE PATH SIGNS

SIGN DESIGNATION	SIGN MESSAGE AND DESCRIPTION	SIGN SIZE	QTY	SIGN COLORS	RETROREFLECTIVE ASTM TYPE
D11-1	"BIKE ROUTE" SIGN	24"x18"	–	WHITE ON GREEN	III
M4-11	"BEGIN" SIGN	12"x4"	–	WHITE ON GREEN	III
M4-12	"END" SIGN	12"x4"	–	WHITE ON GREEN	III
R1-1	"STOP" SIGN	18"x18"	–	WHITE ON RED	III
R1-5	"YIELD TO PEDESTRIAN" SIGN	36"x36"	–	RED/BLACK ON WHITE	III
R44A (CA)	"NO MOTOR VEHICLES" SIGN	12"x24"	–	BLACK ON WHITE	III
W7-5	"HILL" (BICYCLE) SIGN	18"x18"	–	BLACK ON YELLOW	III
W3-1	"STOP AHEAD" SYMBOL	18"x18"	–	RED/BLACK ON YELLOW	III
W11-15	BICYCLE/PEDESTRIAN WARNING	36"x36"	–	BLACK ON YELLOW	III
W16-7P	DIAGONAL DOWNWARD RIGHT ARROW	24"x12"	–	BLACK ON YELLOW	III
W16-7P	DIAGONAL DOWNWARD LEFT ARROW	24"x12"	–	BLACK ON YELLOW	III
W16-9P	"AHEAD" SIGN	24"x12"	–	BLACK ON YELLOW	III

PAVEMENT STRIPING

TYPE	SHEET	SPRAYABLE PAINT
		YELLOW
		FT
SOLID YELLOW STRIPING	PD-1	–
	PD-2	–
	PD-3	–
BROKEN YELLOW CENTERLINE STRIPING	PD-1	–
	PD-2	–
	PD-3	–
	TOTAL	–

PAVEMENT MARKINGS

SYMBOL DESCRIPTION	QUANTITY (EA)	AREA (SF)	TOTAL AREA (SF)
CROSSWALK	–	–	–
LIMIT LINE	–	–	–
YIELD LINE	–	–	–
STOP	–	–	–
TOTAL			–

Preliminary

For informational purposes only.
Not for construction.

APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

REVISION NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER — DATE: AUGUST 9, 2019

DESIGNED:	DRAWN:
KIS	KIS
CHECKED:	DATE:
DSP	08/08/19

ROAD NUMBER: ---

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
SIGNING AND PAVEMENT DELINEATION

SHEET PD-1 X OF ?

CONTRACT NO. ????

CIP No. 95117

FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES

Drawing name: \\DATA\data5\Tdr-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MPLAN\SBL_PD.dwg

NOTE:
THIS PROJECT IS LOCATED IN AN ENVIRONMENTALLY SENSITIVE AREA. YOU MUST EXERCISE UTMOST CARE TO PROTECT AND MAINTAIN EXISTING VEGETATION AND MINIMIZE SOIL COMPACTION WITHIN CONSTRUCTION AREAS.

CHOLULA ST

W SAN BERNARDINO AVE

MATCH LINE~ SEE PD-1

MATCH LINE~ SEE BELOW

PLAN
SCALE: HORIZ 1"= 40'

MATCH LINE~ SEE ABOVE

PARKING LOT

MATCH LINE~ SEE PD-3

LAKE BARON

PLAN
SCALE: HORIZ 1"= 40'

Preliminary
For informational purposes only.
Not for construction.

REVISION NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER

AUGUST 9, 2019
DATE:

DESIGNED:	DRAWN:
KIS	KIS
CHECKED:	DATE:
DSP	08/08/19
ROAD NUMBER:	

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
SIGNING AND PAVEMENT DELINEATION

SHEET
PD-2
X OF ?

CONTRACT NO.
????
CIP No.
95117

FOR REDUCED PLANS
0 1 2
ORIGINAL SCALE IS IN INCHES

Drawing name: \\Gisdata5\TD-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MPLAN\SBL_PD.dwg

NOTE:
THIS PROJECT IS LOCATED IN AN ENVIRONMENTALLY SENSITIVE AREA. YOU MUST EXERCISE UTMOST CARE TO PROTECT AND MAINTAIN EXISTING VEGETATION AND MINIMIZE SOIL COMPACTION WITHIN CONSTRUCTION AREAS.

L=119.379, R=228.000, Δ=029°59'59"
CH=N74°59'50.00"E, CHL=118.020

E SAN BERNARDINO AVE

BAKERSFIELD ST

TAHOE PARADISE PARK

MATCH LINE~
SEE PD-2

MATCH LINE~
SEE BELOW

PLAN
SCALE: HORIZ 1"= 40'

INDIGO WAY

E SAN BERNARDINO AVE

APACHE AVE

MATCH LINE~
SEE ABOVE

PLAN
SCALE: HORIZ 1"= 40'

Preliminary
For informational purposes only.
Not for construction.

REVISION NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER

AUGUST 9, 2019
DATE:

DESIGNED:	DRAWN:
KIS	KIS
CHECKED:	DATE:
DSP	08/08/19
ROAD NUMBER:	

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
SIGNING AND PAVEMENT DELINEATION

SHEET
PD-3
X OF ?

CONTRACT NO.
????
CIP No.
95117

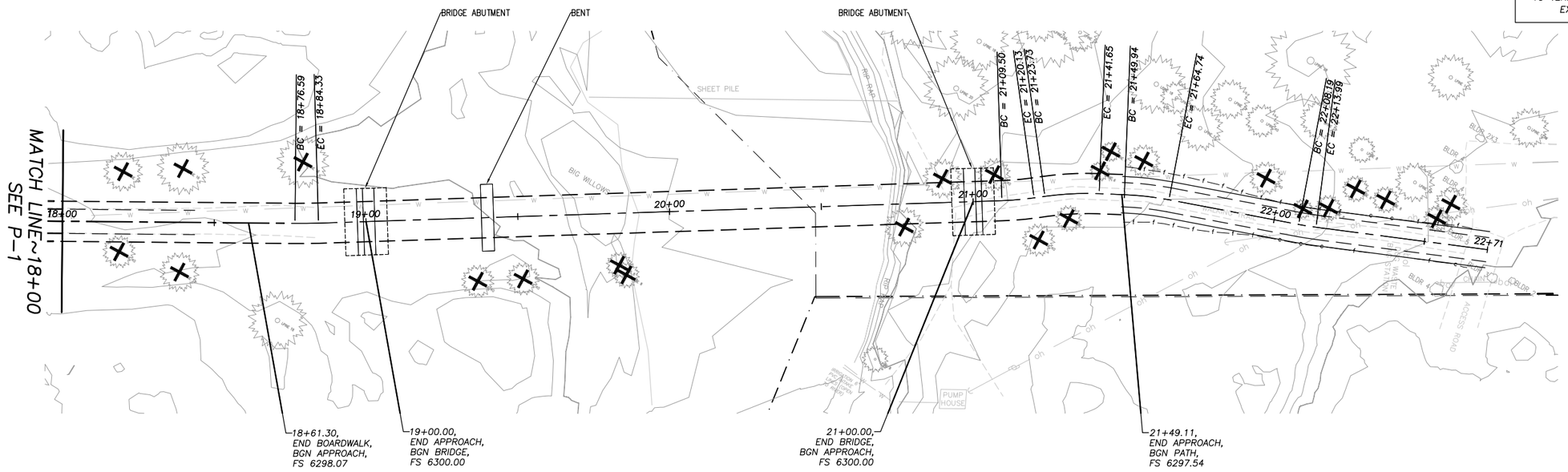
FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES

Drawing name: \\Gisdata5\TD-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MPLAN\SBL_PD.dwg

NOTE:
THIS PROJECT IS LOCATED IN AN ENVIRONMENTALLY SENSITIVE AREA. YOU MUST EXERCISE UTMOST CARE TO PROTECT AND MAINTAIN EXISTING VEGETATION AND MINIMIZE SOIL COMPACTION WITHIN CONSTRUCTION AREAS.

!! WARNING !!

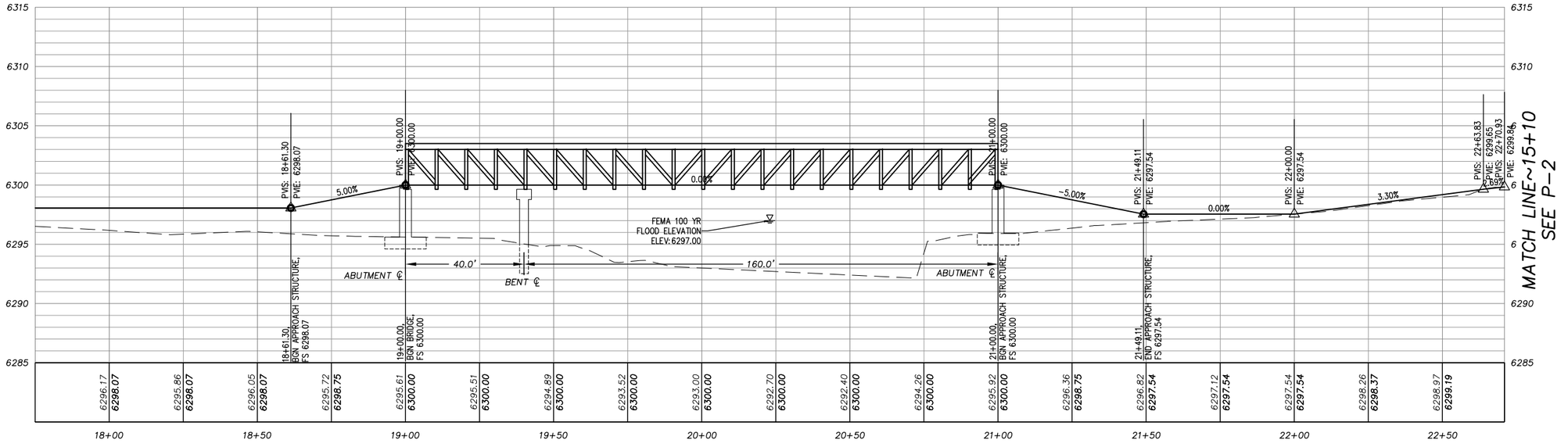
THE LOCATION AND/OR ELEVATION OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE ONLY APPROXIMATE. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF ALL EXISTING UNDERGROUND UTILITIES.



PLAN & PROFILE

SCALE: HORIZ 1"= 20'
VERT 1"= 5'

18+00 TO 22+70.93



PRELIMINARY

REVISION			
NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER — DATE: APRIL 23, 2019

DESIGNED:	DRAWN:
KIS	KIS
CHECKED:	DATE:
DSP	04/19
ROAD NUMBER:	---

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
LAYOUT STA 18+00 – XX+XX

SHEET L-3 X OF ?
CONTRACT NO. ????
CIP No. 95117

FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES

Drawing name: \\DMData\TD-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MPLAN\SBL_MPLAN.dwg

APPENDIX B

VISUAL RESOURCES TECHNICAL MEMORANDUM

Visual Resources Technical Memorandum

San Bernardino Class 1 Bike Trail Project

Prepared by:
Hauge Brueck Associates, LLC
2233 Watt Avenue, Suite 300
Sacramento, CA 95825

Prepared for:
Donaldo Palaroan, P.E., Senior Civil Engineer
County of El Dorado, Department of Transportation
South Lake Tahoe, CA 96150

Introduction

The San Bernardino Class 1 Bike Trail Project is proposed on publicly-owned lands in the unincorporated community of Meyers, California in El Dorado County. Pathway and drainage improvements are proposed within the County-maintained rights of way of East and West San Bernardino Avenues, within the Tahoe Paradise Recreation and Park District (Park) boundary, and on National Forest System (NFS) lands managed by the USDA Forest Service Lake Tahoe Basin Management Unit (LTBMU). A site plan map and Class 1 bike trail (e.g., shared-use pathway) details are included in Attachment A.

Analysis of the scenic environment requires an evaluation of the project area and its ability to absorb the effects of both historic and ongoing human modification. Slope, natural vegetation types and patterns, topography, and viewing distance are important factors in this analysis. Within the project area, development of public roadways, recreational trails and infrastructure at the Park, as well as the creation of informal trails along the Upper Truckee River, has occurred gradually since the Park's inception in 1965. The Upper Truckee River is located within the western boundary of the Park and is accessed by an informal trail network on both the Park side (east) and NFS (west) side of the river. NFS lands managed by the LTBMU surround a majority of the Park and also include sections of the Upper Truckee River. For this analysis, the potential impacts to the scenic environment were considered in relation to the overall existing development/recreational theme of the Park and adjacent NFS lands.

Background and Proposed Improvements

Part of the project area is located within the Park, west of the city of South Lake Tahoe, in the unincorporated community of Meyers. It is situated on 53.5 acres of land that ranges from flat to hilly and is not easily seen from offsite locations. The Park is on the east side of the base of Echo Summit at an elevation of 6,250 feet. The topography of the Park and adjacent NFS lands lends itself to many types of outdoor recreation on a year-round basis. The Upper Truckee River borders the western Park boundary, is in the largest watershed in the Lake Tahoe Basin, and is the only river tributary to Lake Tahoe. The Upper Truckee River banks exhibit destabilization of the stream corridor, displaying erosion and contribute significant amounts of sedimentation into the river[1].

[1] Tahoe Paradise Park online, "Master Plan for Tahoe Paradise Recreation and Park District (formerly Tahoe Paradise Resort Improvement District) and Tahoe Paradise Park," http://www.tahoeparadisepark.com/master-plan.html (accessed 17 September 2019).

Project area sections to the west and east of the Park are located within the Santini-Burton/Urban Forest Parcels Management Area as defined in the LTBMU *Land Management Plan*[2]. The management emphasis within this management area is on protecting watershed conditions and community open space. Urban Forest Parcels provide opportunity for dispersed recreation within the urban setting, such as walking/hiking, wildlife viewing, cross-country skiing, and access to streams and lakes. When appropriate, recreational improvements such as system trails and shared-use pathways may occur on urban forest parcels.

Finally, the remainder of the project area and the locations of proposed improvements are located within road right of way managed by El Dorado County. East San Bernardino Avenue provides access to the Park and includes Class 3 bike route pavement marking and signage improvements. West San Bernardino Avenue provides access to the Class 1 shared-use pathway on the west side of the Upper Truckee River and will also include new Class 3 bike route pavement markings and signage. Photographs of the project area are provided below in Figures 1 - 5.

Figure 1. East San Bernardino Avenue approach to Tahoe Paradise Park (looking west)

[2] U.S. Department of Agriculture, *Land Management Plan, Lake Tahoe Basin Management Unit, 2016* (South Lake Tahoe, CA, 2016), 72.

Figure 2. Tahoe Paradise Park Paved Parking/Trailhead Site (looking west)

Figure 3. Upper Truckee River Bridge Crossing Location (looking west)

Figure 4. Upper Truckee River Bridge Crossing Location (looking southeast)

Figure 5. West San Bernardino Avenue Class 1 Shared-Use Pathway Trailhead and Corridor (looking east)

Indicators for Analysis of Effects

The goal of scenic resource management on all NFS lands is to manage for the highest possible visual quality, commensurate with other appropriate public uses, costs, and benefits. Since the mid-1970s, the Forest Service has operated under the guidance of the Visual Management System (VMS) for inventorying, evaluating, and managing scenic resources on NFS lands. More recently the Scenery Management System (SMS) has been used to evaluate changes in visual character from project activities. As stated in the *Land Management Plan*[3], "Scenic integrity is a measure of the degree to which the valued scenic attributes are present within the landscape. The highest scenic integrity ratings are given to those landscapes which have little or no deviation from the character valued by constituents for its aesthetic appeal…."

The *Land Management Plan* includes minimum scenic integrity objectives for LTBMU lands (see Map 10 in Attachment B) - the minimally acceptable levels of scenic integrity for a given area. Project design and activity planning should meet or exceed minimum scenic integrity objectives for the project or activity area and should maintain or enhance scenic integrity. A Minimum Scenic Integrity Objective (MSIO) map

[3] Ibid. 90.

identifies assigned MSIO levels to NFS lands. Scenic Class, which describes the relative "social value" of areas for their scenery was the starting point for determining MSIO levels. Factors that affect Scenic Class include the inherent attractiveness of the area and its visibility from key viewing areas and travel routes.

Portions of the project area outside of NFS lands fall under the jurisdiction of El Dorado County and the Tahoe Regional Planning Agency (TRPA). These portions of the project area fall within the Park boundary and are not visible from offsite locations. The Park is not identified as a sensitive scenic resource in either the *Meyers Area Plan*[4] or the TRPA *Regional Plan*[5]. As such, there are no additional scenic resource indicators that must be applied to this analysis for the County or TRPA.

NFS lands in the Meyers area are assigned a "high" MSIO rating, which is defined as landscapes where the valued landscape character "appears" intact. Deviations may be present but must repeat the form, line, color, texture, and pattern common to the landscape character so completely and at such scale that they are not evident.

The 2016 Forest Plan standards and guidelines for scenic resources includes the following:

SG117. Scenic resource and built environment guidelines are incorporated into management activities and into the design and development of agency facilities. All resource management and permitted activities shall meet or exceed the established scenery objectives shown on the MSIO map. Utilize techniques such as:

a) Size areas cleared for management objectives to meet minimum requirements for operability and safety.

b) With consideration for scenic objectives, maintain clumps of trees within cleared areas if they do not pose a safety or operational risk.

c) Maintain understory vegetation within cleared corridors if they do not pose a safety or operational risk.

Analysis of Direct/Indirect Effects

Roadway pavement markings and signage would not be noticeable off-site as no perceptible change would occur from off-site viewing distances as a result of creating Class 3 bike route designation. Likewise, repair of existing pavement in the Park and at the end of West San Bernardino Avenue would not be perceptible from off-site locations. Therefore, the focus of this analysis is on the pathway and drainage facility components of the project.

Pathway and drainage facility construction requires grading and the removal of trees along the trail corridor where they are located within the excavation limits for the pathway construction. Pathway construction would begin at the end of West San Bernardino Avenue, follow an existing user created dirt trail to the bank of the Upper Truckee River, cross the river using an estimated new 200 foot-long elevated bridge structure, then follow an existing Park dirt trail to connect with the Park's paved parking lot. Plan sheets (e.g., sheet L-3) in Attachment A identify the portions of the pathway where tree removal would occur.

[4] County of El Dorado, *Meyers Area Plan*, 2018 (Placerville, CA), 4-2.
[5] Tahoe Regional Planning Agency, *Regional Plan Update, Threshold Standards and Regional Plan*, 2012 (Stateline, NV). 15.

The majority of pathway construction would not be visible from off-site locations due to intervening topography and vegetation. New pavement at the beginning of the paved Class 1 shared-use pathway would be visible from the residential neighborhood located along West San Bernardino Avenue. The bridge crossing of the Upper Truckee River and other sections of the paved shared-use pathway would not be visible from public roadways, residential areas or offsite recreational facilities (e.g., CA State Parks land to the north).

Tree removal and construction of the bridge proposed in Attachment A will create a noticeable deviation to the existing landscape character of the Upper Truckee River from viewpoints within adjacent NFS lands (west of the bridge location) by modifying existing vegetation patterns, line, color and form; the bridge construction would stand out compared to the existing mostly unaltered landscape character of the river corridor and would be evident but not dominant in degree of change. The bridge would increase the presence of man-made features that currently includes several user-created foot trails, a small pump house, overhead utility lines and sheet pile that was placed perpendicularly in the river channel to protect a utility pipeline. The change created by construction of the proposed shared-use pathway bridge would not be consistent with the scenic integrity goals for the NFS lands in the project area but would mimic built elements similar to those currently located in the vicinity (Park and utility facilities, foot trails and the steel sheet pile located in the river channel).

Visibility of the bridge construction would be limited to the immediate area in which viewers are located and obscured from other locations by topography, retained trees, and other ground vegetation. For recreational users, the pathway and bridge structure would not be out of place in the river corridor landscape as recreational facilities are located in many similar NFS land locations (e.g., Saxon Creek, Blackwood Creek, Rabe Meadow). Measures required in the design of the bridge structure to reduce the amount of deviation to the landscape are demonstrated in Figure 6 and include low profile bridge rail design, natural appearing building materials and color consistent with adjacent landscape. Use of a low profile bridge railing with horizontal cabling rather than solid steel tubing, natural and darker paint colors (e.g., self-rusting steel with reddish/brown patina surfaces and stained concrete using darker colors), and retention of existing boulders, groundcover and shrubs in the bridge vicinity ensures that the proposed bridge structure would not be visually out of place with the adjacent landscape character when compared to other similar recreational uses on NFS lands in the LTBMU.

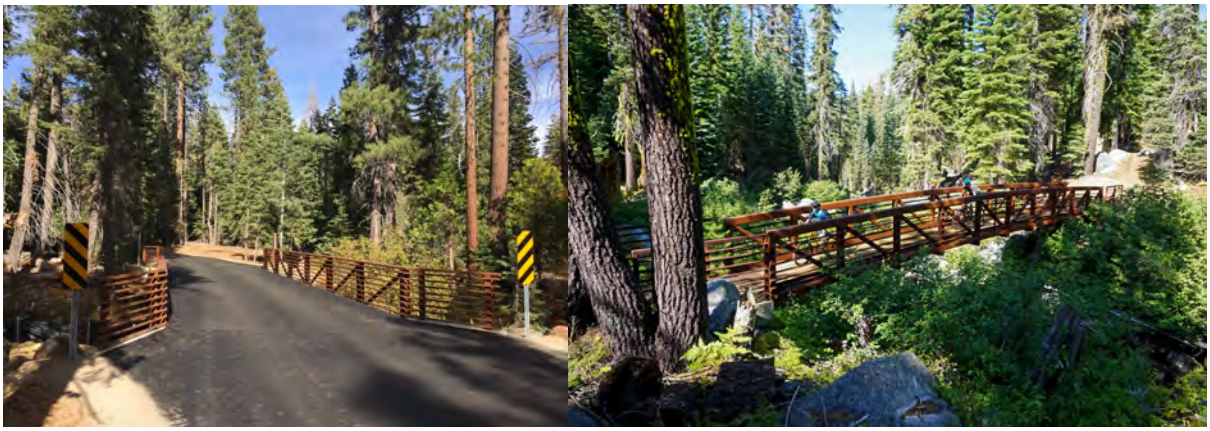


Figure 6. Examples of bridge design features that are consistent with the adjacent landscape

Cumulative Effects

The Tahoe Paradise Recreation and Park District are in the initial planning stages for potential improvements to Park facilities including improvements to the clubhouse, courts and playground, enhanced ball fields and picnic area, and new facilities (e.g., ADA loop trail around Lake Baron, pavilion near the picnic area, and restroom across from the clubhouse). Neither of the proposed facility improvements or expansions would be visible from the location of the proposed shared-use pathway crossing of the Upper Truckee River. Because erosion control projects would be the only improvements visible at the location of the proposed river crossing, Park improvements would not result in cumulatively significant impacts to the landscape/scenic quality. Besides ongoing maintenance of existing Park facilities, proposed Park improvements and facilities, and the identification of necessary restoration of erosion along the banks of the Upper Truckee River, no other cumulative effects are anticipated in the vicinity of the Project.

Visual Resources Technical Memorandum

San Bernardino Class 1 Bike Trail Project

ATTACHMENT A – SITE PLAN AND DETAIL SHEETS

INDEX OF SHEETS

SHEET NO.	SHEET NAME	TITLE
1	i	TITLE SHEET
2	ii	GENERAL NOTES, ABBREVIATIONS, AND LEGEND
X	L-1	LAYOUT STA 10+ 00 – 14+00
X	L-2	LAYOUT STA 14+00 – 18+00
X	L-3	LAYOUT STA 18+00 – XX+XX
X	C-1	CONSTRUCTION DETAILS
X	EC-1	TEMPORARY EROSION CONTROL PLAN
X	EC-2	TEMPORARY EROSION CONTROL DETAILS
X	PD-1	SIGNING AND PAVEMENT DELINEATION
X	PD-2	SIGNING AND PAVEMENT DELINEATION
X	PD-3	SIGNING AND PAVEMENT DELINEATION

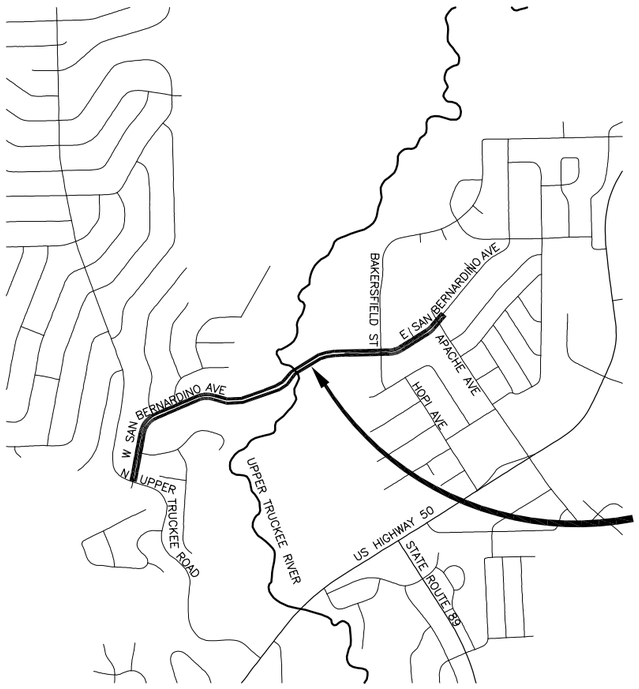
COUNTY OF EL DORADO, CA
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR THE CONSTRUCTION OF THE 2020

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT

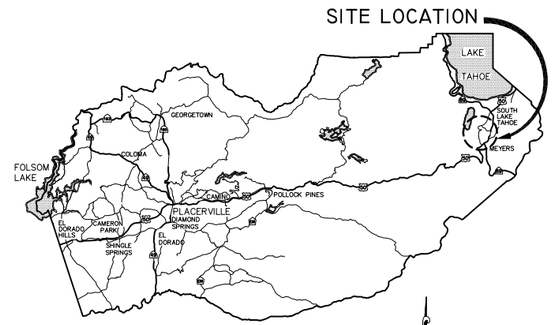
IN THE COUNTY OF EL DORADO, DISTRICT 5,
PORTION OF SEC 29, PORTION OF EAST 1/4 SEC 30, PORTION OF
SOUTH 1/4 SEC 20, T12N, R18E, MDM

To be supplemented with 2015 Standard Plans and Specifications of the California Department of Transportation, unless otherwise noted.



LOCATION MAP

SCALE: 1" = 1000'



VICINITY MAP

COUNTY OF EL DORADO

FUNDING AGENCY

CONGESTION MITIGATION AND AIR QUALITY PROGRAM
TAHOE REGIONAL PLANNING AGENCY

CONTRACTOR'S LICENSE CLASSIFICATION: Bidders shall be properly licensed to perform the Work pursuant to the State Contractor's License Law (Business and Professions Code section 7000 et seq.) and shall possess a CLASS A LICENSE or equivalent combination of Classes required by the categories and type of Work included in the Contract Documents and Plans, at the time the Contract is awarded, and shall maintain a valid license through completion and acceptance of the Work including guarantee and warranty period. If the Contractor possesses a Class A license instead of the equivalent combination of Classes required by the categories and type of work included in the Contract Documents and Plans, then the Contractor or a subcontractor must also possess a CLASS C27 "Landscaping Contractor" license. Failure of the successful Bidder to obtain proper and adequate licensing for an award of the Contract shall constitute a failure to execute the Contract, and shall result in forfeiture of the Bidders security.

REVISIONS

MARK	DATE	BY	

Preliminary

For informational purposes only.
Not for construction.

MONTH XX, 20XX

SUBMITTED BY: DONALDO S. PALAROAN P.E. DATE
SENIOR CIVIL ENGINEER
STATE OF CALIFORNIA NO. C66083

BOARD OF SUPERVISORS

JOHN HIDAHL	I
SHIVA FRENTZEN	II
BRIAN K. VEERKAMP	III
LORI PARLIN	IV
SUE NOVASEL	V

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

(530) 573-7900 (530) 621-5900
924 B EMERALD BAY ROAD 2850 FAIRLANE CT
SOUTH LAKE TAHOE, CA PLACERVILLE, CA
96150 95667

ADOPTED AND APPROVED BY:

SUE NOVASEL
CHAIR, EL DORADO COUNTY BOARD OF SUPERVISORS

DATE

APPROVED BY:

RAFAEL MARTINEZ, DIRECTOR
DEPARTMENT OF TRANSPORTATION

DATE

JOHN H. KAHLING, P.E. NO. C52426
DEPUTY DIRECTOR, ENGINEERING

DATE

CONTRACT NO. ????, CIP NO. 95117

SAN BERNARDINO CLASS I
BIKE TRAIL PROJECT

TITLE SHEET

SHEET 1 OF ?

Drawing name: \\CDAData5\TD-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MPLAN\01_SB_ 1_Title.dwg

NOTE:
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!! WARNING !!

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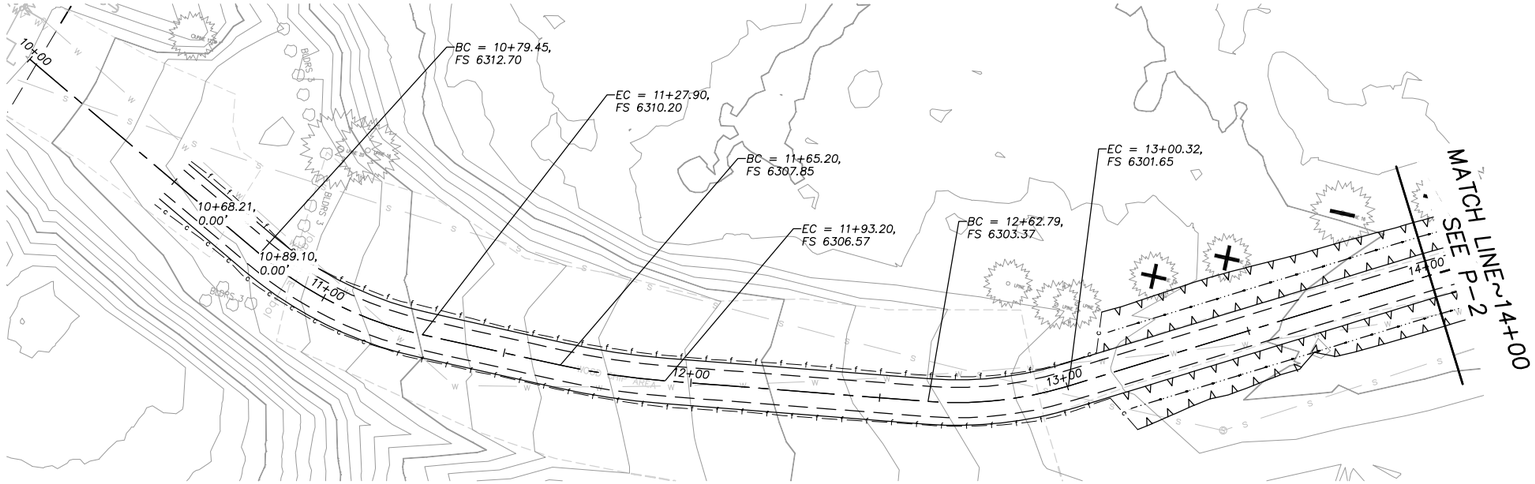

2 / PD-5

1 / D-1

PLAN & PROFILE

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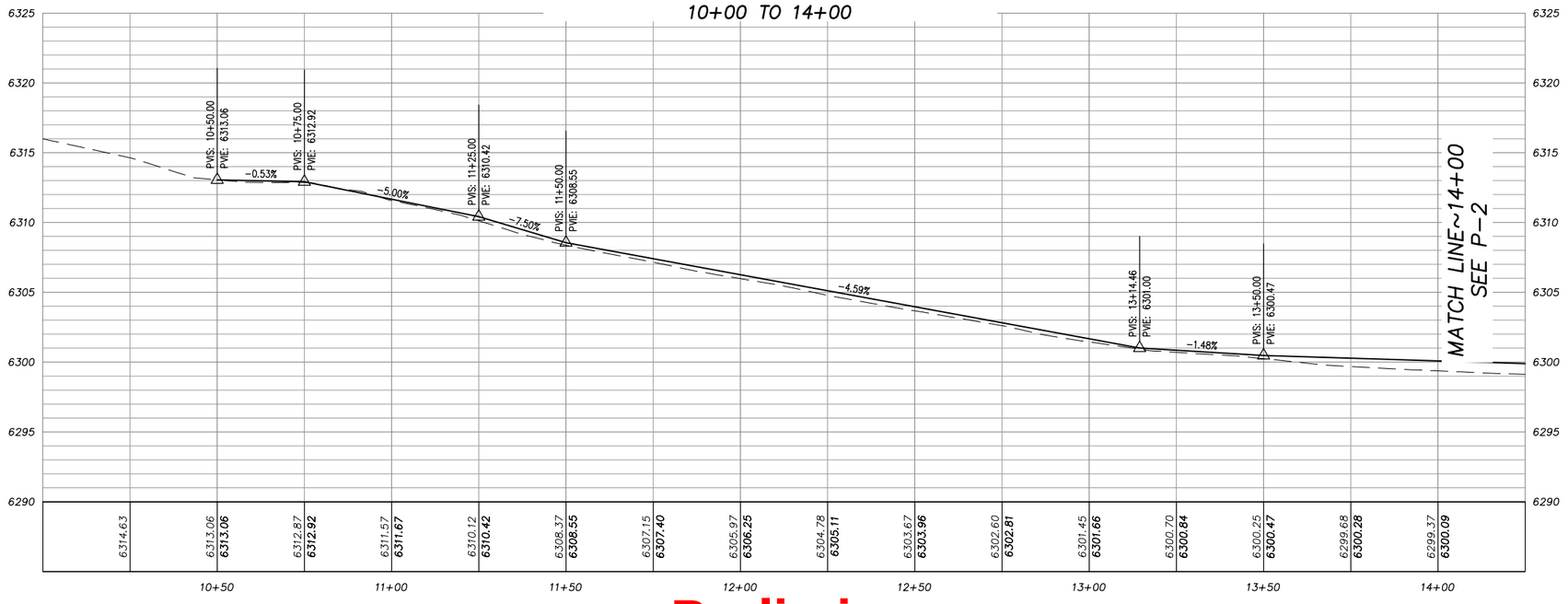
VERT 1"= 5'



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PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER

DATE: APRIL 23, 2019

DESIGNED: KIS	DRAWN: KIS
CHECKED: DSP	DATE: 04/19
ROAD NUMBER: ---	

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
LAYOUT STA 10+ 00 – 14+00

SHEET L–1 X OF ?
CONTRACT NO. ????
CIP No. 95117

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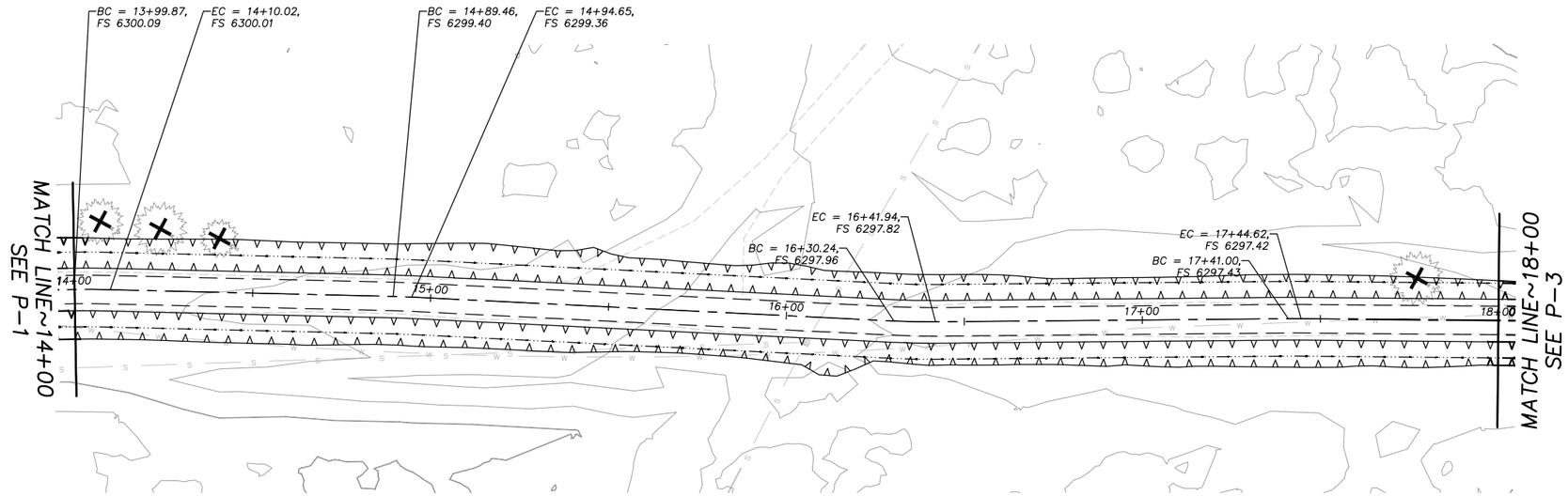

PLAN & PROFILE

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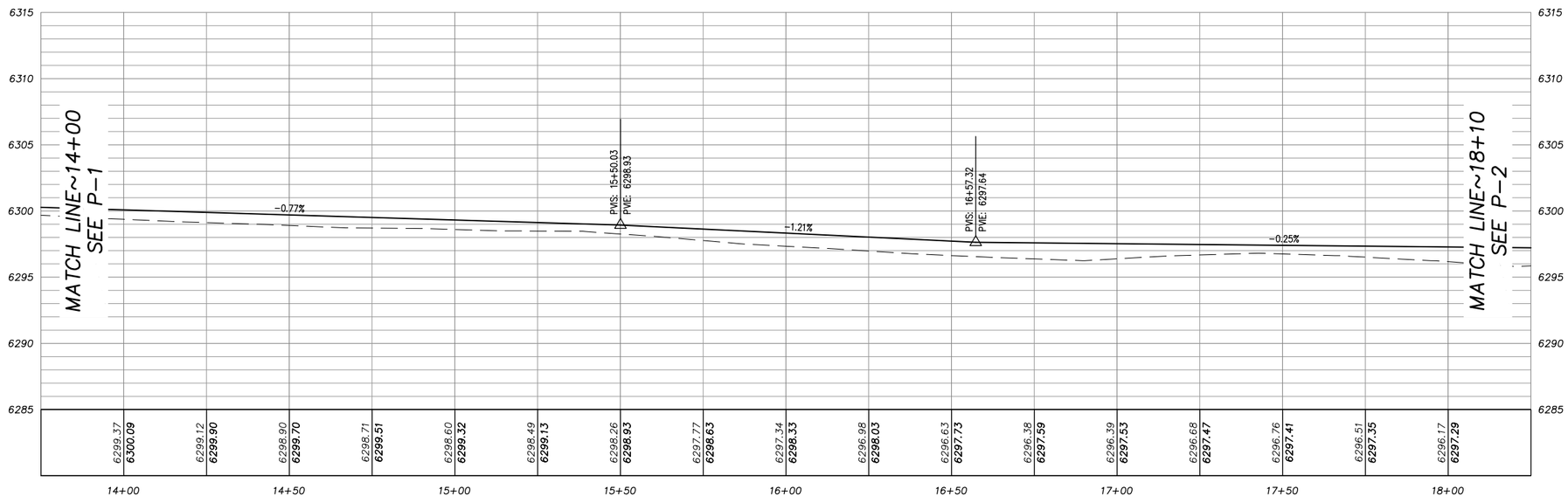
VERT 1"= 5'

14+00 TO 18+00



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CHECKED: DSP	DATE: 04/19
ROAD NUMBER:	---

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
LAYOUT STA 14+00 – 18+00

SHEET L-2 X OF ?
CONTRACT NO. ????
CIP No. 95117

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!! WARNING !!

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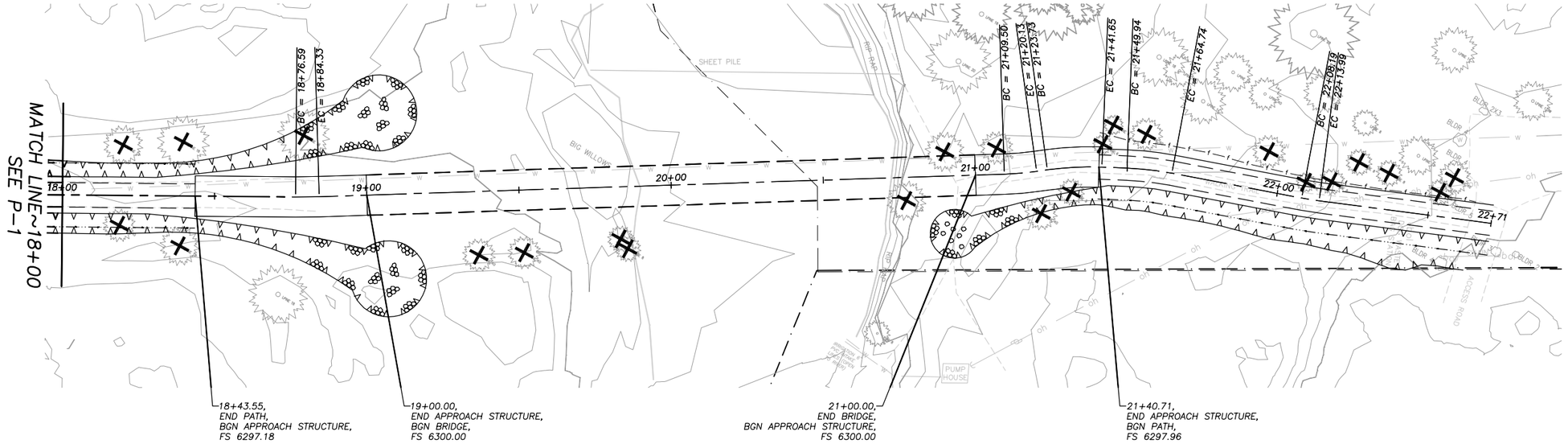

PLAN & PROFILE

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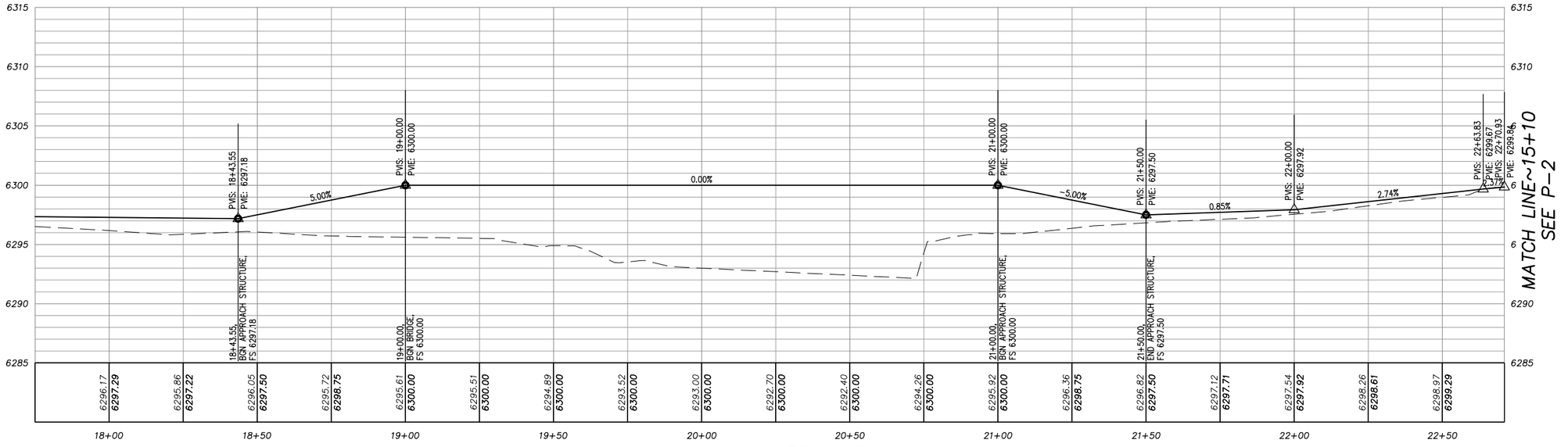
VERT 1"= 5'

18+00 TO 22+70.93



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CHECKED: DSP	DATE: 04/19
ROAD NUMBER: ---	

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
LAYOUT STA 18+00 – XX+XX

SHEET L-3
X OF ?
CONTRACT NO. ????
CIP No. 95117

FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES

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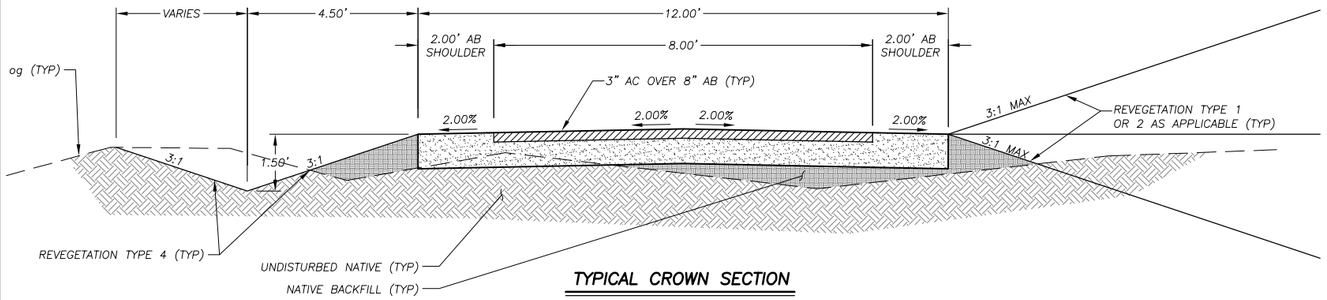
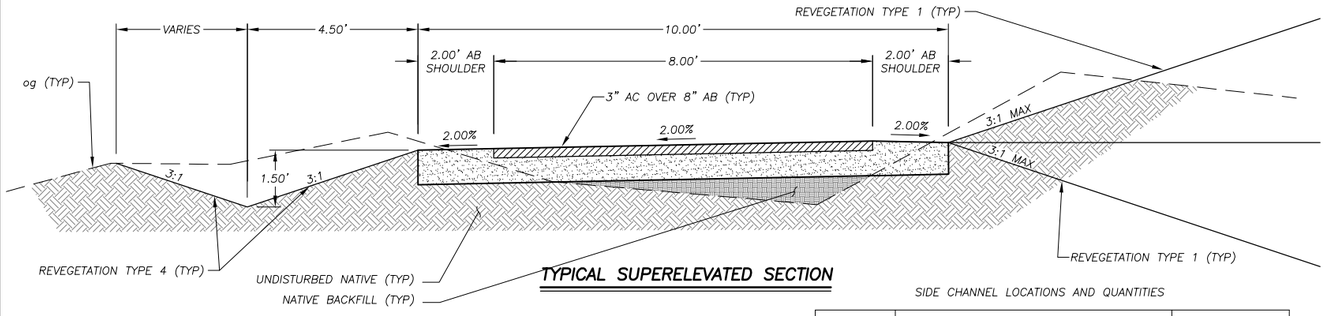


TYPICAL CROWN SECTION



TYPICAL SUPERELEVATED SECTION

NOTES:

1. ABOVE SHOWS A CROWNED SECTION, A SUPERELEVATED SECTION TO ONE SIDE AND A CHANNEL ON ONE SIDE. THE ACTUAL CONFIGURATION COULD HAVE A SUPERELEVATED TO EITHER SIDE, A CHANNEL EITHER SIDE, BOTH SIDES, OR NEITHER SIDE. THE ACTUAL CONFIGURATION IS PER PLAN. SEE TABLE FOR CHANNEL LOCATIONS AND QUANTITIES.
2. THE TIE-IN DISTANCE VARIES AND IS TYPICALLY 10' MAX. THE ACTUAL DISTANCES ARE SHOWN ON THE CROSS SECTIONS SHEETS AND WILL BE ADJUSTED IN THE FIELD TO MINIMIZE THE IMPACT TO THE EDGE OF SHOULDER.

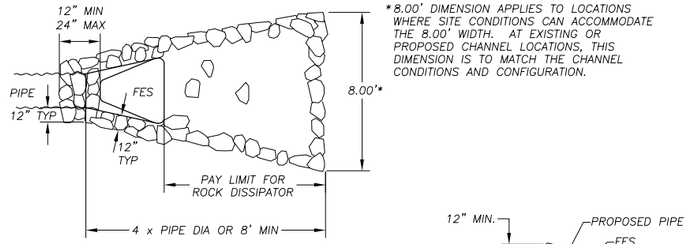
SIDE CHANNEL LOCATIONS AND QUANTITIES

PLAN SHEET	STATIONING	EXCAVATION (CY)
P-2	16+10 11.5' LT – 19+95.18 11.5' LT	84
P-2	18+65 11.5' RT – 20+16.06 11.5' RT	23
P-3	20+35.67 11.5' RT – 21+45.14 11.5' RT	17
P-3	23+20 11.5' LT – 23+70 11.5' RT	8

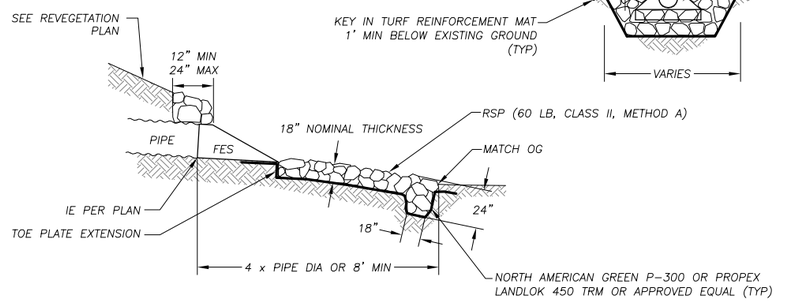
PATH

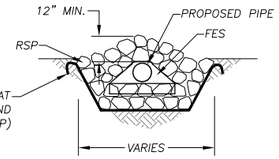
NTS

1 / D-1



* 8.00' DIMENSION APPLIES TO LOCATIONS WHERE SITE CONDITIONS CAN ACCOMMODATE THE 8.00' WIDTH. AT EXISTING OR PROPOSED CHANNEL LOCATIONS, THIS DIMENSION IS TO MATCH THE CHANNEL CONDITIONS AND CONFIGURATION.



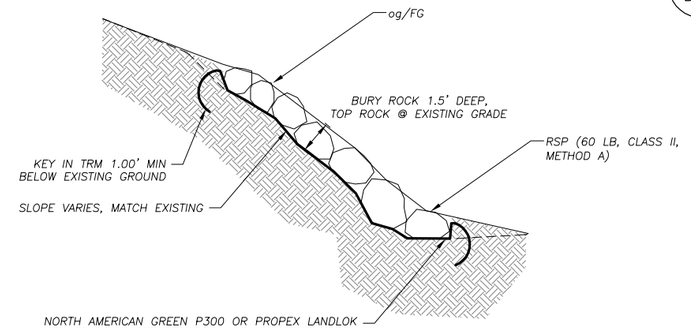


PLAN SHEET	STREET AND STATIONING	ROCK (CY)	EXCAVATION (CY)	AVERAGE LENGTH, L	AVERAGE WIDTH, W
P-2, P-12	19+95.18 11.5' LT	6	8	12'	8.5'
P-3, P-12	21+45.14 11.5' RT	4	5	12'	7.0'
P-3, P-12	23+70 11.5' LT	7	11	13'	9'

FLARED END SECTION AND ROCK DISSIPATOR

NTS

3 / D-1



PLAN SHEET	STATIONING	ROCK/EXCAVATION (CY)
P-6	NEAR 35+25 LT	61
P-12	NEAR 21+73 LT	2

ROCK SLOPE PROTECTION

NTS

4 / D-1

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DATE: AUGUST 9, 2019

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KIS	KIS
CHECKED:	DATE:
DSP	08/08/19
ROAD NUMBER:	

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
CONSTRUCTION DETAILS

SHEET C-1 X OF ?

CONTRACT NO. ????

CIP No. 95117

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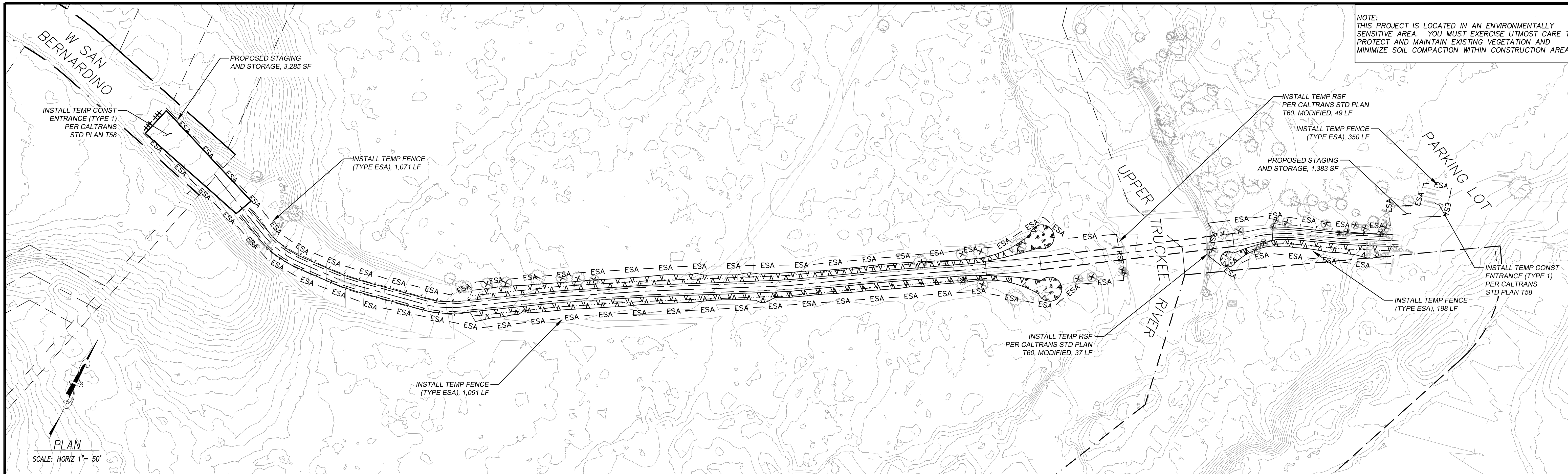

NOTE:
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LEGEND

- SEDIMENT CONTROL
- TRAFFIC BARRICADE
- TREE TRUNK PROTECTION
- 7 LAND CAPABILITY DESIGNATION
- LAND CAPABILITY DESIGNATION
- LAND CAPABILITY 1B SETBACK
- RSF — RSF — RSF REINFORCED SILT FENCE
- ESA — ESA — ESA TEMPORARY FENCE (TYPE ESA)
- EDGE OF PAVEMENT
- RIGHT OF WAY/PROPERTY LINE
- PROPOSED ROCK
- PROPOSED CHANNEL
- PROPOSED STAGING, STORAGE, OR TIRE WASH AREAS

NOTES:

1. FOR ACCESS TO CONSTRUCTION AREA ADJACENT TO BARBARA AVE, THE ACCESS AT SIERRA BLVD AND MARTIN AVE ARE FOR ENTRANCE ONLY. TO LEAVE THE WORK AREA, USE THE ACCESS WITH THE TIRE WASH NEAR THE STA 19+50 LT.
2. FOR STAGING AND STORAGE AREAS ON PAVEMENT, PLACE TEMPORARY FENCE (TYPE ESA) IN SHOULDER AND PLACE FIBER ROLLS ON EP TO CONTAIN SEDIMENT WITH IN THE PAVED AREAS.
3. YOUR ATTENTION IS DIRECTED TO THE SWPPP, TEMPORARY EROSION CONTROL SHEETS, REVEGETATION PLAN SHEET, AND THE SPECIAL PROVISIONS REGARDING TEMPORARY EROSION CONTROL REQUIREMENTS FOR STAGING AREAS.
4. STAGING AREAS SHOWN ARE FOR THE TEMPORARY STORAGE OF CONSTRUCTION MATERIALS AND EQUIPMENT WHICH ARE TO BE USED ON THIS PROJECT.

TEMPORARY EROSION CONTROL SUMMARY OF QUANTITIES

	TEMPORARY CONSTRUCTION ENTRANCE	DRAIN INLET PROTECTION	TEMPORARY FIBER ROLL	REINFORCED SILT FENCE	TEMPORARY FENCE (TYPE ESA)	TEMPORARY FENCE (TYPE ESA) TREE TRUNK PROTECTION
	–	–	–	–	–	–

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REGISTERED CIVIL ENGINEER AUGUST 9, 2019
DATE:

DESIGNED: KIS DRAWN: KIS
CHECKED: DSP DATE: 08/08/19
ROAD NUMBER: ---

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
TEMPORARY EROSION CONTROL PLAN

SHEET EC–1
X OF ?
CONTRACT NO. ????
CIP No. 95117

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Visual Resources Technical Memorandum

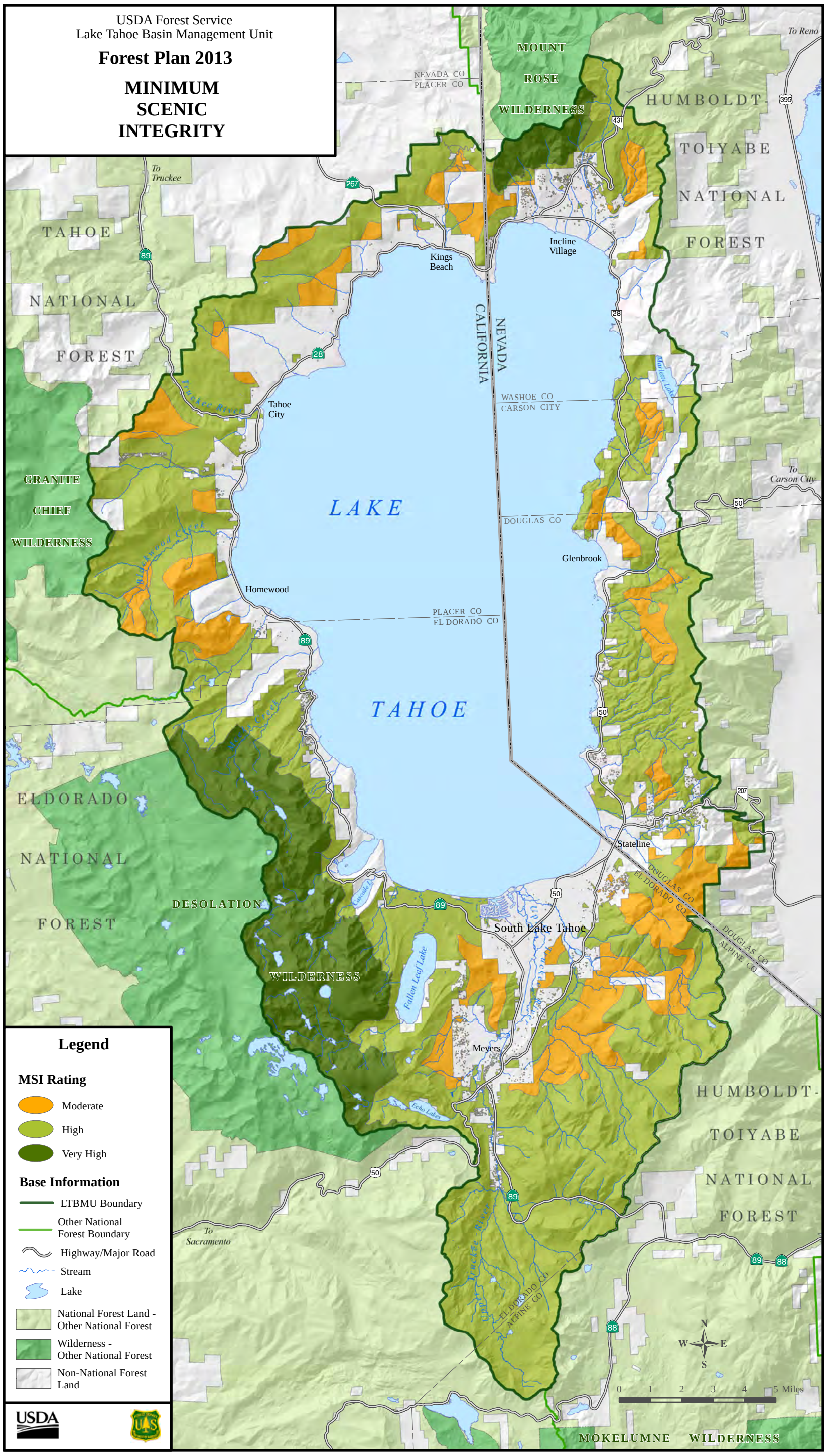
San Bernardino Class 1 Bike Trail Project

ATTACHMENT B – Forest Plan Map 10 (Minimum Scenic Integrity)

USDA Forest Service
Lake Tahoe Basin Management Unit

Forest Plan 2013

MINIMUM SCENIC INTEGRITY



Legend

MSI Rating

- Moderate
- High
- Very High

Base Information

- LTBMU Boundary
- Other National Forest Boundary
- Highway/Major Road
- Stream
- Lake
- National Forest Land - Other National Forest
- Wilderness - Other National Forest
- Non-National Forest Land

USDA

Forest Plan - Map 10

APPENDIX C

INVASIVE PLANT RISK ASSESSMENT

INVASIVE PLANT RISK ASSESSMENT

SAN BERNARDINO CLASS 1 BIKE PATH PROJECT
LAKE TAHOE BASIN MANAGEMENT UNIT
USDA FOREST SERVICE

Prepared by: _____Quinn Radford, NCE, Project Scientist_____ Date: ___8/26/2019___

TABLE OF CONTENTS

1 INTRODUCTION

In 2003, the United States Forest Service (USFS) identified invasive species as one of four critical threats to the nation's ecosystems (Bosworth 2003). Invasive plants pose a significant threat to ecological function due to their ability to displace native species, alter nutrient and fire cycles, decrease the availability of forage for wildlife, and degrade soil structure (Bossard et al. 2000). Infestations can also reduce the recreational or aesthetic value of native habitats.

Forest management activities can contribute to the introduction and spread of invasive plants by creating suitable environmental conditions for establishment and by acting as vectors for spread. The following risk assessment has been prepared to evaluate the risk associated with invasive plant introduction and spread as a result of the proposed project.

1.1 ANALYSIS FRAMEWORK: PERTINENT LAWS, POLICIES, AND DIRECTION

A comprehensive summary of principal statutes governing the management of invasive plants on the National Forest System is available in FSM 2900. A brief summary of the pertinent laws, policies, and direction is provided below.

1.1.1 *Federal Laws and Executive Orders*

Executive Order 13112 (1999)—Directs federal agencies to prevent the introduction of invasive species; detect and respond rapidly to control such species; and to minimize the economic, ecological, and human health impacts from invasive species on public lands.

1.1.2 *Forest Service Policies and Direction*

Forest Service Manual 2080 (USDA Forest Service 1995)—Was replaced by FSM 2900 in 2011. FSM 2080 revised USFS national policy on noxious weed management to emphasize integrated weed management, which includes prevention and control measures, cooperation, and information collection and reporting.

Forest Service Manual 2900 (USDA Forest Service 2011)—Directs the Forest Service to manage invasive species with an emphasis on integrated pest management and collaboration with stakeholders, to prioritize prevention and early detection and rapid response actions, and ensure that all Forest Service management activities are designed to minimize or eliminate the possibility of establishment or spread of invasive species on the NFS or to adjacent areas.

Forest Service Manual 2070 (USDA Forest Service 2008)—Provides guidelines for the use of native material on National Forest System lands. It restricts the use of persistent, non-native, non-invasive plant materials and prohibits the use noxious weeds for revegetation, rehabilitation and restoration projects. It also requires that all revegetation projects be reviewed by a trained or certified plant material specialist for consistency with national, regional, and forest policies for the use of native plant materials.

USFS National Strategy and Implementation Plan for Invasive Species Management (USDA Forest Service 2004a)—Identifies for all Forest Service programs the most significant strategic actions for addressing invasive species. It emphasizes prevention, early detection and rapid response, prioritization in control and management, and restoration or rehabilitation of degraded areas.

Region 5 Noxious Weed Management Strategy (USDA Forest Service 2000)—Guides regional Forest Service goals and objectives for invasive plant management, emphasizing actions necessary to: promote the overall management of noxious weeds; to prevent the spread of weeds; control existing stands of weed infestations; and promote the integration of weed issues into all forest service activities.

1.1.3 *Forest Plan Direction*

LTBMU Land and Resource Plan (USDA Forest Service 1988)—Does not specifically address invasive plants (except the removal of noxious plants in grazing allotments), though it does provide for the protection and enhancement of threatened and sensitive plant habitat. It is amended by the 2004 Sierra Nevada Forest Plan Amendment (SNFPA) to address invasive plant management.

Sierra Nevada Forest Plan Amendment (USDA Forest Service 2004b)—Establishes goals, standards, and guidelines for invasive plant (noxious weed) management for the Sierra Nevada forests. It emphasizes prevention and integrated weed management. It establishes the following invasive plant management prioritization: 1) prevent the introduction of new invaders; 2) conduct early treatment of new infestations; 3) contain and control established infestations. It also requires forests to conduct an invasive plant risk assessment to determine risks for weed spread (high, moderate, or low) associated with different types of proposed management activities and develop mitigation measures for high and moderate risk activities with reference to the weed prevention practices in the Regional Noxious Weed Management Strategy.

2 PROJECT DESCRIPTION

2.1 PROPOSED ACTIVITIES

Located in eastern El Dorado County, within unincorporated El Dorado County in the Lake Tahoe Basin, the project aims to construct a bike path along West and East San Bernardino Avenues from North Upper Truckee Road to Apache Avenue. The bike path will cross the Upper Truckee River and provide connections to Washoe Meadows State Park, Tahoe Paradise Park, and the Lake Tahoe Environmental Science Magnet School. The project builds upon the Meyers Bikeway and provides a critical link to the bicycle network between the residential areas off of North Upper Truckee Rd and the surrounding Meyers community.

The overall goal of the project is to improve recreational corridors and alternative transportation routes in the Meyers area by providing connectivity between neighborhoods with a multi-use path. This project also serves to implement the Meyers Area Plan which aims to “reduce reliance on the private automobile, improve circulation and provide opportunities to experience Meyers as a pedestrian or cyclist” (Meyers Area Plan, 2018).

Land use in the project survey area is characterized as Conservation and Recreation and is primarily characterized as single family residential mixed with recreational open space. This project survey area is located within the Upper Truckee River Corridor Zone (Meyers Area Plan, 2018).

2.2 LOCATION AND EXTENT

The project survey area is located in the County of El Dorado, California. The Project can be found within Section 27, Township 13 North, Range 18 East of the Mount Diablo Meridian of the U.S. Geological Survey, Echo Lake quadrangle. It is within the TRPA designated Priority 2 Watersheds 44 (Upper Truckee River).

3 NON-PROJECT DEPENDENT FACTORS

3.1 INVENTORY

3.1.1 *Surveys and existing data*

A literature and database review were conducted to identify documented noxious weed species within and adjacent to the project survey area (**Table 1**). All of the references utilized for this Assessment are listed in Section 6.0. The most relevant searches, reviews, and requests are listed below.

Table 1. Database and Literature Review Summary

Agency/Entity	Date	Information Received
USDA	Accessed 6/5/2019	• SNFPA Table 1: Invasive non-native plant species occurrence in Sierra Nevada National Forest (D'Antonio 2004)
CDFA	Accessed 6/5/2019	• Noxious Weed Species List (CDFA 2016)
LTBWCG	Accessed 6/5/2019	• Priority Invasive Weeds of the Lake Tahoe Basin (LTBWCG 2011)

A field investigation was conducted to identify the presence of noxious weeds on Forest Service (FS) and non-Forest Service land (Non-FS) by NCE biologists on July 10, 2019. The focus of this investigation was to document all noxious weeds occurring within county rights of way and areas immediately adjacent to the right of way, as well as parcels of interest within the project survey area where improvements are to be installed **Figure 1**. NCE's biologists conducted a walking transect survey of the project survey area to identify invasive plants to the extent necessary to determine listing status. Infestations were mapped in the field using an iPad equipped with a recreation-grade GPS unit.

3.1.2 *Assessment summary*

During field surveys, it was determined that the phenology of vegetation on site was appropriate for identification of invasive plants. It was therefore concluded that the timing was appropriate for presence/absence surveys of the invasive plant species assessed in this evaluation. This survey, in conjunction with the review of existing data of known infestations, is sufficient to complete this Invasive Plant Risk Assessment.

3.2 KNOWN INVASIVE PLANTS IN ANALYSIS AREA

The field survey resulted in the positive identification of three non-native/invasive plant species in the project survey area: curly dock (*Rumex crispus),* sulphur cinquefoil (*Potentilla recta*), and wooly mullein (*Verbascum Thapsus*). Weed species identified during the July 2019 field survey and their locations are presented on **Figure 2** and in **Table 2** below.

Table 2. Invasive plant species within the project survey area

Species	Common Name	CDFA rating[1]	Cal-IPC rating[2]	Forest Service Parcels in Project survey area (FS)	Mapped square footage for entire Project survey area (FS + Non-FS)
Potentilla recta	sulphur cinquefoil	A	n/a	1	5,990
Rumex crispus	curly dock	n/a	Limited	1	0.25
Verbascum thapsus	wooly mullein	n/a	Limited	1	0.5
TOTAL				**n/a**	**5,991**

[1] CDFA ratings - A-listed weeds: eradication or containment is required at the state or county level; B-listed weeds: eradication or containment is at the discretion of the County Agricultural Commissioner; C-listed weeds: eradication or containment required only when found in a nursery or at the discretion of the County Agricultural Commissioner. (California Department of Food and Agriculture 2009)

[2] Cal-IPC ratings- High: attributes conducive to moderate to high rates of dispersal and establishment; usually widely distributed among and within ecosystems. Moderate: impacts substantial and apparent, but not severe; attributes conducive to moderate to high rates of dispersal; distribution may range from limited to widespread. Limited : ecological impacts are minor or information is insufficient to justify a higher rating, although they may cause significant problems in specific regions or habitats; attributes result in low to moderate rates of invasion; distribution generally limited, but may be locally persistent and problematic. (California Invasive Plant Council 2010)

3.2.1.1 Infestations in the Project Survey Area

There were multiple infestations found within project survey area. Seven infestations of Sulphur cinquefoil were identified in the project survey area for a total of 5,991 square feet of infested area; all infestations occur on USFS parcel APN 034-020-03. One occurrence of mullein was found in the project survey area for a total of 0.5 square feet of infested area. One occurrence of curly dock was found in the project area for a total of .25 feet of infested area. NCE believes these are new detections, not associated with USFS occurrence numbers.

3.2.1.2 Management Actions

Management outside of project survey area focuses on avoidance and prevention. When this species intersects with proposed project activities, it is mapped and managed (avoided or treated); recommended management will be project- and site-specific, consisting of the following methods:

- Manual: Preferred treatment method for small infestations. Pull plants prior to seed set. Plants without flowers can be left on site. Plants with flowers should be bagged and disposed properly. Repeat as new plants appear. May not be feasible for large infestations.

- Mechanical: Disk/till live plants in spring (prior to seed set). Repeat as new plants appear. Revegetate with native species. Do not mow; mowed plants can still produce seed. May not be feasible for large infestations.

- Cultural (small infestations only): Flaming in late spring-early summer may be considered in consultation with the Forest Botanist and Forest Fuels Officer (requires an approved burn plan). Not feasible for large infestations.

- Manage to avoid spread (large infestations): Use a combinations of the following techniques: 1) flag and completely avoid infestations; 2) lay down barriers over infestations during staging and construction; 3) work in infested areas first, then wash equipment before moving to uninfested areas; and/or 4) use manual or mechanical techniques (above) in staging or construction areas.

3.2.2 Curly dock (*Rumex crispus)*

3.2.2.1 Species description and summary of management options

Curly dock, a perennial broadleaf plant, usually grows in wet areas and is frequently associated with overwatering or standing water in low areas. It is found throughout California up to an elevation of 8200 feet. Curly dock inhabits agricultural land and other disturbed areas. Plants may be poisonous to livestock when ingested in quantity. Curly dock stands erect and grows 2 to 5 feet tall. Leaves are hairless. Stems are often unbranched below the flower head. Leaves are alternate to one another along the stem. The fruiting stem dies back in mid to late summer, and the fruits and stems turn a distinctive rusty brown. Seeds can be dispersed with water or wind. Flowers can be seen for most of the year. Deep taproots make this plant difficult to control if hand pulling. If the roots breaks near the surface plants can re-sprout from fragmented root. Mowing before seeds mature can be effective limiting dispersal. Tilling can also be helpful if possible. Livestock generally do not prefer this plant for grazing which can be toxic in large amounts (Tomaso, 2013).

3.2.2.2 Infestations in the Project Survey Area

Only one individual plant was found in this project area by an NCE biologist.

3.2.2.3 Management Actions

Curly dock is best controlled through chemical means or by cutting the root two inched below soil level to disrupt growth. Mechanical removal of this individual is recommended to assure its spread is stopped.

3.2.3 Wooly mullein *(Verbascum thapsus)*

3.2.3.1 Species description and summary of management options

Wooly mullein, also called common mullein is a densely wooly, sturdy biennial that may reach more than seven feet tall in its flowering year. Wooly mullein occurs throughout most of North America. A basal rosette of large furry leaves and a substantial crown are produced in the first year with a single, stout, erect flowering stem developing in the second year. Basal leaves are simple, measure three to 20 inches long and may be persistent. Stem leaves are alternate, and their size is reduced toward the inflorescence. Yellow flowers are short lived and develop on a spike-like terminal inflorescence from May through September. Wooly mullein develops a thick, deep taproot with fibrous lateral roots (Gucker, 2008). Wooly mullein seeds can survive over 100 years in the soil, and seedling establishment is dependent on periodic disturbance. Wooly mullein establishment is greatly enhanced in bare ground areas (DiTomaso, 2013).

Wooly mullein is not a ranked species on the CDFA list. It has a limited rating on the Cal-IPC list, which implies that the species is “invasive but [its] ecological impacts are minor on a statewide level or there was not enough information to justify a higher score. [The species’] reproductive biology and other

attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic" (Cal-IPC 2018). Wooly mullein is not listed on the LTBMU list. It is not listed on the LTBWCG list.

3.2.3.2 Infestations in the Project Survey Area

There was a wooly mullein plant discovered and mapped within the project survey area. The plant was discovered by an NCE biologist and was not assigned USFS occurrence numbers **Figure 1.**

3.2.3.3 Management Actions

Established wooly mullein stands are extremely difficult to control due to their abundant, long-lived seed bank; however, in small populations, hand-pulling before seed set is an effective control method for mullein plants growing on loose soils. When digging, sever the root below the soil surface. Soil disturbance stimulates recruitment (DiTomaso 2013). Manual treatment is preferred for this small infestation. Hand pull, bag and dispose properly.

3.2.4 Sulphur cinquefoil *(Potentilla recta)*

3.2.4.1 Species description and summary of management options

Sulfur cinquefoil is an herbaceous perennial with one to several slender, erect, hairy stems that grow to 2 ft tall. The stems have perpendicular hairs, which differentiate this from most native *Potentilla* species. Sulfur cinquefoil grows as a loosely tufted rosette before flowering stems develop. The leaves are palmate compound with 5-7 leaflets. Leaflets are oblanceolate, the margins coarsely narrow-toothed halfway or slightly less to the midvein, covered with stiff hairs. The lower leaves have long petioles and upper leaves have shorter or no petioles and fewer leaflets. The foliage is sparsely glandular. Sulfur cinquefoil can resemble some native Potentilla species, so identification should be accurate before initiating a control program. Plants develop a woody taproot that eventually rots at the core as it enlarges. New shoots grow from the root perimeter. Plants do not have rhizomes. Sulfur cinquefoil bears many pale to sulfur-yellow flowers in open branched, flat-topped inflorescences. Flowers are about an inch in diameter with five petals. Plants may produce over 1,500 seeds. Most mature seed is dispersed near the parent plant. In a lab experiment, seeds remained viable after 28 months of burial at three inches deep in the soil. Other reports suggest seed longevity may exceed three to four years (DiTomaso, 2013).

It has no rating on the Cal-IPC list, but is included as a noxious weed on the CDFA list. Sulphur cinquefoil's reproductive biology and other attributes result in low to moderate rates of invasiveness. Ecological amplitude and distribution are generally limited, but these species may be locally persistent and problematic" (Cal-IPC 2018). Sulphur cinquefoil is listed on the LTBMU list and considered a medium priority. It is not listed on the list.

3.2.4.2 Infestations in the Project Survey Area

There were seven occurrences of sulphur cinquefoil discovered. They all were discovered along the existing dirt trail where part of the proposed bikeway will be constructed on USFS property west of the Upper Truckee River (**Figure 1**).

3.2.4.3 Management Actions

Small infestations of Sulphur cinquefoil can be removed by manual methods such as hand-pulling and digging. Remove the entire root crown to prevent re-sprouting. Plants regrow after mowing. Mowing is not recommended as it can stimulate lateral branching and root growth. Plowing and deep disking can

control emerged plants but can stimulate recruitment. These types of tillage are not typically practical in most natural areas. Reseeding with other species following tillage resulted in complete control in one study. Sulfur cinquefoil is intolerant of shade, thus land management strategies should promote competitive vegetation and shading (DiTomaso, 2013).

3.3 Habitat vulnerability

The project survey area is characterized by predominantly urban development intermixed with fragmented Jeffrey Pine and Lodgepole pine forest. No fires, cultivation, or grazing practices are in the recent history of this area.

3.3.1 *Assessment summary*

Overall habitat vulnerability is considered medium because: a) invasive plants were identified in the project survey area; b) there are established roads, foot and animal traffic, and large areas of cultivated landscape and/or turf in the area; and c) spread can be limited by proper treatment and eradication (if applicable) both pre and post construction.

3.4 Non-Project Dependent Vectors

Residential roads and informal trails exist in the project survey area. The analysis area is predominantly single-family residential, conservation, and public land. Traffic and visitor use is high as the area borders a well-used open space comprised of Tahoe Paradise Park, Lake Baron, and a social trail on USFS land. Livestock is not grazed in this area, but wildlife could pass through the neighborhood to gain access to the natural surrounding area.

3.4.1 *Assessment summary*

Non-project vectors are considered medium because although these vectors are found in the area, such activities are not heavy on parcels considered for improvement.

4 Project-Dependent Factors

4.1 Habitat Alteration Expected as a Result of the Project

Proposed project activities will include ground disturbance, particularly disturbed areas. Revegetation of disturbed areas with native species will limit the potential for invasive plant species to re-colonize in the project survey area; however, road shoulder revegetation may not be included as part of the project design. No fuels reductions or fire use are proposed.

4.2 Increased Vectors as a Result of Project Implementation

Infestations will be removed prior to construction, and vegetation will be restored after construction activities are completed; therefore, vectors that can be expected as a result of the project are not likely to increase invasive plant establishment in the area.

4.3 Non-Project Dependent Vectors

Residential roads and informal trails exist in the project survey area. The analysis area is predominantly single-family residential, conservation and public land. Traffic and visitor use is high as the area borders a well-used open space comprised of a Paradise State Park and Lake Baron, and a social trail on USFS land. Livestock is not grazed in this area, but wildlife could pass through the neighborhood to gain access to the natural surrounding area.

4.4 Non-Project Dependent Vectors

Residential roads and informal trails exist in the project survey area. The analysis area is predominantly single-family residential, conservation and public land. Traffic and visitor use is high as the area borders a well-used open space comprised of a Paradise State Park and Lake Baron, and a social trail on USFS land. Livestock is not grazed in this area, but wildlife could pass through the neighborhood to gain access to the natural surrounding area.

4.4.1 *Assessment summary*

Non-project vectors are considered medium because although these vectors are found in the area, such activities are not heavy on parcels considered for improvement.

There will be an increase in traffic due to construction activities during implementation and this project is expected to increase traffic and visitor use in the area. Construction equipment will be used throughout implementation but will adhere to mitigation measures to minimize impacts in the area. Grazing is not a component of the project. If the project includes the use of mulches, compost, wood chips, soil, and road base, all materials imported to the site are required to weed free as stated in the project specifications.

4.5 Management Measures

4.5.1 *Standard management measures for invasive plants*

The following measures are designed to minimize risk of new weed introductions, minimize the spread of weeds within units, and minimize the spread of weeds between units. These measures are consistent with Forest Service policy and manual direction and the LTBMU Land and Resource Management Plan as amended by the SNFPA.

1. **Inventory—**
   a) *As part of site-specific planning, project survey areas and adjacent areas (particularly access roads) will be inventoried for invasive plants.*
   b) *Any additional infestation discovered prior to or during project implementation should be flagged and avoided, then reported to the Forest Botanist or their designated appointee for prioritization and assessment for treatment.*
2. ***Equipment Cleaning—***
   a) All equipment and vehicles (Forest Service and contracted) used for project implementation must be free of invasive plant material before moving into the project survey area. Equipment will be considered clean when visual inspection does not reveal soil, seeds, plant material, or other such debris. Cleaning shall occur at a vehicle washing station or steam-cleaning facility before the equipment and vehicles enter the project survey area.
   b) When working in known invasive plant infestations or designated weed units, equipment shall be cleaned before moving to other National Forest Service system lands. These areas will be identified on project maps.
3. ***Staging areas—*** *Do not stage equipment, materials, or crews in invasive plant-infested areas.*
4. ***Control Areas—****Where feasible, invasive plant infestations will be designated as Control Areas—areas where equipment traffic and soil-disturbing project activities would be excluded. If Control Areas are designated, they will be identified on project maps and delineated in the field with flagging.*
5. ***Project-related disturbance—****Minimize the amount of ground and vegetation disturbance in staging and construction areas. Where feasible, reestablish vegetation on disturbed bare ground to reduce invasive species establishment; revegetation is especially important in staging areas.*
6. ***Early Detection****— Any additional infestation discovered prior to or during project implementation should be reported to the Forest Botanist or their designated appointee for prioritization and assessment for treatment.*
7. ***Post Project Monitoring–*** *After the project is completed the Forest Botanist should be notified so that (as funding allows) the project survey area can be monitored for invasive plants subsequent to project implementation.*
8. ***Gravel, fill, and other materials—*** *All gravel, fill, or other materials are required to be weed-free. Use onsite sand, gravel, rock, or organic matter when possible. Otherwise, obtain weed-free materials from sources that have been certified as weed-free. If an LTBMU inspector is not available to inspect material source, then the project proponent will provide a weed-free certificate for its material source.*
9. ***Mulch and topsoil—*** *Use weed-free mulches and topsoil. Salvage topsoil from project survey area for use in onsite revegetation, unless contaminated with invasive species. Do not use material (or soil) from areas contaminated by cheatgrass.*
10. ***Livestock—*** *If supplemental fodder (e.g. hay, silage) is required for livestock, including horses and other pack animals, it will be certified weed-free.*
11. ***Revegetation—***
    a) Seed and plant mixes must be approved the Forest Botanist or their designated appointee who has knowledge of local flora.
    b) Invasive species will not be intentionally used in revegetation. Seed lots will be tested for weed seed and test results will be provided to Forest Botanist or their designated appointee.
    *c) Persistent non-natives, such as such as timothy (**Phleum pretense**), orchard grass (**Dactylis glomerata**), ryegrass (**Lolium** spp.), or crested wheatgrass (**Agropyron cristatum**) will not be used in revegetation.*

d) Seed and plant material will be from native, high-elevation sources as much as possible. Plant and seed material should be collected from as close to the project survey area as possible, from within the same watershed, and at a similar elevation whenever possible.

4.5.2 *Project-specific management measures*

Table 3. Management Measures

Species	Common Name	Management Action
Rumex crispus	Curly dock	Manual removal of infestation
Potentilla recta	Suphur cinquefoil	Manual removal of infestation
Verbascum thapsis	Wooly mullein	Manual removal of infestation

4.5.3 *Assessment summary*

The populations of invasive plants, located within parcels of interest in the project survey area where the path is being constructed, will be removed prior to or during project construction or at any time when ground disturbing activities are taking place. By removing infestation prior to construction and revegetating the areas with native species after construction, the risk of spreading invasive plants as a result of the project will be minimized.

6 ANTICIPATED WEED RESPONSE TO PROPOSED ACTION

There is a Moderate overall risk of invasive plant establishment as a result of the project. This determination is based on the following:

1. A total of two noxious weed species and eight infested locations were identified in the project survey area. The surveys were conducted during an appropriate identification period in July 2019.
2. There are established roads in the project survey area, foot and animal traffic, and large areas of cultivated landscape and/or turf.
3. The majority of construction activity will take place in previously disturbed areas.
4. A mitigation plan will be adopted as a part of the proposed action (Section 4.3) which will be incorporated into the contract specifications. The mitigation plan will decrease habitat vulnerability to or below pre-construction levels. The mitigation plan includes elements to address noxious weeds before, during, and after construction.

Table 3. Summary of Risk Factors

	Factor	Risk	Assessment summary
NON-PROJECT DEPENDENT FACTORS	Inventory	N/A	Adequate
	Known invasive plants	Moderate	There are seven known infestations of LTBMU-listed medium management priority species (*Potentilla recta*) present in the project survey area
	Habitat vulnerability	Moderate	Moderate level of historic and recent disturbance. Variable plant cover.
	Non-project dependent vectors	Moderate	Infestations are present along existing disturbed trail. Overall, moderate level of non-project vectors.

PROJECT-DEPENDENT FACTORS	Habitat alteration expected as a result of project	Moderate	Moderate ground disturbance due to drainage improvements and associated construction activities
	Increased vectors as a result of project implementation	Moderate	Construction of drainage and erosion control improvements, soil disturbance.
	Management measures	Greatly reduced risk	Standard management measures implemented
ANTICIPATED WEED RESPONSE		Moderate	Low risk of new introduction; low risk of spread as a result of the project if infestation areas are treated; moderate risk of spread as a result of the project if infestation areas are untreated.

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FIGURES

Legend

Project Survey Area

San Bernardino Class 1 Bike Path Project

Project Survey Area

N

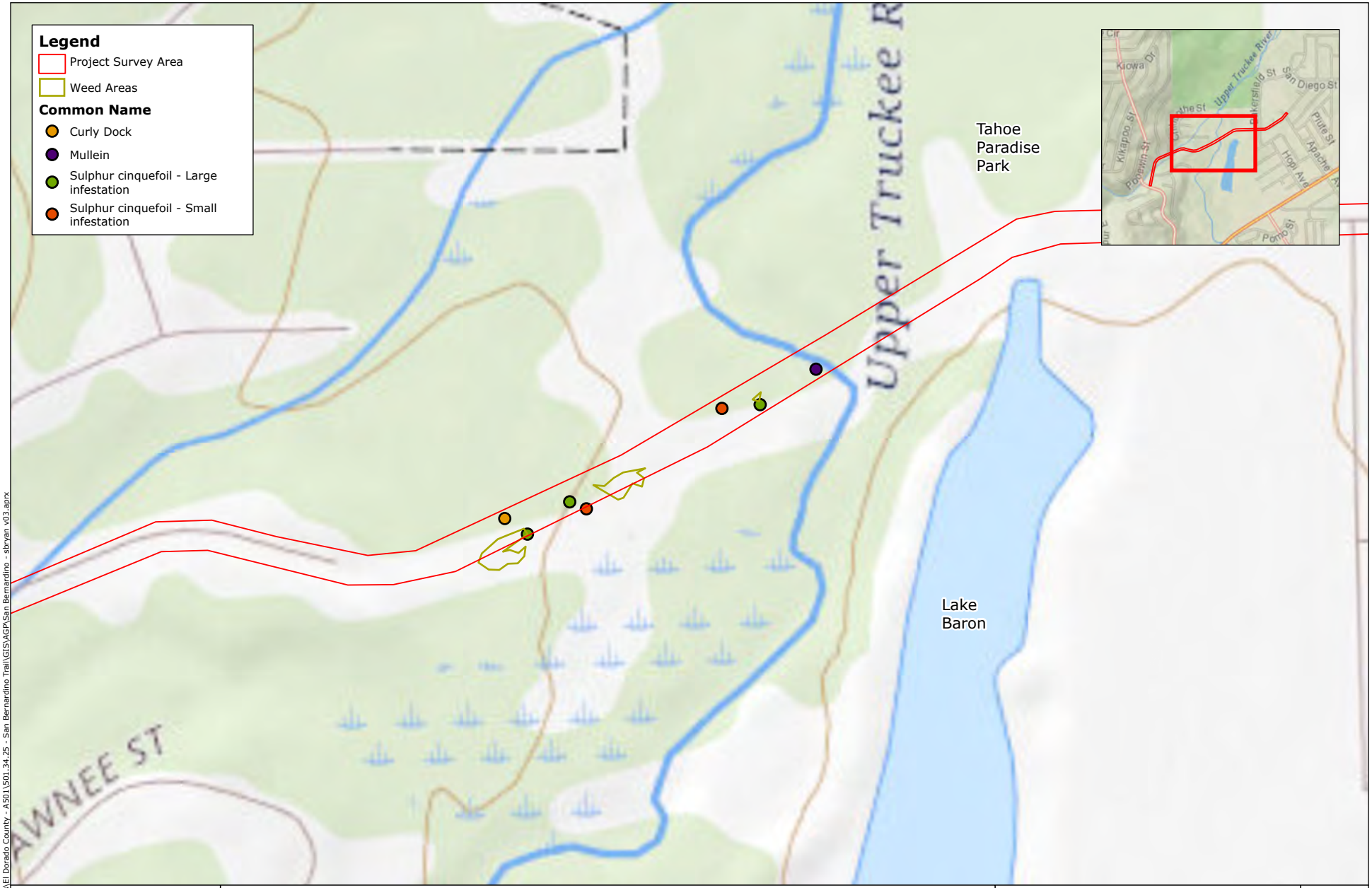
1 in. = 500 ft.

0 250 500 ft.

FIGURE 1

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2019	501.34.25	sbryan	8/26/2019	9/6/2019	drios

Document Path: P:\Active Projects\El Dorado County - A501\501.34.25 - San Bernardino Trail\GIS\AGP\San Bernardino - sbryan v03.aprx



NCE

San Bernardino Class 1 Bike Path Project

Invasive Plant Occurrences Within Project Survey Area

N

1 in. = 250 ft.

0 125 250 ft.

FIGURE 2

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2019; USFS	501.34.25	sbryan	8/26/2019	1/21/2020	drios

Document Path: P:\Active Projects\El Dorado County - A501\501.34.25 - San Bernardino Trail\GIS\AGP\San Bernardino - sbryan v03.aprx

Priority Invasive Weeds of the Lake Tahoe Basin
Lake Tahoe Basin Weeds Coordinating Group
Revised April 2011

This list is prepared by the Lake Tahoe Basin Weeds Coordinating Group and reviewed and updated annually. It is utilized by the group and stakeholders as a guide in evaluating annual action plans, treatment protocols and new project proposals.

Group 1 Species: Watch For, Report, and Eradicate Immediately:
These species are:

a) Not currently present in the Lake Tahoe Basin and are documented in areas adjacent to the basin where potential for introduction is high OR
b) Present only as small, eradicable populations.

The letter following each species in Group 1 denotes the infestation type as detailed above. Aggressive treatment will be pursued when these species are found. Educational programs will target early detection and reporting of these species.

1. Musk thistle (*Carduus nutans)* - a
2. Scotch thistle (*Onopordum acanthium*) – a
3. Tamarisk/saltcedar (*Tamarix spp.)* - a
4. Medusahead (*Taeniatherum caput-medusae*) - a
5. Stinkwort (*Dittrichia graveolens*) – a
6. Reed canarygrass (*Phalaris arundinacea*) – a
7. Dyer's woad (*Isatis tinctoria*) – a
8. Purple starthistle (*Centaurea calcitrapa*) – a
9. Canada thistle (*Cirsium arvense*) – b
10. Diffuse knapweed (*Centaurea diffusa*) - b
11. Hoary cress (*Cardaria species*) – b
12. Rush skeletonweed (*Chondrilla juncea*) - b
13. Russian knapweed (*Centaurea repens*) – b
14. Sulfur cinquefoil (*Potentilla recta*) - b
15. Teasel (*Dipsacus fullonum*) - b
16. Yellow starthistle (*Centaurea solstitialis*) – b
17. Tree of Heaven (*Ailanthus altissima*) – b
18. Purple loosestrife (*Lythrum salicaria*) - b

Group 2 Species: Manage Infestations With a Goal of Eradication
Encourage the management/control of populations of these species to prevent further spread in the Lake Tahoe Basin. Isolated populations will be targeted for eradication.

19. Bull thistle (*Cirsium vulgare*)
20. Dalmatian toadflax (*Linaria dalmatica*)
21. Klamathweed (*Hypericum perforatum*)
22. Oxeye daisy (*Chrysanthemum leucanthemum*)
23. Perennial pepperweed (*Lepidium latifolium*)
24. Scotch broom (*Cytisus scoparius*)
25. Spotted knapweed (*Centaurea biebersteinii*)
26. Yellow toadflax (*Linaria vulgaris*)

APPENDIX D

NATURAL ENVIRONMENT STUDY (NES)

San Bernardino Class 1 Bike Path Project

Natural Environment Study

West and East San Bernardino Avenues

from North Upper Truckee Road to Apache Avenue

Meyers, CA

District 3-El Dorado County

STPL 5925(162)

July 2019

Caltrans

CALIFORNIA DEPARTMENT OF TRANSPORTATION

Natural Environment Study

STATE OF CALIFORNIA
Department of Transportation
and El Dorado County

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Recommended
for Approval By: _____ Date: _____
District Biologist:
Phone Number
Office Name
District/Region

Approved By: Suzanne Melim Date: 7/26/19
District Environmental Branch Chief:
(530) 741-4393
Caltrans D3 Environmental
District 3/Marysville/Sacramento

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For individuals with sensory disabilities, this document can be made available in Braille, in large print, on audio cassette, or on computer disk. To obtain a copy in one of these alternate formats, please call or write to Department of Transportation, Attn: Suzanne Melim, Branch Chief, 703 B Street, Marysville, CA 95901; (530) 741-4393 (Voice); or use the California Relay Service 1 (800) 735-2929 (TTY), 1 (800) 735-2929 (Voice) or 711.

Summary

This summary presents the results of the impact analysis, findings of the supporting technical reports, and a summary of the general biological environment. This section also includes a discussion of any potential impacts, and proposed mitigation measures and project permits that are anticipated for this project.

El Dorado County, in cooperation with Caltrans, proposes to construct a new quarter-mile class 1 bike path connecting East and West San Bernardino Avenues. The trail alignment will pass through Tahoe Paradise Park and include a bridge over the Upper Truckee River near an existing South Tahoe Public Utility District sheet metal/water line protection wall. The bridge will be constructed to minimize impacts on the river floodplain. The proposed path would be located on land owned or managed by the Tahoe Paradise Recreation and Park District, the United States Forest Service and the County. A new class 3 bike route would be established along West and East San Bernardino Avenues that will connect to each side of the new class 1 bike path (El Dorado County 2017).

The purpose of this project is to connect the residential areas on the west and east sides of the Upper Truckee River with non-motorized routes. The County desires to provide better non-motorized circulation and recreational opportunities and reduce dependency on the automobile throughout the Meyers area. This project is part of a larger Tahoe Regional Planning Agency (TRPA) goal to improve bicycling and walking, provide multiple mobility options, and maintain healthy communities in their Linking Tahoe: Active Transportation Plan.

Temporary impacts to migratory nesting birds could occur during construction of the bike path. Pre-construction clearance surveys, discussed later in further detail, are recommended to minimize potential impacts to migratory nesting birds. The construction of the shared use bike path over a dirt path will permanently impact existing vegetation; however, the majority of the existing vegetation is composed of ruderal species including noxious weeds and/or non-native grasses.

The area where the bridge is being installed contains potential habitat for federally listed Sierra Nevada yellow legged frog (SNYLF) and Lahontan cutthroat trout (LCT). The construction of the bridge has been specifically designed to stay out of the channel of the Upper Truckee River avoiding any direct impacts to this habitat. All TRPA best management practices and other regulatory requirements and permit conditions will be deployed during construction to minimize water quality related impacts in the project area.

A United States Fish and Wildlife Service species list was accessed through the Information Planning and Conservation website for the proposed project. Effects to federally listed species were assessed and are discussed in further detail in this Natural Environment Study, but the results of the Information Planning and Conservation report indicate no critical habitat exists within the project area. As a result, it was determined that the project is not likely to adversely affect federally listed species; therefore, no Section 7 consultation is proposed.

Based on our review of the biological factors and waters of the State conditions we believe the following permits may be required but will depend on final project improvements and impacts.

- Lahontan Regional Water Quality Control Board Section 401 Water Quality Certification

- Lahontan Regional Water Quality Control Board Report of Waste Discharge
- Lahontan Lake Tahoe Construction General Permit
- Tahoe Regional Planning Agency Project Permit
- El Dorado County Encroachment Permit
- USFS Special Use Permit

Table of Contents

List of Abbreviated Terms

AOI	Area of Impact
BSA	Biological Study Area
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CDFG	California Fish and Game
CDFW	California Department Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CPESC	Certified Professional in Erosion and Sediment Control
CWA	Clean Water Act
ESA	Federal Endangered Species Act
EIP	Environmental Improvement Program
Ft	foot/feet
IPaC	Information Planning and Conservation
m	meter(s)
NES	Natural Environmental Study
NOAA Fisheries	National Oceanic and Atmospheric Administration, National Marine Fisheries Service
NRCS	Natural Resource Conservation Service
NWI	National Wetland Inventory
OHWM	Ordinary High Water Mark
PM	post mile
SSS	special status species
TRPA	Tahoe Regional Planning Agency
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFS	United States Forest Service
USGS	United States Geological Survey
USFWS	United States Fish and Wildlife Service
WOUS	Waters of the United States

Chapter 1 - Introduction

The purpose of this Natural Environmental Study (NES) is to describe the existing biological environment and how this project will affect that environment including plants, animals, and natural communities occurring in the biological study area. We have defined two boundaries that are discussed in this report including the Project Impact Area and the Biological Study Area. The Project Impact Area is approximately 6.7 acres. The Biological Study Area (BSA) includes the Project Impact Area plus a one-mile buffer. The project is located along East and West San Bernardino Avenues between North Upper Truckee Road and Tahoe Paradise Park in South Lake Tahoe, California.

Project History

The purpose of the Project is to provide a non-motorized transportation and recreation corridor to improve connectivity to the surrounding recreation and residential areas. The Meyers Area Plan seeks to encourage pedestrian and bicycle linkages between residential areas, recreation sites, and commercial areas while accommodating pedestrians throughout the Area Plan by providing safe and functional pathways. This Project is also part of a region wide Link Tahoe: Active Transportation Plan to promote non-motorized transportation. The Project builds upon the Meyers Bikeway and provides a critical link to the bicycle network between the residential areas of North Upper Truckee Road and the surrounding Meyers community. In addition, the bike path will connect subdivisions off of North Upper Truckee Road to the Lake Valley State Recreation Area (Washoe Meadows) and the Lake Tahoe Golf Course which provide numerous recreational opportunities and are located directly adjacent to the existing County pathway network.

Project Description

Located in eastern El Dorado County, within unincorporated El Dorado County in the Lake Tahoe Basin, the project aims to construct a bike path facility along West San Bernardino Avenue and East San Bernardino Avenue from North Upper Truckee Road to Apache Avenue. The bike path will cross County rights of way (ROW), Tahoe Paradise Park, and United States Forest Service parcels. The path will cross the Upper Truckee River and provide connections to Washoe Meadows State Park, Tahoe Paradise Park, and the Lake Tahoe Environmental Science Magnet School. The project builds upon the Meyers Bikeway and provides a critical link to the bicycle network between the residential areas off of North Upper Truckee Road and the surrounding Meyers community.

Existing Conditions

The Project Impact Area is located about six miles southwest of Lake Tahoe in Meyers and approximately one-half mile north of Highway 50 (Appendix A, **Figure 1**). No bike facilities (class 1, class 2, etc.) are present along the road in the existing condition along West and East San Bernardino Avenues. There is an existing informal dirt path mainly used for utility (sewer/water) access along the proposed alignment of the new bike path on USFS land. This proposed class 1 bike path between the East and West San Bernardino Avenues is bisected by the Upper Truckee River.

Appendix B includes an alternatives exhibit (**Exhibit A**) and the preliminary 30% drawings for the Project (**Exhibit B**). The alternatives are described in more detail below.

Preferred Alternative 1

- Path alignment generally follows the existing disturbed trail;
- Class 1 bike path from the end of the subdivision limits at West San Bernardino Ave, bridge over the Upper Truckee River to the paved parking lot at Tahoe Paradise Park; and,
- Class 3 (Bike Route) and associated roadway signage within the residential areas along West San Bernardino Ave and East San Bernardino Avenues.

Alternative 2

- Similar to Alternative 1 with a differing alignment and crossing point over the Upper Truckee River downstream of the existing steel sheet pile, to the paved parking lot at Tahoe Paradise Park.

Alternative 3

- A longer alignment veering to the north along the utility access road and crosses Tahoe Paradise Park just south of the existing picnic area.

Chapter 2 - Study Methods

Regulatory Requirements

The following regulatory requirements are applicable for the Project. The Project intends to satisfy all applicable Federal and State regulations as well as local ordinances and regulations that protect biological resources.

2.1. Federal Regulatory Requirements

2.1.1.1 Endangered Species Act

The Federal Endangered Species Act (ESA) protects plants and wildlife that are listed as endangered or threatened by the United States Fish and Wildlife Service (USFWS). Section 9 of the ESA prohibits the taking of endangered wildlife, where taking is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 CFR 17.3). This statute also governs removing, possessing, maliciously damaging, or destroying any endangered plant on federal land and removing, cutting, digging-up, damaging, or destroying any endangered plant on non-federal land in knowing violation of state law.

Under Section 7 of the ESA, federal agencies are required to consult with the USFWS or National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries) as applicable if their actions, including permit approvals or funding, could adversely affect an endangered species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion, the USFWS or NOAA Fisheries may issue an incidental take statement allowing take of the species that is incidental to another authorized activity provided the action will not jeopardize the continued existence of the species. Section 10 of ESA provides for issuance of incidental take permits to private parties provided a habitat conservation plan is developed.

2.1.1.2. Clean Water Act

The United States Army Corps of Engineers (USACE) Regulatory Branch regulates activities that discharge dredged or fill materials into Waters of the United States, which includes wetlands (WOUS) under Sections 401 and 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act. A Section 404 permit will most likely not be required as the Project is not proposing to impact federally jurisdictional waters.

Section 401 of the CWA requires that an applicant proposing to conduct any activity that may result in a discharge to a WOUS must apply for and secure a Section 401, Water Quality Certification prior to construction activities. The Lahontan Regional Water Quality Control Board (Lahontan), Region 6 will administer the Section 401 Water Quality Certification for this project. As there is a potential to impact water quality, a Section 401 Water Quality Certification is required.

2.1.1.3. Migratory Bird Treaty Act

The Migratory Bird Treaty Act makes it unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, or kill migratory birds. The law applies to the removal of nests (such as swallow nests on bridges) occupied by migratory birds during the breeding season. California

Fish and Game (CDFG) Code (Section 3500) also prohibits the destruction of any nest, egg, or nestling.

If vegetation removal or ground disturbance near potential migratory bird or SSS nesting habitat is proposed during the nesting season (typically February 1 through September 1), a survey for active bird nests shall be conducted by a qualified biologist no more than two weeks prior to initiation of these activities. If nests are identified, then avoidance, minimization, or other mitigation measures must be implemented.

2.1.1.4. Executive Order 13112 – Invasive Species

Executive Order 13112 requires federal agencies to combat the introduction or spread of invasive species in the United States. Invasive species are defined 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.

2.1.1.5. United States Forest Service Special-Use Permit

A Special-Use Permit will be obtained by the County for building on US Forest Service (USFS) land.

2.1.2. State Regulatory Requirements

2.1.2.1. California Environmental Quality Act

Pursuant to the California Endangered Species Act (CESA) and Section 2081 of the CDFG Code, an Incidental Take Permit from the California Department of Fish and Wildlife (CDFW) is required for projects that could result in the "take" of a State listed threatened or endangered species. Under the CESA, "take" is defined as an activity that would directly or indirectly kill an individual of a species proposed for listing (called "candidates" by the state). Section 2080 of the CDFG Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. A Section 2081 permit is issued when a project is consistent with an existing Biological Opinion. The Project is not expected to adversely affect any species listed by the CESA at this time consultation with the CDFW pursuant to CESA is not required for the Project.

2.1.2.2. California Endangered Species Act

Pursuant to the CESA and Section 2081 of the CDFG Code, an Incidental Take Permit from the California Department of Fish and Wildlife (CDFW) is required for projects that could result in the "take" of a State listed threatened or endangered species. Under the CESA, "take" is defined as an activity that would directly or indirectly kill an individual of a species proposed for listing (called "candidates" by the state). Section 2080 of the CDFG Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. A Section 2081 permit is issued when a

project is consistent with an existing Biological Opinion. The project is not expected to adversely affect any species listed by the CESA at this time consultation with the CDFW pursuant to CESA is not required for the project.

2.1.2.3. Porter-Cologne Water Quality Control Act

The Porter-Cologne Act provides the State with very broad authority to regulate "waters of the State" (which are defined as any surface water or groundwater, including saline waters). The State Regional Water Quality Control Board is granted ultimate authority over water quality policy in the State of California. Before allowing discharges that may affect the quality of Waters of the State, a Report of Waste Discharge must be filed with the LRWQCB. A Report of Waste Discharge will be prepared for LRWQCB's approval.

2.1.2.4. California State Water Resources Control Board, Construction General Permit Order 2009-0009-DWQ

If the Project disturbs more than one (1) acre of land disturbance, then the project owner will need to apply for coverage under the Construction General Permit Order R6T-2016-0010. This permit is issued by the LRWQCB. If the Project will disturb more than one acre of land; the County will need to apply for coverage under the Tahoe Construction General Permit.

2.1.2.5. California Native Plant Protection Act

The Native Plant Protection Act (NPPA) of 1977 (CDFG Code Sections 1900-1913) was created in order to "preserve, protect and enhance rare and endangered plants in this State." The NPPA is administered by CDFW. The Fish and Wildlife Commission has the authority to designate native plants as "endangered" or "rare" and to protect endangered and rare plants from take. CESA provided further protection for rare and endangered plant species, but the NPPA remains part of the CDFG Code. No species protected by the California NPPA have been identified in the Project Impact Area. 2.1.2.6. California Department of Fish and Wildlife Section 1602 Streambed Alteration Agreement

Sections 1600–1616 of the CDFG Code protect waters of the State. Section 1602 of the code regulates any work that will: (1) substantially divert or obstruct the natural flow of any river, stream, or lake; (2) substantially change or use any material from the bed, channel, or bank of any river, stream, or lake; or (3) deposit or dispose of debris, waste, or other material containing crumbled, flaked, or ground pavement where it may pass into any river, stream, or lake. For project activities that may affect stream channels and/or riparian vegetation regulated under Sections 1600 through 1603, CDFW authorization is required in the form of a Streambed Alteration Agreement. This project may need to obtain a streambed alteration agreement from the CDFW.

2.1.3. El Dorado County

2.1.3.1. Encroachment Permit

For work being conducted within a County-maintained right-of-way, an Encroachment Permit will be needed pursuant to California Streets and Highway Codes and County Ordinance Code Section 12.04.010. This Project will need an Encroachment Permit for the work.

2.1.3.2. Grading Permit

Grading permits are not required for capital improvement projects.

2.1.4. Tahoe Regional Planning Agency

A permit from TRPA will be required for this Project through their Environmental Improvement Program (EIP).

2.2 Studies Required

2.2.1 Biological Study Area

The BSA includes an area where special status species or their habitat may exist that is outside of the footprint of the proposed improvements. The BSA is important because it considers the possible movement of species, impacts to SSS as a result of the project that extend beyond the Project Impact Area, and allows the biologist to evaluate possible affects to SSS as a result of changes to Project limits and Project design.

The 6.7-acre Project Impact Area is located along West and East San Bernardino Avenues between North Upper Truckee Road and Apache Avenue (Appendix A, **Figure 1**).

2.2.2 Literature Search

NCE conducted a literature and database review to identify existing biological and botanical information within and adjacent to the Project Impact Area. The purpose of this review was to identify vegetation communities in the BSA and to develop a list of potential special status species (SSS) and critical habitat occurring within the BSA (1-mile radius). Special status species are all listed biological or botanical species with special protection or consideration under federal, state, and local regulatory policies.

NCE scientists conducted reconnaissance-level surveys in order to inventory habitats, SSS, and non-SSS observed within the Project Impact Area. These surveys are discussed in more detail below. Vegetation types were initially identified with the CALVEG Alliances GIS data (USDA 2016) (Appendix A, **Figure 2**), and then verified based on the NCE reconnaissance-level surveys. The most relevant searches, reviews, and requests included:

- California Natural Diversity Data Base (CNDDB)
    - 2019 Natural Diversity Data
- California Native Plant Society (CNPS)
    - 2019 Inventory of Rare and Endangered Plants
- Natural Resource Conservation Service (NRCS)
    - Web Soil Survey
- NOAA National Marine Fisheries Service (NOAA Fisheries) Species List
    - The Project is located outside of NOAA Fisheries jurisdiction; therefore, a NOAA Fisheries species list is not required.
- TRPA Special Interest Species
    - Suitable meadow and fawning habitat that could sustain the reproductive and cover needs for mule deer is not present within the project area.
    - Suitable nesting habitat for the northern goshawk is not present within the Project Impact Area.
    - No improvements are proposed along the Lake Tahoe shoreline.
    - TRPA-approved temporary Best Management Practices (BMP) will be utilized during construction to minimize any disturbance due to project construction.
- USFWS
    - 2019 Federally endangered and threatened species that occur in or may be affected by the Project
- USACE
    - 1987 Corps of Engineers Wetlands Delineation Manual
- USFWS and CDFW
    - Federal and state listed species that may be affected by the Project
- US Department of Agriculture (USDA)
    - 2018 CALVEG GIS Layers

2.2.3 Personnel and Survey Dates

On July 10, 2019 a WOUS delineation survey was conducted by NCE scientists Debra Lemke (18 years of experience) and Sarah Bryan (2 years of experience). A reconnaissance-level botanical survey, wildlife survey, SNYLF Visual Encounter Survey (VES) and habitat assessment were performed on June 11 and July 10, 2019 by NCE scientist Quinn Radford (8 years of experience).

2.2.4 Survey Methods

The purpose of the reconnaissance-level survey was to 1) evaluate and verify on site vegetation communities, 2) verify no critical wildlife habitats were present in the Project Impact Area, and 3) develop an inventory for any possible SSS and non-SSS biological and botanical resources.

A VES was performed to look for the presence of SNYLF. Survey equipment consisted of a dip net and binoculars. The field survey involved walking to scan the entirety of the survey area. The survey followed VES protocol to determine occupancy. This involved visually scanning the search area, searching in a zigzag fashion where appropriate, searching microhabitats, waving dip nets over grass and bank vegetation to flush frogs and periodically dipping dip nets where appropriate. The survey was conducted at the appropriate time of day and season, consistent with the survey

protocol. During the VES, the biologist approached the area where the proposed bridge is being installed and used binoculars from a distance, to not startle any potential individuals, in an effort to positively identify SNYLF. The biologist scanned each shoreline of the river 100 feet on either side of the proposed bridge crossing. The biologist also scanned the river and shallow areas for any individuals.

Botanical surveys were conducted by walking the entire study area following the CDFW Protocols for Surveying and Evaluating Impacts to Special Status Native Plant Populations and Natural Communities (CDFW 2009). While walking the Project Impact Area and documenting observed plant species, the biologist frequently scanned trees and the sky for birds with binoculars and made note of any animals observed. All plant and animal species observed were identified and recorded in **Table 1** (Section 3.1.3 below).

The WOUS delineation of aquatic resources followed the methods described in the 1987 Corps of Engineers Wetland Delineation Manual and regional supplements.

2.2.5 Agency Coordination and Professional Contacts

Agency coordination has been limited to discussions with the County and USFWS to date.

Further coordination with the USFWS, CDFW, RWQCB, and/or USACE will be based on the results of this NES and technical studies. Any additional survey requirements will be determined during this coordination which will be administered by the County and Caltrans.

2.2.6 Limitations That May Influence Results

There are no known limitations or constraints that may influence the results of the analysis or field surveys. Surveys were timed appropriately, and standard protocols were followed. There was no atypical weather and no accelerated schedule.

The survey took place during the 2019 growing season to ensure that plant species within the BSA would be actively growing and identifiable at the time of the survey.

Chapter 3 - Results: Environmental Setting

3.1. Study Area

Land use in the BSA includes both private and public lands. The BSA is generally made up of privately-owned parcels and public right-of-way with some large sections of federal and state land in the central section of the BSA. (Appendix A, **Figure 3**)

3.1.2 Physical Conditions

The Project Impact Area is located in the Echo Lake USGS 7.5-minute topographic quadrangle. The elevation within the project impact area ranges from 6,400 ft. to 6,300 ft. above mean sea level. The topography of the Project Impact Area slopes gently downward from the eastern and western edges of the project impact area toward the Upper Truckee River, near the center of the Project Impact Area (Appendix A, **Figure 1**; Appendix C **Photo 1**).

The regional climate where the Project Impact Area is located consists of warm dry summers and cold, wet winters. Temperatures vary throughout the year from an average maximum temperature of 79.7 degrees Fahrenheit in July to an average minimum temperature in January of 16.4 degrees Fahrenheit (WRCC 2019). The majority of precipitation falls from October to April averaging approximately 41 inches per year. Annual snowfall is approximately 200 inches per year (WRCC 2019).

Per the NRCS Soil Web Survey, the Project Impact Area contains 67.3% Celio loamy coarse sand, 0 to 5 percent slopes; 27.2% Meeks gravelly loamy coarse sand, 5 to 15 percent slopes, stony; and 5.5% Tahoe complex, 0 to 5 percent slopes, gravelly. Below we describe each soil unit in more detail.

Celio loamy coarse sand is a soil component that occurs on outwash terraces. The parent material consists of alluvium and/or outwash. Depth to a root restrictive layer is 35 to 59 inches. The natural drainage class is somewhat poorly drained. Water movement in the most limiting layer is high. Available water storage in profile is very low. Depth to water table is 12 to 30 inches. Frequency of flooding is rare. Frequency of ponding is occasional. This component is in the F022AE005CA, *Pinus contorta* var. *murrayana-Juniperus occidentalis/Ribes/Carex rossii* ecological site. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Meeks gravelly loamy coarse sand is a soil component that occurs on moraines. The parent material consists of outwash and/or till derived from granodiorite. Depth to a root restrictive layer 41 to 73 inches. The natural drainage class is somewhat excessively drained. Water movement in the most limiting layer is moderately low to moderately high. Available water storage in profile is very low. Depth to water table is more than 80 inches. Frequency of flooding is none. Frequency of ponding is none. This component is in the F022AE007CA, *Abies concolor - Pinus jeffreyi/Ceanothus cordulatus -Symphoricarpos mollis/Kelloggia galioides* ecological site. Nonirrigated land capability classification is 6s. This soil does not meet hydric criteria.

Tahoe complex is a soil component that occurs in valley flats and flood plains. The parent material consists of Alluvium derived from granitic and volcanic rock. Depth to a root restrictive layer is more than 80 inches. The natural drainage class is poorly drained. Water movement in the most

limiting layer is moderately high to very high. Available water storage in profile is low. Depth to water table is 0 to 12 inches. Frequency of flooding is occasional. Frequency of ponding is occasional. The component is in the R022AE214CA, gravelly flats ecological site. Nonirrigated land capability classification is 6w. This soil is considered hydric.

3.1.3 Biological Conditions in the Biological Study Area

3.1.3.1 Vegetation

The majority of the BSA is composed of a Jeffrey pine forest and Lodgepole pine forest. Sierran mixed conifer, sagebrush alliance and urban areas are also present within the BSA. Thickets of willow and alder occur along riparian corridors. None of the plant communities in the Project Impact Area or the BSA qualify as Natural Communities of Special Concern (Sawyer et al. 2009).

Jeffrey Pine Forest

The Jeffrey pine (*Pinus jeffreyi* Forest Alliance) plant community is composed of Jeffrey pine and white fir (*Abies concolor*) as co-dominant species in the canopy layer. This association occurs throughout the Sierra Nevada mountains raised stream benches, ridges, and plateaus on all slopes and aspects. Soils are generally infertile and shallow.

Lodgepole Pine Forest

Lodgepole pine *(Pinus contorta* ssp. *murrayana)* is the dominant or co-dominant in the tree canopy with White fir (*Abies concolor).* This alliance grows in a variety of conditions and occurs in terraces, lake and meadow margins, and depressions that flood seasonally; upland slopes and ridges to the tree line. Stands are most common and extensive in the Sierra Nevada. This conifer attains a height of 100 feet and can live to over 600 years old and are moderately shade tolerant.

Perennial Grassland

Perennial grassland habitat occurs on ridges and south facing slopes, alternating with forest and scrub in valleys and north facing slopes. This is a wide ranging and variable habitat throughout the state based on climactic and land use considerations. Key grasses include Idaho fescue (*Fescue idahoensis*), Red fescue (*Festuca rubra*), and Italian wild rye (*Festuca perennis*).

Sagebrush Alliance

Sagebrush (Artemesia tridentata) is a dominant or codominant in the shrub canopy and is associated with Jeffrey pine at low cover. This plant is found in many vegetation types. Many forests and woodlands in the ponderosa pine, Jeffery pine, single-leaf pinyon, lodgepole pine may have sagebrush as an understory component. Stands without trees occur as openings in these forests. Stands occurs in drier portions and microsites throughout most of the Sierra Nevada range. Soils are deep lacking well developed hardpans, gravel, and rock fragments. Shrubs live to 50 years.

Sierran Mixed Conifer

The Sierran mixed conifer is a mix of hardwood and conifer species that forms a multilayered forest. Historically burning and logging have caused a wide variability in stand structure. Five conifers and one hardwood typify the mixed conifer forest. White fir tends to be the most common species due to its shade tolerance and ability to survive long periods in brush fields. Jefferey pine dominates at high elevations and on cold sites with incense cedar (*Calocedrus decurens)*, ponderosa pine (*Pinus ponderosa*), sugar pine (*Pinus lambertiana*) and California black oak (*Quercus kellogii*). At maturity these conifers range from 100 to 200 feet tall.

Montane Chaparral:

This community of plants can vary from treelike (up to 30 ft) to prostrate often forming impenetrable thickets. The structure of this habitat is affected by influence of browsing animals, fire, erosion, logging, and site quality. On shallow granite soils in the Sierra Nevada, low dense growths of pine mat manzanita (*Arctostaphylos nevadensis*) and huckleberry oak (*Quercus vacciniifolia*) make up an edaphic climax community, associate with scattered conifers and exposed granite.

Urban Land:

Developed urban land areas are characterized by built infrastructure and impermeable surfaces. Vegetated areas are landscaped. Developed areas within the Project Impact Area include the paved corridors of East and West San Bernardino Avenue as well as developed private lots. Often these developed areas are located adjacent to disturbed natural communities.

Reconnaissance-level surveys resulted in neither botanical nor wildlife SSS detections. An inventory of common plants and animals encountered during the survey is presented in **Tables 1** and **2** below.

Table 1. Plant Species Identified Within the Project Area, July 2019

Scientific Name	Common Name	Native: Y, N
Abies concolor	White fir	Y
Achillea millefolium	Yarrow	Y
Acmispon nevadensis	Nevada birdsfoot trefoil	Y
Alnus incana	Alder	Y
Aquilegia formosa	Columbine	Y
Arctostaphylos sp.	Manzanita	Y
Artemesia douglasiana	California mugwort	Y
Artemesia tridentata	Sagebrush	Y
Calocedrus decurrens	Incense cedar	Y
Castilleja miniata	Scarlet paintbrush	Y
Carex sp.	Sedge	Y
Ceonothus leucodermis	Whitethorn	Y
Dactylis glomerata	Orchard grass	N
Collomia grandiflora	Grand collomia	Y

Scientific Name	Common Name	Native: Y, N
Delphinium patens	Larkspur	Y
Equisetum arvense	Common horsetail	Y
Equisetum hyemale	Scouring horsetail	Y
Festuca idahoensis	Blue fescue	Y
Festuca perennis	Italian rye grass	N
Fragaria vesca	Strawberry	Y
Heracleum maximum	Common cowparsnip	Y
Juncus sp.	Rush	Y
Lomatium multifidum	Fernleaf biscuitroot	Y
Lupinus breweri	Brewer's lupine	Y
Lupinus lepidus	Lobb's lupine	Y
Lupinus polyphyllus	Meadow lupine	Y
Pinus contorta ssp. murrayana	Lodgepole pine	Y
Pinus jeffreyi	Jeffrey pine	Y
Pinus ponderosa	Ponderosa pine	Y
Potentilla recta	Sulpher cinquefoil	N
Rumex cripsus	Curly dock	N
Rosa californica	Wild rose	Y
Salix lasiolepis	Arroyo willow	Y
Salix scouleriana	Scouler willow	Y
Scirpus microcarpus	Mountain bog bulrush	Y
Symphoricarpos mollis	Snowberry	Y
Trifolium pretense	Red clover	N
Veratrum californicum	California false hellebore	Y
Verbascum thapsus	Wooly mullein	N
Viola pupurea	Goosefoot Violet	Y

3.1.3.2 Invasive species

Reconnaissance-level surveys resulted in two invasive plant detections. In support of the project environmental documentation, an Invasive Plant Risk Assessment was prepared (NCE 2019). For the purposes of this report, noxious weeds are those plants which are designated as "noxious" by the United States Department of Agriculture (USDA), or the California Department of Food and Agriculture (CDFA), and any plants listed on the California Invasive Plant Council's (CalIPC) Invasive Plant Inventory. These plants are:

- Sulphur cinquefoil (*Potentilla recta*)
- Wooly mullein (*Verbascum thapsus*)

3.1.3.3 Wildlife

Ten bird and two mammal species were observed in the Project Impact Area during the two reconnaissance-level surveys. All wildlife species observed during the surveys were documented and are presented in the table below.

Table 2: Observed wildlife species during June 11 and July 10, 2019 surveys

Scientific Name	Common Name
Birds	
Branta canadensis	Canada goose
Cyanocitta stelleri	Steller's jay
Euphagus cyanocephalus	Brewer's blackbird
Mergus merganzer	Common merganser
Poecile gambeli	Mountain chickadee
Sitta pygmaea	Pygmy nuthatch
Sphyrapicus ruber	Red-breasted sapsucker
Spinus pinus	Pine siskin
Turdus migratorius	American robin
Zonotrichia leucophrys	White-crowned Sparrow
Mammals	
Neotamias speciousus	Lodgepole chipmunk
Scirius griseus	Western gray squirrel

3.1.3.4 Wildlife Corridors

A wildlife corridor is an area of habitat connecting wildlife populations and larger areas of similar wildlife habitat. These corridors generally consist of native vegetation and allow wildlife species to find water, food, shelter, and potential mates. Corridors enable the movement of animals and the continuation of viable populations thus playing a role in the maintenance of biodiversity. The Project Impact Area includes portions of a wildlife corridor between the Lake Baron parking lot and the southern section of East San Bernardino Avenue. However, the project improvements will have little to no impact on the wildlife corridor due to the path not obstructing the movement of animals and the proposed path not altering the existing condition in any meaningful way.

The Upper Truckee River is a known corridor for two federally listed species including the federally threatened Lahontan cutthroat trout (LCT) and the federally endangered Sierra Nevada yellow-legged frog (SNYLF). The construction of this project will not adversely affect fish passage in the Upper Truckee River. While the Upper Truckee River and nearly all wet areas in the Lake Tahoe basin have been identified as suitable habitat for SNYLF, no SNYLF were observed following the two visual encounter surveys.

3.1.3.5 Wetlands and Other Jurisdictional Waters

NCE delineated a total of approximately 6.74 acres. NCE delineated three unnamed drainages that are potentially jurisdictional WOUS due to the presence of ordinary high-water mark (OHWM) indicators and a connection to the Upper Truckee River, which is a tributary to Lake Tahoe, a

traditional navigable waterway. NCE also delineated the Upper Truckee River which is a potentially jurisdictional WOUS due to the presence of OHWM indicators and the Upper Truckee River is a tributary to Lake Tahoe. These four drainages are presented on Appendix A, **Figure 4.**

- Unnamed Drainage 1 was dry during the survey. This drainage is a non-relatively permanent water, Cowardin classified as Intermittent, Riverine, and is approximately 0.0015 acres in size within the survey area.

- Unnamed Drainage 2 contained flow during the survey. This drainage is a relatively permanent water, Cowardin classified as Lower Perennial Riverine, and is approximately 0.0025 acres in size within the survey area.

- Unnamed Drainage 3 contained flow during the survey. The drainage is a relatively permanent water, Cowardin classified as Lower Perennial Riverine, and is approximately 0.0102 acres in size within the survey area.

- Upper Truckee River contained flow during the survey. This drainage is a relatively permanent water, Cowardian as Lower Perennial Riverine, and is approximately 0.1442 acres in size within the survey area.

3.1.3.5 Regional Species and Habitats and Natural Communities of Concern

Special status species databases were reviewed to determine the potential for SSS to occur within the Project Impact Area. The following site-specific references and background information was reviewed:

- *California Natural Diversity Database* (CNDDB). 2019. California Department of Fish and Wildlife, Sacramento, CA. Accessed online.

- California Native Plant Society. 2019. *Inventory of Rare and Endangered Vascular Plants of California* (online edition, v8-03). Accessed online.

- Natural Resource Conservation Service. United States Department of Agriculture. *Web Soil Survey*. Accessed online.

- Information for Planning and Conservation (IPaC). 2019. United States Fish and Wildlife Service. Accessed online.

The database review identified a total of 33 special status species known to occur or with the potential to occur within the BSA. Of these species with potential to occur within the BSA, eight have the potential to occur within the Project Impact Area itself due to the presence of suitable habitat, elevation, and other factors. **Table 3** lists all of the special status species that have potential to occur within the BSA as well as a brief rationale as to the possible presence or absence of the species within the Project Impact Area.

Table 3: List of Special Status Species Known to Occur in the Vicinity of Project Impact Area

Species	Regulatory Status				Habitat Requirements	Blooming Period	Potential for Occurrence in the Project Area
	Federal	State	TRPA	CNPS			
Plant Species							
Arabis rigidissima* var. *demota Galena Creek rockcress			SI	1B.2	Broad-leaved upland forests, upper montane coniferous forests on rocky substrates. Known in CA from only two occurrences near Martis Peak and in NV from eleven occurrences in the Carson Range. Elevation range 7,398 to 8,398 feet.	August	**Absent.** Outside of elevation range and site lacks suitable habitat.
Astragalus austiniae Austin's astragalus				1B.3	Alpine boulder and rock field, subalpine coniferous forest. Elevation range 8,005 to 9727 feet.	July to September	**Absent.** Outside of elevation range.
Boechera tularensis Tulare rockcress				1B.3	Perennial herb that prefers rocky slopes, subalpine coniferous forest, and upper montane coniferous forest. Elevation range is from 6,000 to 11,000 feet.	June to July	**Unlikely.** Rocky slopes and rocky areas they prefer are not present on site.
Bolandra californica Sierra bolandra				4.3	Perennial herb that prefers rock crevices and wet cliffs. Elevation range is 3198 to 8040 feet.	June to July	**Unlikely**. Lacks preferred habitat.
Botrychium ascendens Upswept moonwort				2B.3	Wet or moist soils in lower montane coniferous forests, such as along the edges of lakes and streams. Elevation range 4,950 to 6,039 feet.	Fertile early July to early September	**Absent.** Outside of elevation range.
Botrychium crenulatum Scalloped moonwort				2B.2	Lower montane coniferous forests, meadows and seeps, marshes and swamps. Elevation range 4,950 to 10,800 feet.	Fronds mature June to September	**Unlikely.** Not encountered.

Species	Regulatory Status				Habitat Requirements	Blooming Period	Potential for Occurrence in the Project Area
	Federal	State	TRPA	CNPS			
Botrychium minganense Mingan moonwort				2B.2	Wet or moist soils in lower montane coniferous forests, such as along the edges of lakes and streams. Elevation range 4,950 to 6,039 feet.	Fronds mature June to September	**Unlikely.** Not encountered.
Botrychium montanum Western goblin				2B.1	Lower and upper montane coniferous forests, meadows and seeps, on mesic soils. Elevation range 2,100 to 4,800.	Fronds mature July to September	**Absent.** Project area is outside of elevation range. Not encountered.
Carex davyi Davy's sedge				1B.3	Perennial herb that prefers subalpine and upper montane coniferous forests between 5,000 to 10,500 feet; usually in wetlands.	May to August	**Unlikely.** Site contains little suitable habitat. Not encountered.
Carex limosa Mud sedge		S3		2B.2	Perennial rhizomatous herb that prefers bogs, fens, meadows, seeps, marshes, swamps, and both lower and upper montane coniferous forests. Elevation range is between 3,900 and 8,900 feet.	June to August	**Unlikely.** Site contains little suitable habitat. Not encountered. Documented sighting occurs within the Biological Study Area but not within the Project Impact Area.
Epilobium oregonum Oregon fireweed				1B.2	Perennial herb that prefers mesic habitat including bogs and fens, but also lower and upper montane coniferous forests. Elevation range is between 1,650 and 7,300 feet.	June to September	**Possible.** Site contains potential habitat. Not encountered.
Erigeron miser Starved daisy				1B.3	Upper montane coniferous forests in rocky areas. Elevation range is between 2,600 and 8,600 feet.	June to October	**Unlikely.** Site lacks suitable habitat.
Lewisia longipetala Long-petaled lewisia			SI	1B.3	Alpine boulder and rock fields in subalpine coniferous forests. Elevation range 8,325 to 9,740 feet.	June to August	**Absent.** Outside of elevation range.

Species	Regulatory Status				Habitat Requirements	Blooming Period	Potential for Occurrence in the Project Area
	Federal	State	TRPA	CNPS			
Meesia triquetra Three-ranked hump moss				4.2	Bogs and fens, Meadows and seeps, Subalpine coniferous forest, Upper montane coniferous forest (mesic). Elevation 4265 to 13992 feet.	July	**Unlikely.** Unsuitable habitat in Project Impact Area.
Meesia uliginosa Broad-nerved hump-moss				2B.2	Bogs and fens, meadows and seeps in montane coniferous forests. Elevation range 4,290 to 8,250 feet.	July to October	**Unlikely.** Unsuitable habitat in Project Impact Area. Documented occurrence exists within the Biological Study Area but is not within the Project Impact Area.
Polystichum lonchitis Northern holly fern				3	Subalpine coniferous forest, upper montane coniferous forest. Prefers shaded, moist, and wet granite or limestone crevices or bluffs Elevation range 5905 to 8530 feet.	June to September	**Unlikely.** Unsuitable habitat in Project Impact Area.
Scutellaria galericulata Marsh scullcap		S2		2B.2	Lower montane coniferous forest, Meadows and seeps (mesic), marshes and swamps. Elevation range 0 to 6900 feet.	June to September	**Possible.** CNDDB sighting of one individual less than ½ mile away. Not detected.
Silene occidentalis* ssp. *occidentalis Western campion				4.3	Chaparral, Lower montane coniferous forest, Upper montane coniferous forest. Elevation range 4035 to 6560 feet.	June to August	**Possible.** Suitable habitat exists. Not detected.
Herptile Species							

Species	Regulatory Status				Habitat Requirements	Blooming Period	Potential for Occurrence in the Project Area
	Federal	State	TRPA	CNPS			
Rana sierrae Sierra Nevada yellow-legged frog	FE	ST, WL			Typical habitat includes lakes, ponds, marshes, meadows, and streams at high elevations – typically ranging from about 4,500 to 12,000 feet. Sierra Nevada yellow-legged frogs are highly aquatic. They are rarely found more than 3.3 feet from water. Waters that do not freeze to the bottom and which do not dry up are required for breeding.	N/A	**Absent.** Not encountered during surveys and has not been detected near the Project Impact Area for 20 years. The closest observation was near the headwaters of the Upper Truckee River in 2008.
Mammal Species							
Aplodontia rufa californica Sierra Nevada mountain beaver		SSC			Found throughout the Cascade, Klamath, and Sierra Nevada Ranges. Distribution often is scattered; populations local and uncommon in the Sierra Nevada and other interior areas. Occur in dense riparian-deciduous and open, brushy stages of most forest types. Typical habitat in the Sierra Nevada is montane riparian with a dense understory near water. Deep, friable soils are required for burrowing, along with a cool, moist microclimate (Zeiner et al. 1990).	N/A	**Unlikely.** Habitat requirements for cover, breeding, and foraging are is marginal within the Project Impact Area. Sighting reported in BSA but not in Project Impact Area.
Gulo gulo luscus California wolverine	PT	ST, FP			Extensive wilderness dominated by coniferous forest. Wolverines generally den in areas with snags, downed logs, large hollow trees, or talus.	N/A	**Absent.** Suitable alpine habitat is not present in the Project Impact Area. There are very few documented occurrences in the region.

Species	Regulatory Status				Habitat Requirements	Blooming Period	Potential for Occurrence in the Project Area
	Federal	State	TRPA	CNPS			
Lepus americanus tahoensis Sierra Nevada snowshoe hare		SSC			Dense deciduous streamside vegetation, forest undergrowth, dense thickets of young conifers, and patches of chaparral composed of ceanothus and manzanita. Generally associated with brush situated close to meadows.	N/A	**Unlikely.** Suitable habitat does not occur within Project Impact Area.
Odocoileus hemionus Mule Deer			SI		Mule deer have a widespread distribution throughout most of California (CDFW 2018a). Locally, they are common to abundant migrants. Shrubs provide food, cover, and thermoregulation, making them essential habitat criteria. Openings interspersed through dense thickets and abundant edges are preferred. Deer require 3 quarts of water/day/100 lb. (Zeiner et al. 1990), so access to water and mineral licks are also critical features to suitable habitat.	N/A	**Unlikely. No Potential to Impact TRPA Threshold Standard.** Suitable fawning habitat is located within 1 mile of the Project Impact Area. Habitat is not suitable for fawning due to existing disturbance levels.
Taxidea taxus American badger		SSC			Uncommon, permanent resident found throughout most of the state, except in the northern North Coast area (Grinnell et al. 1937). Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Suitable habitat for badgers is characterized by herbaceous, shrub, and open stages of most habitats with dry, friable soils (Zeiner et al. 1990).	N/A	**Unlikely.** Habitat requirements for cover, breeding, and foraging are lacking within the Project Impact Area. Documented sighting occurs within BSA but does not occur within the Project Impact Area.
Fish Species							

Species	Regulatory Status				Habitat Requirements	Blooming Period	Potential for Occurrence in the Project Area
	Federal	State	TRPA	CNPS			
Oncorhynchus clarkii henshawi Lahontan cutthroat trout	FT				Cold-water habitats including large terminal alkaline lakes, and alpine lakes, slow meandering rivers, mountain rivers, and small headwater tributary streams.	N/A	**Absent**. Suitable aquatic habitat is present within the Upper Truckee River but this species has not been seen in the Project Impact Area for twenty-three years.
Bird Species							
Accipiter gentilis Northern goshawk		SSC	SI		Northern goshawk are distributed throughout California in middle to higher elevation forested areas, particularly in the North Coast Ranges through Sierra Nevada, Klamath, Cascade, and Warner Mountains (Zeiner et al. 1990). Locally, they can be yearlong residents and seasonal migrants. Goshawks usually nest on north-facing slopes near water and require mature conifer or aspen forests with large diameter trees, dense canopy cover, and an open under story interspersed with meadows or shrub patches. Open areas provide foraging opportunities, while logs, snags, and broken-top trees are used as "plucking posts" to de-feather prey. Nests are usually located within the largest tree in the stand, next to the bole of the tree, in the lower third of the canopy.	N/A	**Possible. No Potential to Impact TRPA Threshold Standard.** There have been reported sightings of Northern Goshawk outside of the Project Impact Area but within the 1-mile buffer. This species could pass through the Project Impact Area, but suitable breeding habitat is not present in the Project Impact Area.
Aquila chrysaetos Golden eagle	BCC	FP	SI		Partially or completely open terrain around mountains, hills, and cliffs mostly in the western half of the United States. Builds large stick nests, often on cliff faces.	N/A	**Unlikely. No Potential to Impact to TRPA Threshold Standard.** The Project Impact Area is impacted by human use and suitable habitat is lacking.

Species	Regulatory Status				Habitat Requirements	Blooming Period	Potential for Occurrence in the Project Area
	Federal	State	TRPA	CNPS			
Carpodacus cassinii Cassin's finch	BCC				Evergreen forests in mountainous area between 3,000- and 10,000-feet elevation. Nesting usually occurs near the top of conifer trees.	N/A	**Unlikely.** Suitable nesting habitat is present within Project Impact Area, but ongoing human use makes nesting unlikely.
Contopus cooperi Olive-sided flycatcher	BCC	SSC			Breeds in montane and northern coniferous forests, at forest edges and openings, such as meadows and ponds.	N/A	**Possible.** Suitable nesting habitat is present within the Project Impact Area.
Haliaeetus leucocephalus Bald eagle	BCC	SE, FP	SI		Bald eagles have an expansive range with breeding areas in Northern California, wintering mostly in the Klamath Basin, and a few favored inland areas of Southern California. Locally, they are yearlong residents and migrants in the Tahoe Basin. Bald eagles use shorelines along large bodies of water and river courses for both nesting and wintering. Snags, broken-topped trees, or rocks near water are required for foraging and nesting. Most nests are located in large trees with open branches within 1 mile of a water body. In Lake Tahoe, known nesting sites include Emerald Bay and Marlette Lake. Wintering sites are located in Taylor, Tallac, Pope, and Upper Truckee Marshes (Romsos 2000)	N/A	**Unlikely. No Potential to Impact TRPA Threshold Standard**. Suitable habitat does not exist within the project boundary. This species could pass through the Project Impact Area, but preferred breeding habitat is not present in the project area.

Species	Regulatory Status				Habitat Requirements	Blooming Period	Potential for Occurrence in the Project Area
	Federal	State	TRPA	CNPS			
Waterfowl (collectively)			SI		Mallards and other waterfowl are found throughout California in wetlands and waters such as lakes, creeks, drainages, marshes, and wet meadows. Locally, some species such as mallards are common, yearlong residents. While breeding, they need shallow-water areas with nest sites nearby. Usually nests in fairly dry sites in tall, dense herbaceous vegetation or low shrubbery within 300 feet of water, rarely up to 5 miles (Bellrose 1976).	N/A	**Unlikely. No Potential to Impact TRPA Threshold Standard.** TRPA designated Wildlife Habitat for Waterfowl is located within the project area. Waterfowl are known to use nearby Lake Baron for foraging, but existing disturbances and lack of suitable habitat make it unlikely they would nest in the Project Impact Area.
Selasphorus rufus Rufous hummingbird	BCC				Rufous Hummingbirds typically breed in open or shrubby areas, forest openings, yards, and parks, and sometimes in forests, thickets, swamps, and meadows from sea level to about 6,000 feet. During their migration, Rufous Hummingbirds can be found in mountain meadows up to 12,600 feet elevation.	N/A	**Possible.** Suitable habitat exits for this species.
Sphyrapicus thyroideus Williamson's sapsucker	BCC				Breeding habitat is open forested areas with conifers. Nests within tree cavities.	N/A	**Possible.** Suitable habitat exits for this species.

Species	Regulatory Status				Habitat Requirements	Blooming Period	Potential for Occurrence in the Project Area
	Federal	State	TRPA	CNPS			

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

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

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

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

Federally Listed Species (Federal):
FE = Federally Endangered
FT = Federally Threatened
FD = Federally Delisted
PT = Proposed Threatened
FCE = Federally Endangered Candidate
FPD = Proposed for Delisting
BCC = Bird of Conservation Concern

Tahoe Regional Planning Agency (TRPA):
SI = TRPA Special Interest Species

California State Listed Species (CA):
SE = State Endangered
ST = State Threatened
SCT = State Candidate Threatened
SR = State Rare
SC = State Candidate
WL = CDFW Watch List
SSC = CDFW Species of Special Concern
FP = CDFW Fully Protected

California Native Plant Society (CNPS) List Categories:
1 = Rare in California and elsewhere
2 = Rare in California, but not elsewhere
A = Presumed extirpated or extinct
B = Rare, threatened, or endangered
3 = Plants about which we need more information
4 = Plants of limited distribution

CNPS Threat Code Extensions:
.1 = Seriously endangered in California (Over 80% of occurrences threatened)
.2 = Fairly endangered in California (20-80% occurrences threatened)
.3 = Not very endangered in California (<20% of occurrences threatened)

Sources: CDFW 2019, TRPA 2019, USFWS 2019

Chapter 4 – Results: Biological Resources, Discussion of Impacts and Mitigation

4.1 Habitats and Natural Communities of Special Concern

Habitats are of special concern based on (1) federal, state, and local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special status plants or animals occurring on site. None of the plant communities in the Project Impact Area qualify as Natural Communities of Special Concern (Sawyer et al. 2009). WOUS (which includes wetlands) are also considered sensitive by both federal and state agencies but are discussed in more detail in Section 3.1.3.5.

4.1.1 Impacts to Riparian Habitat

Riparian habitat exists within the Project Impact Area along the Upper Truckee River. The Upper Truckee River is the largest tributary of Lake Tahoe and drains over 33 square miles. Its confluence is near Tahoe Keys housing development in Lake Tahoe after flowing north about 24 miles from its headwaters in Meiss Meadows near Carson Pass.

Project Impacts

Conceptual plans indicate there will be impacts to the riparian habitat due to the construction of bridge abutments on each side of the river near the river channel.

Avoidance and Minimization Efforts

The Upper Truckee River is the largest source of sediment to Lake Tahoe; therefore, a rigorous suite of BMP's per TRPA standards will be included in the project's stormwater pollution and prevention plan to protect water quality during construction.

Compensatory Mitigation

Due to the abutments being constructed in the riverbank and possible removal of vegetation in the riparian zone it is likely a Lake and Streambed Alteration Agreement (LSAA) will be required for the project. This agreement will require permit conditions and possible mitigation to offset the potential impacts. If coverage is obtained under the 1602 permit, these requirements will be presented in the final permit document.

Cumulative Impacts

No cumulative impacts are anticipated due to the enactment of compensatory mitigation measures required by the LSAA.

4.2 Special Status Plant Species

A total of 18 special status plant species were identified within a nine-quad search in the vicinity of the Project Impact Area based on historical documentation in the California Natural Diversity Database and the California Native Plant Society's Rare Plant Inventory (**Table 3)**. Four of the 18

species have the potential to occur within the Project Impact Area due to the presence of suitable habitat within or adjacent to the Project Impact Area. The four plants listed are considered to be of special concern based on federal, state, or local laws regulating their protection; however, none of these species are federally listed. No plant SSS with potential to occur were identified during field visits on June 11 or July 10, 2019. Based on the urbanized nature and history of ground disturbance within the majority of Project Impact Area, it is unlikely that any special status species would occur within or adjacent to the Project Impact Area in the future. Since no special status plant species were found to be present, avoidance and minimization efforts, project impacts, compensatory mitigation, and cumulative impacts are not being proposed.

4.3 Special Status Animal Species Occurrences

Animals are considered to be of special concern based on (1) federal, State, or local laws regulating their development; (2) limited distributions; and/or (3) the habitat requirements of special-status animals occurring on site. No special status animal species were found to be present within the Project Impact Area.

A total of 16 special status animal species were identified during the database research of the BSA. Four of the 16 species have the potential to occur with the Project Impact Area due to the presence of suitable habitat as noted in **Table 3.**

Based on suitable habitat for two federal ESA-listed animal species, surveys were conducted for SNYLF and LCT within the Project Impact Area. After two thorough surveys neither of these species was observed in the Project Impact Area.

Survey Results of Special Status Species

Olive-sided flycatchers frequent coniferous forests, especially with tall standing trees. They are strongly associated with spruce, fir, pine, or mixed woodland near edges and clearings. The USFS land for the proposed path alignment could potentially harbor this species due the prevalence of foraging and singing perches located in a recently thinned forest. These birds were not observed or heard during two separate surveys.

Rufous hummingbirds typically breed north of the Sierra Nevada and at lower elevations than the Project Impact Area. They could potentially be found in the Project Impact Area foraging on their migration flights north or south. These birds are attracted to colorful tubular flowers including paintbrush, columbine, and larkspur. These birds were not observed or heard during two separate surveys.

Williamson's sapsuckers are year-round residents of the Sierra Nevada that prefer higher conifer forests. They nest in tree cavities usually in pine, fir, or aspen. Nests are found 5 to 60 feet above ground and are usually found in trees with a living outer layer and dead heartwood. They feed on sap from tiny holes drilled in bark that excrete sap. Insects and some small fruits are also part of their diet. These birds could be foraging in the Project Impact Area but were not observed or heard during any surveys.

Northern goshawks can be year-round residents or migratory depending on their prey population size and distribution. They typically construct nests in large conifer trees just below canopy level often in the largest tree in the stand. Foraging goshawks move rapidly through the forest, perch

to perch, punctuated with brief periods of prey searching. Northern goshawks hunt by flying rapidly along forest edges, across openings, and through dense vegetation to surprise prey. Easily startled by human activity, northern goshawks prefer to forage near intact large forests. These birds could pass through the Project Impact Area, but low-quality habitat on and nearby the project impact area suggest breeding and primary foraging will occur elsewhere. Northern goshawks were not observed or heard during the reconnaissance-level surveys.

During the two reconnaissance-level surveys conducted on June 11 and July 10, 2019, no LCT were observed. The reach of the Upper Truckee River near the Project Impact Area is characterized by a rapid stream velocity with deep eroding cut banks and no vegetated cover. LCT generally occur in cool flowing water with available cover and well-vegetated, stable stream banks, in areas where there are stream velocity breaks, and in relatively silt free, rocky riffle-run areas (Purdy et al., 2014).

Two visual encounter surveys for SNYLF were performed on June 11 and July 10, 2019 due to the presence of suitable habitat for this for species next to the upper Truckee River. The VES surveys were conducted at the proposed bridge crossing location. No SNYLF individuals were observed during the surveys.

Project Impacts

The SNYLF is listed as an endangered species in accordance with the federal Endangered Species Act. The criterion for the listing was based on the danger of extinction throughout the species entire range and on the immediacy, severity, and scope of the threats to its continued existence. These threats include predation, habitat degradation and fragmentation, poor regulatory protection, climate change and the impact of these various stressors on existing remnant populations. A drastic reduction in the former abundance and geographic extent of these frogs has occurred after decades of stocking predatory fish, habitat fragmentation, and a disease epidemic. All these factors that contribute to population stress makes survival of the species tenuous throughout the currently occupied range in the Sierra Nevada range.

Based on 2019 surveys, historical occurrences, the proposed project improvements, and our professional opinion, the proposed project will have no effect on SNYLF. There are several lines of evidence that support this conclusion. The flow rate within the Upper Truckee River channel is too great to support SNYLF's foraging and breeding requirements. There is an overall lack of nearby inlet streams that accommodate breeding. The presence of introduced predatory fish in the river system have "eliminated or reduced mountain yellow legged frog population frogs in stocked habitats" which precludes successful breeding of SNYLF in the Upper Truckee River. (US Fish and Wildlife Service 2014) It is important to recognize that, throughout the vast majority of its range, Sierra Nevada yellow-legged frogs did not co-evolve with any species of fish, as they predominantly occur in water bodies above natural fish barriers." (US Fish and Wildlife Service 2014) Finally, historic nearby occurrences are nearly a decade old (last sighting 2011) at much higher alpine elevations near Desolation Wilderness.

The LCT have been extirpated from 95 percent of their habitat in California. The introduction of non-native trout, logging, mining, road and railroad building, human land use activities, and commercial harvest of this species rapidly reduced the distribution and abundance of this species. The only high elevation, self-sustaining population of LCT in the Sierra Nevada range is located near Meiss Meadows (USDA 2015).

The large amount of non-native trout living in the Upper Truckee River are highly predatory on young LCT making their reproductive success extremely difficult. Also absent from the Project Impact Area are key habitat factors including available cover, velocity breaks, and well-vegetated stable stream banks.

This project was specifically designed to avoid any adverse effects to the river channel. With measures being taken to keep bridge footings out of the river and to keep construction work completely out of the river channel, no effect on LCT is anticipated.

Avoidance and Minimization Efforts

The Upper Truckee River is the largest source of sediment to Lake Tahoe; therefore, a rigorous suite of BMP's per TRPA standards will be included in the project's stormwater pollution and prevention plan to protect water quality during construction.

Compensatory Mitigation

By staying outside of the river channel, there will be no effect on LCT from construction activities. Therefore, no compensatory mitigation is proposed for the LCT or SNYLF.

Cumulative Impacts

The Tahoe Paradise Recreation and Park District are in the initial planning stages for potential improvements to Park facilities including improvements to the to the clubhouse, courts, playground, erosion control along the river, enhanced ball fields, picnic area, and new facilities (e.g., ADA loop trail around Lake Baron, pavilion near the picnic area, and restroom across from the clubhouse).

Because erosion control projects would be the only improvements at the location of the proposed river crossing, Park improvements will not result in cumulatively significant impacts to the LCT or SNYLF. Besides ongoing maintenance of existing Park facilities, proposed Park improvements and facilities, and the identification of necessary restoration of erosion along the banks of the Upper Truckee River, no other cumulative effects are anticipated in the Project Impact Area for any special status species or federally listed species.

Chapter 5 – Conclusions and Regulatory Determinations

5.1 Federal Endangered Species Act Consultation Summary

A USFWS species list was acquired for this Project on April 25, 2019 (**Appendix D**). According to this list, federally listed species that may occur in the BSA include Sierra Nevada yellow-legged frog and Lahontan cutthroat trout.

Two VES for SNYLF were conducted with negative detections within and nearby the Project Impact. Historical occurrences of SNYLF are dated and geographically disparate from the Project Impact Act. The construction footprint of the bridge in the area of potential habit has been designed to avoid impacts to the edge of the river and the channel of the river. Therefore, the proposed projects are anticipated to have no effect on SNYLF.

Essential Fish Habitat Consultation Summary

Essential Fish Habitat consultation was not initiated with NOAA Fisheries since no Essential Fish Habitat was identified within the Project Impact Area.

California Endangered Species Act Consultation Summary

No take of state-listed species is anticipated, and no state-listed species have been identified during reconnaissance-level surveys. Due to lack of quality habitat and the fragmented nature of native vegetation, the species listed in the California ESA are not likely to be present in the Project Impact Area Therefore, no effects to California-listed endangered species are anticipated as a result of project activities. A California Endangered Species Act consultation has not occurred due to the lack of designated critical habitat for California-listed endangered species within the Project Impact Area.

Wetlands and Other Waters Coordination Summary

A formal WOUS delineation was conducted within the Project Impact Area. Approximately 6.74 acres were delineated within the Project Impact Area. A total of four drainages were delineated as potentially jurisdictional as WOUS and Waters of the State of California. Three drainages are unnamed drainages, and the fourth drainage is the Upper Truckee River. Below is the proposed jurisdictional acreage per drainage:

- Unnamed Drainage 1 is approximately 0.0015 acres in size within the survey area.
- Unnamed Drainage 2 is approximately 0.0025 acres in size within the survey area.
- Unnamed Drainage 3 is approximately 0.0102 acres in size within the survey area.

Upper Truckee River is approximately 0.1442 acres in size within the survey area.
The Aquatic Resources Delineation Report will be submitted to the USACE for a Jurisdictional Determination. NCE is requesting that a USACE Approved Jurisdictional Determination be provided for this Project.

The following permits are not required for the project:

- There are no proposed impacts to the Upper Truckee River or the three unnamed drainages. Due to this, a Section 404 permit is not needed from the USACE.

The following permit is required for the project:

- Due to the potential to indirectly impacts waters of the State of California, an *Application for Clean Water Act Section 401 Water Quality Certification and/or Waste Discharge Requirements for Projects Involving Discharge of Dredged and/or Fill Material to Waters of the U.S. and/or Waters of the State* application will be completed and submitted to the Lahontan Regional Water Quality Control Board.

Invasive Species

Two invasive weeds were identified within the Project Impact Area: Curly dock (*Rumex* crispus), and mullein (*Verbascum Thapsus*). According to the California Invasive Plant Council wooly mullein and curly dock are rated as "limited".

The following weed best management practices will be implemented in order to prevent the spread of noxious weeds during project activities:

- All hay, straw, hay bales, straw bales, seed, mulch or other material used for erosion control or landscaping shall be free of noxious weed seeds and propagules. Noxious weeds are defined in Title 3, Division 4, Chapter 6, Section 4500 of the California Code of Regulations and the California Quarantine Policy – Weeds.

- All equipment brought to a project site for construction shall be thoroughly cleaned of all dirt and vegetation prior to entering the site in order to prevent importing noxious weeds.

- All materials brought to a project site, including rock, gravel, road base, sand, and topsoil, shall be free of noxious weed seeds and propagules.

- The property owner shall maintain and implement an effective program for the monitoring and control of noxious weeds.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act makes it unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, or kill migratory birds. The law applies to the removal of nests (such as swallow nests on bridges) occupied by migratory birds during the breeding season. California Fish and Game (CDFG) Code (Section 3500) also prohibits the destruction of any nest, egg, or nestling. If vegetation removal or construction occurs during the nesting season (typically February 1 through September 1) then a survey for active bird nests shall be conducted by a qualified biologist no more than two weeks prior to initiation of construction activities. If nests are identified, then mitigation measures must be implemented.

Chapter 6 – References

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Appendix A – Figures

Legend

Project Impact Area

San Bernardino Class 1 Bike Path Project

Project Impact Area

N

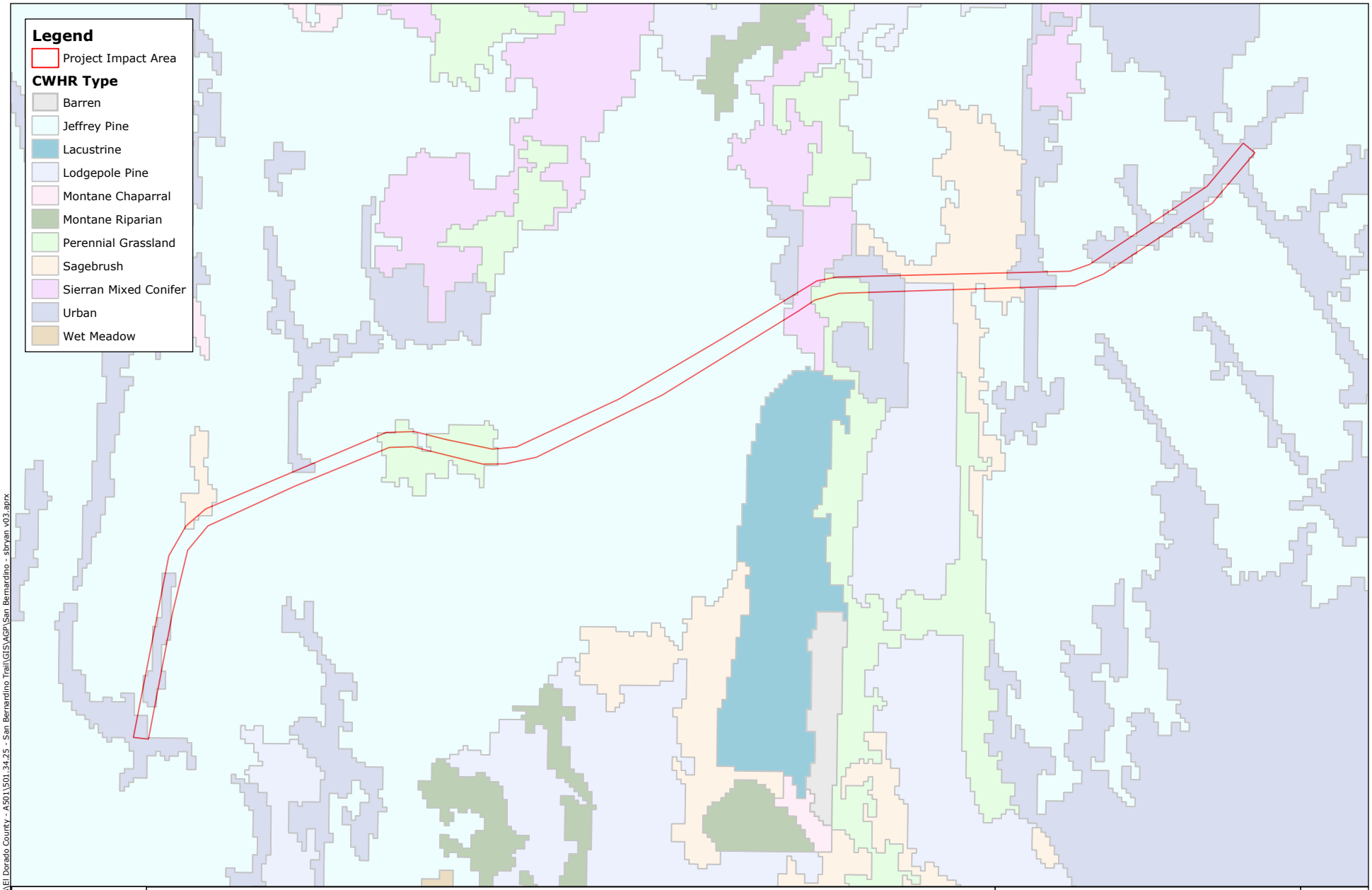
1 in. = 500 ft.

0 500 ft.

FIGURE 1

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2019	501.34.25	sbryan	8/26/2019	9/10/2019	qradford

Document Path: P:\Active Projects\El Dorado County - A501\501.34.25 - San Bernardino Trail\GIS\AGP\San Bernardino - sbryan v03.aprx



San Bernardino Class 1 Bike Path Project

CWHR Type (Vegetation Communities)

N

1 in. = 500 ft.

0 500 ft.

FIGURE 2

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2019; California Wildlife Habitat Relationships Dataset	501.34.25	sbryan	8/23/2019	9/6/2019	drios

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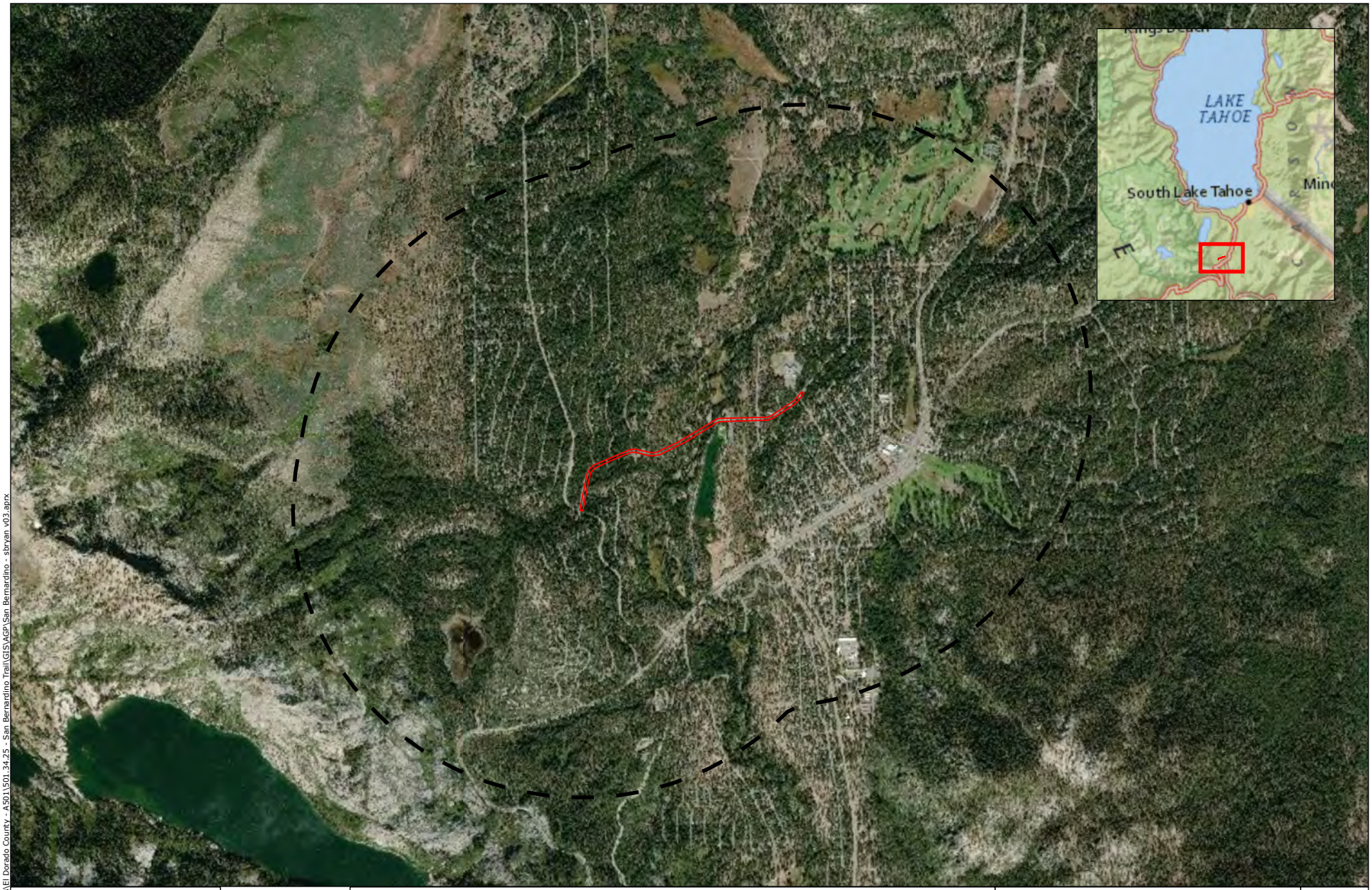


Legend

- Project Impact Area
- 1 Mile Buffer

NCE

San Bernardino Class 1 Bike Path Project

Biological Study Area (BSA)

N

1 in. = 2,500 ft.

0 2,500 ft.

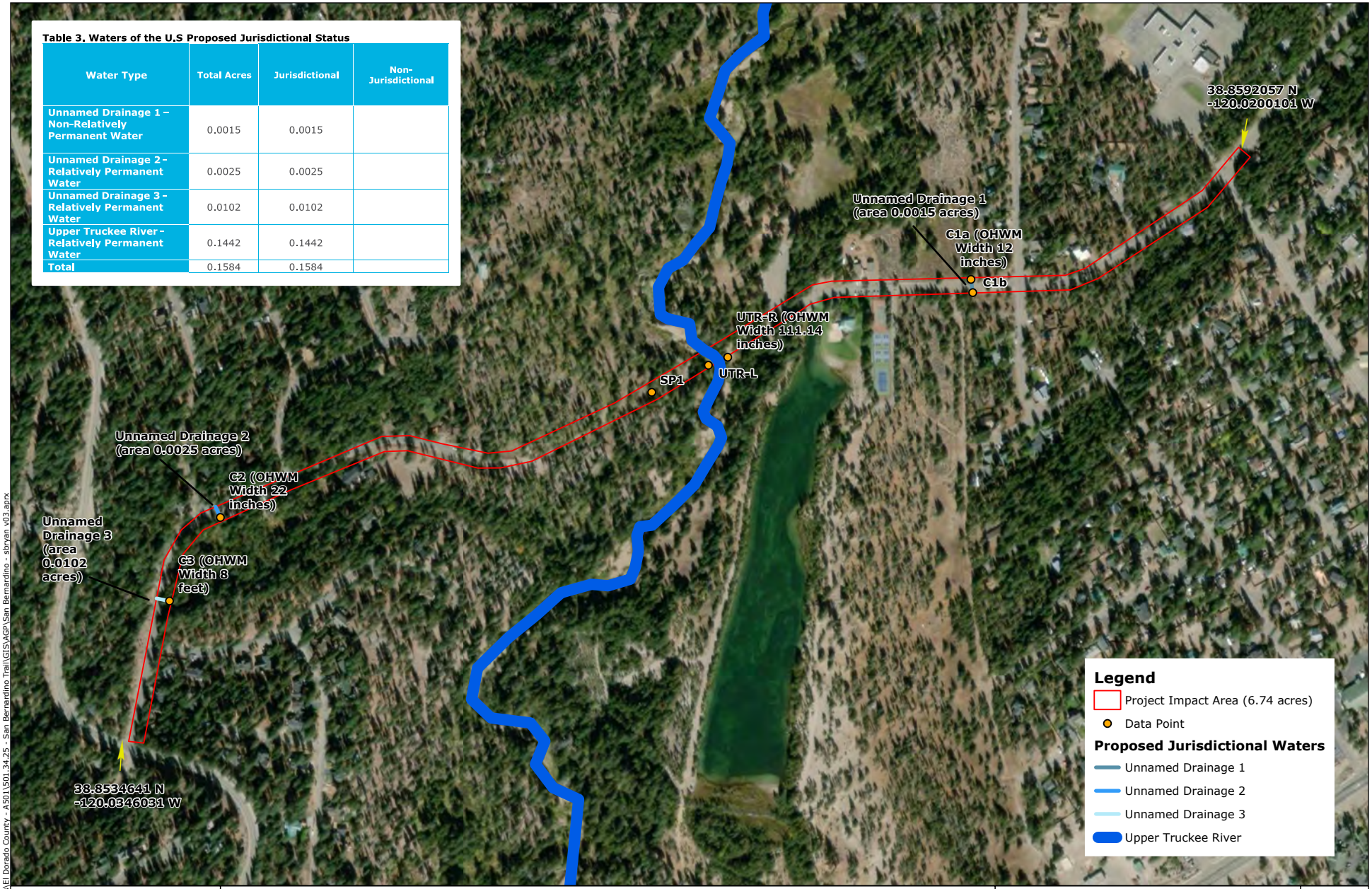
FIGURE 3

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2019	501.34.25	sbryan	8/26/2019	9/10/2019	qradford

Document Path: P:\Active Projects\El Dorado County - A501\501.34.25 - San Bernardino Trail\GIS\AGP\San Bernardino - sbryan v03.aprx

Table 3. Waters of the U.S Proposed Jurisdictional Status

Water Type	Total Acres	Jurisdictional	Non-Jurisdictional
Unnamed Drainage 1 – Non-Relatively Permanent Water	0.0015	0.0015	
Unnamed Drainage 2 – Relatively Permanent Water	0.0025	0.0025	
Unnamed Drainage 3 – Relatively Permanent Water	0.0102	0.0102	
Upper Truckee River – Relatively Permanent Water	0.1442	0.1442	
Total	0.1584	0.1584	



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NCE

San Bernardino Class 1 Bike Path Project

Proposed Delineation Map

N

1 in. = 500 ft.

0 500 ft.

FIGURE 4

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2019	501.34.25	sbryan	8/26/2019	9/6/2019	drios

Legend

Project Impact Area

San Bernardino Class 1 Bike Path Project

Project Location Map

N

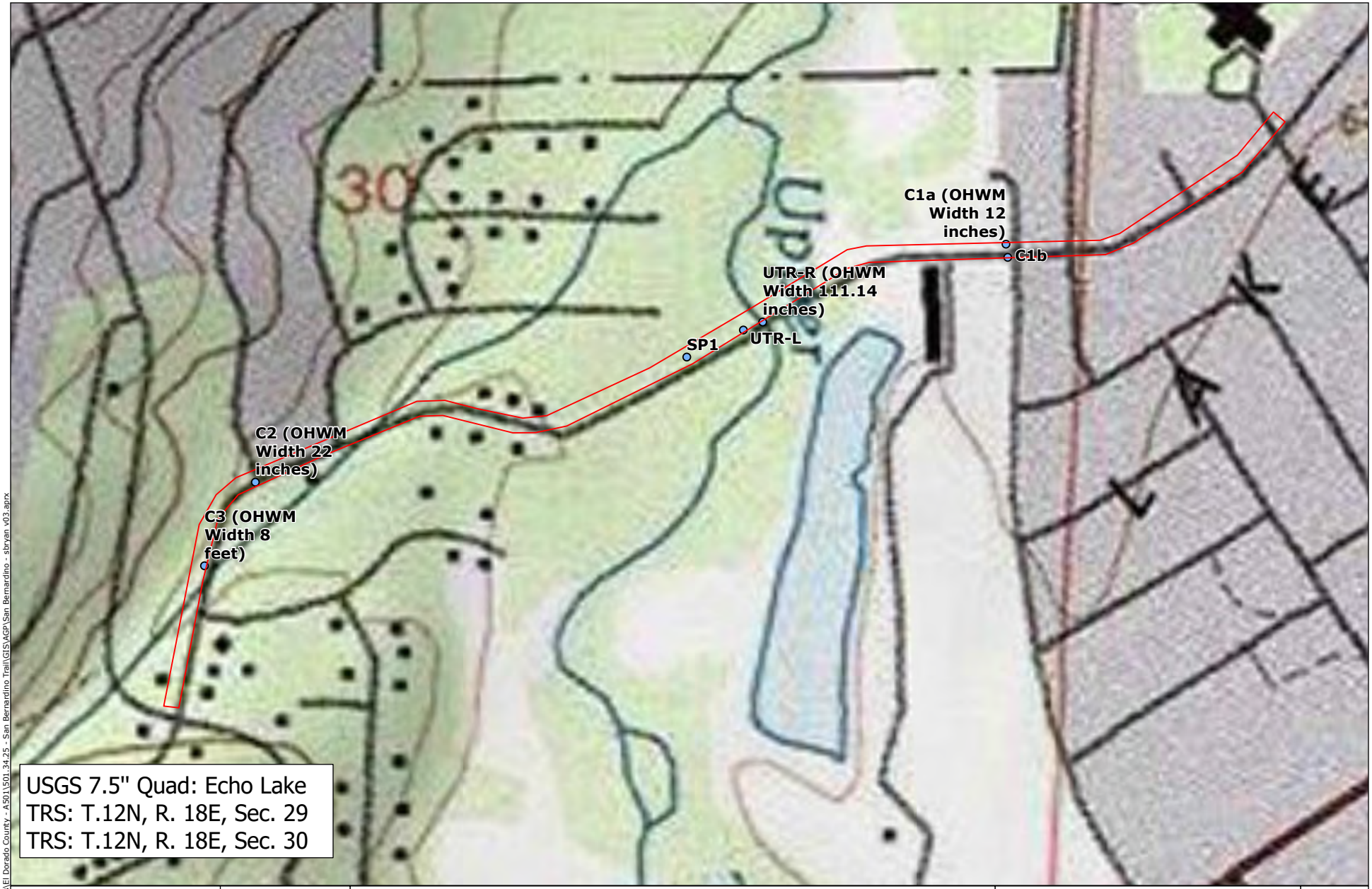
1 in. = 10,000 ft.

0 5,000 10,000 ft.

FIGURE 5

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2019	501.34.25	sbryan	8/26/2019	9/10/2019	qradford

Document Path: P:\Active Projects\El Dorado County - A501\501.34.25 - San Bernardino Trail\GIS\AGP\San Bernardino - sbryan v03.aprx



Legend

Project Impact Area

San Bernardino Class 1 Bike Path Project

Topographic Quadrangle Map

N

1 in. = 500 ft.

0 500 ft.

FIGURE 6

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
USA Topographic Data; NCE 2019	501.34.25	sbryan	8/26/2019	9/10/2019	qradford

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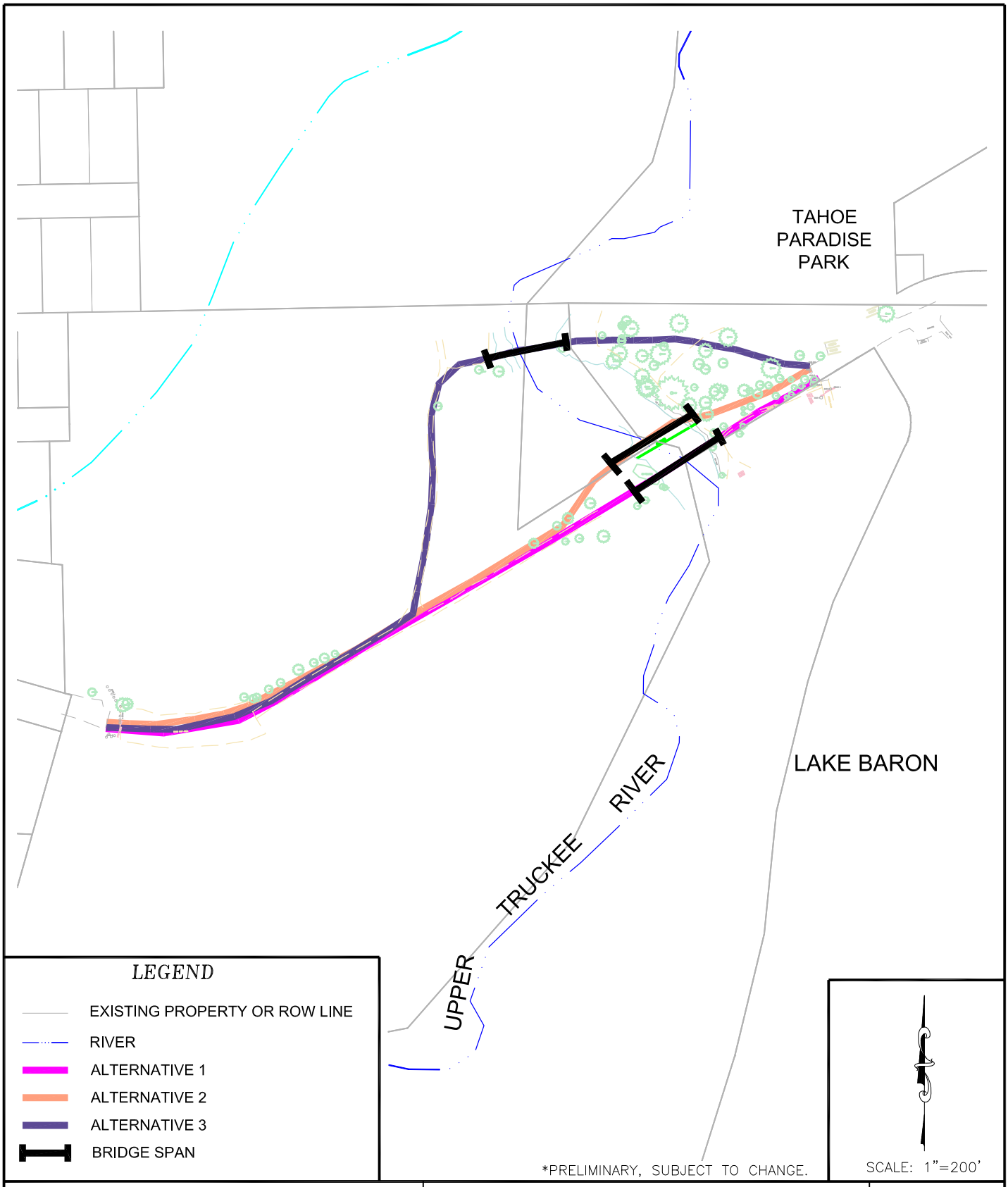
Appendix B – Preliminary Construction Plans



COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION
SOUTH LAKE TAHOE OFFICE

SAN BERNARDINO CLASS 1 BIKE TRAIL

ALIGNMENT ALTERNATIVES

FIGURE 15

DATE:	PROJECT NO.:	BY:
10/2018	95117	dsp

INDEX OF SHEETS

SHEET NO.	SHEET NAME	TITLE
1	i	TITLE SHEET
2	ii	GENERAL NOTES, ABBREVIATIONS, AND LEGEND
X	L-1	LAYOUT STA 10+ 00 – 14+00
X	L-2	LAYOUT STA 14+00 – 18+00
X	L-3	LAYOUT STA 18+00 – XX+XX
X	C-1	CONSTRUCTION DETAILS
X	EC-1	TEMPORARY EROSION CONTROL PLAN
X	EC-2	TEMPORARY EROSION CONTROL DETAILS
X	PD-1	SIGNING AND PAVEMENT DELINEATION
X	PD-2	SIGNING AND PAVEMENT DELINEATION
X	PD-3	SIGNING AND PAVEMENT DELINEATION

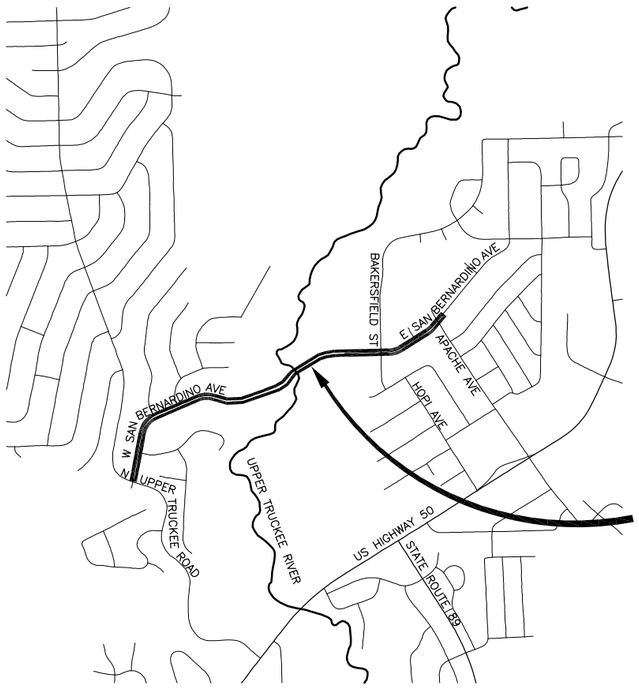
COUNTY OF EL DORADO, CA
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR THE CONSTRUCTION OF THE 2020

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT

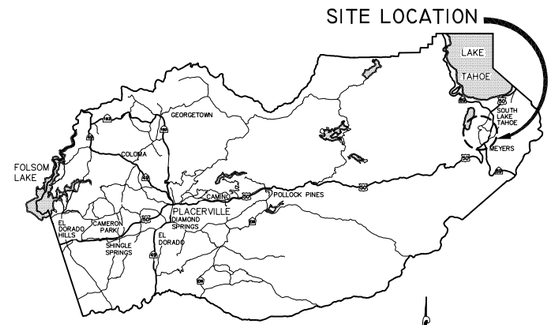
IN THE COUNTY OF EL DORADO, DISTRICT 5,
PORTION OF SEC 29, PORTION OF EAST 1/4 SEC 30, PORTION OF
SOUTH 1/4 SEC 20, T12N, R18E, MDM

To be supplemented with 2015 Standard Plans and Specifications of the California Department of Transportation, unless otherwise noted.



LOCATION MAP

SCALE: 1" = 1000'



VICINITY MAP

COUNTY OF EL DORADO

FUNDING AGENCY

CONGESTION MITIGATION AND AIR QUALITY PROGRAM
TAHOE REGIONAL PLANNING AGENCY

CONTRACTOR'S LICENSE CLASSIFICATION: Bidders shall be properly licensed to perform the Work pursuant to the State Contractor's License Law (Business and Professions Code section 7000 et seq.) and shall possess a CLASS A LICENSE or equivalent combination of Classes required by the categories and type of Work included in the Contract Documents and Plans, at the time the Contract is awarded, and shall maintain a valid license through completion and acceptance of the Work including guarantee and warranty period. If the Contractor possesses a Class A license instead of the equivalent combination of Classes required by the categories and type of work included in the Contract Documents and Plans, then the Contractor or a subcontractor must also possess a CLASS C27 "Landscaping Contractor" license. Failure of the successful Bidder to obtain proper and adequate licensing for an award of the Contract shall constitute a failure to execute the Contract, and shall result in forfeiture of the Bidders security.

REVISIONS

MARK	DATE	BY	

Preliminary

For informational purposes only.

Not for construction.

MONTH XX, 20XX

SUBMITTED BY: DONALDO S. PALAROAN P.E. DATE
SENIOR CIVIL ENGINEER
STATE OF CALIFORNIA NO. C66083

BOARD OF SUPERVISORS

JOHN HIDAHL	I
SHIVA FRENTZEN	II
BRIAN K. VEERKAMP	III
LORI PARLIN	IV
SUE NOVASEL	V

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

(530) 573-7900 (530) 621-5900
924 B EMERALD BAY ROAD 2850 FAIRLANE CT
SOUTH LAKE TAHOE, CA PLACERVILLE, CA
96150 95667

ADOPTED AND APPROVED BY:

DATE

SUE NOVASEL
CHAIR, EL DORADO COUNTY BOARD OF SUPERVISORS

APPROVED BY:

DATE

RAFAEL MARTINEZ, DIRECTOR
DEPARTMENT OF TRANSPORTATION

DATE

JOHN H. KAHLING, P.E. NO. C52426
DEPUTY DIRECTOR, ENGINEERING

CONTRACT NO. ????, CIP NO. 95117

SAN BERNARDINO CLASS 1
BIKE TRAIL PROJECT

TITLE SHEET

SHEET 1 OF ?

Drawing name: \\CDAData5\TD-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MPLAN\01_SB_ 1_Title.dwg

GENERAL NOTES

1. ALL IMPROVEMENTS WILL BE ACCOMPLISHED UNDER THE APPROVAL, INSPECTION, AND TO THE SATISFACTION OF THE COUNTY OF EL DORADO DEPARTMENT OF TRANSPORTATION (DOT). IMPROVEMENT CONSTRUCTION MUST COMPLY WITH THESE PLANS AND THE 2015 CALTRANS STANDARD PLANS, UNLESS NOTED OTHERWISE. ALL REFERENCES TO THE "STANDARD SPECIFICATIONS" MEAN THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION (CALTRANS) 2015 STANDARD SPECIFICATIONS. CONSTRUCTION NOT SPECIFIED ON THESE PLANS OR IN SPECIFIC COUNTY OF EL DORADO (COUNTY) ORDINANCES MUST CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS. YOU ARE OBLIGATED TO BE FAMILIAR WITH APPLICABLE SECTIONS OF THE STANDARD SPECIFICATIONS NOT DISCUSSED IN THE GENERAL NOTES. THE CONTRACT SPECIAL PROVISIONS SUPERSEDE THE STANDARD SPECIFICATIONS WHERE DISCREPANCIES OCCUR.

2. CONSTRUCTION HOURS WILL BE WEEKDAYS BETWEEN 8:00 A.M. AND 6:30 P.M. UNLESS PRIOR APPROVAL IS RECEIVED FROM DOT.

3. THE LOCATIONS AND EXTENT OF UNDERGROUND UTILITIES IN THE WORK AREA AS SHOWN ARE APPROXIMATE AND ARE NOT NECESSARILY COMPLETE. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE UTILITIES BASED UPON AVAILABLE RECORDS. YOU MUST DETERMINE THE TYPE, LOCATION, SIZE, AND/OR DEPTH OF THE UTILITIES WITHIN THE WORK AREA BEFORE STARTING WORK. YOU OR ANY SUBCONTRACTOR FOR THIS CONTRACT ARE RESPONSIBLE FOR DAMAGES DUE TO THE FAILURE TO EXACTLY LOCATE AND PRESERVE UNDERGROUND UTILITIES. YOU MUST CONTACT UNDERGROUND SERVICE ALERT AT (800) 642–2444 AT LEAST 48 HOURS BEFORE ANY CONSTRUCTION. YOU ASSUME COMPLETE RESPONSIBILITY FOR DAMAGED UTILITIES.

4. UNLESS SHOWN OTHERWISE, YOU ARE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SURVEY MONUMENTS AND OTHER SURVEY MARKERS, INCLUDING CONSTRUCTION STAKES DURING CONSTRUCTION AND YOU ARE RESPONSIBLE FOR THE COST TO REPLACE ANY SUCH SURVEY MONUMENTS, MARKERS, OR STAKES.

5. YOU WILL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAGGERS, PILOT CAR, OR OTHER DEVICES NECESSARY TO CONTROL TRAFFIC THROUGH THE JOB SITE AND FOR PUBLIC SAFETY UNDER THESE PLANS, THE STANDARD SPECIFICATIONS, AND CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

6. YOU AGREE TO ASSUME SOLE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF THE WORK, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, AND FURTHER AGREE THAT THIS REQUIREMENT APPLIES CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS UNDER THE CONTRACT AND STANDARD SPECIFICATIONS.

7. THERE WILL BE NO GRADING OR LAND DISTURBANCE BETWEEN OCTOBER 15 AND MAY 1 UNLESS APPROVALS ARE OBTAINED FROM THE TAHOE REGIONAL PLANNING AGENCY (TRPA), AS PROVIDED IN THE LIMITED EXEMPTION DESCRIBED IN CHAPTER 64, SUBSECTION 64.2.B. OF THE TRPA CODE OF ORDINANCES. APPROVALS FOR GRADING BETWEEN OCTOBER 15 AND MAY 1 MUST ALSO BE OBTAINED FROM THE LAHONTAN REGIONAL WATER QUALITY CONTROL BOARD. IF REQUIRED, DOT WILL OBTAIN THESE APPROVALS.

8. YOU WILL MAINTAIN A SET OF PLANS ON THE JOB SITE SHOWING "AS–CONSTRUCTED" CHANGES MADE TO DATE. UPON COMPLETION OF THE WORK, YOU WILL GIVE TO THE COUNTY A SET OF PLANS, MARKED UP TO THE SATISFACTION OF DOT, REFLECTING THE AS–CONSTRUCTED MODIFICATIONS.

9. ALL CONTROL STATIONING AND DATA DIMENSIONING REFERENCE THE CENTERLINE OF THE FACILITY SHOWN, UNLESS NOTED OTHERWISE.

10. YOU WILL NOT CLOSE OFF ANY UTILITY LINES OR OPEN VALVES OR TAKE ANY OTHER ACTION WHICH WOULD AFFECT THE OPERATION OF WATER OR SEWER SYSTEMS WITHOUT APPROVAL FROM THE SOUTH TAHOE PUBLIC UTILITY DISTRICT (STPUD). APPROVAL MUST BE REQUESTED AT LEAST 48 HOURS BEFORE INTERRUPTION OF THE UTILITY SERVICE IS REQUIRED. ANY INTERRUPTION TO ACTIVE WATER OR SEWER SERVICES, INCLUDING FIRE HYDRANTS, WHETHER INTENTIONAL OR NOT, MUST BE KEPT TO A MINIMUM TIME PERIOD. IF SERVICE TO BUILDINGS IS TO BE OFF FOR MORE THAN FOUR HOURS, YOU MUST ADVISE STPUD.

11. YOU ARE REQUIRED TO IMPLEMENT DUST CONTROL MEASURES TO ENSURE THAT DUST RESULTING FROM YOUR ACTIVITIES IS CONTROLLED AND COMPLIES WITH THE PROVISIONS OF SECTION 7, "LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC," AND SECTION 14, "ENVIRONMENTAL STEWARDSHIP," OF THE STANDARD SPECIFICATIONS, COUNTY, AND LOCAL ORDINANCES.

12. YOU ARE RESPONSIBLE FOR IMPLEMENTING ALL TEMPORARY EROSION CONTROL MEASURES. THE TEMPORARY EROSION CONTROL MEASURES MUST COMPLY WITH THE TRPA "HANDBOOK OF BEST MANAGEMENT PRACTICES" AND THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP). DOT WILL CONTACT TRPA BEFORE THE START OF THE WORK FOR A PRE–GRADE INSPECTION OF THE INSTALLED TEMPORARY EROSION CONTROL FACILITIES. YOU ARE RESPONSIBLE FOR THE MAINTENANCE AND PERFORMANCE OF THE TEMPORARY EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE WORK.

13. CONSTRUCTION LIMITS SHOWN DELINEATE THE BOUNDARIES FOR YOUR ACTIVITIES BEYOND THE COUNTY ROAD RIGHT–OF–WAY. TEMPORARY FENCE (TYPE ESA) MUST BE ERECTED ALONG THESE BOUNDARIES BEFORE WORK STARTS. VEGETATION WITHIN THESE LIMITS MUST BE PROTECTED TO THE EXTENT FEASIBLE. ALL TREES MUST BE PROTECTED UNLESS SHOWN TO BE REMOVED.

14. UNLESS NOTED OTHERWISE, ALL REVEGETATION IS TO BE COMPLETED BY OTHERS.

15. YOU WILL ONLY USE THE DESIGNATED SITES SHOWN FOR STORAGE OF EQUIPMENT AND MATERIALS. YOU ARE RESPONSIBLE FOR THE SECURITY OF EQUIPMENT AND MATERIALS.

16. IT IS YOUR AND YOUR SUBCONTRACTOR(S) RESPONSIBILITY TO EXAMINE THE JOB SITE BEFORE THE OPENING OF BID PROPOSALS. YOU MUST BECOME FAMILIAR WITH THE NATURE AND LOCATION OF THE WORK AND THE GENERAL AND LOCAL CONDITIONS, PARTICULARLY THOSE AFFECTING THE AVAILABILITY OF TRANSPORTATION, THE DISPOSAL, HANDLING, AND STORAGE OF MATERIALS, AVAILABILITY OF LABOR, WATER, ELECTRICITY, ROADS, THE UNCERTAINTIES OF WEATHER, THE CONDITIONS OF THE GROUND, SURFACE AND SUBSURFACE MATERIALS, THE EQUIPMENT AND FACILITIES NEEDED FOR AND DURING THE PERFORMANCE OF THE WORK. FAILURE BY YOU OR YOUR SUBCONTRACTOR(S) TO ACQUAINT YOURSELVES WITH THE INFORMATION AVAILABLE WILL NOT RELIEVE YOU OR YOUR SUBCONTRACTOR(S) FROM RESPONSIBILITY FOR PROPERLY ESTIMATING THE DIFFICULTY AND COST OF SUCCESSFULLY PERFORMING THE WORK.

17. ELEVATIONS FOR PIPE INVERTS, FLOWLINES, TOPS OF GRATES, RIMS, ETC., ARE BASED ON THE TOPOGRAPHIC INFORMATION SHOWN. YOU WILL VERIFY ALL NECESSARY SURFACE ELEVATIONS IN THE FIELD AND NOTIFY THE TD OF ANY DISCREPANCIES WHICH MIGHT AFFECT THE OPERATION OF THE NEW FACILITIES BEFORE BREAKING GROUND FOR THE INSTALLATION. DOT MUST BE CONTACTED IF ELEVATIONS ARE INCORRECT SO PROPER ADJUSTMENTS CAN BE MADE BEFORE THE INSTALLATION OF THE FACILITIES.

18. EXCEPT FOR THOSE OBTAINED BY DOT, YOU MUST OBTAIN, AT YOUR EXPENSE, ALL PERMITS, LICENSES, INSURANCE POLICIES, ETC., NECESSARY TO COMPLY WITH STATE AND LOCAL LAWS ASSOCIATED WITH THE PERFORMANCE OF THE WORK.

19. YOU ARE RESPONSIBLE TO REVIEW THE CONTRACT DOCUMENTS FOR SUBMITTALS REQUIRED FOR COUNTY REVIEW AND ACCEPTANCE.

20. THE COUNTY WILL PROVIDE CONSTRUCTION STAKING IN COMPLIANCE WITH SECTION 5–1.26 OF THE STANDARD SPECIFICATIONS.

21. THE PLANS SHOW SLOPE LENGTHS FOR PIPE ROUNDED TO THE NEAREST FOOT. ALL PIPE LENGTHS AND INVERT ELEVATIONS SHOWN ON THE PLANS ARE TO THE CENTERLINE OF THE STRUCTURES TO WHICH THE PIPES ARE ATTACHED. SEE THE STANDARD SPECIFICATIONS FOR THE MAXIMUM ALLOWABLE DEFLECTION ANGLE AT EACH PIPE JOINT.

22. YOU ARE RESPONSIBLE TO MAINTAIN THE GRADING LIMITS AS SHOWN ON THE PLANS, DETAILS, CROSS SECTIONS, AND AS DIRECTED BY THE ENGINEER.

ABBREVIATIONS

NOTE: LOWER CASE TEXT WITHIN PLAN SET INDICATES EXISTING

△	DELTA = DEFLECTION ANGLE
A	ARCH OR ASPEN
AB	AGGREGATE BASE
ABAND	ABANDONED
ABC	ARTICULATED BLOCK CHANNEL
AC	ASPHALT CONCRETE
AP	ANGLE POINT
APN	ASSESSOR'S PARCEL NUMBER
BC	BEGIN CURVE
BCR	BEGIN CURB RETURN
BGN	BEGIN
BLC	BLANKET–LINED CHANNEL
BV	BAY VIEW
BVCE	BEGIN VERTICAL CURVE ELEVATION
BVCS	BEGIN VERTICAL CURVE STATION
C	CEDAR
CALCS	CALCULATIONS
CATV	CABLE TELEVISION
CC	CENTER TO CENTER
CF	CUBIC FEET OR CURB FACE
CHD	CHORD DIRECTION
CIR	CIRCLE
℄	CENTERLINE
CL	CLASS OR CENTERLINE
CLR	CLEAR
CO	CURB OPENING OR CLEANOUT
CO.	COUNTY
CONC	CONCRETE
CONST	CONSTRUCT
CMP	CORRUGATED METAL PIPE
CR	CEDAR RIDGE
CSP	CORRUGATED STEEL PIPE
CT	CALTRANS OR COURT
CTC	CALIFORNIA TAHOE CONSERVANCY
CY	CUBIC YARD
C&G	CURB AND GUTTER
D	DEPTH
DBL	DOUBLE
DET	DETAIL
DI	DRAINAGE INLET OR DUCTILE IRON
DIA OR ⌀	DIAMETER
DISS	DISSIPATOR
DR	DRIVE
D/W	DRIVEWAY
E	EAST
EA	EACH
EC	END OF CURVE
ECR	END OF CURB RETURN
ELEV	ELEVATION
ELEC	ELECTRIC
ENGR	ENGINEER
EP	EDGE OF PAVEMENT
ESA	ENVIRONMENTALLY SENSITIVE AREA
ESMT	EASEMENT
EVCE	END VERTICAL CURVE ELEVATION
EVCS	END VERTICAL CURVE STATION
EX OR EXIST	EXISTING
F	FIR
FES	FLARED END SECTION
FG	FINISHED GRADE
FH	FIRE HYDRANT
FL	FLOWLINE
FS	FINISH SURFACE
G	GAS
GA	GAUGE
GB	GRADE BREAK
GLS	GRASS–LINED SWALE
GW	GROUND WATER
H	HORIZONTAL
HDPE	HIGH DENSITY POLYETHYLENE
HP	HIGH POINT
HWL	HIGH WATER LINE
ID	INSIDE DIAMETER
IE	INVERT ELEVATION
INCR	INCREASE
INST	INSTALL
INTRXN	INTERSECTION
L	LENGTH
LC	LENGTH OF CHORD
LF	LINEAR FEET
LP	LOW POINT
LT	LEFT
LTD	LAKE TAHOE DATUM
MAT'L	MATERIAL
MISC	MISCELLANEOUS
MOC	MID POINT ON CURVE
MOD	MODIFIED
N	NORTH
NIC	NOT IN CONTRACT
NGVD	NATIONAL GEODETIC VERTICAL DATUM
NTS	NOT TO SCALE
OAE	OR APPROVED EQUAL
OC	ON CENTER
OD	OUTSIDE DIAMETER
OG	ORIGINAL GROUND
OH	OVERHEAD
OVEREX OR O/X	OVEREXCAVATION
P	PINE
PC	POINT OF BEGINNING OF CURVE
PCC	PORTLAND CEMENT CONCRETE OR POINT OF COMPOUND CURVE
PERF	PERFORATED
PL	PROPERTY LINE
PCVCE	POINT OF COMPOUND VERTICAL CURVE ELEVATION
PCVCS	POINT OF COMPOUND VERTICAL CURVE STATION
POR	PORTION
PRVCE	POINT OF REVERSE VERTICAL CURVE ELEVATION
PRVCS	POINT OF REVERSE VERTICAL CURVE STATION
PP	POWER/UTILITY POLE
PRC	POINT OF REVERSE CURVE
PROP	PROPOSED
PT	POINT OR POINT OF TANGENCY
PUE	PUBLIC UTILITY EASEMENT
PVC	POLYVINYL CHLORIDE
PVIE	POINT OF VERTICAL INTERSECTION ELEVATION
PVIS	POINT OF VERTICAL INTERSECTION STATION
PVMT	PAVEMENT
R	RADIUS
R&R	REMOVE & REPLACE
RC	RELATIVE COMPACTION
RCP	REINFORCED CONCRETE PIPE
RD	ROAD
REF	REFERENCE
REQ'D	REQUIRED
RLC	ROCK–LINED CHANNEL
ROW	RIGHT–OF–WAY
RSP	ROCK SLOPE PROTECTION
RT	RIGHT
RW	RETAINING WALL
S	SOUTH OR SANITARY SEWER
SCO	SEWER CLEAN OUT
SD	STORM DRAIN
SDMH	STORM DRAIN MANHOLE
SED FB	SEDIMENT FOREBAY
SEZ	STREAM ENVIRONMENT ZONE
SF	SQUARE FEET
SHT	SHEET
SL	SLOPE LENGTH
SMH	SEWER MANHOLE
ST	SEDIMENT TRAP OR STREET
STA	STATION
STD	STANDARD
STL	STEEL
STPUD	SOUTH TAHOE PUBLIC UTILITY DISTRICT
SWPPP	STORM WATER POLLUTION PREVENTION PLAN
T	TELEPHONE
TBC	TOP BACK OF CURB
TBD	TOP BACK OF DIKE
TD	TOP OF DIKE
TBR	TO BE REMOVED
TG	TOP OF GRATE
TTL	TOTAL
TRANS	TRANSITION
TRM	TURF REINFORCEMENT MAT
TRPA	TAHOE REGIONAL PLANNING AGENCY
TYP	TYPICAL
UG	UNDERGROUND
UKN	UNKNOWN
USFS	UNITED STATES FOREST SERVICE
V	VERTICAL
W	WEST OR WATER
W/	WITH
W/O	WITHOUT
WC	WILLOW CLUSTER
WV	WATER VALVE

LEGEND

EXISTING

- (SCREENED AND/OR DASHED) — EXISTING (AS NOTED)
- RIGHT–OF–WAY OR PROPERTY LINE
- DRAINAGE OR SLOPE EASEMENT
- UTILITY (PUE) EASEMENT
- LAND CAPABILITY BOUNDARY
- 10' SEZ SETBACK
- OR — ROCK
- FOUND MONUMENT
- SURVEY CONTROL POINT
- XXXX.X — ELEVATION
- S — SEWER MANHOLE
- SCO — SEWER CLEAN OUT
- DRAINAGE INLET
- GM — GAS METER
- WV — WATER VALVE
- WM — WATER METER
- MONITORING WELL
- W — WATER LINE
- S — SEWER LINE
- G — GAS LINE
- STORM DRAIN
- OH — OVERHEAD UTILITIES
- POWER/UTILITY POLE
- UTILITY POLE & GUY ANCHOR
- FIRE HYDRANT
- X — FENCE
- FLOWLINE
- 28"P — TREE, DIAMETER AND TYPE
- STUMP
- WC — WILLOW CLUSTER
- LANDSCAPE LIGHTING

PROPOSED

- CENTERLINE
- SAWCUT (AS NOTED)
- AC PAVEMENT
- AC REMOVAL
- XXXX.XX — ELEVATION
- ELEVATION, EG CL, PROPOSED (PROFILE ONLY)
- CSP INLET/RISER OR STORM DRAIN MANHOLE, DRAINAGE INLET
- CUT OR FILL SLOPE
- X/X — DETAIL REF NUMBER SHEET NUMBER
- ROCK
- SD PIPE (MATERIAL AS NOTED)
- RSF — ESA — REINFORCED SILT FENCE AND TYPE ESA FENCE
- FLARED END SECTION
- #:# — SLOPE RATIO, H:V
- ARTICULATED BLOCK CHANNEL
- BLANKET–LINED CHANNEL
- TREE REMOVAL
- FLOWLINE
- C — C — C — CUT
- F — F — F — FILL

UTILITIES

CABLE TELEVISION	CHARTER COMMUNICATIONS, (775) 233–8706
NATURAL GAS	SOUTHWEST GAS, (530) 543–3225
ELECTRIC	LIBERTY UTILITIES, (530) 541–6400
SEWER & WATER	SOUTH TAHOE PUD, (530) 544–6474
TELEPHONE	AT&T, (530) 888–2031
STORM DRAIN	CO. OF EL DORADO DOT, (530) 573–3180

Preliminary

For informational purposes only.

Not for construction.

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2

Drawing name: \\DATAdot\TP–SLT–Engineering\MPLAN\02_SB_ ILNOTES.dwg

REVISION NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER — MONTH XX, 20XX

DATE:

DESIGNED:	DRAWN:
KIS	KIS
CHECKED:	DATE:
DSP	08/08/19
ROAD NUMBER:	

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
GENERAL NOTES, ABBREVIATIONS, AND LEGEND

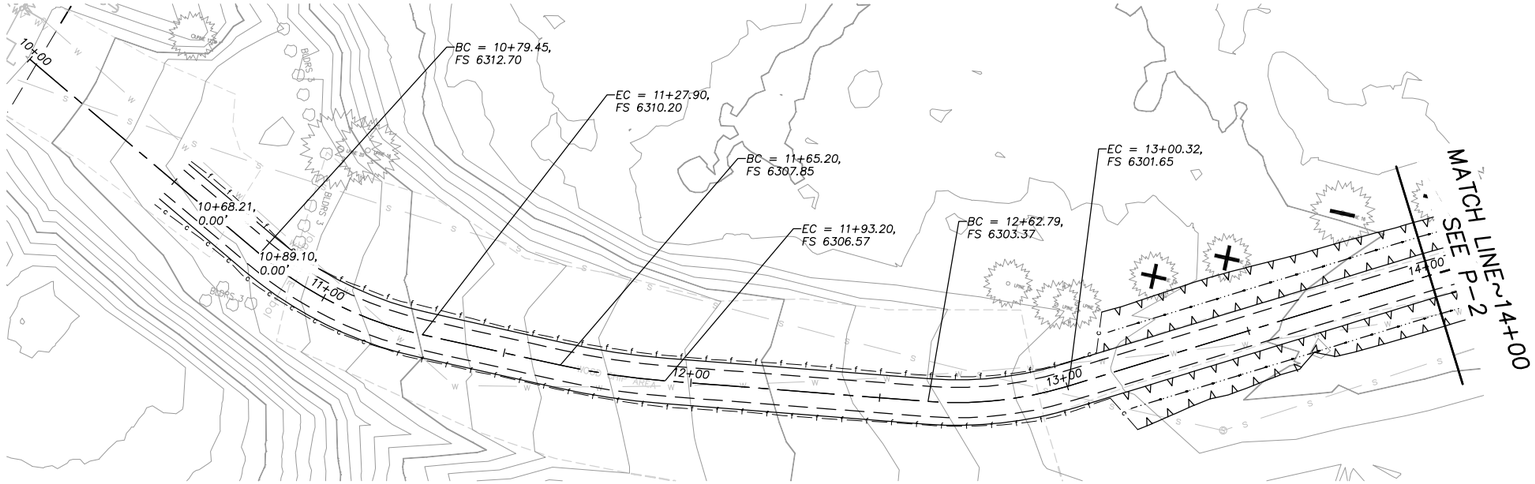
SHEET ii
2 OF ?

CONTRACT NO. ????
CIP No. 95117

NOTE:
THIS PROJECT IS LOCATED IN AN ENVIRONMENTALLY SENSITIVE AREA. YOU MUST EXERCISE UTMOST CARE TO PROTECT AND MAINTAIN EXISTING VEGETATION AND MINIMIZE SOIL COMPACTION WITHIN CONSTRUCTION AREAS.

!! WARNING !!

THE LOCATION AND/OR ELEVATION OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE ONLY APPROXIMATE. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF ALL EXISTING UNDERGROUND UTILITIES.

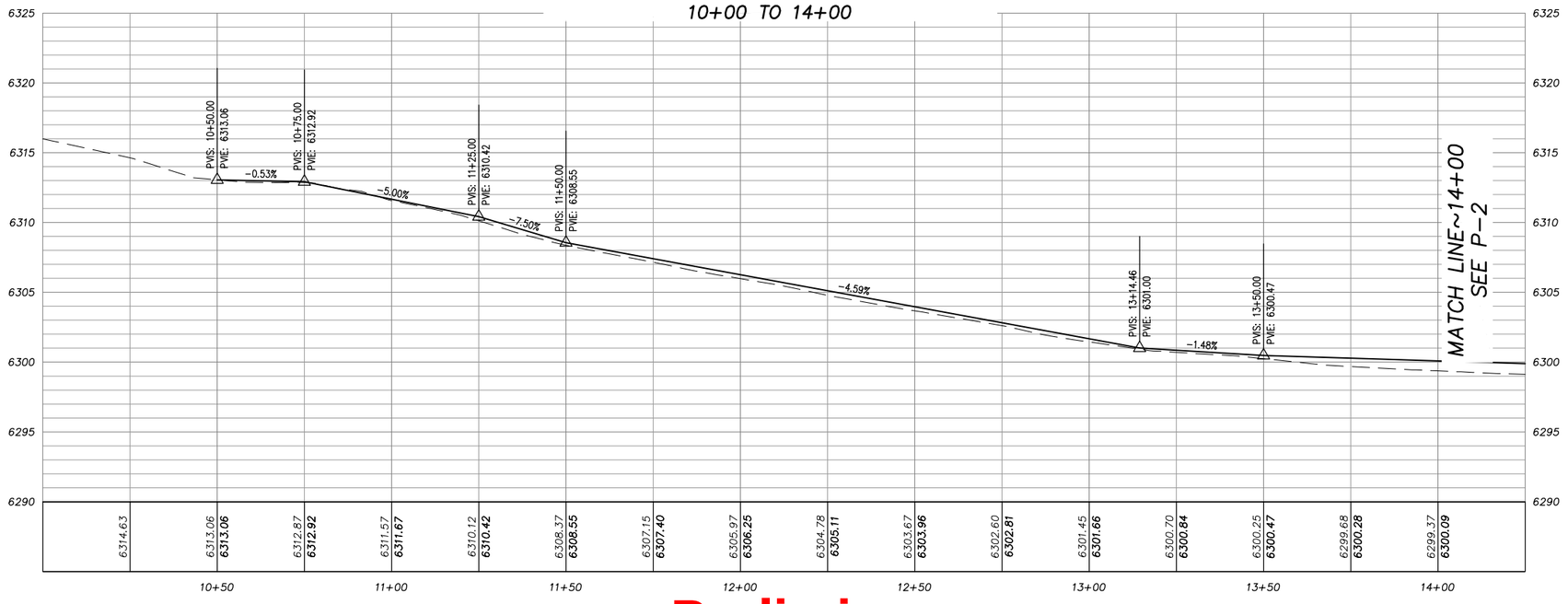


2 / PD-5

1 / D-1

PLAN & PROFILE

SCALE: HORIZ 1"= 20'
VERT 1"= 5'



Preliminary

For informational purposes only.
Not for construction.

REVISION				
NUMBER	DATE	DESCRIPTION	BY	

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER

APRIL 23, 2019
DATE:

DESIGNED:	DRAWN:
KIS	KIS
CHECKED:	DATE:
DSP	04/19
ROAD NUMBER:	

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
LAYOUT STA 10+ 00 – 14+00

SHEET
L–1
X OF ?

CONTRACT NO.
????
CIP No.
95117

FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES

Drawing name: \\DMData\TP-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MP\LAYOUT\SBL_MP_LAY.dwg

NOTE:
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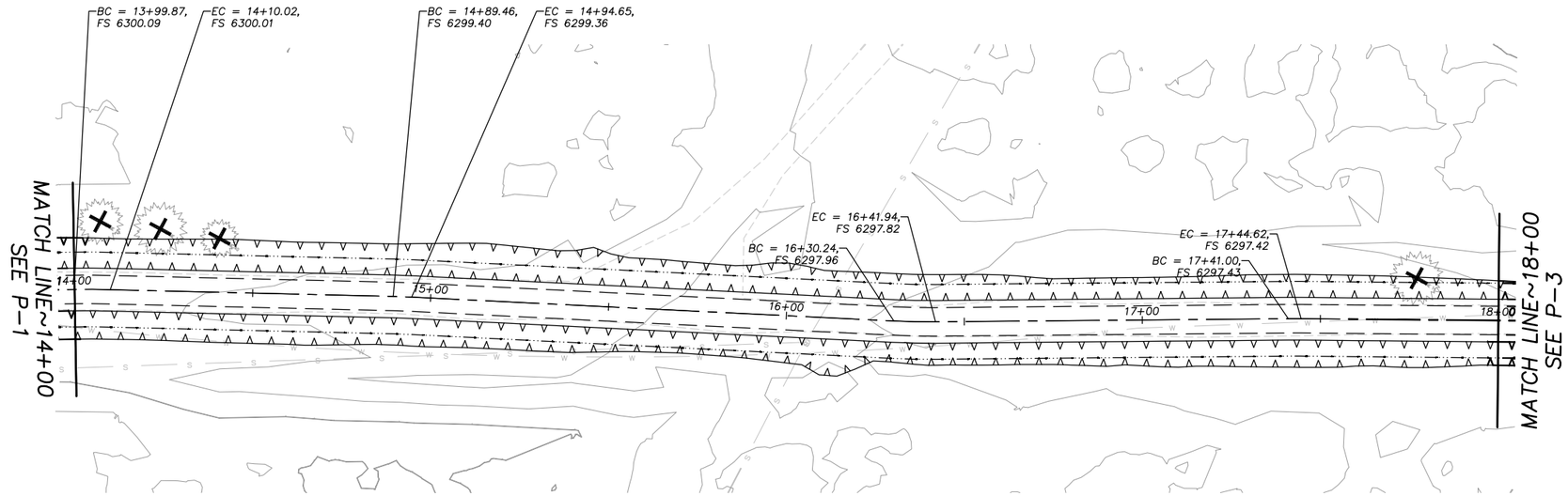
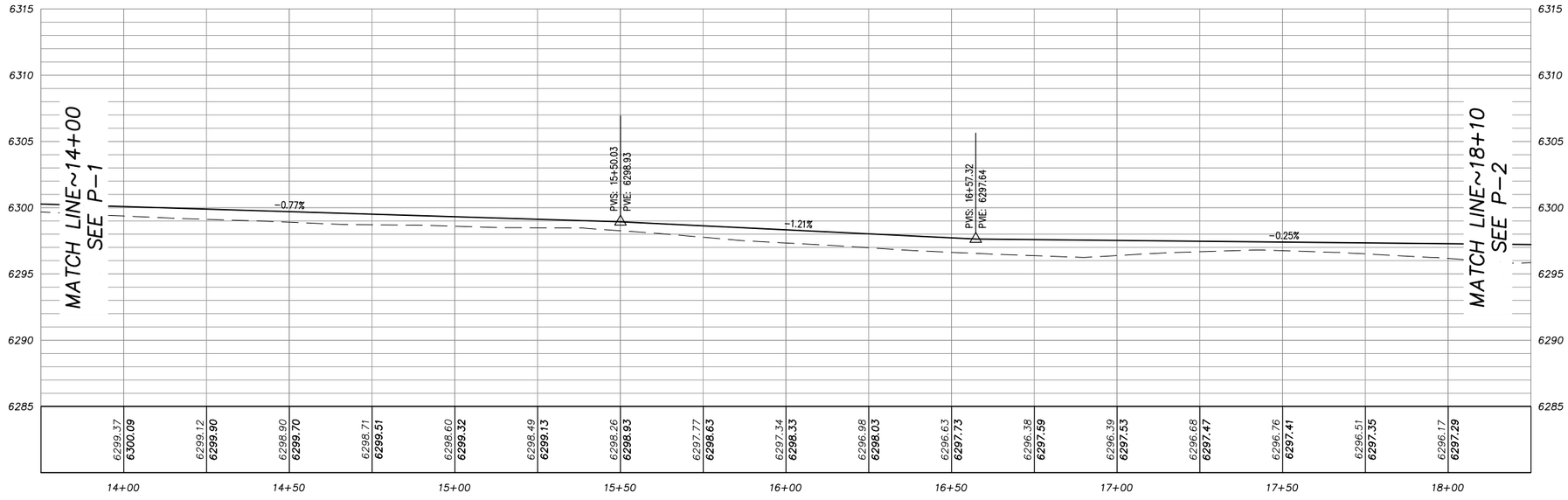


PLAN & PROFILE

SCALE: HORIZ 1"= 20'
VERT 1"= 5'

14+00 TO 18+00



Preliminary

For informational purposes only.
Not for construction.

REVISION			
NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER — APRIL 23, 2019
DATE:

DESIGNED: KIS	DRAWN: KIS
CHECKED: DSP	DATE: 04/19
ROAD NUMBER:	---

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
LAYOUT STA 14+00 – 18+00

SHEET L–2 X OF ?
CONTRACT NO. ????
CIP No. 95117

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2
Drawing name: \\DMData5\TP-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MP\LAYOUT\SB_MP_LAYOUT.dwg

NOTE:
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!! WARNING !!

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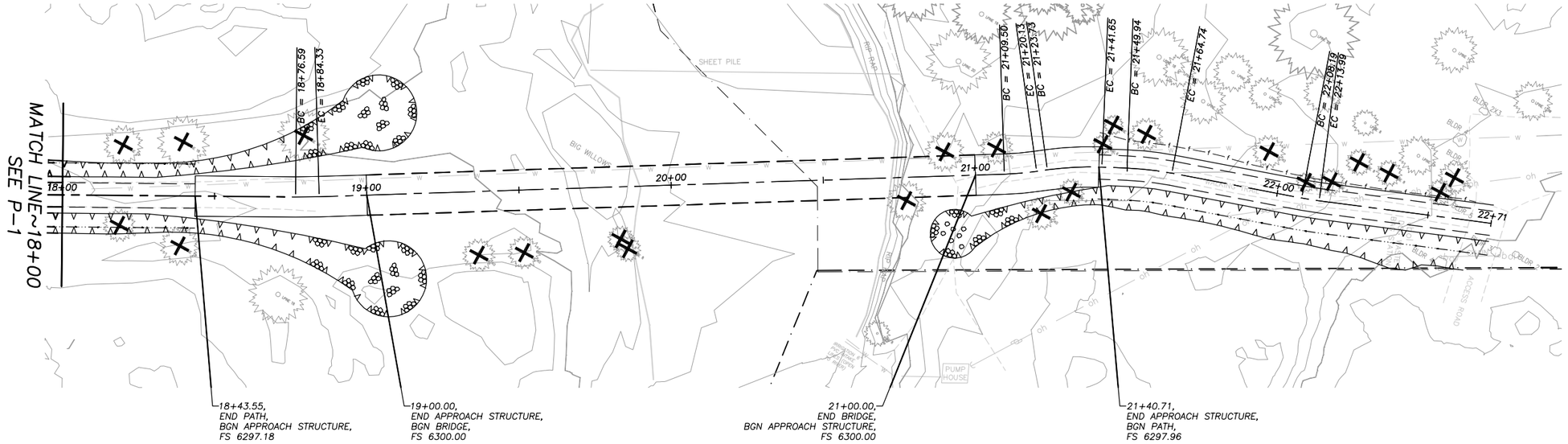
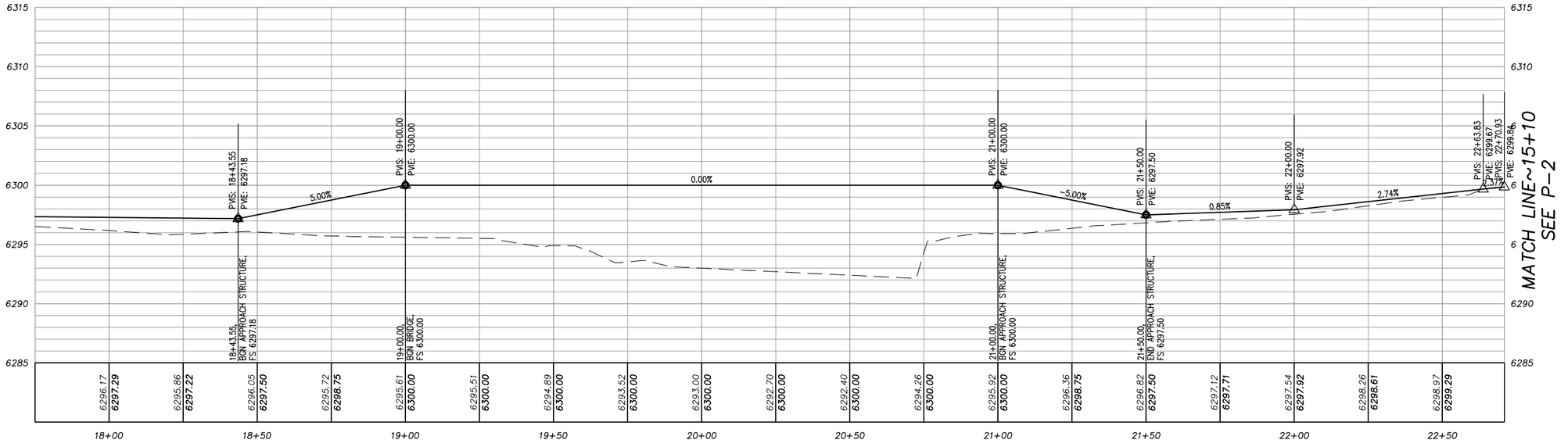


PLAN & PROFILE

SCALE: HORIZ 1"= 20'
VERT 1"= 5'

18+00 TO 22+70.93



Preliminary

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Not for construction.

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REVISION NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

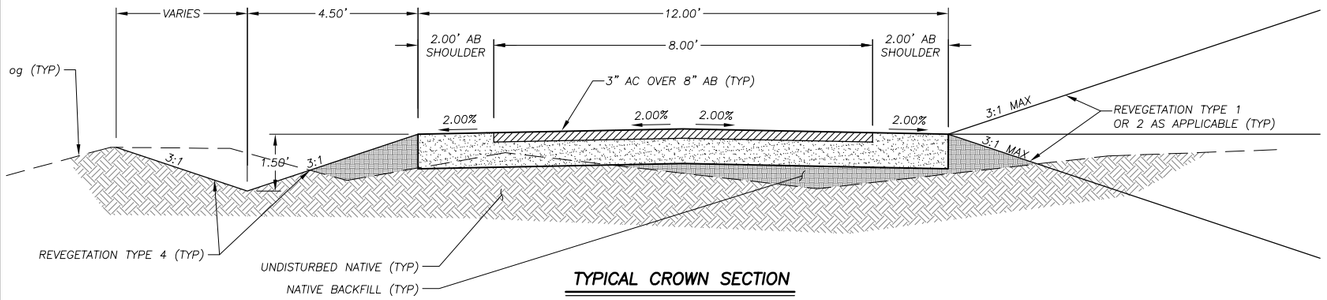
REGISTERED CIVIL ENGINEER — DATE: APRIL 23, 2019

DESIGNED: KIS	DRAWN: KIS
CHECKED: DSP	DATE: 04/19
ROAD NUMBER: ---	

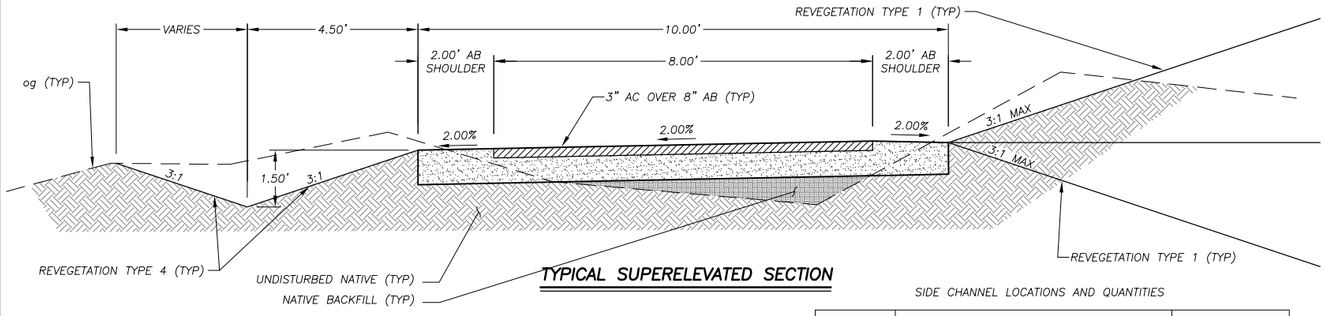
COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
LAYOUT STA 18+00 – XX+XX

SHEET L-3 X OF ?
CONTRACT NO. ????
CIP No. 95117



TYPICAL CROWN SECTION



TYPICAL SUPERELEVATED SECTION

NOTES:

1. ABOVE SHOWS A CROWNED SECTION, A SUPERELEVATED SECTION TO ONE SIDE AND A CHANNEL ON ONE SIDE. THE ACTUAL CONFIGURATION COULD HAVE A SUPERELEVATED TO EITHER SIDE, A CHANNEL EITHER SIDE, BOTH SIDES, OR NEITHER SIDE. THE ACTUAL CONFIGURATION IS PER PLAN. SEE TABLE FOR CHANNEL LOCATIONS AND QUANTITIES.
2. THE TIE-IN DISTANCE VARIES AND IS TYPICALLY 10' MAX. THE ACTUAL DISTANCES ARE SHOWN ON THE CROSS SECTIONS SHEETS AND WILL BE ADJUSTED IN THE FIELD TO MINIMIZE THE IMPACT TO THE EDGE OF SHOULDER.

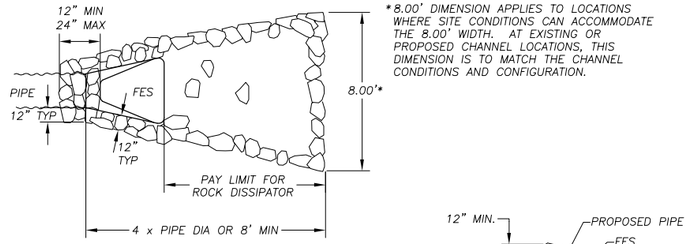
SIDE CHANNEL LOCATIONS AND QUANTITIES

PLAN SHEET	STATIONING	EXCAVATION (CY)
P-2	16+10 11.5' LT – 19+95.18 11.5' LT	84
P-2	18+65 11.5' RT – 20+16.06 11.5' RT	23
P-3	20+35.67 11.5' RT – 21+45.14 11.5' RT	17
P-3	23+20 11.5' LT – 23+70 11.5' RT	8

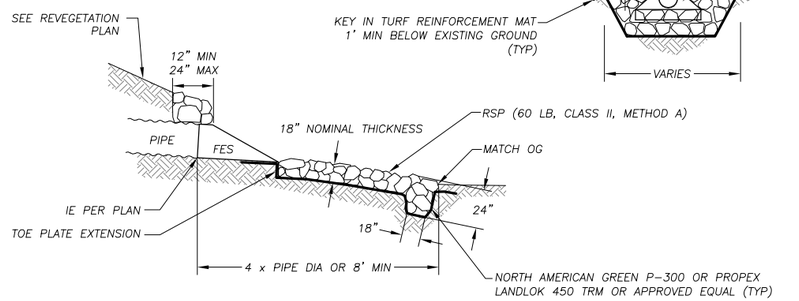
PATH

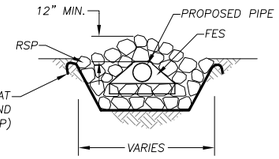
NTS

1 / D-1



* 8.00' DIMENSION APPLIES TO LOCATIONS WHERE SITE CONDITIONS CAN ACCOMMODATE THE 8.00' WIDTH. AT EXISTING OR PROPOSED CHANNEL LOCATIONS, THIS DIMENSION IS TO MATCH THE CHANNEL CONDITIONS AND CONFIGURATION.



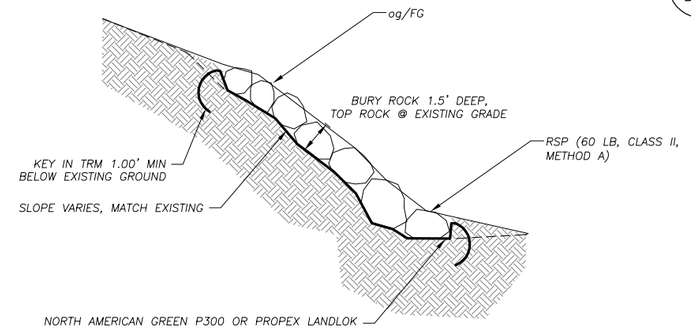


PLAN SHEET	STREET AND STATIONING	ROCK (CY)	EXCAVATION (CY)	AVERAGE LENGTH, L	AVERAGE WIDTH, W
P-2, P-12	19+95.18 11.5' LT	6	8	12'	8.5'
P-3, P-12	21+45.14 11.5' RT	4	5	12'	7.0'
P-3, P-12	23+70 11.5' LT	7	11	13'	9'

FLARED END SECTION AND ROCK DISSIPATOR

NTS

3 / D-1



PLAN SHEET	STATIONING	ROCK/EXCAVATION (CY)
P-6	NEAR 35+25 LT	61
P-12	NEAR 21+73 LT	2

ROCK SLOPE PROTECTION

NTS

4 / D-1

Preliminary

For informational purposes only.

Not for construction.

REVISION NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER — DATE: AUGUST 9, 2019

DESIGNED: KIS	DRAWN: KIS
CHECKED: DSP	DATE: 08/08/19
ROAD NUMBER: ---	

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
CONSTRUCTION DETAILS

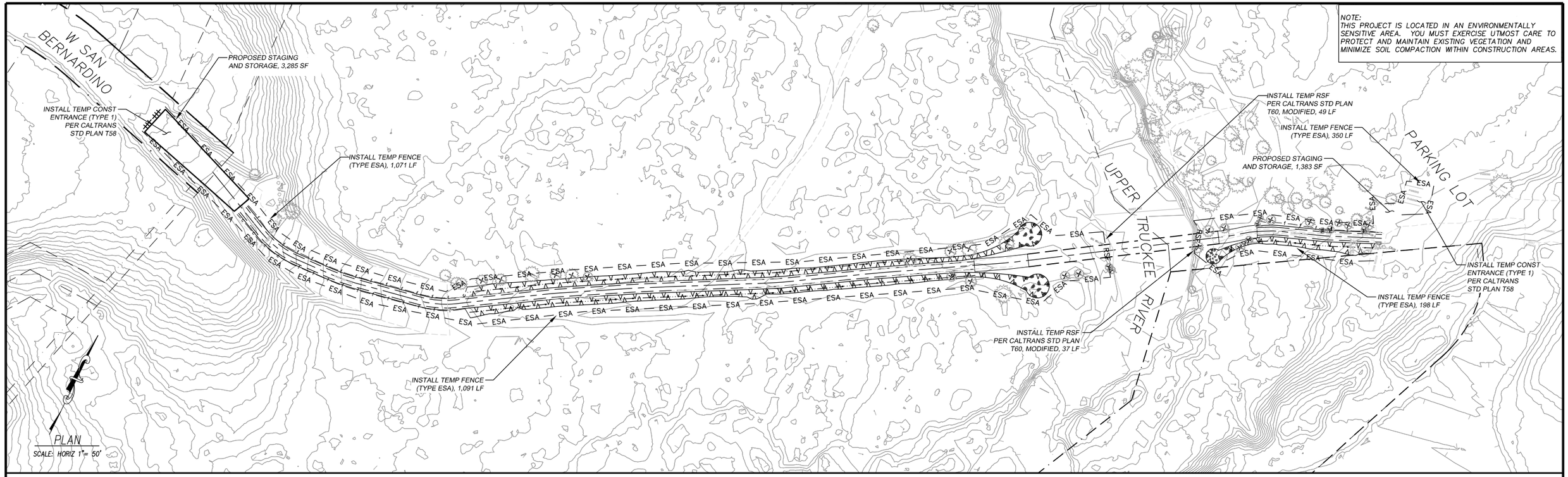
SHEET C-1 X OF ?

CONTRACT NO. ????

CIP No. 95117

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2

Drawing name: \\CDAData5\TD-SLT-Engineering\C1TL 3D PROJECTS\95117\Engineering\MPs\ANSSI_D1.dwg



NOTE:
THIS PROJECT IS LOCATED IN AN ENVIRONMENTALLY SENSITIVE AREA. YOU MUST EXERCISE UTMOST CARE TO PROTECT AND MAINTAIN EXISTING VEGETATION AND MINIMIZE SOIL COMPACTION WITHIN CONSTRUCTION AREAS.

LEGEND

- SEDIMENT CONTROL
- TRAFFIC BARRICADE
- TREE TRUNK PROTECTION
- 7 — LAND CAPABILITY DESIGNATION
- LAND CAPABILITY DESIGNATION
- LAND CAPABILITY 1B SETBACK
- RSF — REINFORCED SILT FENCE
- ESA — TEMPORARY FENCE (TYPE ESA)
- EDGE OF PAVEMENT
- RIGHT OF WAY/PROPERTY LINE
- PROPOSED ROCK
- PROPOSED CHANNEL
- PROPOSED STAGING, STORAGE, OR TIRE WASH AREAS

NOTES:

1. FOR ACCESS TO CONSTRUCTION AREA ADJACENT TO BARBARA AVE, THE ACCESS AT SIERRA BLVD AND MARTIN AVE ARE FOR ENTRANCE ONLY. TO LEAVE THE WORK AREA, USE THE ACCESS WITH THE TIRE WASH NEAR THE STA 19+50 LT.
2. FOR STAGING AND STORAGE AREAS ON PAVEMENT, PLACE TEMPORARY FENCE (TYPE ESA) IN SHOULDER AND PLACE FIBER ROLLS ON EP TO CONTAIN SEDIMENT WITH IN THE PAVED AREAS.
3. YOUR ATTENTION IS DIRECTED TO THE SWPPP, TEMPORARY EROSION CONTROL SHEETS, REVEGETATION PLAN SHEET, AND THE SPECIAL PROVISIONS REGARDING TEMPORARY EROSION CONTROL REQUIREMENTS FOR STAGING AREAS.
4. STAGING AREAS SHOWN ARE FOR THE TEMPORARY STORAGE OF CONSTRUCTION MATERIALS AND EQUIPMENT WHICH ARE TO BE USED ON THIS PROJECT.

TEMPORARY EROSION CONTROL SUMMARY OF QUANTITIES

	TEMPORARY CONSTRUCTION ENTRANCE	DRAIN INLET PROTECTION	TEMPORARY FIBER ROLL	REINFORCED SILT FENCE	TEMPORARY FENCE (TYPE ESA)	TEMPORARY FENCE (TYPE ESA) TREE TRUNK PROTECTION
	–	–	–	–	–	–

Preliminary
For informational purposes only.
Not for construction.

REVISION NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER — DATE: AUGUST 9, 2019

DESIGNED:	DRAWN:
KIS	KIS
CHECKED:	DATE:
DSP	08/08/19

ROAD NUMBER: ---

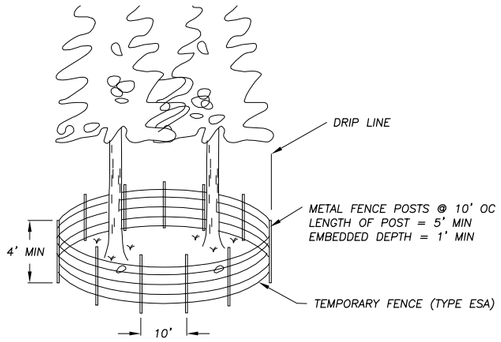
COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
TEMPORARY EROSION CONTROL PLAN

SHEET EC–1 X OF ?
CONTRACT NO. ????
CIP No. 95117

FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES

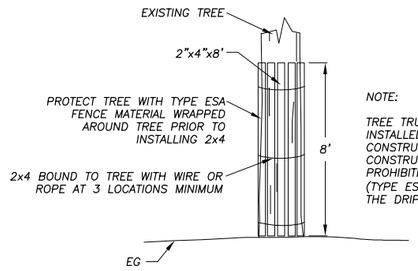
Drawing name: \\DATA\data5\Tp-SLT-Engineering\LOYAL 30 PROJECTS\95117\Engineering\MPLAN\SBL_EC1.dwg



TEMPORARY FENCE (TYPE ESA) AT DRIPLINES

1 EC-2

NTS



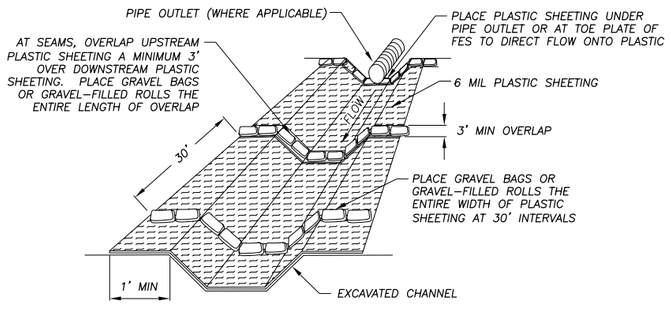
NOTE:

TREE TRUNK PROTECTION SHALL BE INSTALLED AT LOCATIONS WITHIN THE CONSTRUCTION AREA WHERE CONSTRUCTION ACCESS WOULD BE PROHIBITED IF TEMPORARY FENCE (TYPE ESA) WERE INSTALLED AROUND THE DRIPLINE OF TREES.

WOODEN TREE TRUNK PROTECTION

2 EC-2

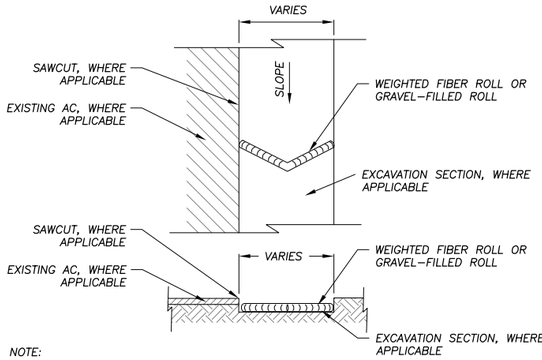
NTS



PLASTIC SHEETING WITH GRAVEL BAGS OR GRAVEL-FILLED ROLLS

3 EC-2

NTS



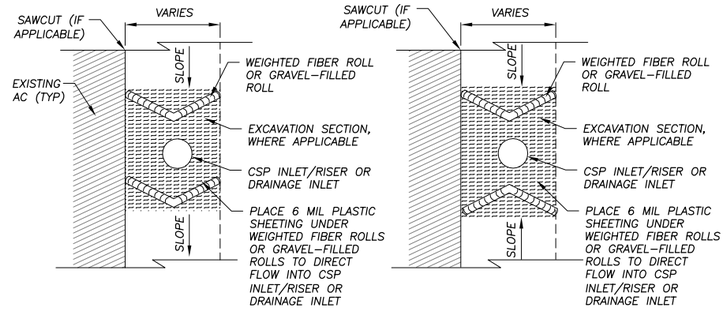
NOTE:

SPACING INTERVALS FOR WEIGHTED FIBER ROLL OR GRAVEL-FILLED ROLL TEMPORARY SEDIMENT CONTROL ON GRADE SHALL BE AT 50' OC FOR SLOPES GREATER THAN 5% AND AT 100' OC FOR SLOPES LESS THAN OR EQUAL TO 5%.

WEIGHTED FIBER ROLLS OR GRAVEL-FILLED ROLLS

4 EC-2

NTS



NOTE:

SEE ALSO TYPE 2 OR TYPE 3A, CALTRANS STD PLANS T61 AND T62.

DRAIN INLET PROTECTION

5 EC-2

NTS

NOT USED

6 EC-2

NTS

GENERAL NOTES:

1. LOCATIONS AND LF OF TEMPORARY REINFORCED SILT FENCE REQUIRED FOR THE STAGING AREAS ARE NOT SHOWN. YOU ARE TO INCLUDE THESE AREAS IN YOUR TEMPORARY EROSION CONTROL PLAN SUBMITTAL.
2. LENGTHS OF TEMPORARY REINFORCED SILT FENCE AND TEMPORARY FENCE (TYPE ESA) DOES NOT INCLUDE MINIMUM LIMITS FOR TREE PROTECTION. TREE PROTECTION FENCING IS TO BE AS SHOWN AND/OR AS DETERMINED IN THE FIELD.

Preliminary

For informational purposes only.

Not for construction.

REVISION				
NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER

AUGUST 9, 2019

DATE:

DESIGNED: KIS	DRAWN: KIS
CHECKED: DSP	DATE: 08/08/19
ROAD NUMBER: ---	

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
TEMPORARY EROSION CONTROL DETAILS

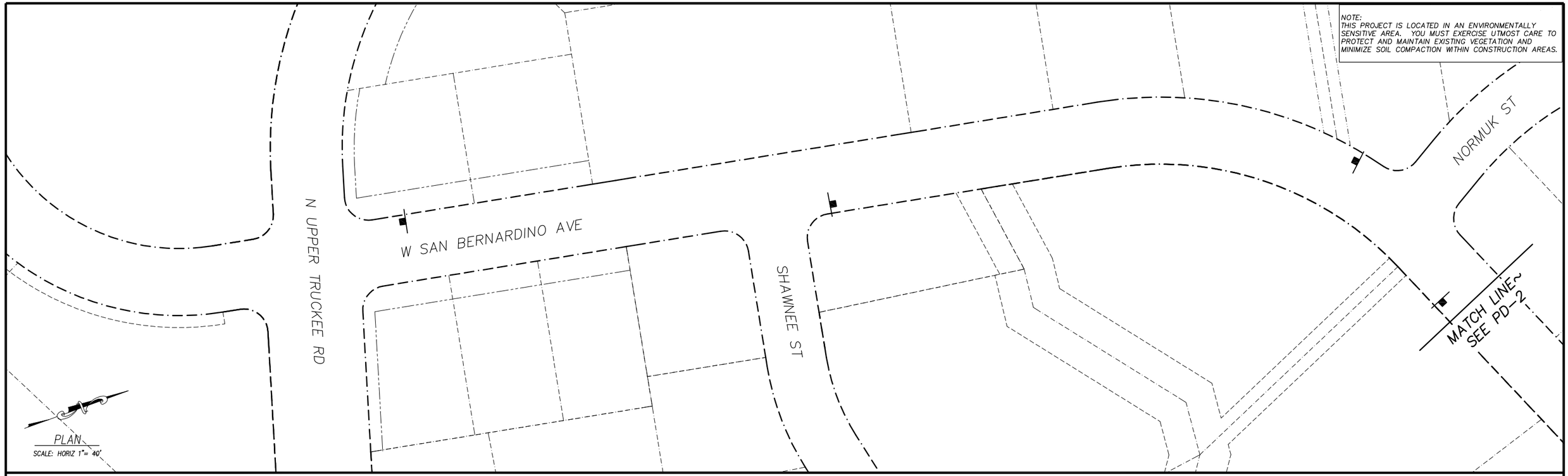
SHEET EC-2 X OF ?

CONTRACT NO. ????

CIP No. 95117

FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES

Drawing name: \\CDADataSVIP-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MRLAN\SB_EC2.dwg



SIGNING LEGEND

XX — SIGN NUMBER, SEE TABLE DETAILS

— EXIST SIGN

— INSTALL SIGN

— INSTALL DOUBLE SIDED SIGN

✳ — REMOVE AND REPLACE

CONSTRUCTION NOTES:

(A) — 4" SOLID YELLOW STRIPE PAINTED PER DIMENSIONS SHOWN

(B) — 1' WIDE X 5' WHITE PAINTED LIMIT LINE PER CALTRANS RSP A24E

(C) — "STOP" PAVEMENT MARKING (H=48", W=38") PER CALTRANS RSP A24D (½ SIZE) PLACE 5' ℄ FROM LIMIT LINE

(D) — DASHED CENTERLINE STRIPING PER CAMUTCD FIG 9C-2

NOTES:
1) FINISH ON BACK OF SIGN: MIDNIGHT GREEN ENDURA SHIELD IV, TNEMEC SEMIGLOSS HIGH BUILD ACRYLIC POLYURETHANE ENAMEL NO. 75-J7751

2) ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD).

3) ASTM DESIGNATION APPLIES TO ALL COLORS ON SIGN OR RAIL. BLACK SHALL BE NON-REFLECTIVE.

ROADWAY AND BIKE PATH SIGNS

SIGN DESIGNATION	SIGN MESSAGE AND DESCRIPTION	SIGN SIZE	QTY	SIGN COLORS	RETROREFLECTIVE ASTM TYPE
D11-1	"BIKE ROUTE" SIGN	24"x18"	–	WHITE ON GREEN	III
M4-11	"BEGIN" SIGN	12"x4"	–	WHITE ON GREEN	III
M4-12	"END" SIGN	12"x4"	–	WHITE ON GREEN	III
R1-1	"STOP" SIGN	18"x18"	–	WHITE ON RED	III
R1-5	"YIELD TO PEDESTRIAN" SIGN	36"x36"	–	RED/BLACK ON WHITE	III
R44A (CA)	"NO MOTOR VEHICLES" SIGN	12"x24"	–	BLACK ON WHITE	III
W7-5	"HILL" (BICYCLE) SIGN	18"x18"	–	BLACK ON YELLOW	III
W3-1	"STOP AHEAD" SYMBOL	18"x18"	–	RED/BLACK ON YELLOW	III
W11-15	BICYCLE/PEDESTRIAN WARNING	36"x36"	–	BLACK ON YELLOW	III
W16-7P	DIAGONAL DOWNWARD RIGHT ARROW	24"x12"	–	BLACK ON YELLOW	III
W16-7P	DIAGONAL DOWNWARD LEFT ARROW	24"x12"	–	BLACK ON YELLOW	III
W16-9P	"AHEAD" SIGN	24"x12"	–	BLACK ON YELLOW	III

PAVEMENT STRIPING

TYPE	SHEET	SPRAYABLE PAINT
		YELLOW
		FT
SOLID YELLOW STRIPING	PD-1	–
	PD-2	–
	PD-3	–
BROKEN YELLOW CENTERLINE STRIPING	PD-1	–
	PD-2	–
	PD-3	–
	TOTAL	–

PAVEMENT MARKINGS

SYMBOL DESCRIPTION	QUANTITY (EA)	AREA (SF)	TOTAL AREA (SF)
CROSSWALK	–	–	–
LIMIT LINE	–	–	–
YIELD LINE	–	–	–
STOP	–	–	–
TOTAL			–

Preliminary

For informational purposes only.
Not for construction.

APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

REVISION NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER — DATE: AUGUST 9, 2019

DESIGNED:	DRAWN:
KIS	KIS
CHECKED:	DATE:
DSP	08/08/19
ROAD NUMBER:	

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
SIGNING AND PAVEMENT DELINEATION

SHEET PD-1 X OF ?
CONTRACT NO. ????
CIP No. 95117

FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES

Drawing name: \\DOMData$\Dir-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\LAYLAN\SBL_PD.dwg

NOTE:
THIS PROJECT IS LOCATED IN AN ENVIRONMENTALLY SENSITIVE AREA. YOU MUST EXERCISE UTMOST CARE TO PROTECT AND MAINTAIN EXISTING VEGETATION AND MINIMIZE SOIL COMPACTION WITHIN CONSTRUCTION AREAS.

CHOLULA ST

W SAN BERNARDINO AVE

MATCH LINE~ SEE PD-1

MATCH LINE~ SEE BELOW

PLAN
SCALE: HORIZ 1"= 40'

MATCH LINE~ SEE ABOVE

PARKING LOT

MATCH LINE~ SEE PD-3

LAKE BARON

PLAN
SCALE: HORIZ 1"= 40'

Preliminary
For informational purposes only.
Not for construction.

REVISION NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER

DATE: AUGUST 9, 2019

DESIGNED: KIS	DRAWN: KIS
CHECKED: DSP	DATE: 08/08/19
ROAD NUMBER: ---	

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
SIGNING AND PAVEMENT DELINEATION

SHEET PD-2 X OF ?

CONTRACT NO. ????
CIP No. 95117

FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES

Drawing name: \\Gisdata5\TD-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MPLAN\SBL_PD.dwg

NOTE:
THIS PROJECT IS LOCATED IN AN ENVIRONMENTALLY SENSITIVE AREA. YOU MUST EXERCISE UTMOST CARE TO PROTECT AND MAINTAIN EXISTING VEGETATION AND MINIMIZE SOIL COMPACTION WITHIN CONSTRUCTION AREAS.

L=119.379, R=228.000, Δ=029°59'59"
CH=N74°59'50.00"E, CHL=118.020

E SAN BERNARDINO AVE

BAKERSFIELD ST

TAHOE PARADISE PARK

MATCH LINE~
SEE PD-2

MATCH LINE~
SEE BELOW

PLAN
SCALE: HORIZ 1"= 40'

INDIGO WAY

E SAN BERNARDINO AVE

APACHE AVE

MATCH LINE~
SEE ABOVE

PLAN
SCALE: HORIZ 1"= 40'

Preliminary
For informational purposes only.
Not for construction.

REVISION NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER — DATE: AUGUST 9, 2019

DESIGNED:	DRAWN:
KIS	KIS
CHECKED:	DATE:
DSP	08/08/19
ROAD NUMBER:	---

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
SIGNING AND PAVEMENT DELINEATION

SHEET
PD-3
X OF ?

CONTRACT NO.
????
CIP No.
95117

FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES

Drawing name: \\Gisdata5\TD-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MPLAN\SBL_PD.dwg

Appendix C – Photos

Photo 1: View of proposed bridge location

Appendix D – USFWS Species List

Endangered Species Act Species

There is a total of 3 threatened, endangered, or candidate species on this 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.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

---

1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
North American Wolverine *Gulo gulo luscus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/5123	Proposed Threatened

Amphibians

NAME	STATUS
Sierra Nevada Yellow-legged Frog *Rana sierrae* There is **final** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/9529	Endangered

Fishes

NAME	STATUS
Lahontan Cutthroat Trout *Oncorhynchus clarkii henshawi* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/3964 Species survey guidelines: https://ecos.fws.gov/ipac/guideline/survey/population/233/office/14320.pdf	Threatened

APPENDIX E

SIERRA NEVADA YELLOW LEGGED FROG SITE ASSESSMENT

August 26, 2019

Donaldo Palaroan, P.E., Senior Civil Engineer
County of El Dorado, Department of Transportation
924 B Emerald Bay Road
South Lake Tahoe, California 96150

Subject: June and July 2019 Sierra Nevada Yellow-Legged Frog Survey Results

Introduction

This letter reports the background, methodology, and results of a Sierra Nevada yellow-legged frog (*Rana sierrae*) survey for the San Bernardino Class 1 Bike Path Project (Project) in Meyers, California. This survey is required in support of the environmental document, possible permit applications, and the Nevada Fish and Wildlife Office has requested projects within the Lake Tahoe Basin and its tributaries to survey for SNYLF. This letter report is complementary to a Natural Environmental Study (NCE 2019a) and a Biological Assessment (NCE 2019b) that are being prepared concurrently to this report.

The Project is located in El Dorado County and can be found within Section 27, Township 13 North, Range 18 East of the Mount Diablo Meridian of the U.S. Geological Survey, South Lake Tahoe quadrangle. Meyers is located on the south side of Lake Tahoe at an elevation of approximately 6,400 feet. The community of Meyers is urbanized. The Project is composed of Jeffrey pine forest, lodgepole pine forest, Sierran mixed conifer, sagebrush alliance, and urban areas.

Background

The U.S. Fish and Wildlife Service (USFWS) has designated critical habitat for Sierra Nevada yellow-legged frog (SNYLF), which was listed in 2014 as threatened under the federal Endangered Species Act. In addition, the US Forest Service Lake Tahoe Basin Management Unit has developed a SNYLF Suitable habitat layer. These data are presented within the context of the Project Action Area in Appendix A **Figure 1**. The Project Action Area is outside of the USFWS designated critical habitat for SNYLF; however, the Project Action Area does overlap the USFS Suitable habitat layer.

Methodology

The survey was conducted by NCE Scientist Quinn Radford on June 11 and July 10, 2019. The surveys occurred between 9:00 am and 10:00 am. During both surveys the skies were clear with a temperatures of 59 degrees Fahrenheit (F) in June and 64 F in July with calm to light winds both days. Survey equipment consisted of a dip net and binoculars. The field survey involved walking to scan the entirety of the survey area. The survey followed the USFWS-provided Visual Encounter Survey (VES) protocol (Appendix B) which is used to determine occupancy.

The protocol involved visually scanning the search area, searching in a zigzag fashion where appropriate, searching microhabitats, waving dip nets over grass and bank vegetation to flush frogs and periodically dip netting where appropriate. The time of day and seasonality was consistent with protocol timing. During the VES, the biologist approached the area where the proposed bridge is being installed and used binoculars from a distance so as not to startle any potential individuals to gain positive identification. The biologist scanned each shoreline of the river 100 feet on either side of the proposed bridge crossing. The biologist also scanned the river and shallow areas for any individuals.

Results

No signs or detections of SNYLF were observed. Pictures of amphibian habitat and existing conditions can be found in Appendix C (Photographs 1-3).

Should you have any questions, please do not hesitate to contact me at 510-215-3620.

Sincerely,

NCE

Quinn Radford
Project Scientist

Dave Rios
Associate Scientist

Attachment A

FIGURES

Legend

- Action Area
- Federally Designated "Critical Habitat"
- USFS Suitable Habitat

San Bernardino Class 1 Bike Path Project

SNYLF Suitable and Critical Habitat

N

1 in. = 3,000 ft.

0 3,000 ft.

FIGURE 1

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; USFWS Critical Habitat; USFS SNYLF Suitable Habitat	501.34.25	sbryan	8/26/2019	9/6/2019	drios

Document Path: P:\Active Projects\El Dorado County - A501\501.34.25 - San Bernardino Trail\GIS\AGP\San Bernardino - sbryan v03.aprx

Attachment B

VISUAL ENCOUNTER SURVEY PROTOCOL

GENERAL NOTES ABOUT HANDLING AMPHIBIANS

Avoid use of sunscreen and insect repellent on your hands and forearms prior to conducting surveys. Wash your hands thoroughly after application.

GENERAL FIELD PROCEDURES

1. Approach the site quietly. Organize and prepare for the survey away from the shore to avoid flushing the frogs.
2. Note weather conditions.
3. Take beginning air temperature. Do the VES survey.
4. After the VES survey is complete, record the habitat dimensions.
5. If animals are observed during the habitat survey or any time outside the visual encounter survey, record the observation and note that it was an incidental sighting.
6. Take photos of the site and note the picture numbers. At least one picture should show the character of the site. If the frogs were found in specific locations at the site, take photos of these locations.
7. Double check data for completion.
8. Clean equipment if needed.
9. Move to the next site.

SNYLF VES procedures

Surveys (Thoms et al. 97, Fellers and Freel 1995) are used to determine occupancy (presence/not found). Tadpoles and frogs can be patchily located within a site, so all wadeable aquatic habitat in a site is surveyed. This includes all standing water in meadows, shallow lakes, perimeters of deeper lakes, and the length of stream channels. Specific procedures for each habitat type are described below.

Surveys are conducted **ONLY** between 0930 and 1700 hrs. Times should also accommodate for local conditions. Surveys are not conducted during heavy rain, hail or snow as this can affect observations.

Walk the perimeter of the water body visually scanning the search area. Where appropriate, such as in shallow lakes and meadows, systematically survey the search area in a zigzag fashion. Include shallow, warm water areas such as standing water, potholes and gradually sloping shorelines. For shallow lakes or flooded areas in meadows, if no animals are seen, wade in the water when it can be done safely. Search all microhabitats: over and under banks, rocks, lake bottom, in-stream habitat and vegetation. Wave dip net over grass and bank vegetation to flush frogs. Periodically dip net where appropriate; it is less effective in meadows. Dip into the bottom substrate and check net contents after each pass. Take care not to injure animals. This is especially important for Yosemite toads as they are often in very shallow meadow water and hide under root masses (D. Martin pers. com.). Smaller aquarium nets may be more useful in this type of habitat. In general, observers spend approximately 15 min per 100m walked; meadows may take more effort. All amphibian and reptile species seen or heard are recorded.

Lakes:

The search area generally includes from the water's edge to 3m above the shoreline, the water's edge, and all wadeable water (modified from Thoms et al. 1997). The search area should accommodate local conditions.

Streams:

Survey by walking the stream banks. The two-member crew walks parallel along each bank. Each person searches in stream habitat and under over-hanging banks on the opposite shore. Search the mouths of tributaries, secondary channels and backwater pools.

Meadows:

In meadows, both intensive and extensive amphibian surveys are conducted. The primary population surveys are intensive surveys performed in lentic water (including ponds, potholes and flooded areas). Upon finding an area of lentic water, it is thoroughly surveyed for amphibians using the search methods outlined above for lakes. The extensive search effort is conducted on the rest of the meadow and involves zigzagging the meadow using the general search methods outlined above looking for amphibians in grassy areas, stream channels, and areas of flowing water.

Life history stage

For Anurans:

E = egg mass

When possible, assign the stage as follows

E1 = not close to hatching	visible as small round egg
E2 = close to hatching	uncurled embryos with a discernable tadpole inside the jelly egg; the small tadpole may be moving within the jelly egg
E3 = newly hatched	larvae generally <10mm in total length and usually remain on or near the jelly mass after hatching and consume the jelly before dispersing; these are not yet swimming.

T = tadpoles for *Bufo canorus*, *Pseudacris regilla*

For *Rana sierrae*, when possible, note the size class

T1 = first year	< 2cm total length with no legs
T2 = second year	> 2cm total length with no legs
T3 = third year or more	with rear legs and/or front legs, include metamorphs with any amount of tail still present

All stages from metamorphs to adults (SVL)

A1 = 0 to 14mm
A2 = 15 to 29mm
A3 = 30 to 44mm
A4 = 45 to 64mm
A5 = > 65mm
A = could not see well enough to estimate the size

For Salamanders:

E = Eggs
L = Larvae
A = Adults

For Fish:

J = Juvenile = < 50mm
A = Adults = > 50mm

CLEANING EQUIPMENT PROCEDURES

There is mounting evidence that the occurrence of amphibian disease, specifically chytrid fungus, is increasing in the Sierra Nevada. When surveys are performed over a broad area encompassing many amphibian populations, there is a risk that field crews will contribute to the spread of pathogens. Therefore, crews will follow these protocols to clean equipment:

Surveys will begin at the top of the basin and crews work their way down.
Equipment will be cleaned:

- immediately after visiting a site where frogs appear to be infected or if the site has a known history of infection
- when moving to a new basin.

Exception: Survey site is either directly connected to or is within 100 m downstream of the site you just surveyed and is connected to it by a stream.

Safe Handling of Quat-128 (Adapted from CDFG's "Disinfectant Safety and Use" Form)

All persons handling concentrated Quat-128 must wear rubber or latex gloves and eye protection. The area where handling occurs should be well ventilated. Although Quat-128 is low in toxicity, prolonged skin contact can be

irritating. If skin contact is made, wash off with soap and water. If Quat-128 gets in eyes, flush with water for 15 minutes. Do not ingest Quat-128 liquid or inhale fumes.

Cleaning Procedures (in the field)

1. All equipment that has been in contact with water must be cleaned using Quat-128 (e.g., dip nets, shoes, socks, etc).

2. Thoroughly remove all wet or dried mud, vegetation, and other debris from boots, nets, and other equipment.

3. Mix a solution (1:1000) of 7ml (capfull on 2 oz nalgene) of Quat-128 in 7 L of water (fill line on collapsible bucket: ~2/3). Soak the equipment for 5 minutes. Shake off the excess.

4. **Dispose** of the disinfection solution **>100 m from water**. Quat 128 breaks down when it comes into contact with organic material. Therefore, the best disposal sites are those containing disturbed organic soil (e.g., trail tread in a forested area).

5. Upon arriving to the new site or basin rinse equipment with fresh water well away from water bodies (use collapsible bucket or garbage bag to transport water).

Cleaning Procedures (at the office)

1. Thoroughly remove all wet or dried mud, vegetation, and other debris from boots, nets, and other equipment with scrubbing brushes or power washer next to the vehicle maintenance bay.

2. Mix a solution (1:1000) by using the round, green garbage bucket marked QUAT and follow instructions on it; or using a green crew bin, fill to the indentation near top (60L) and add 60 ml (1/2 a 4oz quat bottle). Soak the equipment for 5 minutes.

3. Rinse all equipment thoroughly near the drain at the wash bay and hang to dry in the office storage room.

Attachment C

Representative Pictures of Amphibian Habitat and Existing Conditions

Photo 1: Location of proposed bridge crossing looking west.

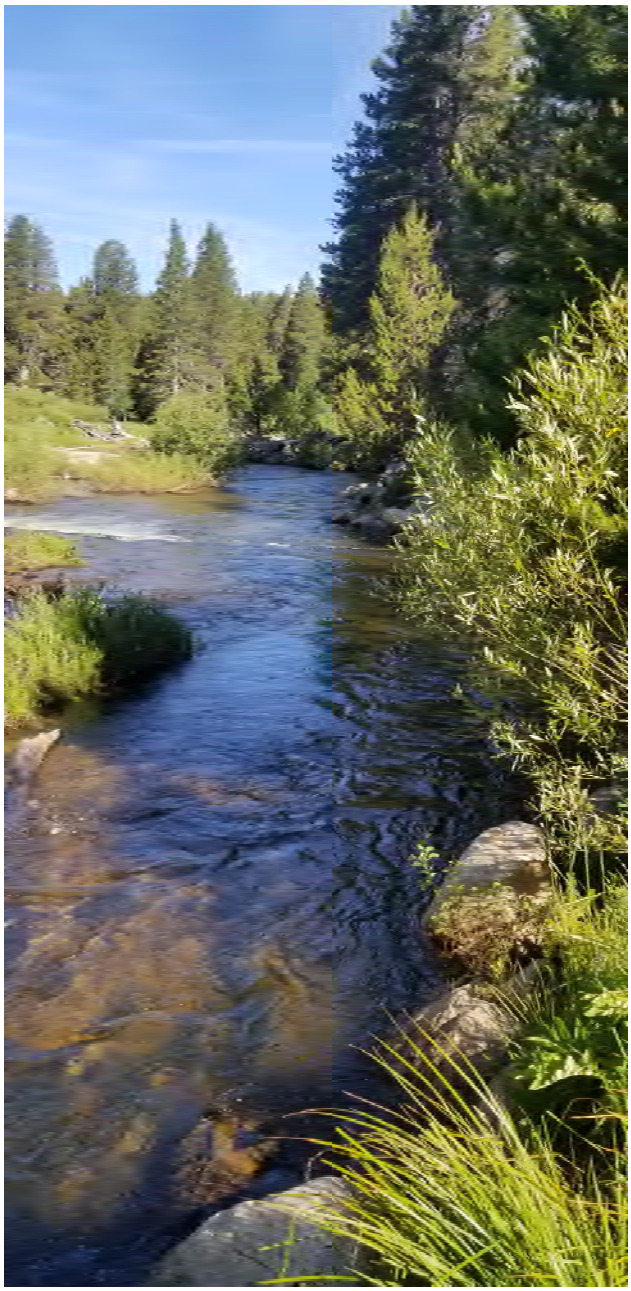


Photo 2: View looking down river from proposed bridge crossing (looking north).

Photo 3: Typical riverbank near proposed bridge crossing (looking south).

APPENDIX F

AQUATIC RESOURCES DELINEATION REPORT

Final Aquatic Resources Delineation Report

San Bernardino Class 1 Bike Path Project
August 2019

NCE

Lake Tahoe, NV
P.O. Box 1760
Zephyr Cove, NV 89448

El Dorado County, Department of Transportation

924 B Emerald Bay Road
South Lake Tahoe, CA 96150

Engineering & Environmental Services

www.ncenet.com

FINAL AQUATIC RESOURCES DELINEATION REPORT

San Bernardino Class 1 Bike Path Project

Prepared For:

Donaldo Palaroan, P.E., Senior Civil Engineer
County of El Dorado, Department of Transportation
924 B Emerald Bay Road
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Donaldo.palaroan@edcgov.us

Prepared by:

Debra Lemke, PWS, CPESC
Senior Scientist

NCE
1885 S Arlington Ave, Ste 111
Reno, NV 89509

Executive Summary

NCE performed a field investigation on July 10, 2019 evaluating the potential jurisdictional status of waters of the United States for the San Bernardino Class 1 Bike Path Project in El Dorado County, California.

Within the survey area, two drainages were mapped by the United States Geological Survey (USGS) and included the Upper Truckee River and an unnamed drainage. No waters of the United States were recognized by the United States Fish and Wildlife Service National Wetlands Inventory.

NCE surveyed a total of approximately 6.74 acres. NCE delineated three drainages that are potentially jurisdictional waters of the United States due to the presence of ordinary high-water mark indicators and a connection to the Upper Truckee River, which is a tributary to Lake Tahoe, a traditional navigable waterway. NCE also delineated the Upper Truckee River which is a potentially jurisdictional waters of the United States due to the presence of ordinary high-water mark indicators and the Upper Truckee River is a tributary to Lake Tahoe. These four drainages are presented on Appendix A, Figure 1.

- Unnamed Drainage 1 was dry during the survey. This drainage is a non-relatively permanent water, Cowardin classified as Intermittent, Riverine, and is approximately 0.0015 acres in size within the survey area.

- Unnamed Drainage 2 contained flow during the survey. This drainage is a relatively permanent water, Cowardin classified as Lower Perennial Riverine, and is approximately 0.0025 acres in size within the survey area.

- Unnamed Drainage 3 (locally known as Osgood Creek) contained flow during the survey. The drainage is a relatively permanent water, Cowardin classified as Lower Perennial Riverine, and is approximately 0.0102 acres in size within the survey area.

- Upper Truckee River contained flow during the survey. This drainage is a relatively permanent water, Cowardian as Lower Perennial Riverine, and is approximately 0.1442 acres in size within the survey area.

The delineation was conducted in accordance with the:

- 1987 Corps of Engineers Wetland Delineation Manual; and

- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), May 2010.

These findings should be considered preliminary until the United States Army Corps of Engineers makes a final approved jurisdictional determination in accordance with the United States Environmental Protection Agency.

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LIST OF ACRONYMS AND ABBREVIATIONS

NHD	National Hydrologic Dataset
NWI	National Wetlands Inventory
NRCS	Natural Resource Conservation Service
OHWM	Ordinary High-Water Mark
Project	San Bernardino Bike Path Project
RPW	Relatively Permanent Water
TNW	Traditional Navigable Waterway
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WOUS	Waters of the United States, including wetlands

b

1.0 INTRODUCTION

1.1 CONTACT AND PROJECT INFORMATION

Mr. Donaldo Palaroan of the County of El Dorado, Department of Transportation, contracted NCE to conduct a formal United States Army Corps of Engineers (USACE) aquatic resources delineation at the San Bernardino Class 1 Bike Path Project (project).

Mr. Palaroan's contact information is:

Donaldo Palaroan, P.E., Senior Civil Engineer
County of El Dorado, Department of Transportation
924 B Emerald Bay Road, South Lake Tahoe, California 96150
(530) 573-7920
donaldo.palaroan@edcgov.us

Ms. Debra Lemke and Ms. Sarah Bryan of NCE conducted the aquatic resources delineation on July 10, 2019.

The project is located in the County of El Dorado, California, west of U.S. Highway 50 and southwest of Pioneer Trail. The Lake Tahoe Airport is northeast of the project survey area (Appendix B, Figure 1). The project extends approximately 0.08 miles south of the Lake Tahoe Environmental Science Magnet School along East San Bernardino Avenue and ends just before the intersection of East San Bernardino Avenue and North Upper Truckee Road. The project proposes to provide a crucial connection between the neighborhood along North Upper Truckee Road and the Community of Meyers, expanding the already established Meyers Bikeway. The purpose of the project is to provide a safe and direct year-round connection between North Upper Truckee and Meyers neighborhoods.

The survey area consists of roadway, Tahoe Paradise Park, and the Upper Truckee River (Appendix B, Figure 2).

The survey area is presented on United States Geological Survey (USGS) Echo Lake 7.5-minute series topographic quadrangle maps (Appendix B, Figure 3).

1.2 PURPOSE

The purpose of this report is to identify and describe aquatic resources and to identify known possible sensitive plant, fish, wildlife species, and cultural/historic resources in the survey area. This report facilitates efforts to:

1. Avoid or minimize impacts to aquatic resources during the project development process.

2. Document aquatic resource boundary determinations for review by the USACE.

3. Provide early indications of known sensitive species and historic/cultural properties within the survey area.

4. Provide background information.

2.0 BACKGROUND

2.1 SITE DESCRIPTION

2.1.1 Location

The project is located in the County of El Dorado, California, west of U.S. Highway 50 and southwest of Pioneer Trail. The Lake Tahoe Airport is northeast of the survey area (Appendix B, Figure 1). The survey area is located in Sections 29 and 30 in Township 12 North and Range 18 East of the Mt. Diablo Meridian which may be found on the USGS 7.5-minute Echo Lake quadrangle map in El Dorado County, California. The town of Meyers is south of the survey area and the City of South Lake Tahoe is north of the survey area. At the northeast corner of the survey on East San Bernardino Avenue the latitude is: 38.8592057 and the longitude is: -120.0200101.

2.1.2 Site Access

To access the project from South Lake Tahoe, continue south on U.S. Highway 50/Lake Tahoe Boulevard to the intersection of U.S. Highway 50/State Route 89/Emerald Bay Road and Lake Tahoe Boulevard. At this intersection, turn south onto U.S. Highway 50/State Route 89/Emerald Bay Road. Travel for approximately 3.8 miles, then turn right (west) onto Arapahoe Street. Then take a left in 0.2 miles onto San Diego Street. Then turn left (west) onto E San Bernardino Avenue in 0.3, this is the northeast access into the survey area.

2.1.3 Land Use

The land within the survey area contains publicly owned land by the United States Forest Service and County of El Dorado and privately-owned land by the Tahoe Paradise Recreation and Park District (Tahoe Paradise Park). The extent of the survey area is fully located within El Dorado County limits.

The survey area surrounding land uses include residential, Tahoe Paradise Park and Lake Baron north and south, the Lake Tahoe Environmental Magnet School north of the east entrance to the area, and Tahoe Paradise Golf Course east of the project.

2.1.4 Vegetation

The area within the survey area is characterized predominantly by urban land fragmented by Jeffrey pine, lodgepole pine, perennial grassland, sagebrush, and Sierran mixed conifer (Appendix B, Figure 4).

2.1.5 National Wetland Inventory

Within the survey area, no features are identified by the United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) (Appendix B, Figure 5).

The Upper Truckee River is recognized as a naturally occurring riverine by the USA Topographic Data (Appendix B, Figure 3).

2.1.6 Soils

The soils within the survey area have been mapped by the Department of Agriculture, Natural Resource Conservation Service (NRCS) and were downloaded from the Web Soil Survey (NRCS 2019a). NRCS identified four soil types within the survey area (Appendix B, Figure 6); two of the four soil types are on the national hydric soils list (NRCS 2019a). All four soil types and their hydric status are presented below and in Table 1.

Pits and dumps
Pits and dumps are a soil component that is derived from 45 percent pits, 45 percent dumps, and 10 percent minor components of arents and xerorthents. The typical profile is variable. This soil is not considered hydric (NRCS 2019b).

Tahoe complex, 0 to 5 percent slopes, gravelly
Tahoe complex is a soil component that occurs on valley flats, and flood plains. The parent material consists of alluvium derived from granitic and volcanic rock. Depth to a restrictive layer is greater than 80 inches. The natural drainage class is very poorly drained. This soil is considered hydric (NRCS 2019b).

Celio loamy coarse sand, 0 to 5 percent slopes
Celio loamy coarse sand is a soil component that occurs on outwash terraces. The parent material consists of alluvium and/or outwash. Depth to a restrictive layer is 39 to 59 inches to duripan. The natural drainage class is somewhat poorly drained. This soil is considered hydric (NRCS 2019b).

Meeks gravelly loamy coarse sand, 5 to 15 percent slopes, stony
This complex is a soil component that occurs on moraines. The parent material consists of outwash and/or till derived from granodiorite. Depth to a restrictive layer is 41 to 73 inches to duripan. The natural drainage class is somewhat excessively drained. This soil is not considered hydric (NRCS 2019b).

Table 1. Soils within the Survey Area

Map Unit Symbol	Name	Acres in Project Area	Percent of Project Area	National Hydric List
7031	Pits and dumps	0.03	0.4%	No
7042	Tahoe complex, 0 to 5 percent slopes, gravelly	0.39	5.7%	Yes
7431	Celio loamy coarse sand, 0 to 5 percent slopes	4.55	67.5%	Yes
7482	Meeks gravelly loamy coarse sand, 5 to 15 percent slopes, stony	1.77	26.3%	No
Totals for Project Area		6.74	100.0%	

2.1.7 Hydrology
The sources of water for the survey area include surface water from three unnamed drainages and the Upper Truckee River, direct precipitation and stormwater runoff from East San Bernardino Avenue. Nuisance water may include Tahoe Paradise Park north and south of the survey area.

3.0 METHODS

3.1 LITERATURE REVIEW

Available information pertaining to the natural resources of the region was reviewed. References reviewed for this delineation are listed in Section 5.0. Pertinent site-specific reports and general references utilized for the delineation include the following:

- USFWS NWI mapping.
- USGS NHD mapping.
- Google Earth.
- United States Department of the Interior, USGS. Echo Lake, California 7.5-minute series topographic quadrangle.
- United States Department of Agriculture (USDA), NRCS. 2019a. Soils survey data for the project site accessed online at: *http://websoilsurvey.nrcs.usda.gov/app/*
- USDA, NRCS. 2019b. National and State of California hydric soils for the project study area accessed online at: *http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/*
- USGS National Hydrography Data. *https://nhd.usgs.gov/tools.html#MDTool*
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. U.S. Army Corps of Engineers Waterways Experiment Station. Vicksburg, MS.
- USACE. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (Version 2.0).
- USACE U.S. Environmental Protection Agency. 2007. *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States and Carabell v. United States.*
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- Gretag, Macbeth. 2000. *Munsell Soil Color Charts*. New Windsor, NY.
- Cowardin, *et al*. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Fish and Wildlife Service, Washington D.C.
- California Department of Fish and Wildlife. California Interagency Wildlife Task Group. 2014. CWHR version 9.0 personal computer program. Sacramento, CA.
- USACE. 2019. *National Wetland Plant List, version 3.3.* Accessed online at: http://wetland_plants.usace.army.mil/

3.2 RESEARCH AND FIELD METHODOLOGY

Prior to the field investigation, USGS topographic maps and NHD mapping, aerial photographs, USFWS NWI mapping, and a NRCS custom soil report of the survey area were reviewed for indications of ephemeral, intermittent, and perennial drainages as well as mapped wetlands and spring locations.

Wetlands

The survey area was delineated for the presence of wetlands utilizing the USACE 1987 three-parameter (vegetation, hydrology, and soils) methodology. This methodology was refined in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), May 2010 and requires the collection of data on soils, vegetation, and hydrology at several locations to establish the potential jurisdictional boundary of wetlands.

The team identified representative locations for data collection. Soil pits were dug and the team collected data on vegetation, hydrology, and soils. Soils were also examined and correlations were developed between the three parameters to make wetland determinations. Data points were evaluated to determine the composition and identification of dominant plant species. The indicator status of all dominant plant species, as determined by the 2016 National Wetland Plant List, version 3.3, was applied and evaluated as part of the vegetation assessment portion of the wetland determination process. Additionally, immediate subsurface soil conditions were examined for hydric attributes or a lack thereof. Observations were made and recorded for both primary and secondary wetland hydrology indicators, if present. Soil pit locations were recorded with a Trimble Geo7x GPS unit and were documented with representative photographs.

Roadside Ditches and Man-Made Swales

The survey area was delineated to determine if roadside ditches and/or man-made swales were constructed within jurisdictional drainages.

Drainages

The survey area was delineated for drainages utilizing the presence of ordinary high water mark (OHWM) indicators, evidence of frequent surface water flows, and a connection to a navigable waterway. These characteristics were considered to be indicative of a jurisdictional waters of the United States (WOUS). Arid West Ephemeral and Intermittent Stream OHWM Data Sheets were completed for each drainage with the presence of OHWM indicators. If the drainage had OHWM indicators present, the drainage was followed to determine if the drainage flowed into another drainage with OHWM indicators or if these indicators terminated. Where the drainage exhibited OHWM indicators, width measurements were taken to be used in determining an average width of the drainage and height measurements from the OHWM to the drainage bottom were taken. When drainages with OHWM indicators left the area, an attempt was made to follow the drainage to determine if OHWM indicators terminated or a connection to a navigable waterway. Ordinary high water mark indicator locations were recorded with a Trimble Geo7x GPS unit and representative photographs were taken.

3.3 SURVEY DATA INTEGRATION

Boundaries of the potential aquatic resources within the project survey area were mapped using a Trimble Geo7x GPS unit and digitized in ESRI ArcGIS Pro 2.4.0 software. The datum is NAD 1983.

3.4 PRIVATE PROPERTY OWNER ACCESS

A signed letter from the Tahoe Paradise Park allowing USACE personnel to enter the property and collect samples during business hours will be needed as the project survey area is within park ownership (Appendix C).

4.0 RESULTS

4.1 LANDSCAPE SETTING

The survey area is approximately 6.74 acres. The entire survey area was field delineated by NCE. The survey area includes publicly owned land by the United States Forest Service and County of El Dorado, and privately-owned land by Tahoe Paradise Park. The survey area also abuts private parcels. The survey area slopes from the west to the east, with the east being 6332 feet above mean sea level, and the west being 6,405 feet above mean sea level. The lowest elevation of the survey area is located in the middle of the survey area, adjacent to Lake Baron at 6306 feet above mean sea level.

The project is on the west side of State Route 89/Emerald Bay Road/U.S. Highway 50. To the north of the project area (west of State Route 89/Emerald Bay Road), is Angora Creek and the Upper Truckee River bisects the project area.

There are no NWI mapped wetlands within the survey area (Appendix A, Figure 5). There are two USGS 'blue line' drainages within the survey area, Upper Truckee River and an unnamed drainage (Appendix A, Figure 3). Two additional unnamed drainage segments were identified within the survey area (discussed below in Section 4.2). Outside of the survey area, to the north (downstream) is one USGS 'blue line' drainage: Angora Creek.

Vegetation types were initially identified with the CALVEG GIS data (USDA 2009), and then verified based on an NCE reconnaissance botanical field survey (Appendix D Plant List).

4.2 AQUATIC RESOURCES

4.2.1 Wetlands

Within the survey area, a data point was taken within a meadow west of the Upper Truckee River. The data point (SP1) was collected within a representative area of the meadow. The vegetation at SP1 consisted of 40% Italian rye grass (*Festuca perennis)* which is a non-native species and 60% bare ground. Data point 1 is not within a wetland because there are no signs of wetland hydrology, hydrophytic vegetation, nor hydric soils.

Appendix B, Figure 3 depicts the location of the datapoint. Appendix Figure 7 presents the ground photograph locations and directions. A plant list of the entire survey area is located in Appendix D. Representative photographs are in Appendix E. The wetland datasheet is in Appendix F.

4.2.2 Roadside Ditches and Man-Made Swales

No roadside ditches or man-made swales were identified within the survey area. The survey area contained asphalt curb and gutters.

4.2.3 Drainages

Upper Truckee River

The Upper Truckee River was identified flowing generally south to north through the middle of the survey area. This is an USA topographic drainage. This drainage was flowing at the time of the survey. Data Points OHWM UTR-L and UTR-R were collected. The Upper Truckee River's OWHM was 111.14 feet across and 18 inches deep.

The Upper Truckee River discharges into Lake Tahoe, a Traditional Navigable Waterway (TNW). Due to the presence of OHWM indicators and the drainage's connection to a TNW, NCE

believes that Upper Truckee River is a jurisdictional waterway. This drainage is Cowardin classified as Lower Perennial Riverine and is approximately 0.1442 acres in size (Appendix A, Figure 1).

Unnamed Drainage 1

One unnamed drainage was identified in the northern side of the project, east of Tahoe Paradise Park. Within the survey area, this unnamed drainage starts at a culvert under East San Bernardino Avenue just west of the intersection with Bakersfield Street. This culvert is a highly eroded corrugated metal pipe about 24 inches across and the downstream area of the culvert is eroded with a 7 by 8-foot depression. The culvert is partially filled with sediment, has an eroded/missing top, little to no slope, and a very shallow low flow drainage. Data Points OHWM C1a and C1b were collected for the unnamed drainage. The Unnamed Drainage 1's OWHM width was 12 inches and 0.5 inches deep.

This is not an USGS mapped drainage.

The drainage was not walked to determine if the drainage is hydrologically connected to the Upper Truckee River as the area was surrounded by private property. Per Google Earth imagery and topography, this unnamed drainage appears to eventually discharge into the Upper Truckee River. NCE believes that Unnamed Drainage 1 is federally jurisdictional. This drainage is Cowardin classified as Intermittent, Riverine, and is approximately 0.0015 acres in size (Appendix A, Figure 1).

Unnamed Drainage 2

One unnamed drainage was identified on the western corner of the survey area, at the intersection of West San Bernardino Avenue and Normuk Street. The culvert is made from metal approximately 52 inches in diameter. The drainage has a soft, no rock bottom. The vegetation surrounding the area is made up of horsetail and pine trees. Data point Culvert 2 was collected for this drainage; this data point contained OHWM indicators such as a break in bank slope and the presence of flow. The Unnamed Drainage 2's OWHM width was 22 inches and 1.25 inches deep.

This is not an USGS mapped drainage.

Due to the private property that surrounds the drainage, the drainage was unable to be followed out of the survey area. Per Google Earth imagery and topography, this drainage appears to be traveling southeast and will eventually discharge into the Upper Truckee River. NCE believes that Unnamed Drainage 2 is federally jurisdictional. This drainage is Cowardin classified as Lower Perennial Riverine and is approximately 0.0025 acres in size (Appendix A, Figure 1).

Unnamed Drainage 3 (locally known as Osgood Creek)

An unnamed drainage which is locally know as Osgood Creek was identified in the southwestern corner of the survey area. Within the survey area, this drainage flows under West San Bernardino Avenue through two metal culverts. These culverts are made from corrugated metal pipe and each are about 62 inches across. Data point Culvert 3 was collected for this drainage; this data point contained OHWM indicators such as a break in bank slope and the presence of flow.

There is an USGS mapped drainage in this location. The USGS mapped drainage depicts the drainage flowing to the northeast. During the survey, the drainage was flowing to the southeast. Osgood Creek's OWHM width was 8.0 feet and 3.0 inches deep.

Due to the private property that surrounds the drainage, the drainage was unable to be followed out of the survey area. Per Google Earth imagery and topography, this drainage appears to be traveling southeast and will eventually discharge into the Upper Truckee River. NCE believes that Osgood Creek is federally jurisdictional. This drainage is Cowardin classified as Lower Perennial Riverine and is approximately 0.0102 acres in size (Appendix A, Figure 1).

For all four drainages:

- Appendix B, Figure 3 depicts the location of the data points.
- Appendix B, Figure 7 presents the ground photograph figure
- A plant list of the entire survey area is located in Appendix D
- Representative photographs are in Appendix E
- The OHWM datasheets are in Appendix F

4.2.4 Aquatic Resources Types and Amounts

Below are two tables with the aquatic resources identified within the survey area (Table 2) and the proposed jurisdictional status (Table 3).

Table 2. Aquatic Resources within the Survey Area

Aquatic Resource Name	Aquatic Resources Classification		Length of Culvert Within Survey Area (acres)	Length of Drainage Within Survey Area (acres)	Aquatic Resource Size (acre) Required for all resources	Aquatic Resource Size (linear feet) (Culvert and Drainage Length)
	Cowardin	Location (lat/long)				
Unnamed Drainage 1	R4 – Intermittent Riverine	38.8579843 N -120.0236065 W	0.0004	0.0011	0.0015	67.45
Unnamed Drainage 2	R2 – Lower Perennial Riverine	38.8557421 N -120.0333043 W	0.0007	0.0018	0.0025	58.61
Osgood Creek	R2 – Lower Perennial Riverine	38.8548433 N -120.0340748 W	0.0013	0.0089	0.0102	55.79
Upper Truckee River	R2 – Lower Perennial Riverine	38.8572456 N -120.0267624 W		0.1442	0.1442	56.53
Total			0.0024	0.1560	0.1584	238.38

Table 3. Waters of the U.S Proposed Jurisdictional Status

Water Type	Total Acres	Jurisdictional	Non-Jurisdictional
Unnamed Drainage 1 – Non-Relatively Permanent Water	0.0015	0.0015	
Unnamed Drainage 2 - Relatively Permanent Water	0.0025	0.0025	
Osgood Creek - Relatively Permanent Water	0.0102	0.0102	
Upper Truckee River - Relatively Permanent Water	0.1442	0.1442	
Total	0.1584	0.1584	

4.3 SIGNIFICANT NEXUS

The U.S Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook (USACE 2007) was consulted to aid the preliminary determination whether an area would be subject to USACE jurisdiction under Section 404 of the Clean Water Act. The significant nexus test, outlined in a memorandum jointly authored by the U.S. Environmental Protection Agency and USACE, was applied to each potentially jurisdictional habitat type (Grumbles and Woodley 2008). To facilitate jurisdictional determination consistent with the guidance, each water body delineated was evaluated as a TNW, Relatively Permanent Water (RPW), or non-RPW, based on the following definitions:

- TNWs include all waters subject to the ebb and flow the tide, or waters that are presently used, have been used in the past, or may be used in the future to transport interstate or foreign commerce, and all waters that are navigable in fact under federal law for any purpose.

- RPWs are waters that flow continuously at least seasonally (typically at least 3 months of the year) and are not TNWs.
-
- Non-RPWs are waters that do not have continuous flow at least seasonally.

The following types of water bodies are subject to Clean Water Act jurisdiction:

- All TNWs and adjacent wetlands;

- Relatively permanent tributaries of TNWs and wetlands with a continuous surface connection to such tributaries; and

- Non-relatively permanent tributaries of TNWs and adjacent wetlands if they have a significant nexus to a TNW. Non-RPWs and adjacent wetlands are determined to have a significant nexus to a TNW if they significantly affect the chemical, physical, or biological integrity of a downstream TNW.

NCE's professional opinion is that the Unnamed Drainage 1 is a non-RPW which is an intermittent tributary of the Upper Truckee River, which is a tributary to Lake Tahoe, a TNW. NCE also believes that Unnamed Drainage 2 and Osgood Creek are RPW which are tributaries of the Upper Truckee River, which is a tributary to Lake Tahoe. The Upper Truckee River is a RPW and a tributary to Lake Tahoe. The three Drainages and the Upper Truckee River have the ability to affect the chemical, physical, and/or biological integrity of Lake Tahoe, resulting in a significant nexus to Lake Tahoe.

Appendix G contains the Aquatic Resource Excel Sheet and the GIS metadata.

The above findings should be considered preliminary until the USACE makes a final approved jurisdictional determination in coordination with the United States Environmental Protection Agency. Areas deemed jurisdictional will then be subject to the regulatory requirements of the federal Clean Water Act.

5.0 REFERENCES

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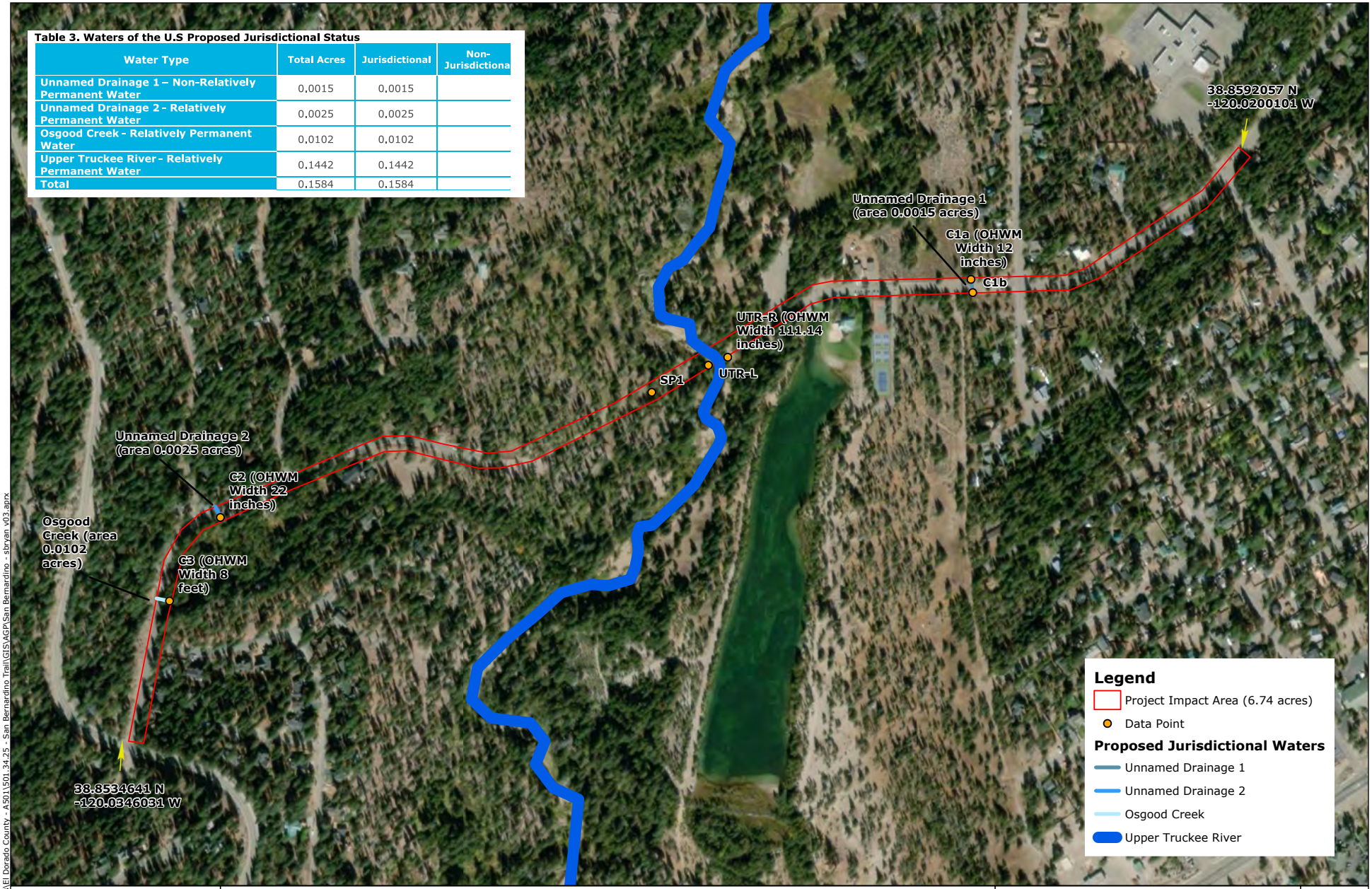
Appendix A

AQUATIC RESOURCE DELINEATION MAP

Table 3. Waters of the U.S Proposed Jurisdictional Status

Water Type	Total Acres	Jurisdictional	Non-Jurisdictiona
Unnamed Drainage 1 – Non-Relatively Permanent Water	0.0015	0.0015	
Unnamed Drainage 2 - Relatively Permanent Water	0.0025	0.0025	
Osgood Creek - Relatively Permanent Water	0.0102	0.0102	
Upper Truckee River - Relatively Permanent Water	0.1442	0.1442	
Total	0.1584	0.1584	



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NCE

San Bernardino Class 1 Bike Path Project

Proposed Delineation Map

N

1 in. = 500 ft.

0 500 ft.

FIGURE 4

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2019	501.34.25	sbryan	8/26/2019	9/6/2019	drios

Appendix B

SUPPORTING MAPS

Legend

Survey Area

San Bernardino Class 1 Bike Path Project

Project Location Map

N

1 in. = 10,000 ft.

0 5,000 10,000 ft.

FIGURE 1

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2019	501.34.25	sbryan	8/9/2019	9/6/2019	dlemke

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Legend

Survey Area

San Bernardino Class 1 Bike Path Project

Project Survey Area

N

1 in. = 500 ft.

0 250 500 ft.

FIGURE 2

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2019	501.34.25	sbryan	8/26/2019	9/6/2019	drios

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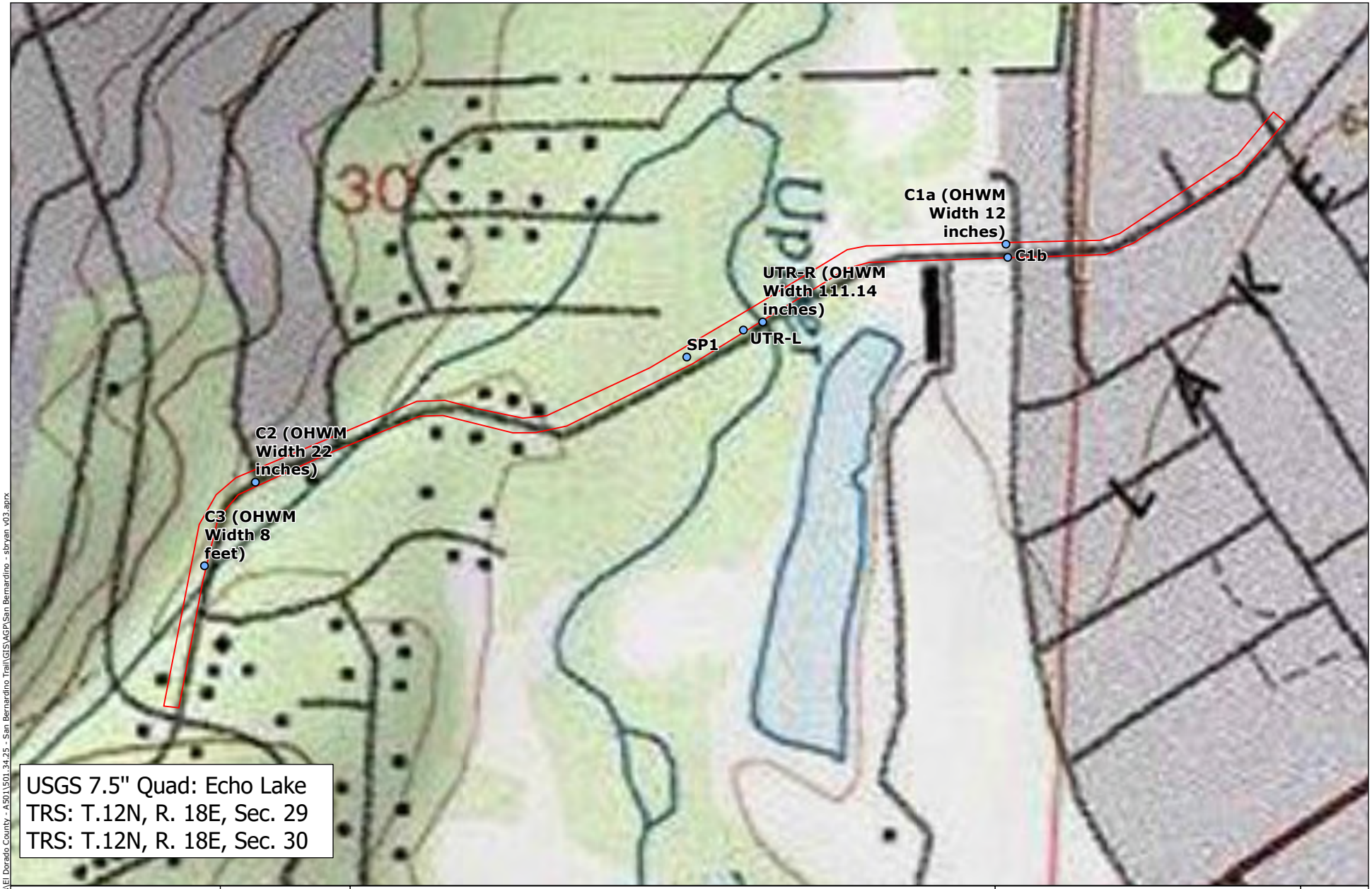

Legend

- Survey Area
- Data Point

NCE

San Bernardino Class 1 Bike Path Project

Topographic Quadrangle Map

N

1 in. = 500 ft.

0 250 500 ft.

FIGURE 3

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
USA Topographic Data; NCE 2019	501.34.25	sbryan	8/23/2019	9/6/2019	drios

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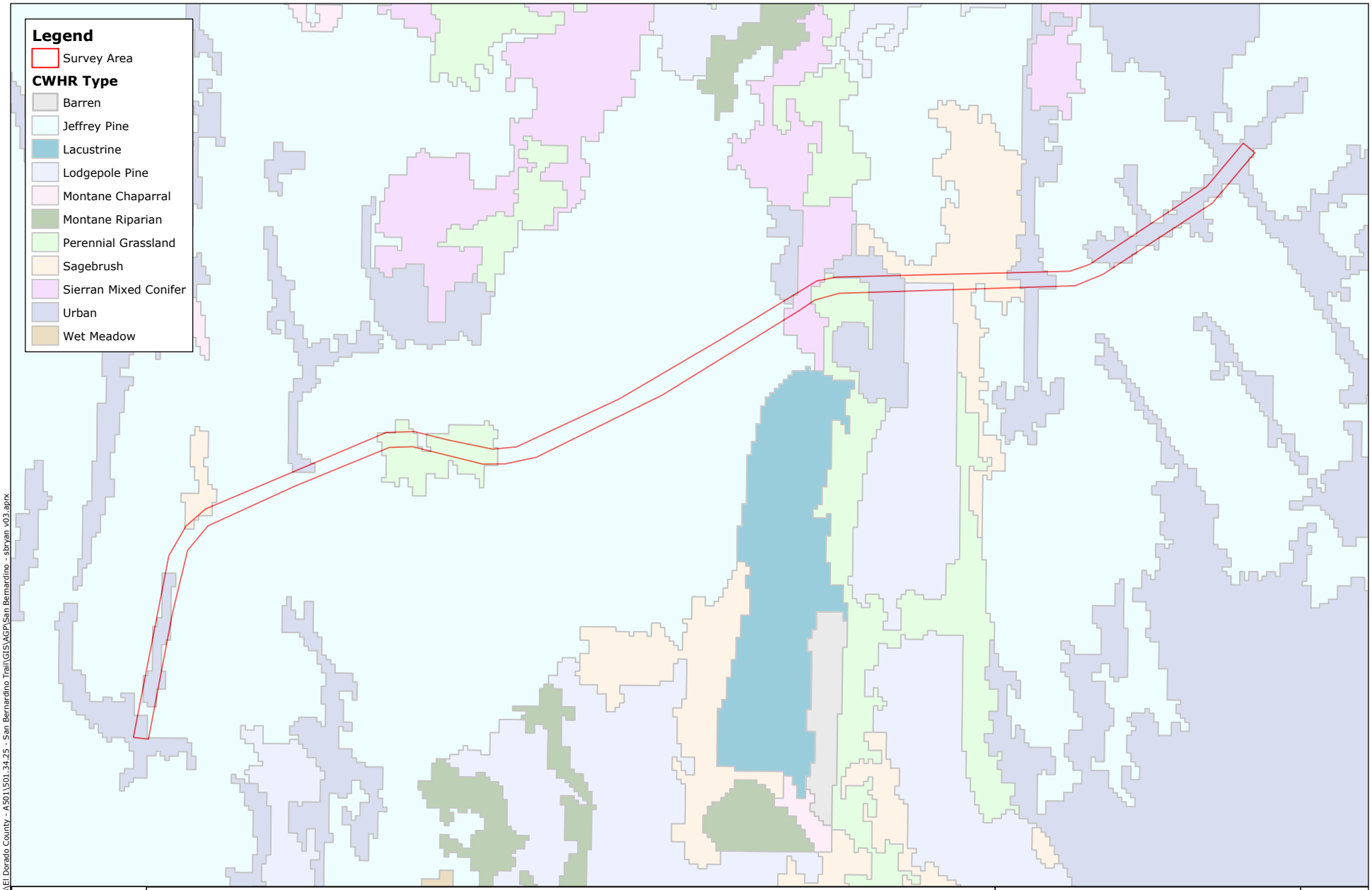

San Bernardino Class 1 Bike Path Project

CWHR Type (Vegetation Communities)

N

1 in. = 500 ft.

0 250 500 ft.

FIGURE 4

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2019; California Wildlife Habitat Relationships Dataset	501.34.25	sbryan	8/23/2019	9/6/2019	drios

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San Bernardino Class 1 Bike Path Project

National Wetland Inventory (NWI) Map

N

1 in. = 500 ft.

0 250 500 ft.

FIGURE 5

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2019; NWI	501.34.25	sbryan	8/26/2019	9/6/2019	drios

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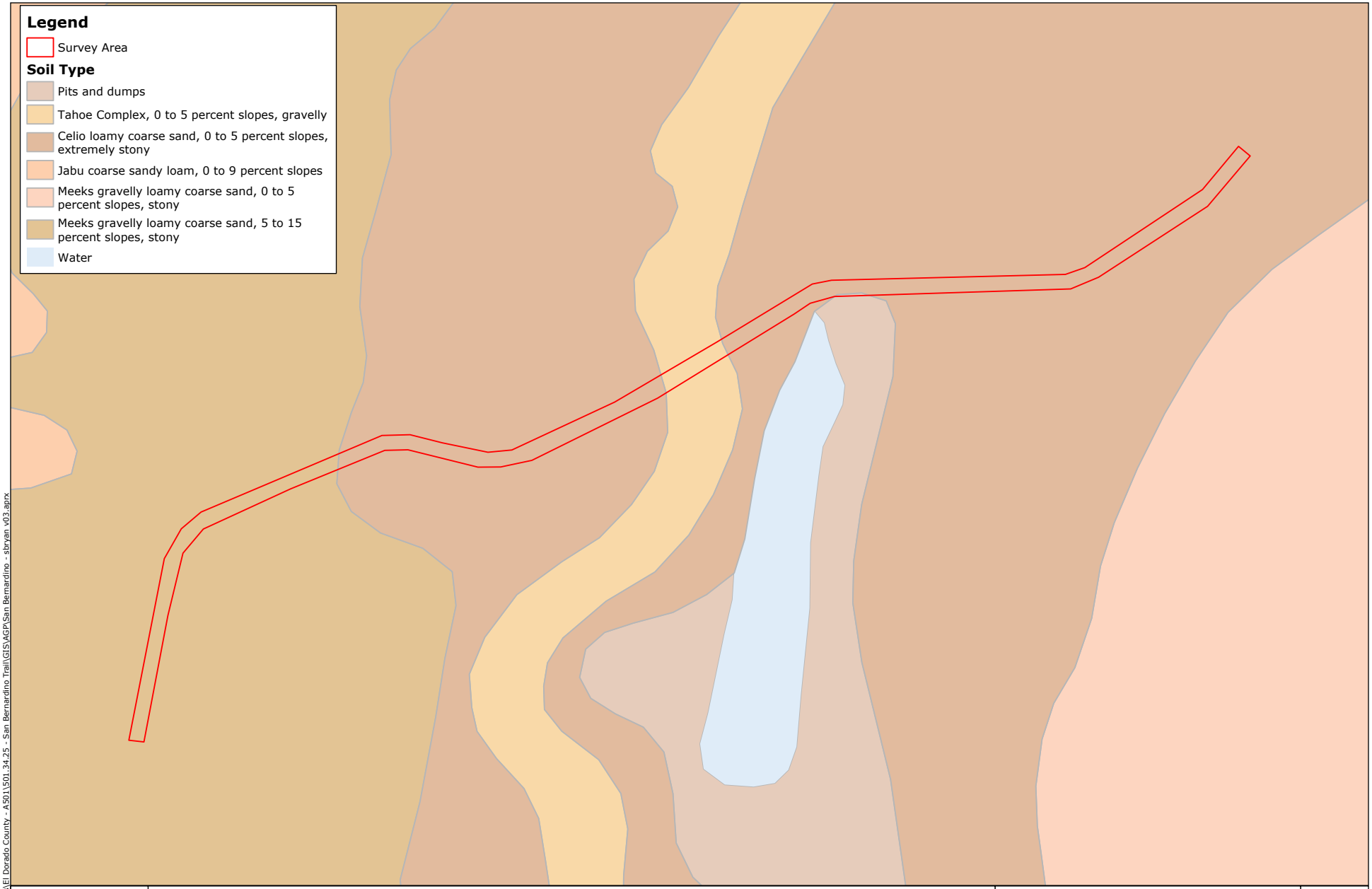

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NCE

San Bernardino Class 1 Bike Path Project

NRCS Soils Map

N

1 in. = 500 ft.

0 250 500 ft.

FIGURE 6

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
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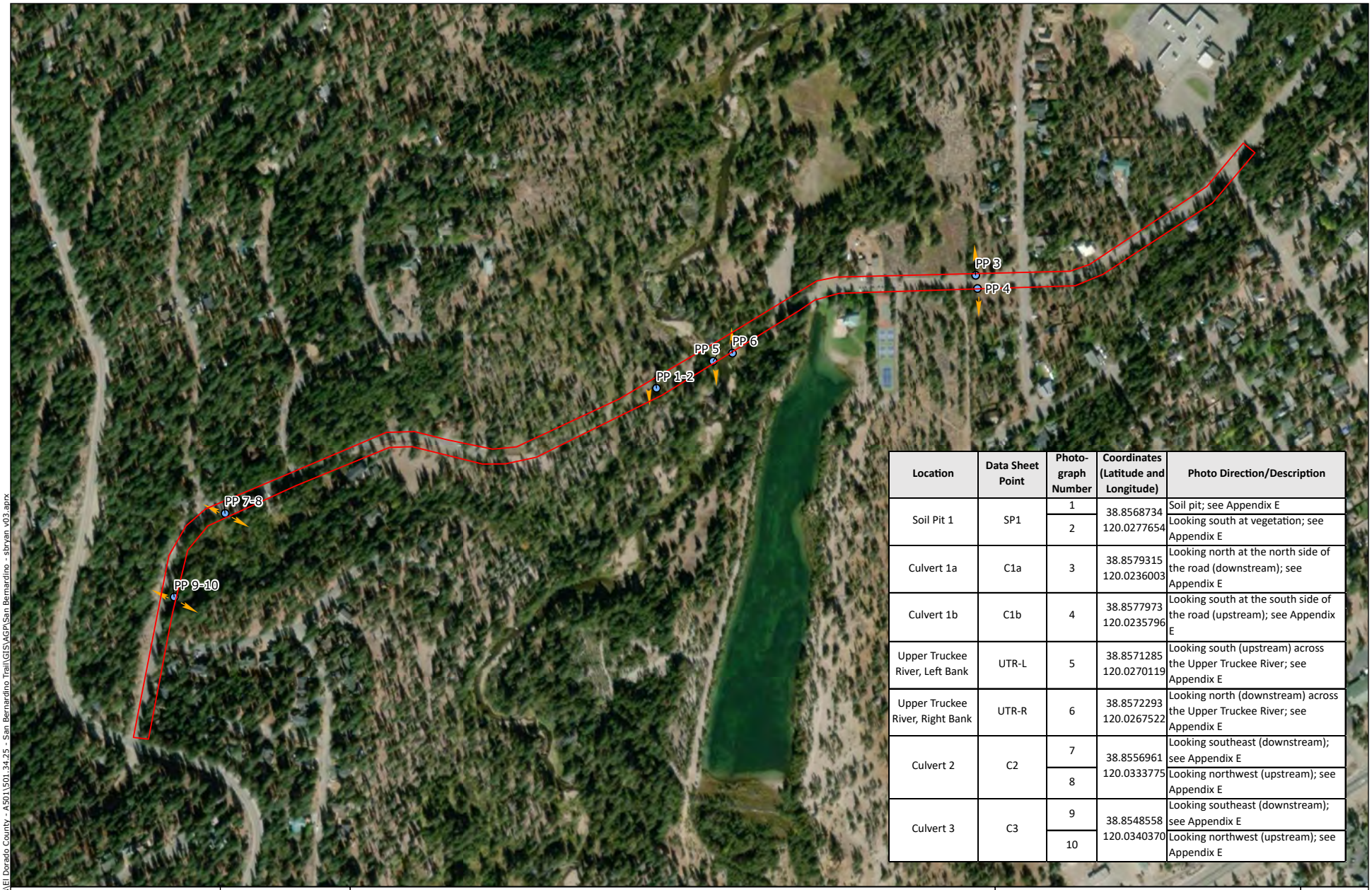

Location	Data Sheet Point	Photo-graph Number	Coordinates (Latitude and Longitude)	Photo Direction/Description
Soil Pit 1	SP1	1	38.8568734 120.0277654	Soil pit; see Appendix E
		2		Looking south at vegetation; see Appendix E
Culvert 1a	C1a	3	38.8579315 120.0236003	Looking north at the north side of the road (downstream); see Appendix E
Culvert 1b	C1b	4	38.8577973 120.0235796	Looking south at the south side of the road (upstream); see Appendix E
Upper Truckee River, Left Bank	UTR-L	5	38.8571285 120.0270119	Looking south (upstream) across the Upper Truckee River; see Appendix E
Upper Truckee River, Right Bank	UTR-R	6	38.8572293 120.0267522	Looking north (downstream) across the Upper Truckee River; see Appendix E
Culvert 2	C2	7	38.8556961 120.0333775	Looking southeast (downstream); see Appendix E
		8		Looking northwest (upstream); see Appendix E
Culvert 3	C3	9	38.8548558 120.0340370	Looking southeast (downstream); see Appendix E
		10		Looking northwest (upstream); see Appendix E

Legend

- Survey Area
- Data Point

San Bernardino Class 1 Bike Path Project

Ground Level Photograph Locations and Directions

N

1 in. = 500 ft.

0 250 500 ft.

FIGURE 7

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2019	501.34.25	sbryan	8/26/2019	9/6/2019	dlemke

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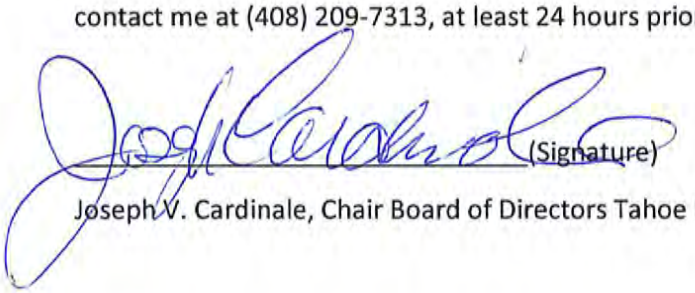
Appendix C

PROPERTY ACCESS STATEMENT

I, Joseph V. Cardinale, Chair of the Board of Directors for the Tahoe Paradise Recreation and Park District, Assessor's Parcel Numbers 034-010-013, 034-020-017, 034-010-024, and 034-020-032 allow USACE personnel to enter the property and collect samples during normal business hours. Please contact me at (408) 209-7313, at least 24 hours prior to entering the property.



_____(Signature)

Joseph V. Cardinale, Chair Board of Directors Tahoe Paradise Recreation and Park District

Appendix D

PLANT LIST

Plant Species Identified Within the Project Area July 2019

Scientific Name	Common Name	Native: Y, N	Wetland Indicator Status*
Abies concolor	White fir	Y	UPL
Achillea millefolium	Common yarrow	Y	FACU
Acmispon nevadensis	Nevada birdsfoot trefoil	Y	NL
Alnus incana	Speckled alder	Y	FACW
Aquilegia formosa	Columbine	Y	FAC
Arctostaphylos sp.	Manzanita	Y	FACU
Artemesia douglasiana	California mugwort	Y	FACW
Artemesia tridentata	Sagebrush	Y	NL
Calocedrus decurrens	Incense cedar	Y	NL
Castilleja miniata	Scarlet paintbrush	Y	FACW
Carex sp.	Sedge	Y	OBL, FACW, FAC, FACU, and UPL (due to unknown species)
Ceonothus leucodermis	Whitethorn	Y	NL
Collomia grandiflora	Grand collomia	Y	NL
Dactylis glomerata	Orchard grass	N	FACU
Delphinium patens	Larkspur	Y	NL
Equisetum arvense	Common horsetail	Y	FAC
Equisetum hyemale	Scouring horsetail	Y	FACW
Festuca idahoensis	Blue fescue	Y	NL
Festuca perennis	Italian rye grass	N	NL
Fragaria vesca	Strawberry	Y	FACU
Heracleum maximum	Common cowparsnip	Y	FAC
Juncus sp.	Rush	Y	OBL, FACW, FAC, and FACU (due to unknown species)
Lomatium multifidum	Fernleaf biscuitroot	Y	NL
Lupinus breweri	Brewer's lupine	Y	NL
Lupinus lepidus	Lobb's lupine	Y	NL
Lupinus polyphyllus	Meadow lupine	Y	FAC
Pinus contorta ssp. murrayana	Lodgepole pine	Y	FAC
Pinus jeffreyi	Jeffrey pine	Y	NL
Pinus ponderosa	Ponderosa pine	Y	FACU
Potentilla recta	Sulpher cinquefoil	N	NL
Rumex cripsus	Curly dock	N	FAC
Rosa californica	Wild rose	Y	FAC
Salix lasiolepis	Arroyo willow	Y	FACW
Salix scouleriana	Scouler willow	Y	FAC
Scirpus microcarpus	Mountain bog bulrush	Y	OBL

Scientific Name	Common Name	Native: Y, N	Wetland Indicator Status*
Symphoricarpos mollis	Snowberry	Y	FACU
Trifolium pretense	Red clover	N	FACU
Veratrum californicum	California false hellebore	Y	FAC
Verbascum thapsus	Wooly mullein	N	FACU
Viola pupurea	Goosefoot Violet	Y	NL

* Wetland Indicator Status (WIS):

OBL	=	Obligate Wetland; occurs in aquatic resources > 99% of time
FACW	=	Facultative Wetland; occurs in aquatic resources 67-99% of time
FAC	=	Facultative; occurs in aquatic resources 34-66% of time
FACU	=	Facultative Upland; occurs in aquatic resources 1-33% of time
UPL	=	Obligate Upland; occurs in uplands > 99% of time
NL	=	Not Listed

Appendix E

REPRESENTATIVE PHOTOGRAPHS

Photo 1: Soil Pit 1, SP1, looking at the soil pit.

Photo 2: Soil Pit 1, SP1, looking south at vegetation.

Photo 3: Culvert 1a, C1a, looking north at the north side of the road (downstream).

Photo 4: Culvert 1b, C1b, looking south at the south side of the road (upstream).

Photo 5: Upper Truckee River Left Bank, LTR-L, looking south (upstream) across the Upper Truckee River.

Photo 6: Upper Truckee River Right Bank, LTR-R, looking north (downstream) across the Upper Truckee River.

Photo 7: Culvert 2, C2, looking southeast (downstream).

Photo 8: Culvert 2, C2, looking northwest (upstream).

Photo 9: Culvert 3, C3, looking southeast (downstream).

Photo 10: Culvert 3, C3, looking northwest (upstream).

Photo 11: Culvert 5, C5, Roadside ditch (non-jurisdictional), looking west up San Bernardino road.

Appendix F

DELINEATION DATASHEETS

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: San Bernardino City/County: El Dorado County Sampling Date: 7-10-19
Applicant/Owner: El Dorado County State: CA Sampling Point: So.1 pit 1
Investigator(s): Sarah Bryan & Debra Lemke Section, Township, Range: 30, 12, 18
Landform (hillslope, terrace, etc.): Valley Local relief (concave, convex, none): Concave Slope (%): 2
Subregion (LRR): Western Mentains Lat: 38.85686806 Long: 120.0277589 Datum: NAD 1983
Soil Map Unit Name: Celio loamy coarse sand, 0 to 5 percent slopes NWI classification: None
Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.)
Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? NO Are "Normal Circumstances" present? Yes X No ____
Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? NO (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	
Hydric Soil Present?	Yes ____	No X	Is the Sampled Area within a Wetland? Yes ____ No X
Wetland Hydrology Present?	Yes ____	No X	

Remarks: yes climatic conditions typical but A wet winter

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	= Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	= Total Cover		
Herb Stratum (Plot size: 1m)			
1.			
2. ~~Wheatgrass~~ Festuca Perennis	40%	Yes	NL
3.			
4. Bareground	60%		
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	40 100% = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	= Total Cover		

% Bare Ground In Herb Stratum 60

Dominance Test worksheet:
Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)
Total Number of Dominant Species Across All Strata: 1 (B)
Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:	
OBL species	x 1 =	
FACW species	x 2 =	
FAC species	x 3 =	
FACU species	x 4 =	
UPL species	x 5 =	
Column Totals: (A)		(B)

Prevalence Index = B/A =

Hydrophytic Vegetation Indicators:
__ 1 - Rapid Test for Hydrophytic Vegetation
X 2 - Dominance Test is >50%
__ 3 - Prevalence Index is ≤3.0[1]
__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)
__ 5 - Wetland Non-Vascular Plants[1]
__ Problematic Hydrophytic Vegetation[1] (Explain)
[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks: Festuca Perennis was the only veg present in our sampling point which is representative of the Area.

SOIL

Sampling Point: Soil P.1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-1								Org Veg MAT
1-15	7.5YR 2.5/3	100						Loamy Sand

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (except MLRA 1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: NS rock refusal

Depth (inches): 15

Hydric Soil Present? Yes ____ No X

Remarks:

no hydric soil indicators

Photo 11 - Soil
12-N
13-E
14-S
15-W

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (LRR A)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (LRR A)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No ____ Depth (inches): ____

Water Table Present? Yes ____ No ____ Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No ____ Depth (inches): ____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

NO primary or secondary indicators

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: San Bernardino
Project Number: 501.34.25
Stream: Upper Truckee River
Investigator(s): Debra Lemke & Sarah Bryan
Date: 7-10-19 **Time:** 9:16
Town: S. Lake Tahoe **State:** CA
Photo begin file#: 1 **Photo end file#:** 6

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details: South Lake Tahoe, CA

Projection: State Plane CA **Datum:** NAD 1983
Coordinates: 38.857 2456, 120.026 624

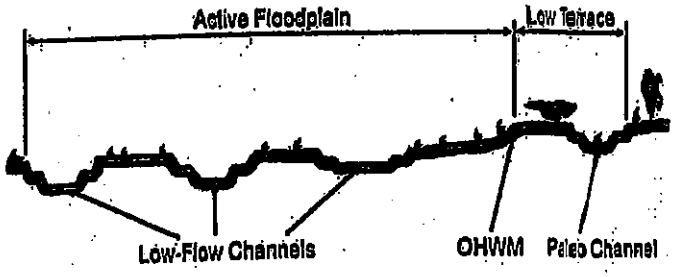
Potential anthropogenic influences on the channel system:
Human interaction from the Tahoe Paradise Park

Brief site description:
Flowing river, rock bank on Right Side, mature vegetation

Checklist of resources (if available):

- ☒ Aerial photography
  Dates:
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☐ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

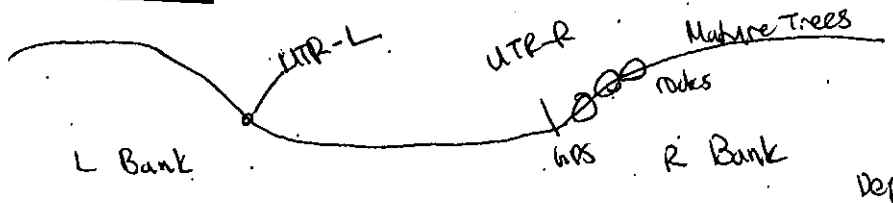


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☒ GPS
   - ☐ Other:

Project ID: 501.24.25 **Cross section ID:** **Date:** 7-10-19 **Time:** 9:15

Cross section drawing:



OHWM

GPS point: UTR-R (Right Bank) & LTR-L (Left Bank)

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☒ Break in bank slope
- ☒ Other: Flow
- ☐ Other: _____

Comments:

Standing on right bank, willows, pines, grasses

Photo 4 UTR-L - Looking Downstream - N
5 " - Upstream SE
6 " " " South

Floodplain unit:

☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

Alders, willow, pine, grasses

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: ~~90~~ % Tree: 20 % Shrub: 40 % Herb: 20 % 10% Bareground

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☒ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Photo 1 - DL phone, looking west across ~~LR~~ UTR
2 " " " North (Downstream) > Right Bank
3

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: San Bernardino
Project Number: El Dorado County
Stream: Unnamed Drainage 50 + 34 + 25
Investigator(s): Sarah Bryan & Debra Lemke

Date: 7-10-19 **Time:** 8:30
Town: South Lake Tahoe **State:** CA
Photo begin file#: 1 **Photo end file#:** 4

Y [X] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [X] Is the site significantly disturbed?

Location Details:
South Lake Tahoe, CA

Projection: State Plane, CA **Datum:** NAD 1983
Coordinates: ~~38.85568587, 120.02794482~~ 38.85798943, 120.02360065

Potential anthropogenic influences on the channel system:
roadway, near by houses.

Brief site description:
dry channel, mature pine trees, metal culvert under San Bern. Road. Area around culvert is eroded - @ 7'x8' depression.

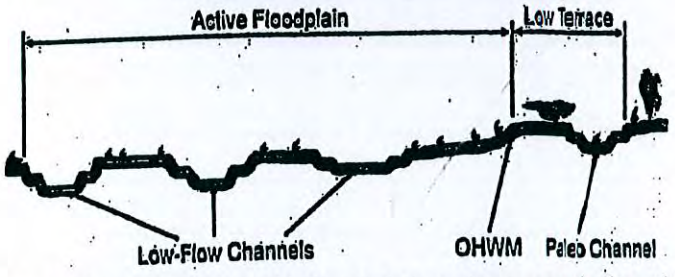
Checklist of resources (if available):

- [X] Aerial photography
  Dates:
- [X] Topographic maps
- [ ] Geologic maps
- [X] Vegetation maps
- [X] Soils maps
- [ ] Rainfall/precipitation maps
- [ ] Existing delineation(s) for site
- [ ] Global positioning system (GPS)
- [ ] Other studies

BANKS

- [ ] Stream gage data
  Gage number:
  Period of record:
- [ ] History of recent effective discharges
- [ ] Results of flood frequency analysis
- [ ] Most recent shift-adjusted rating
- [ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

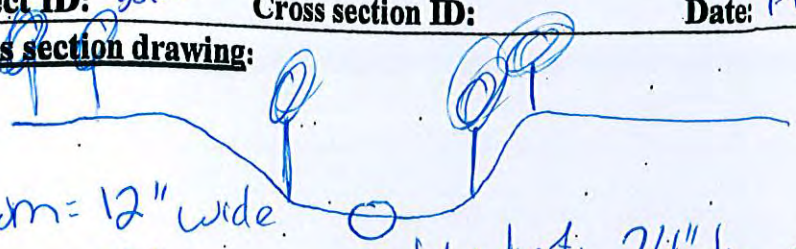


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - [ ] Mapping on aerial photograph
   - [ ] Digitized on computer
   - [X] GPS
   - [ ] Other:

Project ID: 501.34.25 **Cross section ID:** **Date:** 7.10.19 **Time:** 8:30

Cross section drawing:



OHWM

GPS point: Culvert 1 (north side of road) downstream
Culvert 1b (south side of road) upstream.

Indicators:

- ☐ Change in average sediment texture
- ☒ Change in vegetation species
- ☒ Change in vegetation cover
- ☐ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Flows to the N
→ no pine trees in drainage, drainage contained. Grass species.

Comments:

metal culvert, partially filled w/ sediment, culvert is eroded/missing top, little to no slope, very shallow low flow.

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: Culvert 1 + Culvert 1b

Characteristics of the floodplain unit:

Average sediment texture: loam
Total veg cover: ____ % Tree: 5 % Shrub: ____ % Herb: 5 % (at Culvert 1b)
90 bare ground

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☒ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

photos 1 & 2 looking North (on north side of road
3 looking North (on south side of road
4 " South

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: San Bernardino
Project Number: 501.34.25
Stream: Drainage 2 - culvert 2
Investigator(s): Debra Lemke & Sarah Bryan

Date: 7-10-19 **Time:** 10:00
Town: South Lake Tahoe **State:** CA
Photo begin file#: 7 **Photo end file#:** 8

Y [X] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [X] Is the site significantly disturbed?

Location Details: South Lake Tahoe, CA

Projection: State Plane CA **Datum:** NAD 1983
Coordinates: 38.855742, -120.013330 WGS

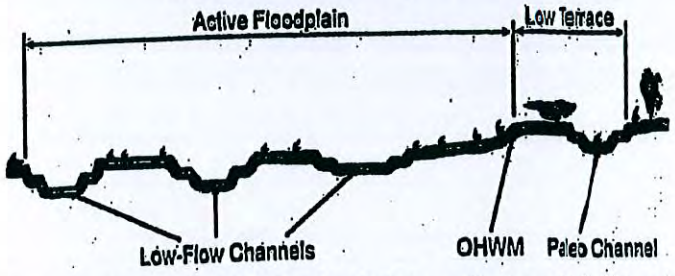
Potential anthropogenic influences on the channel system:
neighbors + road crossing

Brief site description:
Namuck + WSAM. intersection, metal culvert, w/ flow headed Southeast

Checklist of resources (if available):

- [X] Aerial photography
  Dates:
- [X] Topographic maps
- [ ] Geologic maps
- [X] Vegetation maps
- [X] Soils maps
- [ ] Rainfall/precipitation maps
- [ ] Existing delineation(s) for site
- [ ] Global positioning system (GPS)
- [ ] Other studies
- [ ] Stream gage data
  Gage number:
  Period of record:
- [ ] History of recent effective discharges
- [ ] Results of flood frequency analysis
- [ ] Most recent shift-adjusted rating
- [ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

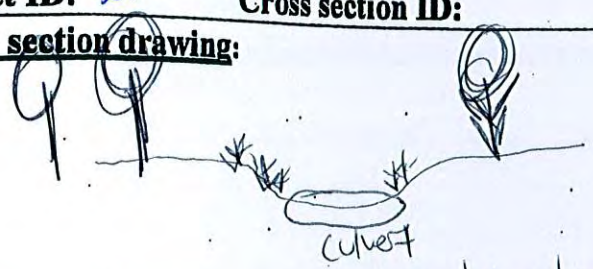


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - [ ] Mapping on aerial photograph
   - [ ] Digitized on computer
   - [X] GPS
   - [ ] Other:

Project ID: 501.34.25 **Cross section ID:** **Date:** 7-10 **Time:** 10:00

Cross section drawing:



veg-horsetail, pine,

metal culvert, soft - no rock bottom

OHWM

GPS point: Culvert 2

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☒ Break in bank slope
- ☒ Other: flow - light
- ☐ Other: _____

Comments:

photo 7 @ looking downstream, SE
8 looking ~~upstream~~ NW

Flow 14"
OHWM 22" width
1.25" depth
Culvert 52" width, 26" height

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: Culvert 2

Characteristics of the floodplain unit:

Average sediment texture: _____
Total veg cover: ____% Tree: ____% Shrub: ____% Herb: ____%
Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☒ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: San Bernardino
Project Number: 501.34.25
Stream: Drainage 3- culvert 3
Investigator(s): Sarah Bryan & Debra Lemke

Date: 7/10/19 **Time:** 10:30
Town: South Lake Tahoe **State:** CA
Photo begin file#: 9 **Photo end file#:** 10

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details:
South Lake Tahoe, CA

Projection: State Plane CA **Datum:** NAD 1983
Coordinates: 38.8548433, 120.0340748

Potential anthropogenic influences on the channel system:
Road - W. San Bern. & nearby Houses

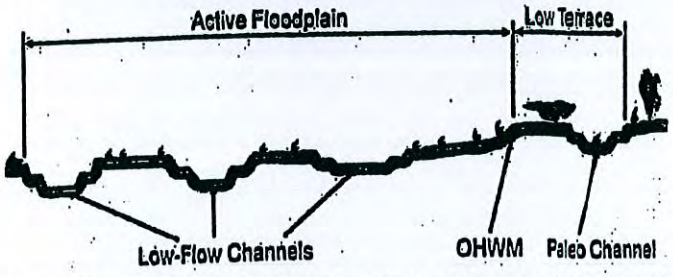
Brief site description:
2 metal culverts under W. San Bernardino. Flow

Checklist of resources (if available):

- ☒ Aerial photography
  Dates:
- ☒ Topographic maps
- ☐ Geologic maps
- ☒ Vegetation maps
- ☒ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☐ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units



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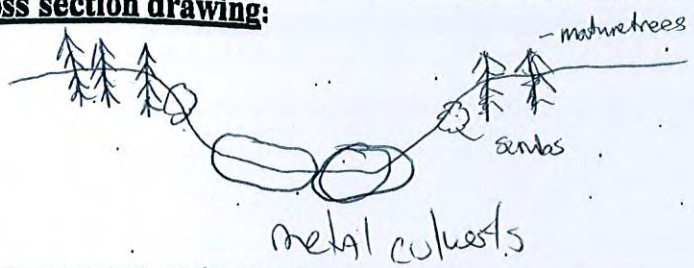
   - ☐ Digitized on computer
   - ☒ GPS
   - ☐ Other:

Project ID: 501.34.25 **Cross section ID:** **Date:** 7/10/19 **Time:** 10:30

Cross section drawing:



OHWM two metal culverts

GPS point: culvert 3

Indicators:

- ☐ Change in average sediment texture
- ☐ Change in vegetation species
- ☐ Change in vegetation cover
- ☒ Break in bank slope
- ☒ Other: flow
- ☐ Other: _____

Comments:

photo 9 looking downstream - south east
10 11 north west

Culvert 62" across 65" height
OHWM 8 Pt 3 inch depth

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: _____

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: ____ % Tree: 10 % Shrub: 80 % Herb: ____ % Bare Ground: 10%

Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☒ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Veg: Alder, Wheat grass, pine

Appendix G

AQUATIC RESOURCE SPREADSHEET AND GIS METADATA

APPENDIX G

HISTORIC PROPERTY SURVEY REPORT

HISTORIC PROPERTY SURVEY REPORT

1. UNDERTAKING DESCRIPTION AND LOCATION

District	*County*	*Federal Project. Number. (Prefix, Agency Code, Project No.)*	*Location*
3	ED	STPL-5925(162)	West San Bernardino Ave and East San Bernardino Ave, City of South Lake Tahoe

The environmental review, consultation, and any other actions required by applicable Federal environmental laws for this project are being, or have been, carried out by Caltrans pursuant to 23 U.S.C. 327 and the Memorandum of Understanding dated December 23, 2016, and executed by FHWA and Caltrans.

The studies for this undertaking were carried out in a manner consistent with Caltrans' regulatory responsibilities under Section 106 of the National Historic Preservation Act (36 CFR Part 800) and pursuant to the January 2014 *First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act* (Section 106 PA), as well as under Public Resources Code 5024 and pursuant to the January 2015 *Memorandum of Understanding Between the California Department of Transportation and the California State Historic Preservation Office Regarding Compliance with Public Resources Code Section 5024 and Governor's Executive Order W-26-92* (5024 MOU) as applicable.

Project Description:

Please refer to the attached ASR, Chapter 1.0 for the full project description. Hereafter, the ASR is referred to as Attachment 1. Figures referenced below are located in Appendix A of Attachment 1.

The Project is located in eastern El Dorado County, in the Lake Tahoe Basin, near the community of Meyers (Figures 1-4). The Project is located in the southern section of the Lake Tahoe Basin in Sections 29 and 30 of Township 12 North, Range 18 East, Mount Diablo Meridian. The Project is bordered by the North Upper Truckee Road on the west, Washoe Meadows State Parks on the north, U.S. Highway 50 (US 50) on the south, and Apache Avenue on the east. The total project area is approximately 7 acres and encompasses County Right of Way (ROW), Tahoe Paradise Park, and United States Forest Service (USFS) parcels.

The Project builds upon the Meyers Bikeway and provides a critical link to the bicycle network between the neighborhood on North Upper Truckee Road and the community of Meyers. It will consist of approximately 0.37 miles of Class 1 shared-use path along West San Bernardino Avenue and East San Bernardino Avenue, from North Upper Truckee Road to Apache Avenue. A new bridge will be installed over the Upper Truckee River. Class 3 bike route roadway signs will be installed at intersections along West and East San Bernardino Avenues. Associated sharrow markings may be painted within the residential areas.

2. AREA OF POTENTIAL EFFECTS

In accordance with Section 106 PA Stipulation VIII.A, the Area of Potential Effects (APE) for the project was established in consultation with Lisa Machado, Caltrans PQS: PI-Historical Archaeology and Co-PI-Prehistoric Archaeology, and Ross Foon, Project Local Assistance Engineer on November 12, 2019. The APE map is located in Attachment 1, Appendix A, Figure 5.

The County established a 6.69-acre APE for the Project. The Project involves the installation of a Class 1 shared-use path linking the subdivisions off of North Upper Truckee Road to the existing County shared-use path network in Meyers. The alignment will follow existing paths/trails

wherever possible to minimize disturbance to vegetation, potential cultural resources, and impacts to current land use along the proposed alignment. Most of the surface in the APE has been previously disturbed and is considered to have little potential to affect historic properties upon implementation.

The proposed undertaking has the potential for direct impacts from general construction activities and use of temporary staging areas. The Project will involve excavation of earth with heavy equipment, stockpiling of material, and heavy equipment driving over the ground.

The area of direct ground disturbance, which includes the proposed Class 1 shared-use path and bridge, is defined here as the total acreage of 1.63-acres. The new path alignment will be contained within a 25-foot wide corridor, over the Upper Truckee River, and through multiple parcels owned by Tahoe Paradise Park. It will roughly align with a compacted dirt access road that starts at the eastern terminus of West San Bernardino Avenue, passes through the USFS property (in compliance with a special use permit), over the Upper Truckee River and through Tahoe Paradise Park to East San Bernardino Avenue where it meets the entrance to Tahoe Paradise Park (approximately 2,000 feet or roughly 0.4 miles). Vertical disturbance is anticipated be approximately 1.5 feet deep within the new Class 1 path corridor (associated with grading and paving activities) and four footings up to five (5) feet deep at the new bridge location.

3. CONSULTING PARTIES / PUBLIC PARTICIPATION

☒ Local Government

- Tahoe Paradise Recreation & Park District (TPRPD)

☒ Native American Heritage Commission (NAHC)

- Please refer to Chapter 3.0 and Appendix C of Attachment 1 for all Native American correspondence
- Letter sent to the NAHC on 11/20/2018
- Response received on 12/5/2018

☒ Native American Tribes, Groups and Individuals

- Please refer to Chapter 3 and Appendix C of Attachment 1 for all Native American correspondence
- Letters sent to individuals identified by the NAHC on 1/3/2019
- Individuals include Pamela Cubbler (Colfax-Todds Valley Consolidated Tribe), Clyde Prout (Colfax-Todds Valley Consolidated Tribe), Sara Dutschke Setchwaelo (Ione Band of Miwok Indians), Cosme A. Valdez (Nashville Enterprise Miwok-Maidu-Nishinam Tribe), Regina Cuellar (Shingle Springs Band of Miwok Indians), Grayson Coney (Tsi Akim Maidu), Don Ryberg (Tsi Akim Maidu), Gene Whitehouse (United Auburn Indian Community of the Auburn Rancheria [UAIC]), and Darrel Cruz (Washoe Tribe of Nevada and California)

- On 4/3/2019 follow-up phone calls were made to each individual identified by the NAHC
- Responses were received from Grayson Coney of the Tsi Akim Maidu via phone on 4/4/2019 who deferred consultation for the project to Darrel Cruz of Washoe. Mr. Cruz initially stated there is concern for adverse impacts to archaeological resources in the APE. An email response was received from Cherilyn Neider of the UAIC on 2/5/2019 requesting to consult on the project. Ms. Neider sent a follow up email on 2/14/2019 requesting additional information on the project. A written response from was also received on 2/4/2019 from Gene Whitehouse of the UAIC requesting to consult on the project. The letter identified Melodi McAdams as UAIC's Cultural Resources Supervisor and point of contact for further consultation. Should any cultural resources be discovered during the intensive survey or in the event inadvertent cultural resources are discovered as a result of Project activities, the Washoe Tribe and UAIC requested that they be informed of findings.
- El Dorado County Senior Civil Engineer, Donaldo Palaroan, replied to Ms. Neider's email on 2/14/2019 with a link to the project's webpage.
- The records search results from the North Central Information Center, and Mr. Palaroan's contact information to be used for further consultation were sent to Mr. Cruz and Ms. Neider via email on 4/8/2019.
- Mr. Palaroan contacted the Mr. Cruz and the Ms. McAdams by telephone on 8/22/2019 and provided an electronic copy of the draft archaeological survey report to each tribe via email. Ms. McAdams identified Anna Starkey as the reviewer for the ASR.
- Mr. Cruz responded on 8/22/2019, stating that they are not aware of cultural resources within the project area that may be affected by the proposed project. The tribe did not have concerns about the Project affecting site P-09-004506. He requested color copies of selected figures and site forms and requested to be notified should inadvertent discoveries be made during construction efforts. Mr. Palaroan responded to Mr. Cruz's comments on 9/20/2019. Ms. Starkey responded by email on 8/27/2019, expressing concern regarding the extent of the inventory and requested that their correspondence be made a part of the administrative record. Mr. Palaroan provided supplemental information to the Ms. Starkey regarding the inventory effort on 9/16/2019. On 9/19/2019, Ms. Starkey offered suggested changes to the report and requested that clarifying language provided in the letter from 9/16/2019, be incorporated into the inventory report.
- Ms. Starkey's recommendations were addressed in the ASR and the updated report was sent to her on 10/31/2019. Ms. Starkey replied on 10/31/2019 having reviewed the report and acknowledged the effort to identify site P-09-004506 and if the site extended into the APE. The UAIC stated that their concerns and comments were

addressed in the updated ASR and that they have no further issues or concerns that the Project may impact site P-09-004506 or known cultural resources. No other response has been received to date.

☒ Public Information Meetings

- Public meeting notification is located within Attachment 1, Appendix D
- Public Meeting: December 5, 2018, Tahoe Paradise Park, Club House Facility, South Lake Tahoe

☒ Other

- Project identified within the Tahoe Regional Planning Agency (TRPA) Environmental Improvement Program as Project #03.01.02.0040
- U.S. Forest Service (USFS) consulted on August 22, 2019 and September 3, 2019

4. SUMMARY OF IDENTIFICATION EFFORTS

☒ National Register of Historic Places (NRHP)

☒ National Historic Landmark (NHL)

☒ California Register of Historical Resources (CRHR)

☒ California Historic Landmark (CHL)

☒ California Historical Resources Information System (CHRIS)

☒ California Points of Historical Interest

☒ Other Sources consulted:

- OHP Historic Properties Directory (from the North Central Information Center)
- Archaeological Determinations of Eligibility (North Central Information Center)
- General project area inventories including AECOM 2010, 2011, Shapiro et al. 2004, Jaffke 2006, State Parks, Reclamation, and TRPA 2010, River Run Consulting 2006, and SH&G 2004: II
- 1866 GLO plat map for Township 12 North, Range 18 East, 1955 Echo Lake, California USGS 15-minute topographic map and later editions (1956, 1959, 1967, 1971), NETR and Google Earth historic aerial imagery dating between 1940 and 1969
- NAHC Sacred Lands File (SLF)

☒ Results:

- 15 previous archaeological inventories and four substantial environmental impact assessments were conducted within one quarter mile of the APE. The majority of inventories were conducted 10 to 20 years prior to the Project and

approximately one third were completed within the last decade. Review of these previous reports indicates the central portion of the APE was previously inventoried 16 and more years ago (Hardy 1986; Davis 1997; Lindström 2003). Previous inventories overlapping East and West San Bernardino Avenues within the APE were completed more recently in the last few years (Lindström 2016, 2017).

- A substantial amount of archaeological work was done in advance of the Upper Truckee River Restoration and Golf Course Reconfiguration Project (AECOM 2010, 2011), located immediately north of the APE. Archaeological work conducted in advance of the Upper Truckee River Restoration and Golf Course Reconfiguration Project included an inventory (Shapiro et al. 2004) and sub-surface site evaluations. Sub-surface archaeological investigations (Jaffke 2006) were limited to locations where surface manifestations were present (lithic scatters, bedrock mortars, etc.). There is no evidence that exploratory sub-surface investigations were conducted in stream bank or floodplain locations not previously identified as archaeological sites.
- Four archaeological resources were recorded within one quarter mile of the APE. No previously recorded sites are located within the APE.
- The historic maps and aerial imagery reviewed did not show historic roads or other features over 50 years old within the APE.
- The NAHC specified negative SLF results within the APE.
- Various forms of disturbance occupy most of the APE (existing roadways and their associated shoulders, drainage ditches, and underground utilities). The intensive pedestrian survey conducted along the proposed location of the Class 1 shared-used path also indicated high levels of previous disturbance throughout the area associated with an unimproved utility access road. Further from the road, there was evidence of previous braided stream erosion and mastication to thin forests for fire prevention.
- No prehistoric or historic period archaeological resources were identified within the APE as part of the current inventory.
- Recent (less than 50 years in age) items (roadside debris) and an architectural resource (a dirt road) were observed but are considered exempt per Attachment 4 of the Section 106 PA.

5. PROPERTIES IDENTIFIED

☒ Molly Laitinen, consultant archaeologist who meets the Professionally Qualified Staff (PQS) Standards in Section 106 PA Attachment 1 and as applicable PRC 5024 MOU Attachment 1 as a(n) Lead Archaeological Surveyor, has determined that the only/only other properties present within the APE meet the criteria for Section 106 PA Attachment 4

(**Properties Exempt from Evaluation**) and as applicable PRC 5024 MOU Stipulation VIII.C.1 and Attachment 4.

6. FINDING FOR THE UNDERTAKING

☒ Caltrans, pursuant to Section 106 PA Stipulation IX.A and as applicable PRC 5024 MOU Stipulation IX.A.2, has determined a Finding of **No Historic Properties Affected** is appropriate for this undertaking because there are no historic properties within the APE.

7. CEQA CONSIDERATIONS

☒ Not applicable; **Caltrans is not the lead agency under CEQA.**

8. LIST OF ATTACHED DOCUMENTATION

☒ Project Vicinity, Location, and APE Maps

- All maps are located in Appendix A of Attachment 1
  - Figure 1: Project Vicinity Map
  - Figure 2: Project Location Map
  - Figure 3: Survey Coverage Map 1 of 2
  - Figure 4: Survey Coverage Map 2 of 2
  - Figure 5: Area of Potential Effect (APE) Map

☒ Archaeological Survey Report (ASR)

- Attachment 1

9. HPSR PREPARATION AND CALTRANS APPROVAL

Prepared by: Molly Laitinen 11/12/19
Molly Laitinen, Cultural Resources Specialist Date
NCE
P.O. Box 1760
Zephyr Cove, NV 89449

Reviewed for Approval by: Lisa Machado 11/12/19
Lisa Machado, Associate Environmental Planner (Archaeology) Date
District 3 Caltrans PQS: PI-Historical Archaeology and Co-PI-Prehistoric Archaeology

Approved by: Laura Loeffler 11/12/19

Laura Loeffler, Branch Chief
District 3 Caltrans Environmental

Date

Attachment 1

ARCHAEOLOGICAL SURVEY REPORT

NCE Collaboration. Commitment. Confidence.℠

Archaeological Survey Report

For the Environmental and Geotechnical Support Services for San Bernardino Class 1 Bike Trail

El Dorado County, California

Federal Aid # STPL-5925(162)

USGS 7.5' Topographic Quadrangle: T.12N., R.18E., Sec. 29 and 30
Project Acreage: 6.69 acres
Archaeological Site Numbers: N/A

Prepared by:

Molly Laitinen

Molly Laitinen, Project Archaeologist
NCE
P.O. Box 1760
Zephyr Cove, NV 89448

With Contributions by:
Jeremy Hall and Charles Zeier, NCE

Recommended for Approval By:

Donaldo Palaroan, P.E., Sr. Civil Engineer
County of El Dorado

Approved by:

Lisa Machado

Lisa Machado, PQS: PI-Historical Archaeology and Co-PI-Prehistoric Archaeology
Caltrans District 3, Cultural Resources (South)

Laura Loeffler

Laura Loeffler, Branch Chief
Caltrans District 3, Environmental

Submitted to:
Donaldo Palaroan, P.E., Sr. Civil Engineer
County of El Dorado
924 B Emerald Bay Road
South Lake Tahoe, CA 96150

November 2019

SUMMARY OF FINDINGS

PROPOSED UNDERTAKING

The County of El Dorado (County) proposes to implement the San Bernardino Class 1 Bike Trail Project (Project), located in South Lake Tahoe, El Dorado County, California. This Project is part of a series of erosion control/water quality, environmental restoration and shared-use path projects implemented by the El Dorado County Department of Transportation. It is identified within the Tahoe Regional Planning Agency's (TRPA) Environmental Improvement Program as Project #03.01.02.0040. The Project supports the *Linking Tahoe: Active Transportation Plan*, approved by the Tahoe Metropolitan Planning Organization in March 2016, and the more recently approved *Meyers Area Plan*, from March 2018. NCE has been retained to conduct technical studies, including a cultural resources assessment of the Project area, or Area of Potential Effect (APE), in support of California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) environmental documents.

Class 3 bike route markings and designated signs are proposed along the existing East and West San Bernardino Avenue rights of way. Those roadways will be connected by approximately 0.37 miles of Class 1 shared-use path. Once completed, the proposed Project will link pedestrian facilities along North Upper Truckee Road and Apache Avenue, connecting to the already-established Meyers Bikeway. A new bridge is proposed to extend across the Upper Truckee River to establish access to Washoe Meadows State Park, Tahoe Paradise Park, and the Lake Tahoe Environmental Science Magnet School in Meyers.

PURPOSE AND SCOPE OF THE SURVEY

The proposed undertaking requires compliance with the NEPA and Public Resource Code (PRC) Section 21083.2 and 21084.1 of the CEQA. In consultation with the United States Forest Service (USFS), it has been decided that the California Department of Transportation (Caltrans), acting on behalf of the Federal Highway Administration (FHWA), will act as the federal lead agency for the purposes of NEPA. Because federal funding has been received for this Project from the FHWA, administered through Caltrans, the studies for this undertaking were carried out in a manner consistent with Caltrans' regulatory responsibilities under Section 106 of the National Historic Preservation Act (36 CFR Part 800) and pursuant to the January 2014 *First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act* (Section 106 PA).

The scope of the present archaeological survey is intended to demonstrate project compliance with Section 106 of the National Historic Preservation Act (NHPA), NEPA, and CEQA. All work was designed to comply with current standards and guidelines outlined in Volume 2: Cultural Resources of the Caltrans Standard Environmental Reference (SER). Key objectives include:

- Establish an APE;
- Identify prehistoric, ethnohistoric, and/or historic period archaeological resources within or immediately adjacent to the APE

Constraints to the Survey Effort

The majority of the APE consists of developed roadways within an urban residential setting and most of the approximate top two feet of ground surface has been previously disturbed. The central portion of the APE consists of a highly compacted dirt road, substantial forest mastication, and evidence of past episodic channel migration. Proposed improvements related to the Class 1 shared-use path and Class 3 bike route will occur within this previous disturbance.

A reconnaissance survey was conducted to provide documentation sufficient for surface examination along the existing County Right of Way (ROW) and an intensive pedestrian survey was conducted within the central portion of the APE and surrounding nearby prehistoric site P-09-004506. The probability of buried archaeological resources present within the APE is considered low and subsurface archaeological sampling is not recommended.

Identified Archaeological Resources

No archaeological resources were identified within the APE based on archival research or the archaeological survey.

Caltrans Disclaimer

It is Caltrans' policy to avoid cultural resources whenever possible. If buried cultural materials are encountered during construction, it is Caltrans' policy that work stop in that area until a qualified archaeologist can evaluate the nature and significance of the find. Additional survey will be required if the Project changes to include areas not previously surveyed.

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1.0 INTRODUCTION

The County of El Dorado (County) is proposing to implement the San Bernardino Class 1 Bike Trail Project (Project) funded by the Tahoe Regional Planning Agency Air Quality Mitigation Funds and the Congestion Mitigation and Air Quality (CMAQ) Program. The Project's stakeholders include the general public and visitors of the Tahoe Basin, County representatives, public agencies within the Tahoe Basin, and other technical representatives which make up the Project Development Team (PDT). NCE has been retained to conduct technical studies, including a cultural resources assessment of the Project area, or Area of Potential Effect (APE), in support of California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) environmental documents. This Archaeological Survey Report (ASR) describes an intensive archaeological survey conducted on behalf of the proposed Project.

The Project is located in eastern El Dorado County, in the Lake Tahoe Basin, near the community of Meyers. Figure 1 through Figure 4, located in Appendix A of this report, depict the location of the Project and survey area within the County. Figure 2 depicts the Project at a 1:24,000 scale using the Echo Lake USGS 7.5' topographic quadrangle map, while Figures 3 and 4 depict the Project and survey area using a large scale aerial basemap for more detail. Areas along the existing County Right of Way (ROW) surveyed at a reconnaissance level are shown in blue hashed lines. Intensively surveyed areas along an existing dirt road and within a prehistoric site located outside of the APE are shown in yellow hashed lines. The survey area outside of the APE (see Figure 3) was recommended during Native American consultation to ensure site P-09-004506 was not impacted by the Project.

Because the proposed Project will receive federal funding from the Federal Highway Administration (FHWA) administered through the California Department of Transportation (Caltrans), compliance with the NEPA will be required. In consultation with the United States Forest Service (USFS), it has been decided that Caltrans, acting on behalf of FHWA, will act as the federal lead agency for the purposes of NEPA. In addition, the proposed Project must comply with provisions of the National Historic Preservation Act (NHPA). The studies for this undertaking were carried out in a manner consistent with Caltrans' regulatory responsibilities under Section 106 of the National Historic Preservation Act (36 CFR Part 800) and pursuant to the January 2014 *First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance with Section 106 of the National Historic Preservation Act* (Section 106 PA). The proposed Project will constitute the undertaking, as that term is commonly used in cultural resources management.

Compliance with state law will occur in accordance with Public Resource Code (PRC) Section 21083.2 and 21084.1 of the CEQA. The County will act as the CEQA lead agency.

An archaeological survey was conducted over a three-day period by Molly Laitinen, NCE Cultural Resources Specialist. A portion of the APE was surveyed on May 30, 2019 and the APE survey completed on June 13, 2019. The area surrounding nearby site P-09-004506 was surveyed on June 13, 2019 and October 24, 2019. Ms. Laitinen meets the Secretary of Interior's (SOI) Standards for Archaeology and Historic Preservation (36 CFR Part 61). She has four years of experience in historic preservation, archaeological investigation, and cultural resource

evaluation as part of State, Federal, and professional standards in compliance with Section 106 of the NHPA and PRC Section 21083.2 of the CEQA.

1.1 Highway Project Location and Description

The Project is located in the southern section of the Lake Tahoe Basin in Sections 29 and 30 of Township 12 North, Range 18 East, Mount Diablo Meridian. The Project is bordered by the North Upper Truckee Road on the west, Washoe Meadows State Parks on the north, U.S. Highway 50 (US 50) on the south, and Apache Avenue on the east. The total Project area is approximately 7 acres and encompasses County ROW, Tahoe Paradise Park (a public community park within the unincorporated portion of El Dorado County), and USFS parcels.

The Project builds upon the Meyers Bikeway and provides a critical link to the bicycle network between the neighborhood on North Upper Truckee Road and the community of Meyers. The Project supports the Linking Tahoe: Active Transportation Plan1, approved by the Tahoe Metropolitan Planning Organization in March 2016 and the Meyers Area Plan, approved in March 2018. The Project proposes to link the bike lane facilities along North Upper Truckee Road to the west and Apache Avenue to the east.

The Project is identified as Environmental Improvement Program Project #03.01.02.0040 and Federal Aid Project # STPL-5925(162). East and West San Bernardino streets will be designated as Class 3 Bike Routes. The only Project improvements along these existing streets will consist of installing approximately 16 Class 3 Bike Route signs along the roadway and at intersections, and, possibly adding shared-use pavement markings called sharrows on the existing roadway surface. East and west San Bernardino streets will be connected by a Class 1 shared-use path that will be built along a previously disturbed utility access road. Depending on precipitation runoff and snowmelt conditions, the access road frequently has ruts that vary from 6 to 16 inches in depth. Excavation conducted during construction of the Class 1 path will be approximately 1.5 feet in depth, or within the approximate prism of previous access road related disturbance. A new bridge will be installed over the Upper Truckee River. Excavation of four footings will be required, each from 5 to 10 feet in depth. The new path will provide connections to Washoe Meadows State Park and Tahoe Paradise Park and the Lake Tahoe Environmental Science Magnet School (LTESMS) in the community of Meyers.

Opportunities exist with the Project to address traffic and pedestrian safety operations at the intersection of Apache Avenue at East San Bernardino Avenue as identified in the Lake Tahoe Unified School District Safe Routes to School Master Plan2 and improving the LTESMS frontage and driveway access. This Project will also connect to the future Apache Avenue Pedestrian Safety and Connectivity Project (#03.01.01.0004) which is a County-led effort to improve overall pedestrian and bicycle safety for students, parents and the community accessing LTESMS, Apache Avenue and Meyers.

This Project is part of a series of erosion control/water quality, environmental restoration and shared-use path projects implemented by the El Dorado County Department of Transportation.

1.2 Area of Potential Effect

The County established a 6.69-acre APE for the Project (Figure 5). The Project involves the installation of a Class 1 shared-use path linking the subdivisions off of North Upper Truckee Road to the existing County shared-use path network in Meyers. The alignment will follow existing paths/trails wherever possible to minimize disturbance to vegetation, potential cultural resources, and impacts to current land use along the proposed alignment. Most of the surface

in the APE has been previously disturbed and is considered to have little potential to affect historic properties upon implementation.

The proposed undertaking has the potential for direct impacts from general construction activities and use of temporary staging areas. The Project will involve excavation of earth with heavy equipment, stockpiling of material, and heavy equipment driving over the ground.

The area of direct ground disturbance, which includes the proposed Class 1 shared-use path and bridge, is defined here as the total acreage of 1.63-acres (shown as orange area within APE). The new path alignment will be contained within a 25-foot wide corridor, over the Upper Truckee River, and through multiple parcels owned by Tahoe Paradise Park. It will roughly align with a compacted dirt access road that starts at the eastern terminus of West San Bernardino Avenue, passes through the USFS property (in compliance with a special use permit), over the Upper Truckee River and through Tahoe Paradise Park to East San Bernardino Avenue where it meets the entrance to Tahoe Paradise Park (approximately 2,000 feet or roughly 0.4 miles). Vertical disturbance is anticipated be approximately 1.5 feet deep within the new Class 1 path corridor (associated with grading and paving activities).

A new bridge will be installed over the Upper Truckee River (shown as green linear structure within APE). Excavation of four footings will be required, each up to five (5) feet deep. Approximately 16 Class 3 bike route roadway signs (shown as green square points within APE) will be installed at intersections within the 5.06 acres of existing paved West and East San Bernardino Avenues (shown as purple area within APE). Sharrow markings may be painted within these residential areas designating the bike route.

In accordance with Section 106 PA Stipulation VIII.A, the APE for the Project was established in consultation with Lisa Machado, Caltrans PQS: PI-Historical Archaeology and Co-PI-Prehistoric Archaeology, and Ross Foon, Project Local Assistance Engineer.

2.0 LITERATURE REVIEW

The purpose of archival research is to create an understanding of work that has occurred in the area previously, the types of cultural resources present in the area, and to build a historic context. Historic contexts are those patterns or trends in history by which a specific occurrence, property, or site is understood and its meaning (and ultimately its significance) within history is made clear. Prior to conducting field inventory activities, NCE conducted sufficient archival research to both inform expectations in the field and to develop historic contexts necessary for subsequent resource evaluations. The archival research was conducted through the North Central Information Center (NCIC), USFS Lake Tahoe Basin Management Unit (LTBMU), various historic maps (e.g., General Land Office [GLO] plat maps, county and state maps), and historic aerial imagery. Emphasis was placed on the identification of previous archaeological inventories and sites within a quarter mile of the proposed APE. This search area is referred to as the archival study area.

NCIC search results (File Number ELD-18-105), received on December 12, 2018, and USFS search results, obtained on September 3, 2019, are located in Appendix B.

2.1 PREVIOUS INVENTORIES

The review indicated 15 previous archaeological inventories and four substantial environmental impact assessments have been conducted within the archival study area (Table 1). The majority of inventories were conducted 10 to 20 years prior to the Project and approximately one third were completed within the last decade. Most were conducted in advance of a proposed action. Review of these previous reports indicates the central portion of the archival study area was previously inventoried 16 and more years ago (Hardy 1986; Davis 1997; Lindström 2003). Previous inventories overlapping East and West San Bernardino Avenues within the archival study area were completed more recently in the last few years (Lindström 2016, 2017).

A substantial amount of archaeological work was done in advance of the Upper Truckee River Restoration and Golf Course Reconfiguration Project (AECOM 2010, 2011), located immediately north of the APE. The project involved realignment of river segments, substantial work along other segments of the existing channel, and reconfiguration of the golf course (abandonment of some existing fairways and greens, and the establishment of replacement fairways and greens). The project called for extensive construction activities immediately adjacent to the existing stream channel and within the adjacent floodplain.

Archaeological work conducted in advance of the Upper Truckee River Restoration and Golf Course Reconfiguration Project included an inventory (Shapiro et al. 2004) and sub-surface site evaluations. Sub-surface archaeological investigations (Jaffke 2006) were limited to locations where surface manifestations were present (lithic scatters, bedrock mortars, etc.). There is no evidence that exploratory sub-surface investigations were conducted in stream bank or floodplain locations not previously identified as archaeological sites. Another significant archaeological review by the Tahoe Resource Conservancy District (2003), with discussions by Susan Lindström (pages III-110 through III-191), also do not identify pre-construction sub-surface testing as a compulsory mitigation measure along the Upper Truckee River channel.

Table 1. Previous Inventories within 0.25 Miles of the APE

Report Number	Title	Author(s)	Year
006633	Cultural Resources Survey, Inventory, and Site Evaluations: Washoe Meadows State Park, El Dorado County, California	Shapiro, Lisa A, Robert Jackson, Trish Fernandez, Susan Lindström, William Bloomer, and Penny Rucks	2004
007213	Cultural Reconnaissance Report for Re-Location of CA-ELD-24 & CA-ELD-25. (CRR #05-19-244)	Davis, Herschel D.	1990
007216	Lake Tahoe Basin Management Unit Heritage Resource Report ------URBAN FRINGE MANAGEMENTPROJECT------- (California Portion)	Dexter, Sean David	1995
007578	Lands Department Urban Lot Management Project	Davis, Herschel	1997
008627	Cultural Resource Report, Angora Management Area	Gay L. Berrien	1991
009378	Hersh's Projects; Cherry's Orchard	Herschel Davis	1994
009406	Cultural Resources Report for Individual Parcels Acquired Under Public Law 96-586 Lake Tahoe Basin Management Unit	Herschel Davis	1993
009424	Upper Truckee Erosion Control Project	Kathy Hardy	1986
009429	Upper Truckee River Reclamation Project Upper Reach, Planning and Design Heritage Resource Study Phase 1	Susan Lindström	2003
010277	Archaeological Survey Report for Magnet Elementary School Fuels Reduction	Susie Kaiser	2009
011878	South Tahoe Public Utility District Fire Hydrant Service Expansion Project Cultural Resource Inventory	Susan Lindström	2015
012188	South Tahoe Public Utility District Water Meter Installations Project Cultural Resource Inventory	Susan Lindström	2016
012424	Heritage Resource Inventory Report, Meyers Erosion Control Project-Expanded Area, El Dorado County, California (JN 95179)	Jason Drew, Dave Rios, and Jeremy Hall	2015
012553	South Tahoe Public Utility District Fire Hydrant Service Expansion Project Cultural Resource Inventory Addendum 3	Susan Lindström	2017
012561	South Tahoe Public Utility District Fire Hydrant Service Expansion Project Cultural Resource Inventory Addendum	Susan Lindström	2016
Not listed	Upper Truckee River Restoration and Golf Course Reconfiguration Project: Volume III, Appendices. Environmental Impact Report-Environmental Impact Statement.	AECOM	2010
Not listed	Upper Truckee River Restoration and Golf Course Reconfiguration Project: Volume IV, Final with Responses to Comments. Environmental Impact Report-Environmental Impact Statement.	AECOM	2011
Not listed	Phase II Archaeological Field Testing Report and Evaluation for Four Prehistoric Sites: CAELD-2152, CA-ELD-2157, CA-ELD-2158, CA-ELD-2160, Washoe Meadows State Park, El Dorado County, California.	Jaffke, D.	2006

Report Number	Title	Author(s)	Year
Not listed	Final Report, Upper Truckee River Reclamation Project Environmental Assessment, Feasibility Report and Conceptual Plans.	Tahoe Resource Conservancy District	2003

2.2 Previously Recorded Resources

Research indicates four archaeological resources have been recorded within the archival study area (Table 2). No previously recorded sites are located within the APE. The majority of recorded cultural resources are prehistoric sites recorded over 15 years ago. Site records indicate the historic ditch site was highly deteriorated and the prehistoric sites were either impacted by logging and recreational use or artifact scavenging. Site P-09-004506, a bedrock milling station and lithic scatter site located immediately south of the APE, was described as having a cultural deposit, buried approximately 14 cm (Davis 1994), however, more recent site recordings did not relocate evidence of a midden (Davis et al. 2007).

Table 2. Previously Recorded Resources within 0.25 Miles of the APE

Site Number	Age	Description	Last Recorded	NRHP Status	Proximity to APE
P-09-000644	Historic	Water conveyance system	2008	Unevaluated	Outside
P-09-003285	Prehistoric	Lithic scatter	2003	Unevaluated	Outside
P-09-003286	Prehistoric	Lithic scatter	2003	Unevaluated	Outside
P-09-004506	Prehistoric	Lithic scatter, bedrock milling feature, and midden	2010	Unevaluated	Outside

2.3 Other References Consulted

2.3.1 Maps and Aerial Imagery

The historic maps and aerial imagery reviewed as part of the archival research effort did not show historic roads or other features over 50 years old. The 1866 GLO plat map for Township 12 North, Range 18 East shows a river confluence in a similar location to where a creek tributary connects with the Upper Truckee River today. Examination of the 1955 Echo Lake, California USGS 15-minute topographic map and later editions (1956, 1959, and 1967) reflect the same confluence as the 1866 GLO plat map and an unimproved dirt road on the east side of the river. This road may have been used for early travel or logging activities. No trace of the road was found during earlier archaeological inventories of the area and urban development presently covers that portion of the landscape.

The 1955 Echo Lake, California USGS 15-minute topographic map 1971 revision indicates West and East San Bernardino Avenues connected across a narrow, shallow, and potentially filled Upper Truckee River. The map shows current Meyers neighborhood roads and the addition of Lake Baron (described below). However, there are more neighborhood roads depicted in the map than shown in modern topographic maps, which may be indicative of changes in city plans or land use. The road shown on the earlier maps within the archival study area is no longer depicted on the 1955 topographic map.

Review of historic aerials between 1940 and 1969 (NETR 2019; Google Earth 2019) show the archival study area was an open glacial valley dominated by the Upper Truckee River's braided stream system. Between 1940 and 1953, a two-track road appears in the same alignment as those depicted on earlier historic maps. By 1969, development to the east of the river was established including the construction of Lake Baron, the elementary school, paved residential streets and a few homes. West of the river contained the beginnings of permanent

neighborhood roadways leading off US 50. East and West San Bernardino Avenues appear to connect through the river most likely when the river was at low flow. Aerial imagery examined from 1987 (Google Earth 2019) shows the tennis courts at Tahoe Paradise Park were built near Lake Baron. There was a narrower river crossing and road systems where they were not paved. This indicates the connection between East and West San Bernardino Avenues and other potential residential streets nearby were being used less frequently. Imagery from 1992 reflects the current wide river and partially abandoned dirt roads present today.

2.3.2 Personal Communication

In 1979, West and East San Bernardino Avenues were connected by the present dirt road and vehicles were able to ford the Upper Truckee River (Personal Communication, Bill Cherry, local property owner, October 2019). By the early to mid-1980s, the dirt road was blocked off from through traffic, separating San Bernardino Avenue into the current east and west roads.

3.0 NATIVE AMERICAN CONSULTATION

In accordance with Assembly Bill 52 (AB-52) as identified in the PRC Section 21080.3.1(b)(2) of CEQA and Section 106 of NHPA, Native American tribes (tribes) identified by the Native American Heritage Commission (NAHC), must be invited to consult on projects.

Native American correspondence was initiated by NCE with a letter and attached maps to the NAHC on November 20, 2018. The letter requested a record search of their Sacred Lands File (SLF) and a contact list for regional tribes that may have knowledge of cultural or tribal resources within or immediately adjacent to the APE. A response was received from the NAHC on December 5, 2018, which indicated negative SLF results within the APE. Inquiry letters were mailed on County letterhead to the tribes identified by the NAHC (Table 3) on January 3, 2019.

Table 3. Tribal Representatives Identified by the NAHC

Representative	Title	Affiliation
Pamela Cubbler	Treasurer	Colfax-Todds Valley Consolidated Tribe
Clyde Prout	Chairman	Colfax-Todds Valley Consolidated Tribe
Sara Dutschke Setchwaelo	Chairperson	Ione Band of Miwok Indians
Cosme A. Valdez	Chairperson	Nashville Enterprise Miwok-Maidu-Nishinam Tribe
Regina Cuellar	Chairperson	Shingle Springs Band of Miwok Indians
Grayson Coney	Cultural Director	Tsi Akim Maidu
Don Ryberg	Chairperson	Tsi Akim Maidu
Gene Whitehouse	Chairperson	United Auburn Indian Community of the Auburn Rancheria
Darrel Cruz	Cult Res Dept. THPO	Washoe Tribe of Nevada and California

Receipt confirmation of the letters was received by seven of the tribes identified by the NAHC. Letters were not claimed by Grayson Coney and Don Ryberg of the Tsi Akim Maidu Tribe. Follow-up phone calls were made to all tribes listed on April 3, 2019.

As of May 3, 2019, three of the identified Native American tribes have replied to NCE's inquiry letters. The United Auburn Indian Community (UAIC) requested further Project information and the NCIC records search results to determine the needs of further consultation. The Tsi Akim Maidu has deferred to the Washoe Tribe of Nevada and California for any additional follow-up or request to monitor the Project. The Washoe Tribe's initial response stated there is concern for adverse impacts to archaeological resources in the APE. Should any cultural resources be discovered during the intensive survey or in the event inadvertent cultural resources are discovered as a result of Project activities, the Washoe Tribe and UAIC requested that they be informed of findings.

El Dorado County contacted the Washoe Tribe and the UAIC by telephone on August 22, 2019 and provided an electronic copy of the draft ASR to each tribe via email. The Washoe Tribe responded on August 22, 2019, stating are not aware of cultural resources within the Project area that may be affected by the proposed Project. The tribe did not have concerns about the Project affecting site P-09-004506. The Washoe Tribe requested color copies of selected figures and site forms and requested to be notified should inadvertent discoveries be made during construction efforts. The County responded to the Washoe Tribe's comments on September 20,

2019 acknowledging their request to be informed of inadvertent discoveries and unfortunately all site forms and associated figures received from NCIC are in black and white.

The UAIC responded by email on August 27, 2019, expressing concern that the extent of the inventory did not include P-09-004506 and, therefore, did not adequately determine the site's extent and whether it would be impacted by the Project. The UAIC requested their correspondence be made a part of the administrative record.

The County provided supplemental information to the UAIC regarding the inventory effort on September 16, 2019. The letter acknowledged that site P-09-004506 is immediately south of the APE and that the site record suggests it could extend north to and beyond West San Bernardino Avenue. The goal of the survey conducted on June 13, 2019 was to relocate the site and understand its surface manifestation and proximity to the proposed Project. It was noted that West San Bernardino Avenue's ROW is located downslope from the moraine on which the site sits, and the APE offered clear surface visibility for the survey. Inventory activities conducted in the APE did not result in the identification of artifacts or features associated with site P-09-004506. Furthermore, the survey supported the site form stating that construction of West San Bernardino Avenue and nearby residential development likely removed any evidence of the site that may have existed within the ROW.

The County letter described proposed Project elements along West San Bernardino Avenue as being limited to the placement of roadside signs in the previously disturbed ROW and painting bike route pavement markings called sharrows on the existing roadway surface. No excavation or ground disturbance would occur along West San Bernardino Avenue as a part of the proposed Project. The letter concluded that the County, in consultation with the USFS, recommend the proposed Project would not have the potential to impact any portion of site P-09-4506 that may exist under or near the present roadway. Furthermore, documenting a broader cultural district or cultural landscape was beyond the scope of the Project and was not required by CEQA or NEPA. As a result, the County could not justify performing work outside the APE as a part of this Project.

In an email dated September 19, 2019, the UAIC thanked the County for the letter clarifying the identification efforts of site P-09-004506. The UAIC suggested the clarifying language provided in the letter be incorporated into the ASR as the ASR did not mention survey efforts to ascertain if the site extended into the APE. No photographs of the area where the site may extend into the APE were provided, nor was there any indication in the ASR that an intensive survey was conducted between the site and APE. Also, the maps provided in the ASR do not show that the site was surveyed. The UAIC stated that disturbance of a site does not necessarily reduce its potential as a historic property and that inventory details are critical in determining if the site was adequately identified in relationship to the Project. The UAIC reiterated that the survey coverage maps, results of the survey, and County letter details should be included in the ASR. That information will determine if the site extends into the APE and the draft ASR provided was incomplete.

The edits suggested by UAIC have been addressed within the present ASR. The ASR was sent back to the UAIC for review on October 31, 2019. The UAIC response on October 31, 2019 and expressed thanks for providing them updated ASR. They reviewed the report and acknowledged the effort to identify site P-09-004506 and if the site extended into the APE. The UAIC stated that their concerns and comments were addressed in the updated ASR and that they have no further issues or concerns that the Project may impact site P-09-004506 or known cultural resources.

The final ASR will be sent to the Washoe Tribe and UAIC for their records. Higher quality copies of the original black and white site photos were obtained during the archival research at the USFS LTBMU on September 3, 2019 and are located in Appendix B. Color photos taken during the present inventory on June 13, 2019 and October 24, 2019 are located in Appendix E.

Consultation-related material, including a table summary of correspondence, NAHC letters and responses, an example of each tribal consultation letter mailed to NAHC identified tribes, certified mail receipts, and further documentation of Native American consultation are located in Appendix C.

4.0 OTHER INTERESTED PARTY COORDINATION

4.1 U.S. FOREST SERVICE

Acting Heritage Program Manager, Miranda Gavalis, was consulted regarding the location of cultural resource sites in proximity to the proposed Project on August 22, 2019 and September 3, 2019. Site P-09-004506 was discussed and it was recommended that the site would not be impacted based on the site location and type of improvements to take place in proximity to it (e.g., signs in previously disturbed road shoulders and possible sharrow markings on existing paved roads) (Personal Communication, Miranda Gavalis, Acting Heritage Program Manager, August and September 2019). No additional identification or evaluation activities were warranted.

4.2 PUBLIC OUTREACH

The County held a public outreach meeting on December 5, 2018 at the Tahoe Paradise Park, Club House Facility, South Lake Tahoe. The meeting was used to introduce and provide information on the proposed Project. The informational flyer and presentation is located in Appendix D.

5.0 ENVIRONMENTAL CONTEXT

5.1 CURRENT PHYSICAL SETTING

The APE straddles the Upper Truckee River and is bordered by the North Upper Truckee Road on the west, Washoe Meadows State Parks on the north, US 50 on the south and Apache Avenue on the east. Topography in the area consists of glacial moraines and previous floodplain and channel activity. The Upper Truckee River channel at high flow is approximately 80 feet wide and the active floodplain is approximately 50-300 feet wide. The APE is bounded by low floodplain terraces and high glacial outwash terraces and delta deposits (Walck pers comm 2009; SH&G 2004: II-2).

The APE generally slopes from the west to the east, with the west at an elevation of 6,400 feet and the east at 6,320 feet. West San Bernardino Avenue slopes gently downwards until levelling out approximately 400 feet into the dirt road. The elevation is fairly level from this point eastward with a slight dip in elevation centrally near the river. The area has been substantially impacted by previous large-scale natural flooding events and meandering stream activity. Further impacts over the last 150 years included logging, grazing, residential development, utility construction, and highway construction.

5.2 FLORA AND FAUNA

Vegetation types found in and/or adjacent to the APE are typical of those found in the Lake Tahoe Basin. The APE is composed mainly of Jeffrey pine forest and pockets of the *Artemesia tridentata* Shrubland Alliance and perennial grasslands fragmented by urban land.

The Jeffrey pine alliance can be found in Lake Tahoe Basin up to an elevation of about 7,300 feet (USDA 2008). This alliance grows well on raised stream benches, all slopes and aspects, ridges, and plateaus. Soils are commonly infertile and shallow. This forest is tall, open, and dominated by Jeffrey pine (*Pinus jeffreyi*) with a sparse understory of chaparral or sagebrush shrubs and young trees. The understory may include white fir (*Abies concolor*), greenleaf manzanita (*Arctostaphylos patula*), mountain whitethorn (*Ceanothus cordulatus*), wax currant (*Ribes cereum*), and mountain sagebrush (*Artemisia tridentata* ssp. *vaseyana*). Lodgepole pine (*Pinus contorta* ssp. *murrayana*) can be found in areas that collect more moisture (Holland 1986).

Common sage brush (*Artemisia tridentate*) is dominant or co-dominant in the shrub canopy with various species including black sage brush (*Artemisia nova*), green rabbitbrush (*Chrysothamnus viscidiflorus*), antelope bitterbrush (*Purshia tridentate*), desert gooseberry (*Ribes velutinum*), and gray horsebrush (*Tetradymia canescens*). Perennial grasses include bunchgrasses introduced from Eurasia such as desert, tall, and intermediate wheatgrasses (*Agropyron desertorum, Elytrigia pontica, Elytrigia intermedia*). These are intermixed with northern California grasses that include tall fescue (*Festuca arundinacea*), clover (*Trifolium* spp.), needlegrass (*Achnatherum* spp.), squirreltail (*Elymus elymoides*), rock cress (*Arabis* spp.), monardella (*Monardella* spp.), buckwheat (*Eriogonum* spp.), cheatgrass (*Bromus tectorum*). Mules-ears (Wyethia mollis) are also typically associated with these grasslands.

East and west portions of the APE represent a typical residential environment found within the Lake Tahoe Basin with road shoulders colonized by plant species that tolerate disturbed

conditions. Common species encountered in disturbed areas included white goosefoot and prostrate knotweed.

Black bear occur throughout habitat types found within the APE. Mule deer are known to occur in the Jeffrey pine habitat located within and adjacent to the APE. Wildlife species known to occupy undeveloped Jeffrey Pine habitats have adapted to the urban/interface areas. Some of those include the brown creeper, dark-eyed junco, mountain chickadee, pygmy nuthatch, red-breasted nuthatch, Douglas' squirrel, and chipmunks. Numerous rodent species reside in the meadow and provide a prey base for wildlife species including the coyote. There is a low potential for special status species to be present in the APE, however they might occur due to existing suitable habitat. These include the willow flycatcher, California spotted owl, Sierra Nevada mountain beaver, American badger, Sierra Nevada snowshoe hare, fisher, and Sierra Nevada red fox.

Many of these plant and animal species were of economic importance to the prehistoric and historic inhabitants of the area. However, it is doubtful that modern plant and animal communities closely resemble conditions that existed prior to the onset of historic activities such as logging, road construction, and residential development.

5.3 Geologic and Geographic Setting

Information on local geology was derived from Bonham (1969), Stewart (1980), Fiero (1986), and Saucedo (2005). The Sierra batholith was formed during the late Jurassic and early Cretaceous periods due to the collision of tectonic plates. Materials from the subducting oceanic plate melted as it moved under the continental margin, forming volcanic or plutonic masses that slowly worked their way toward the surface. Intrusions and compressions caused a composite plutonic mass to form, that was some 75 miles wide running the entire length of California. The continental margin swelled upward, and large amounts of overlying rock were removed by erosion. In time, the uplifted roof of the batholith was exposed and subjected to erosion.

The Tahoe Basin is an intermountain basin formed by faulting within the Sierra batholith. In the Lake Tahoe Basin and nearby areas, major landforms developed due to faulting, warping, or a combination of both processes. Lake Tahoe occupies a down-dropped block bordered by steeply dipping faults. The major north-south fault zone which separates the eastern edge of the Sierra Nevada Mountains from the sequence of parallel fault block mountains of Nevada and Utah is located about six miles east of the Lake Tahoe Basin. The east front of the Carson Range is a large fault scarp more than 4,000 feet high. Faults along the lake margins have not been delineated in detail, but the presence of steep, near vertical drop-off areas along the shoreline clearly suggest that faults are present. Numerous other north and northeast-trending faults have been identified and are associated predominantly with Basin and Range tectonics and the emplacement of intrusive igneous rocks. Numerous fault lines are depicted in the vicinity of the APE and most are roughly north-south trending.

Pleistocene glaciation played a major role in shaping the landscape visible today. Birkeland (1963) recognized four glacial episodes, evidence of which is common in most portions of the basin. Moraines and outwash terraces formed along the edges of glacial lobes as they advanced away from the mountains. Periods of higher lake water levels produced delta deposits upstream in the Upper Truckee River (SH&G 2004: II-2). During these periods of glaciation, older moraines were obliterated by younger moraines which form the current APE's topography (Bach et al. 1993).

The west half of the APE is comprised of Pleistocene age glacial till deposits preserved as large moraines with rounded and broad crests (USGS 2005). The east half is comprised of Pliocene to Holocene alluvium, delta deposits, and terrace deposits. The alluvium is a very poorly sorted, sandy small pebble gravel that was deposited on an erosion surface cut on granodiorite (County of El Dorado 2018). The APE's runoff flows into lacustrine and floodplain deposits bordering the Upper Truckee River.

5.3.1 Soils

Soils found within the APE fall within four categories as defined by the Natural Resource Conservation Service (NRCS 2007). Celio loamy coarse sand (Map Unit category 7431) is a level to gently sloped soil that makes up over 60 percent of the survey area. This soil covers the entire east half of the APE from the bank of the Upper Truckee River extending past Apache Avenue. It also includes a portion in the west half of the Project between the river and Cholula Street. It's commonly found in Tahoe Basin watersheds, wildlife habitats, recreation areas, and urban development. Typical vegetation on this soil consists of Lodgepole pine and western juniper woodland with mixed grasses and forbs in the understory.

Meeks Gravelly Loamy Coarse Sand (Map Unit category 7482) is a gently to strongly sloped soil that makes up less than 30 percent of the survey area (NRCS 2007). This soil covers the west half of the APE from North Upper Truckee Road to just past Cholula Street. It's commonly found in Tahoe Basin wildlife habitats, recreation areas, and urban development. Typical vegetation on this soil consists of White fir and Jeffrey pine forest with scattered whitethorn ceanothus and creeping snowberry in the understory.

Tahoe Complex (Map Unit category 7042) is a level to gently sloped soil that makes up over 5 percent of the survey area (NRCS 2007). This soil covers the central portion of the APE surrounding the Upper Truckee River. It's commonly found in riparian corridors. Typical vegetation on this soil consists of Patches of Lemmon's willow intermixed with scattered forbs and grasses.

Pits and Dumps (Map Unit category 7031) is not classified as a true soil type and is considered areas of disturbed rubble lands (e.g. rock quarries), sand and gravel pits, and refuse dumps (USDA 1974; Ascent Environmental, Inc. 2016). This "soil" makes up less than 1 percent of the survey area (NRCS 2007) near Lake Baron and the Tahoe Paradise Resort. These areas vary in drainage, permeability, runoff, erosion hazard, and available water capacity and can typically be found in urban areas (USDA 1974; Ascent Environmental, Inc. 2016).

A geotechnical investigation was conducted in May 2019 by Corestone Engineering, Inc. Borehole exploration took place entirely within the central section of the APE that contains the existing compact dirt road. The geotechnical results found almost exclusively granular sandy soils (Corestone Engineering, Inc. 2019) that corresponds with the mapped location and description of Celio loamy coarse sand. Thin layers of loose sandy soils were recorded within the mapped location of the Tahoe Complex and estimated locations of the bridge footing foundations.

Table 4 outlines additional details for each of the NRCS soil types.

Table 4. Soils within the APE

Soil Name	Slope Range	Landform	Drainage Class	Parent Material	% Coverage
Celio Loamy Coarse Sand	0-5%	Outwash terraces	Poorly drained	Alluvium and/or outwash	66.9%
Meeks Gravelly Loamy Coarse Sand	5-15%	Moraines	Excessively drained	Granodiorite outwash and/or till	27.2%
Tahoe Complex	0-5%	Riparian corridors, floodplains, and valley flats	Poorly drained	Granitic and volcanic alluvium	5.6%
Pits and Dumps	-	Disturbed areas	-	-	0.3%

5.3.2 Hydrologic Transformations

While the APE is located within a wide valley floor, the Upper Truckee River channel alignment is largely confined by glacial outwash terrace and delta deposits. The channel pattern has changed dramatically over time (State Parks, Reclamation, and TRPA 2010). Glacial retreats leaving exposed, unvegetated slide slopes and valley floors would have increased sediment loads and supported a braided channel pattern (River Run Consulting 2006: 12). As vegetation colonized the upper watershed hillslopes and outwash deposits, lower sedimentation generally produced single-thread, meandering stream channel patterns. However, some areas of the Upper Truckee River underlain by coarse outwash deposits and confined by moraines continued to have a braided channel form.

Between 1860 and 1890, the Comstock mining boom brought substantial changes to the watershed (State Parks, Reclamation, and TRPA 2010). Clearcut logging practices and primitive log transport methods caused soil compaction, soil erosion, and increased runoff into the river. The Upper Truckee River channel was straightened to move logs downriver and temporary splash dams were constructed to store logs (SH&G 2004: II-21). Further, road, railroad, and bridge development throughout the watershed involved filling floodplains to limit flow capacity and allow river crossing (SH&G 2004: II-19). Localized constrictions caused higher velocities and channel incision around the bridge crossings.

Channel straightening trends in the area continued through the mid-1950s to protect grazing operations and accommodate roadway construction (SH&G 2004: II-151). Floodplain meadows were used as pasturelands in the early 1900s which caused relatively high sedimentation to the Upper Truckee River (River Run Consulting 2006: 18). Observation of the nearby Angora Creek channel in aerial photographs from 1940 and 1952 indicate a modified channel near what is presently the Lake Tahoe Golf Course and Washoe Meadows State Park (State Parks, Reclamation, and TRPA 2010). The channel was straightened and possibly deepened to control flooding what used to be a dairy farm.

Swanson Hydrology and Geomorphology (SH&G) mapped the estimated stream channel alignment of the Upper Truckee River pre-1940 to compare channel changes before and after human impacts. Using visible meander scars in a 1940 aerial image and 2003 LiDAR, a representation of the possible maximum channel length and sinuosity was created (SH&G 2004: II-14). While it is unlikely all the relict meanders were active concurrently, the general trend depicts a decrease in channel length and straightening over the historic era. Comparison of the pre-1940 maximum sinuous channel, the 1940s channel alignment, and the stream channel today, suggest past episodic channel migration in the APE.

5.3.3 Channel Evolution and Archaeology

The location of the APE would have been, and still is a highly desirable location for human habitation, as evidenced by modern urban development. Distance to water, slope, and distance to confluences represent frequently cited clues related to prehistoric site locations (Meyer 2013). These features are represented within or adjacent to the APE. The width of the floodplain created from previous large-scale flood events presents a greater likelihood that archaeological material could be stored in or on the alluvium (Gladfelter 2001). However, the localized braided channel patterns of the meandering river and associated coarse loads from the area's geology has almost certainly reworked potential archaeological evidence of use or occupation (Gladfelter 2001; Best and Bristow 1993) if not erased such evidence.

Prehistoric occupation and utilization of floodplain and channel systems vary depending on type (Brown 1997: 37-39). More stable floodplain systems are typically found with meandering streams. Possible occupation is more attractive in meandering stream environments when compared to very dynamic unstable floodplains such as braided streams. Optimal settlement locations include the lowest morphological terrace edge, island, or natural levee in the valley and not within meadow areas having semi-permanent high-water tables (Brown 1997: 37-39; Goldberg and Macphail 2006: 89-90). This enables a proximity to a major food source, ritual significance, or ideal strategic location.

However, stability of any location on the floodplain is limited and largely prevents settlement (Brown 1997: 37-39). Prehistoric habitation sites can be destroyed by meandering migration, episodic flooding, and catastrophic flooding. Areas underlain with impermeable rocks and soils, such as the APE's Tahoe complex, will produce higher and earlier flood peaks than areas underlain by highly permeable rocks and soils receiving the same rainfall. Mountainous environments in particular can have somewhat frequent catastrophic flooding events (Brown 1997: 289-291). Such events would prevent occupation close to a channel and floodplain, making higher ground more likely for permanent settlement locations.

Various sources specify the destructive nature of water to archaeological sites (Best and Bristow 1993; Brown 1997: 37-39; Gladfelter 2001; Kimball and Babcock 2002; DOI and CA 2004; Goldberg and Macphail 2006: 89-90; Hall 2015). Similar to suitability of prehistoric settlement locations, sites vary in preservation based on channel patterns. Low energy floodplain deposits are more likely to preserve in-situ archaeological material compared to high energy gravel bars within an active channel. The rapid shift in water discharge from winter snow melt mixing with spring rainfall and the coarse sediment in the Sierra Nevada mountains, causes localized areas of braided stream systems within the Upper Truckee River. Mid channel bars created by deposited coarse sediments widen the channel in areas as water gets directed around them (Boggs 2001). The likelihood of finding intact archaeological sites close to such channels is low.

If a site is not buried quickly during flooding, submergence and high-water velocity can destroy the primary context in which sites occur by:

- Channel migration reworking or erasing surviving floodplain sites;
- Low energy sedimentation burying areas and reducing site visibility;
- Moving sites and/or artifacts within a context or to a foreign setting;
- Creating false contexts from soil deposition;
- Soil erosion leading to collapse in strata and mixing different time periods;
- Site and artifact destruction.

Flood events along river channels that are destructive to archaeological sites are evident within the Tahoe Basin. Site P-29-00316, located along the Truckee River near Truckee, CA, is an example of site alteration from a 1997 flood (Kimball and Babcock 2002; Hall 2015). It was originally recorded in 1989 and again in 1991 as an extensive multi-component site containing historic debris, features, and a fairly disperse lithic scatter with tools. However, after the 1997 flooding within the region, the site boundary shrunk, and many prehistoric components were not relocated in the later 2002 and 2015 site updates. For the 2002 update, a series of eight auger holes and one shovel probe were conducted to determine subsurface cultural deposition. Results indicated a shallow 15 cm cultural deposit demonstrating site alteration was likely derived from the 1997 flooding event.

Human actions such as deforestation, channel straightening (Brookes 1988) and urbanization (Wolman 1967) can increase flood velocity and discharge, reduce lag times, and affect sediment loads (Brown 1997: 37-39). These areas with low rates of sedimentation (e.g., high energy flows) are also not likely to preserve sedimentary structures due to bioturbation.

6.0 HISTORIC CONTEXT

This section provides a brief historic context for the immediate Project-related APE and a slightly more expansive archival study area. Summaries of the prehistoric, ethnographic, and historic periods were compiled by Zeier (2012) and reiterated here. This context is based on readily available published historic and archaeological sources.

6.1 PREHISTORIC OVERVIEW

Elston (1982, 1986) and Lindström et al. (2000) provide recent summaries of western Great Basin and eastern Sierra prehistory. These studies focus on adaptive strategies consisting of technological, subsistence, settlement, and ideological elements that were expressed over broad regions. Four such strategies are recognized for the Western Great Basin, including eastern Sierra basins such as the Lake Tahoe Basin. Those strategies include the Pre-Archaic (prior to 7,000 years before present), the Early Archaic (4000 to 7000 B.P.), the Middle Archaic (1500 to 4000 B.P.), and the Late Archaic (time of historic contact to 1500 B.P.).

The Pre-Archaic strategy prevailed from about 7000 to 11,500 B.P., a period marked by cool, moist conditions which fostered an abundance of surface waters. Subsistence revolved around lakeshore-marsh resources and the taking of large game; the use of processed seeds and nuts was not prevalent. Population density was quite low, and groups were highly mobile. Originally thought to represent an adaptation to pluvial lakeshore environments, Pre-Archaic sites have increasingly been recognized in a variety of riverine and upland settings. Environmental conditions changed gradually toward the end of the Pre-Archaic period; temperatures increased, moisture patterns changed, and the amount of available surface water decreased. Eventually, these changes caused a shift in adaptive strategy. Early Archaic patterns are markedly different from those of the Pre-Archaic period. Seed processing tools make their first appearance, indicating that the resource base had become more diversified. Hunting remained a prevalent activity. The variety of site types increases during this period, suggesting again the diversity of the resource procurement strategy. Initially, the population density was less than during the Pre-Archaic, but gradually increased.

Within the Tahoe Basin, Sierran glaciers retreated between 8000 and 9000 B.P. making it possible for people to occupy the area. Pre-Archaic sites have been identified along the Truckee River. Early Archaic sites have been recorded near Spooner Lake and in other locations within the Lake Tahoe Basin. These data suggest only a limited use of the Sierra Nevada during early times. Lindström et al. (2000) suggests that during Pre-Archaic and Early Archaic times, the level of Lake Tahoe may have been considerably lower than at present; upper reaches of the Truckee River may have been dry for centuries at a time. If this was indeed the case, Pre-Archaic and Early Archaic sites would have been located adjacent to the lake then present but were subsequently submerged as the lake level increased.

At the onset of the Middle Archaic, about 4000 B.P., environmental conditions again changed. Increases in effective precipitation caused the expansion of resources associated with lakes and marshes. For example, Lake Tahoe presumably returned to its current configuration. Prehistoric populations increased, and pronounced cultural elaboration occurred, as evidenced by an abundance of textiles and other perishables, and more elaborate houses. Subsistence practices continued to emphasize large game hunting, but the use of seed expanded. Also, the use of upland resources increased notably. These trends are apparent in the archaeology of the Lake

Tahoe Basin and the Sierra Nevada in general. The local manifestation of this adaptive strategy is the Martis Complex.

The transition from the Middle to the Late Archaic is marked by changes in technology, subsistence patterns, and settlement. Technologically, the Late Archaic saw the introduction of the bow and arrow, a diversification in ground stone implements, and a greater emphasis on the use of small flake tools. Subsistence and settlement changes appear to reflect increased local and regional population. This prompted an intensification and diversification in subsistence practices not noted previously. Low-ranked resources seldom used during earlier periods were added to the diet. The use of pinyon became pronounced during this period. The Kings Beach Complex is the local manifestation of this adaptive strategy. Sites associated with this complex are common in the basin, especially since the Late Archaic represents populations ancestral to the present-day Washoe.

6.2 Ethnographic Overview

As of the mid-1800s, the Washoe inhabited the region of the APE. A Hokan-speaking hunting and gathering group, the Washoe inhabited the chain of valleys along the eastern slope of the Sierra Nevada, from Honey Lake to Antelope Valley. The Pine Nut Mountains and the Virginia Range formed the eastern boundary of Washoe territory, while the western boundary extended several miles beyond the Sierra crest. Much has been written about Washoe land-use in the Tahoe Basin and their use of the region's resources. Lake Tahoe is the center of the Washoe world, both geographically and socially. Legendary and mythological associations to places within the basin are common. Ethnographic data on the Washoe are contained in d'Azevedo (1956, 1963, and 1986), Barrett (1917), Dangberg (1968), Downs (1966), Fowler et al. (1981), Freed and Freed (1963), Lowie (1939), Nevers (1976), Price (1962, 1980), and Siskin (1941).

While they were an informal and flexible political collectivity, Washoe ethnography hints at a level of technological specialization and social complexity for Washoe groups uncharacteristic of their neighbors in the Great Basin. Semi-sedentism and higher population densities, concepts of private property, and communal labor and ownership are reported and may have developed in conjunction with their residential and subsistence resource stability.

There was a tendency for Washoe groups to move from lower to higher elevations during the summers and then return to lower elevations for the remainder of the year (Downs 1966). With the coming of spring, small bands or individual families left their winter base camps to take advantage of ripening plant foods in low-lying valleys. As soon as travel became possible in the spring, several, but not all group members, began leaving winter villages for the lake. White fish and early plants sustained these early arrivals. Extended kin groups returned to established camps located along streams from which they fished, harvest plants, and hunted game. Winter camps were not abandoned. Families at the lake would walk back and forth several times over the summer, bringing fish and other provisions to those that had stayed behind.

By early June, many Washoe were encamped around the shores of Lake Tahoe. Camps of five or six windbreaks (gadu), each housing a family, appeared adjacent to the lake's tributaries. From these encampments, the Washoe took trout, sucker, and white fish that spawned in the streams. Stores of dried fish were developed for later use.

In the late summer and early fall, Washoe began leaving Lake Tahoe and dispersed in small groups to valleys east of the Sierra. Antelope and rabbit were hunted in early fall, both by individuals and in communal drives. Rabbits were dried for winter use. In late fall, collecting pine nuts and deer hunting were important activities along the eastern Sierra and the Pine Nut

Mountains to the east. With the coming of winter, Washoe families returned to their favored base camps at lower elevations where their stores of pine nuts, seeds, and dried meat sustained them.

This general seasonal round was not rigidly adhered to by all Washoe (d'Azevedo 1986). Some trekked to distant places for desired resources, while most circulated in the vicinity of their traditional habitation sites. They were not compelled to cover large expanses of land in their subsistence pursuits, a pattern common to other Great Basin groups. This was due to the large variety of predictable resources that were close at hand. Their relatively rich environment afforded the Washoe a degree of independence and may account for their long tenure in their known area of historic occupancy.

Washoe use of the Lake Tahoe Basin changed radically after the 1850s. The development of transportation corridors, intensive logging, recreational uses, and commercial fishing all affected the resource base on which the Washoe had depended. Traditional lifeways changed. With the decline or demise of their traditional food sources, the Washoe became increasingly dependent upon European resources and means of procurement. Many Washoe individuals and family groups retained links to their ancestral lands around Lake Tahoe by working for loggers, dairymen, fishermen, ranchers, and resort owners. These enterprises made extensive use of Indian labor and, in exchange, the Washoe were paid wages or were given food. Washoe men worked on roads and cut and hauled firewood and Christmas trees for ranchers and lumbermen. Women performed domestic chores and made baskets to sell to tourists. Over time, some Washoe developed close relationships with their employers.

6.3 Historic Overview

Several general references are available that address the history of the Lake Tahoe Basin and the Comstock. Those used to develop the history that follows included Lord (1883), Knowles (1942), Galloway (1947), Myrick (1962), Scott (1957 and 1973), Goodwin (1971), Lindström and Hall (1998), and Shapiro et al. (2004). Historic themes determined most relevant to the current APE include Early Development and Transportation, Settlement and Agriculture, Logging, the Early Twentieth Century, and the Post War Years.

6.3.1 Early Development and Transportation

During his second expedition, explorer John C. Fremont and his party passed near Carson Pass and above the headwaters of the Upper Truckee River. On Valentine's Day in 1844 Fremont first sighted Lake Tahoe from Red Lake Peak.

For the next 15 years, Lake Tahoe was undisturbed by the great westward migration. This was because routes through the Lake Tahoe basin required a double crossing of mountains - over the Carson Range east of the Lake Tahoe basin and over the main Sierra crest to the west. With the discovery of gold in California in 1848, mining and community development created an instant demand for trans-Sierra freight routes across the Sierra Range. A system of roads soon became established linking eastern portions of the country to California. Major trails passed through the south end of the Lake Tahoe Basin and over Donner Summit to the north.

The APE is located near the southern route. Early in 1848, while searching for a more direct route over the central Sierra, John Calhoun "Cock-Eye" Johnson of Placerville encountered a large valley (Lake Valley) along the southern shore of Lake Tahoe. A main transportation corridor was established through here, first known as "Johnson's cut-off" and later called the "Placerville Road". This corridor connected California and the Comstock Lode area between the late 1850s and the early 1870s. As shown on the 1866 GLO plat map, the Placerville Road cut

across the mountain face from Johnson Pass, and then across the southern end of Lake Valley to Meyers. From Meyers, the road headed northeast along what is now Pioneer Trail. Today, much of the alignment of the Old Placerville Road through Lake Valley is part of US 50. A major variant of the Placerville Road saw heavy use during the late 1850s and early 1860s. After entering Lake Valley, this route turned south, extended up and over Luther Pass, and then down the Carson River to Carson Valley and on to the Comstock.

Development of the Meyers area began soon after the Placerville Road was opened. Martin Smith and his partner, Jim Muir, rebuilt the Martin Station, which had burnt in the summer of 1855. The new station consisted of several buildings, a corral, and a stable. In 1858, Muir sold his interest to George Douglass and in 1859, Smith and Douglass sold out to Ephraim "Yank" Clement. George Meyers, for whom the area is now known, bought Yank's Station from Clement in 1873. At that time, Clement moved his business from present-day Meyers eight miles north to Lake Tahoe (Scott 1957). The station house at Meyers was a two and a half story building with 13 rooms. Also present at the station were livery stables, corrals, a cooperage, a general store, saloons, barns, and outbuildings. Most of those structures were leveled by fire in 1938 (Scott 1973). A 1944 highway map shows a Forest Service ranger station, post office, meat market, hotel and store, garage, service station, warehouse, barn, blacksmith shop, and nine houses situated on both sides of the road.

The establishment of the Lincoln Highway in 1913-1914, the nation's first transcontinental auto road, ushered in the expanding state and national highway system. The southern route followed the segment of Highway 50/89 that traverses east of the APE. The Pioneer Trail was also designated as the Lincoln Highway for a short period of time between 1913-1914 and 1917. Beginning in 1911, portions of the Old Placerville Road were paved and became the Old Alpine State Highway, then subsequently renamed State Route 23. Eventually, portions of the route were subsumed by State Route 89.

In the early 1900s, a roadway was constructed along the west shore of Lake Tahoe connecting Tahoe City with the Old Placerville Road. The new road went north from Meyers along an old wagon road, crossed the Upper Truckee River, and extended through Tahoe Valley before reaching Camp Richardson and points north. This road was eventually designated as State Route 89. Construction of SR 89 occurred at a time when automobiles were making their first appearance in the Lake Tahoe Basin. Automobiles could travel at substantially higher speeds than earlier horse-drawn wagons and heavier, power-driven equipment was now available to assist in construction. As a result, SR 89 was constructed based on a design speed that required broader, more sweeping curves than the earlier trail. This resulted in a roadway that exhibited a greater level of engineering. To some extent the roadway still followed the lay of the land. By the late 1920s, SR 89 was a moderately engineered roadway that was paved to a typical width of 20 feet.

In 1944-46 plans were completed to reconstruct US 50 through the South Lake Tahoe area. The new route for US 50 did not make use of the Pioneer Trail corridor. Rather, it stayed closer to the Lake, connecting with SR 89 in Tahoe Valley at what is today known as the "Y". From there, the new US 50 extended south along the old SR 89 corridor. By the 1940s, the design speed was higher than had been used during development of SR 89. Some of the shorter radius curves once present along SR 89 were cut off or isolated when US 50 was constructed. The ROW had been obtained in 1937 and construction was completed by 1948. During this time, a new bridge was constructed across the Upper Truckee River near Sawmill Road which replaced the old SR 89 bridge located about 0.2 miles to the west.

6.3.2 Settlement and Agriculture

Martin Smith built a trading post in Upper Lake Valley in 1851. Several other cabins were constructed in 1853, after an article appeared in the Placerville newspaper saying that gold had been discovered in the area. In 1854, Asa Hawley settled in Lake Valley and established a trading post. He owned 160 acres immediately south of Martin Smith. Hawley built what he called "2nd Elkhorn House" some 1,000 feet south of the site where a wooden bridge would later span the Upper Truckee River (Scott 1957). The 1866 GLO plat map shows the Haley House as being located in the northwest quarter of Section 17, Township 11 North, Range 18 East, directly across from where Grass Lake Creek flows into the Upper Truckee River.

Carlo Celio, a native of Switzerland, was listed as a milkman in Lake Valley in 1866, although he allegedly did not settle in the valley until 1873 (Scott 1957, 1973). Celio was a dairyman in the Placerville area as early as the 1850s and evidently used Lake Valley for summer pasture. In 1873, Celio bought property from Charles Winstanley. Over the remainder of the century he continued to acquire property, eventually holding title to some 2,600 acres. Agricultural data show that 228 tons of hay was baled in Lake Valley during 1870, while 800 tons of hay was cut in 1880. Butter production in 1870 reached 100,600 pounds. Raising livestock and dairy cattle continued to be primary activities in Lake Valley through the middle of the twentieth century. The Whinstanley house and dairy are shown on the 1866 GLO plat map in the northeast quarter of Section 6, Township 11 North, Range 18 East. The same general location is noted as the Celio Ranch on the 1955 USGS quadrangle map.

Scott (1957) notes that Hiram Barton owned and ran a dairy ranch located in the meadow north of Yank's Station. This ranch was likely located in the area of Meyer's Lake Tahoe Golf Course. A dairy building dating to the 1910s to 1920s stood at the present maintenance yard for the golf course. This building, likely related to the later dairy operations of J. Chester Scott, was torn down for construction of the modern facility. Prior to its demolition, the building was recorded, but the documentation has yet to be submitted to the Information Center (Peak 1995:8).

6.3.3 Logging

Rich ore deposits were discovered in the Comstock area of western Nevada in 1859, causing the westward flow of emigrants to California to be reversed. With mining on the decline in California, news of the Comstock discovery caused a "rush to Washoe". Consequences of that rush were to have a profound effect on the Lake Tahoe Basin. Between 1875 and 1915, the Truckee River flowed above average height for the longest period in historical record (Lindström et al. 2002). This wet interval enabled logging and fluming activities throughout the Basin. Development of the Comstock Lode prompted the need for a variety of wood products. During the early 1860s, this need was met by small operations located within the Virginia Range and along the east front of the Sierra Range. By the mid-1860s, forests in the Tahoe Basin became the primary source of lumber and cordwood for the mines. Cutting began on the east side of the basin, continued to the north and south shores, and finally along the west shore. The timber harvest continued through 1897 when mine production waned, and the last major sawmill closed. By the end of the Comstock period, wood products totaling 600 million board feet of lumber and two million cords of firewood had been consumed. The harvest from the Tahoe and Truckee Basins was worth in excess of 80 million dollars.

Lindström and Hall (1998) provide a detailed discussion of logging in Lake Valley. The first lumber mill was constructed in 1860 as Robert Woodburn's water-powered sawmill. It was located about two miles northeast of Meyers on the Old Placerville Road (Pioneer Trail). Woodburn supplied lumber for many of the local hostelries, barns, and stables that were built

along the Old Placerville Road. During those early years, Lake Valley was home to several dairy and hay operations that provisioned the hotels and stables with supplementary feed. During the late 1870s, ranching was replaced by lumbering as the primary industry in the valley; however, the timber business proved prosperous for Lake Valley ranchers.

The Carson & Tahoe Lumber & Fluming Company (CTLFC), formed by Bliss and Yerington in l873, operated along the east, south, and west shores of Lake Tahoe. During the 1870s and 1880s, timber rights in Lake Valley were sold to the CTLFC and the Eldorado Wood and Flume Company (Galloway 1947). The CTLFC built two railroads into Lake Valley. The first was a standard gauge line from Camp Richardson. This line was abandoned and replaced by the narrow-gauge Lake Valley Railroad (LVRR) that extended along the east and south edges of the valley, to Meyers, and then into the upper watershed of the Upper Truckee River. The mainline, spurs, and sidings covered about 13 miles and ran along portions of the Trout Creek drainage southwest to Meyers. By the 1890s the CTLFC had obtained timber rights totaling over 6,000 acres throughout the south shore of the lake, acquiring rights on Meyers and Barton family holdings, among others. Much of Lake Valley was stripped of its marketable timber by the late 1890s and large-scale logging in this region was over. The LVRR was torn up during the summer of 1898, and all salvageable materials and equipment were pooled with those from the Glenbrook railroad operation and taken by barge to Tahoe City for incorporation into the Lake Tahoe Railway and Transportation Company's passenger and freight line to Truckee.

Trees were selectively harvested to suit varying wood markets. Jeffrey, sugar, and ponderosa pines were favored. As a result, timber tracts were not clear-cut at once; rather, stands were re-entered over time for different purposes. The pine-mixed conifer belt (between 6,000 and 6,500 feet) was probably logged first while the red fir conifer belt (6,500 to 9,000 feet) was logged last. Much of the cutting occurred during the winter months. The transport of harvested logs from their extraction point to their final destination was achieved using a variety of methods. Systems of primary, secondary, and tertiary haul roads for wagon transport were constructed. Skid trails and corduroy roads also were constructed for dragging logs with teams of animals. Rapid down slope transport over short distances was accomplished with the construction of gravity chutes. Water transport of material was accomplished with the construction of flumes, ditches, reservoirs, and splash ponds.

During the peak of Comstock era logging, the Celio family opted to retain their timber interest and resisted selling land or timber rights to the CTLFC. Deciding to cut timber on their own holdings in Upper Lake Valley, the Celios incorporated as a lumber company in 1905. In 1910, C.G. Celio and Sons established the first of two sawmills in upper Lake Valley. As was common practice, the initial mill was dismantled with the depletion of marketable timber and in 1927-1928, the Celios built a second and larger sawmill near the junction of present-day Lake Tahoe Boulevard and Sawmill Road. Celio and Sons sold out to the Placerville Lumber Company in 1942, ending 47 years in the lumber business. Operations at the old Celio Sawmill ceased in 1952 when it burned down.

6.3.4 The Early Twentieth Century

Land-use patterns during this period were a pale reflection of Comstock period developments. By the turn of the century, unregulated use of the Lake Tahoe Basin largely came to an end (Beesley 1995). A forest reserve, which included lands within the present Tahoe and El Dorado national forests, was created between 1893 and 1900 (Markley and Meisenbach 1995). Effective management did not exist until creation of the national forest system in 1907, when the Tahoe Basin was segmented under the jurisdictions of the Tahoe, the Toiyabe, and the El Dorado national forests. Agency control dramatically changed land-use patterns, especially with regard

to fire suppression and increased recreation through the promotion of camping, hunting/fishing, winter sports activities, and the construction of summer homes (Beesley 1995).

Another major factor tied to the early twentieth century was introduction of the automobile. The first automobiles traveled to the Lake Tahoe Basin in the mid-1910s. Their increased popularity prompted the improvement of local and regional roadways. Within the APE, the old "Scott's Route" saw increased use. Access to Reno was enhanced in 1891 when the road over Mount Rose Pass was graded. From 1928 to 1935, the U.S. Bureau of Public Roads maintained federal highways. During that time, improvements were made to most roads in the Lake Tahoe Basin.

Road improvements caused a fundamental shift in the nature of roadways and their use. With greatly improved access, the Tahoe Basin saw more recreational use by the traveling public. The Post-World War I era saw a marked increase in traffic during the summer months. This spawned a new type of development. Private communities of summer homes started to appear in the mid-1920s, such as those at Lakeside Park, Tahoe Meadows, Zephyr Cove, Lincoln Park, Secret Harbor, and Kings Beach. These localized, residential developments appeared through the 1920s and 1930s. With increased accessibility by automobiles and with the increased emphasis on public recreation, the old luxury hotels declined and were replaced by rustic summer cabins, auto court motels, cafes, and service stations.

6.3.5 The Post War Years

The presence of improved roadways, increased availability of automobiles, and local enticements such as the legalization of gambling in Nevada all contributed to the dawning of a new era of tourism at Lake Tahoe. Chilled by traumas associated with the depression and World War II, the lure of Lake Tahoe would not be denied. People visited the lake during the summer, staying at one of many new hotels and motels. Larger gaming establishments were constructed after World War II, thereby prompting an increase in the volume of tourists. To retain more of the tourist's dollars on the Nevada side, the gaming establishments constructed large hotels and elegant restaurants that fronted the lake. Downhill skiing developed as an adjunct to gaming. Increasingly, Nevada's casinos and downhill ski areas became major recreational destinations. The movement towards year-round use of the Tahoe Basin brought more building and development to Tahoe's shores, with the accompanying need to house not only vacationers but employees as well. People moved to the Lake Tahoe Basin in large numbers and several communities came into existence. Tahoe saw the growth of permanent residency and facilities to serve tourists and service workers.

7.0 INVENTORY METHODS

7.1 EXPECTATIONS

Archival research suggests the archaeological record of the archival study area is somewhat sparse. Cultural resources most likely to be encountered are prehistoric period lithic scatters and bedrock mortars. The highest probability for the presence of prehistoric sites will be located near water sources, such as slight rises along the Upper Truckee River above the floodplain, or where tributaries flow from the mountains onto the glacial valley bottom. Given the location of the APE and the historic context of the area, it is anticipated that historic sites associated with transportation (early roadways) and logging may also be encountered. The proximity of the proposed Project to local roadways and regional highways suggests historic period debris scatters may well be encountered.

However, much of the APE has experienced some level of previous disturbance. The APE following West and East San Bernardino Avenues consists of a residential area comprised of paved roadways and developed parcels. In general, a 26-foot wide roadway dominates each ROW, leaving a narrow ribbon of road shoulder approximately seven feet wide on either side. The most predominant types include disturbance associated with the existing streets and previously used roadways. This includes access roads and driveways, landscaping, casual use, utility construction, and recreational use. Within the central open area of the APE, research indicates high levels of disturbance from logging. In one case, artifact scavenging, and excavation was allowed by earlier landowners within a nearby prehistoric site. Additionally, the area has been substantially impacted by previous large-scale natural flooding events and meandering stream activity. These disturbances decrease the potential for locating lithic scatters and other cultural resources.

7.2 INVENTORIED AREAS AND FIELD METHODS

The archaeological survey was conducted over three days by Molly Laitinen on May 30, 2019, June 13, 2019, and October 24, 2019. Emphasis was placed on the archaeological examination of undisturbed, or relatively undisturbed, ground along the shoulders of the ROW, throughout the central portion of the APE, and surrounding site P-09-004506.

The objective of the field inventory was to locate and describe cultural resources present within and adjacent to the APE. Fieldwork was performed in accordance with applicable Federal and State standards. An intensive pedestrian survey was completed for 1.63-acres of the APE in the location of the proposed Class 1 path and within a 2.4-acre area surrounding site P-09-004506 and extending north across the APE (shown as yellow hashed lines in Figure 3 and Figure 4). This portion of the APE and site was surveyed utilizing 15-meter transect spacing zigzagging across the width of the areas. A reconnaissance level survey was conducted for the APE's remaining 5.06 acres of existing ROW along West and East San Bernardino Avenues (shown as blue hashed lines). These portions of the APE were surveyed by examining road shoulders utilizing a single pedestrian transect along each side of the ROW.

Surface visibility varied considerably across the APE. Previously disturbed areas along the ROW were often essentially void of vegetation. Near site P-09-004506 and the river, vegetation and needle litter was present and restricted ground visibility somewhat. Leaf and needle litter was periodically cleared to expose the ground surface. Overall, sufficient clear ground was present to ensure survey adequacy.

If cultural resources had been encountered in the APE, field personnel would have more thoroughly examined the immediate area to determine the type and extent of cultural material. Archaeological components, including diagnostic artifacts, artifact concentrations, and features, would have been described in field notebooks, photographed using 10 megapixel or better cameras, and plotted using the ESRI Collector for ArcGIS mobile application. At least two overview photographs would have been taken per site to capture the general surroundings with attention paid to capturing the horizon (if possible) to aid in future relocation. If applicable, photos of artifacts would have contained a scale and all photographs would have been GPS-plotted. Upon completion of the inventory, field data would be downloaded from ESRI ArcGIS Online and converted to GIS shapefiles projected to NAD83 California State Plane 2. Sites would have been recorded on Department of Parks and Recreation (DPR) 523 site forms and plotted on a USGS 7.5-minute map. Isolates would have been mapped and photographed (if diagnostic). No artifacts were collected during the field survey.

Although outside of the APE, site P-09-004506 was relocated, photographed, plotted, and updated on a DPR site form. Overview photos were taken from the APE boundary, proposed sign location, and the existing dirt road towards site P-09-004506. Photos were taken from the APE northward across West San Bernardino Avenue. Photos were also taken from the site towards the APE. A detailed photo log and photos for this inventory are in Appendix E. The updated DPR site form for site P-09-004506 is in Appendix F.

7.3 Other Project Personnel

Jeremy Hall, NCE Cultural Resources Specialist, oversaw inventory activities. Mr. Hall meets the Secretary of Interior's Standards for Archaeology and Historic Preservation (36 CFR Part 61) and is a Registered Professional Archaeologist. He has 15 years of experience in historic preservation, archaeological investigation, and cultural resource evaluation as part of State, Federal, and professional standards in compliance with Section 106 of the NHPA and PRC Section 21083.2 of the CEQA.

Charles Zeier, NCE Principal Investigator, assisted with report preparation. Mr. Zeier has over 46 years of experience in historic preservation, archaeological and architectural surveys and evaluations, cultural resource management, Section 106 of the NHPA, and NEPA. Mr. Zeier meets the Secretary of Interior's Standards for Archaeology and Historic Preservation and is a Registered Professional Archaeologist.

8.0 INVENTORY RESULTS

8.1 PROJECT AREA OBSERVATIONS

Approximately 6.69-acres were surveyed during the inventory with the central portion of the APE and area surrounding P-09-004506 warranting a detailed archaeological examination. The residential street margins of East and West San Bernardino Avenues were examined at a reconnaissance level. Various forms of disturbance occupy most of the APE (existing roadways and their associated shoulders, drainage ditches, and underground utilities). The intensive pedestrian survey conducted along the proposed location of the Class 1 shared-used path also indicated high levels of previous disturbance throughout the area associated with an unimproved utility access road. Further from the road, there was evidence of previous braided stream erosion and mastication to thin forests for fire prevention.

8.2 SUMMARY OF RESULTS

No previously recorded sites or isolates occurred within the present APE. Intensive inventory of the existing dirt road and selected segments of the ROW associated with the Project did not result in the identification of new prehistoric or historic resources.

It is noted that prehistoric resource P-09-004506 is located just to the south of West San Bernardino Avenue, atop a low moraine. The northern extent of the site boundary as defined in the primary site form is thirteen meters south of the APE. Site records suggest the resource, a lithic scatter with associated bedrock mortars and midden, could extend north to and beyond West San Bernardino Avenue. The primary site form makes note of extensive damage done to the site due to artifact hunting and extensive pot-hunting (informal excavations) with a shallow depth of cultural fill estimated at 14 cm. More recent site records did not relocate the midden. Presently, the site's bedrock mortars were relocated without difficulty, however, evidence of the midden and associated artifacts were not relocated under scraped sections of pine duff or in churned dirt from rodent burrows. The exact location of site P-09-004506 was noted with respect to the Project. It was determined that the site is located approximately 70 meters from the nearest proposed Class 3 bike sign location and where the proposed Class 1 path will begin before extending eastward off West San Bernardino.

The ROW along West San Bernardino Avenue and the existing compact dirt road within the APE are located downslope from the moraine where site P-09-004506 is located. The dirt road was clear of vegetation and debris and offered sufficient surface visibility during the survey. Development and use of the roads should have churned up artifacts close to the surface. However, no artifacts or features associated with site P-09-004506 were identified within the ROW, between location of the bedrock mortars and the ROW bank, immediately north of the APE, or the dirt road. A previous site form indicated construction of West San Bernardino Avenue and nearby residential development likely removed any evidence of the site that may have existed along the road corridor. Similarly, construction of the existing dirt road would have removed cultural material close to the surface.

When considering topography of the site, it is highly unlikely the site would extend to such a low elevation within the APE and into the floodplain. The primary habitation and/or work site would have been above the floodplain on the flat terrace/moraine. Furthermore, if artifacts are located within the floodplain, those have a high potential of being from a different upstream site.

Proposed Project improvements include minor modifications to existing roadways. The proposed Class 1 shared-use path will not be much wider (if at all) than the dirt road, which is unlikely to contain cultural material. The Class 3 bike signs closest to site P-09-004506 have a small vertical ADI in the APE and will not visually effect the site.

The road proposed to become the Class 1 path is presently a compacted dirt, two-track road used for utility access. The ruts are approximately one to two feet below the surrounding landscape surface. The road is six to seven feet wide with recent signs of tire tracks and a center mound. The road used to connect West and East San Bernardino Avenues in the 1970s allowing vehicles to ford the river (Personal Communication, Bill Cherry, local property owner, October 2019). To either side of the road, there are slightly raised, level areas where the current, slightly depressed road appears to have been wider and allowed passage of two vehicles. More recently the dirt road was blocked from through traffic, but it is still maintained for utility access. Observations of historic topographic maps and aerial imagery indicate the dirt road is 50 years old. However, based on Attachment 4 of the Section 106 PA and consultation with Caltrans Professionally Qualified Staff (PQS), the road is considered exempt from detailed recordation or evaluation. The observed dirt road falls under Architectural and Historical Property Type 1: minor, ubiquitous, or fragmentary infrastructure elements, which includes recent transportation or pedestrian facilities (e.g. isolated segments of bypassed or abandoned roads). The observed dirt road is indicative of a normal progression in neighborhood planning and later use or abandonment based on local needs. The dirt road was not formally recorded.

Roadway debris was present along either side of residential streets within the inventoried area. This “toss zone” of debris extends throughout the ROW. Items noted included hard and soft plastics, bottle glass, and Styrofoam containers. All such items are modern (less than 50 years in age) and none were recorded.

9.0 STUDY FINDINGS AND CONCLUSIONS

9.1 SUMMARY

An APE was defined for the proposed Project which includes the ROW and an existing dirt road identified by the County on which the Class 1 shared-use path and Class 3 bike route improvements will be constructed. Archival research indicated no archaeological resources were present within the APE. As a result, approximately 6.69 acres were surveyed. Every reasonable effort was made to identify any surface expression of cultural resources in the APE.

This inventory resulted in the following:

- No prehistoric or historic period archaeological resources were identified within the APE.
- Recent (less than 50 years in age) items (roadside debris) and an architectural resource (a dirt road) were observed but are considered exempt per Attachment 4 of the Section 106 PA.

9.2 ARCHAEOLOGICAL SENSITIVITY AND UNIDENTIFIED CULTURAL MATERIALS

Substantial review has been carried out in advance of previous restoration efforts along the Upper Truckee River. Those efforts have involved the detailed consideration of mitigation measures appropriate with the context of stream restoration programs. Those measures were approved by local, state, and federal agencies and, in some cases, were approved by the State Historic Preservation Office. Emphasis for the present effort has been placed on avoidance of known eligible sites, and if necessary, protection and monitoring of eligible sites adjacent to construction areas, and implementation of inadvertent discovery plans.

The inventory conducted as a part of the present study did not result in the identification of artifacts or features associated with site P-09-004506. As noted on the site form, construction of West San Bernardino Avenue and nearby residential development likely removed any evidence of the site that may have existed along the road corridor. Finally, it is noted that Project elements along West San Bernardino Avenue will be limited to the placement of roadside signs in the previously disturbed right-of-way and, possibly, adding sharrow pavement markings. The location of the site with regard to the proposed APE was discussed with USFS representatives, who in agreement with the present inventory results, felt that no additional identification or evaluation activities were warranted (Personal Communication, Miranda Gavalis, Acting Heritage Program Manager, August and September 2019).

The site's proximity to the APE was addressed during consultation with the Washoe Tribe and the UAIC. Inventory results were provided to both tribes along with assurances that in the event of an inadvertent discovery during Project implementation, the tribes will be informed. The Washoe Tribe and UAIC have no concerns regarding site P-09-004506. Based on these considerations, it is recommended that no further investigation is required with regard to site P-09-004506.

Geotechnical findings indicate the proposed bridge footing locations exhibited relatively thin layers of loose sandy soils indicative of the location of a previous river channel. SH&G (2004) depicted historic stream meanders continually changed across the floodplain in which the APE is situated. As such, the likelihood of intact, subsurface cultural deposits in this area are

considered low. (Goldberg and Macphail 2006: 91, 95). In addition, much of the APE has been disturbed by previous transportation, logging, forest thinning, and urban development. Prehistoric cultural resources previously recorded near the Project are located at higher elevations above the Upper Truckee River floodplain than where the APE is situated.

Project elements are located in areas of low archaeological sensitivity and will impact previously disturbed soils. The majority of proposed improvements will impact shallow surface soils except the new bridge component that requires excavation of four footings to a depth of up to five feet. The likelihood that buried archaeological resources are present in the APE is considered remote and subsurface archaeological sampling is not recommended.

It is recommended that the proposed Project will have no effect on historic properties based on the following criteria:

- No previously recorded or newly recorded resources will be impacted by the proposed Project;
- Extensive surface disturbance has occurred in the area over time;
- Project related disturbance will, for the most part, be limited to disturbed areas;
- The potential for subsurface deposits is limited to floodplain areas that have, over time, been modified by normal stream dynamics. Any resources present in these deposits would be of a secondary nature, lacking contextual integrity or association.

It is Caltrans' policy to avoid cultural resources whenever possible. If previously unidentified cultural materials are unearthed during construction, it is Caltrans' policy that work be halted in that area until a qualified archaeologist can assess the significance of the find. Additional archaeological survey will be needed if Project limits are extended beyond the present survey limits. Should human remains be encountered, work must cease in the immediate area and the contractor must immediately report the finding to Caltrans, the County Coroner, California OHP, the appropriate tribal entities, and other designated officials.

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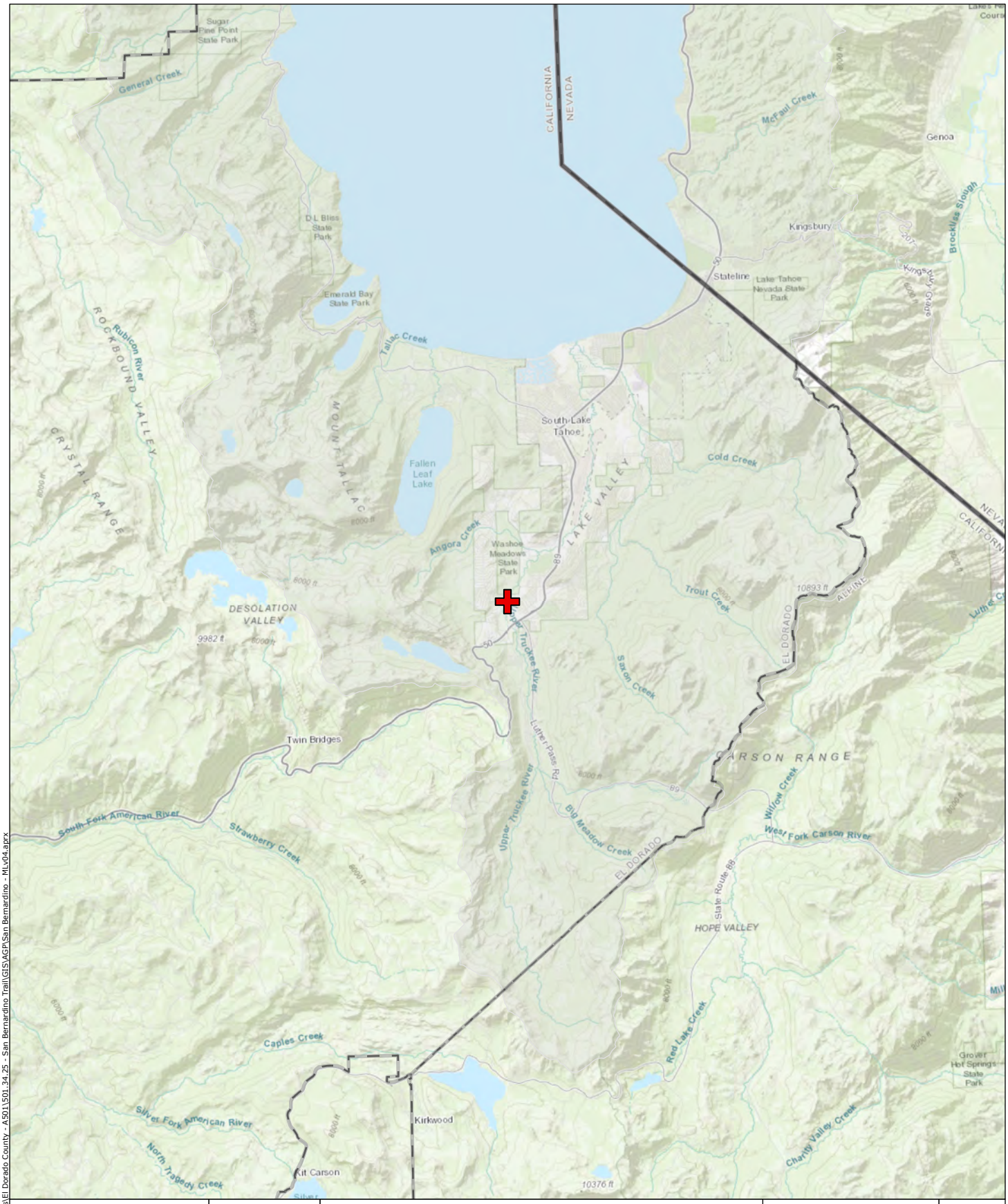
Appendix A

REPORT FIGURES



Legend

- Project Location
- County Boundary
- State Boundary

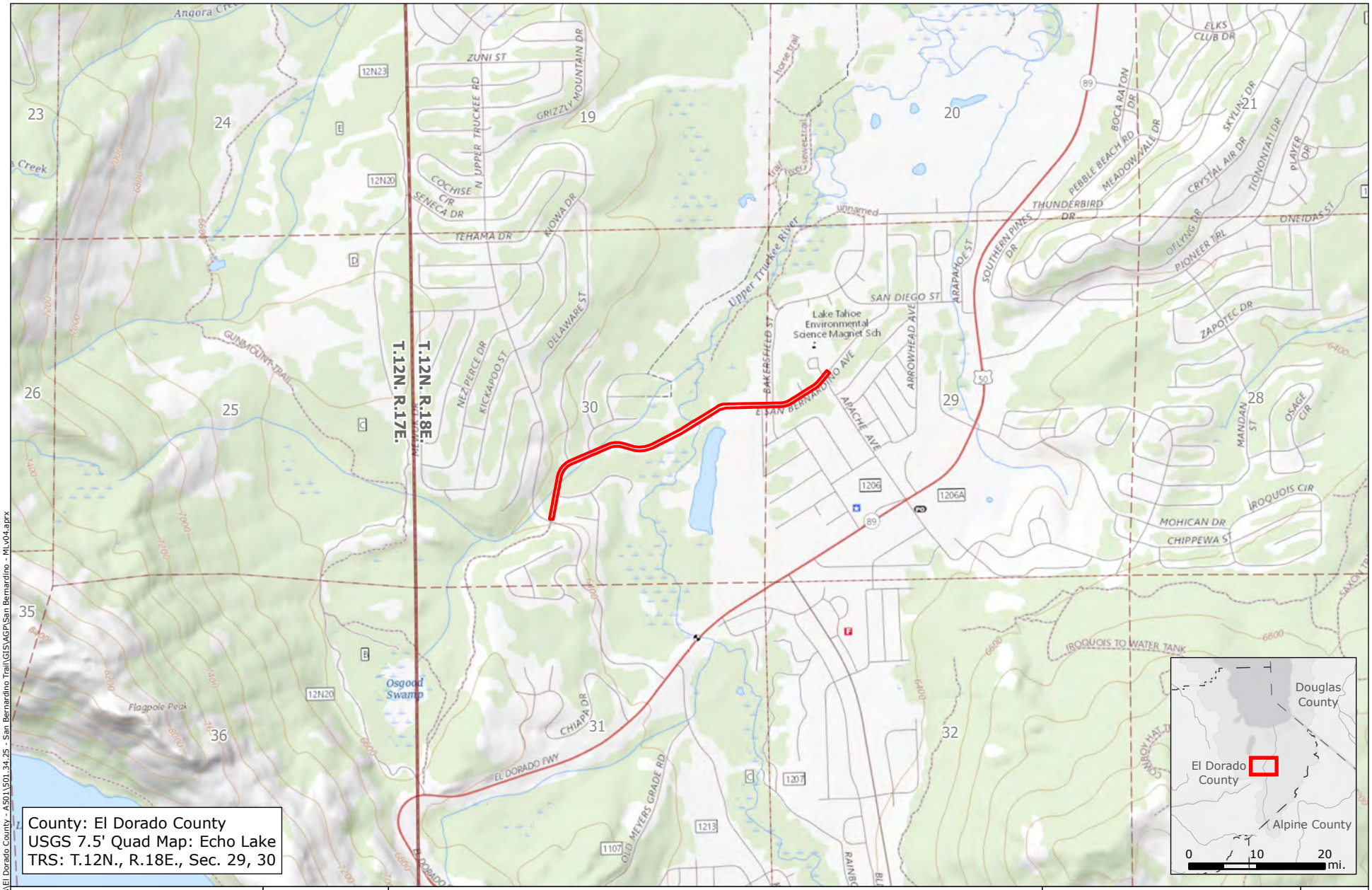
San Bernardino Class 1 Bike Trail Project
El Dorado County, California
Federal Aid #: STPL-5925(162)
Project Vicinity Map

N
1 in. = 3 mi.
0 1 2 3 mi.

FIGURE 1

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
ESRI World Topographic Basemap	501.34.25	mlaitinen	7/18/2019	-	jhall

Document Path: P:\Active Projects\El Dorado County - A501\501.34.25 - San Bernardino Trail\GIS\AGP\San Bernardino - MLv04.aprx



County: El Dorado County
USGS 7.5' Quad Map: Echo Lake
TRS: T.12N., R.18E., Sec. 29, 30

Legend

- Area of Potential Effect
- Township and Range
- Section

San Bernardino Class 1 Bike Trail Project

El Dorado County, California
Federal Aid #: STPL-5925(162)

Project Location Map

N

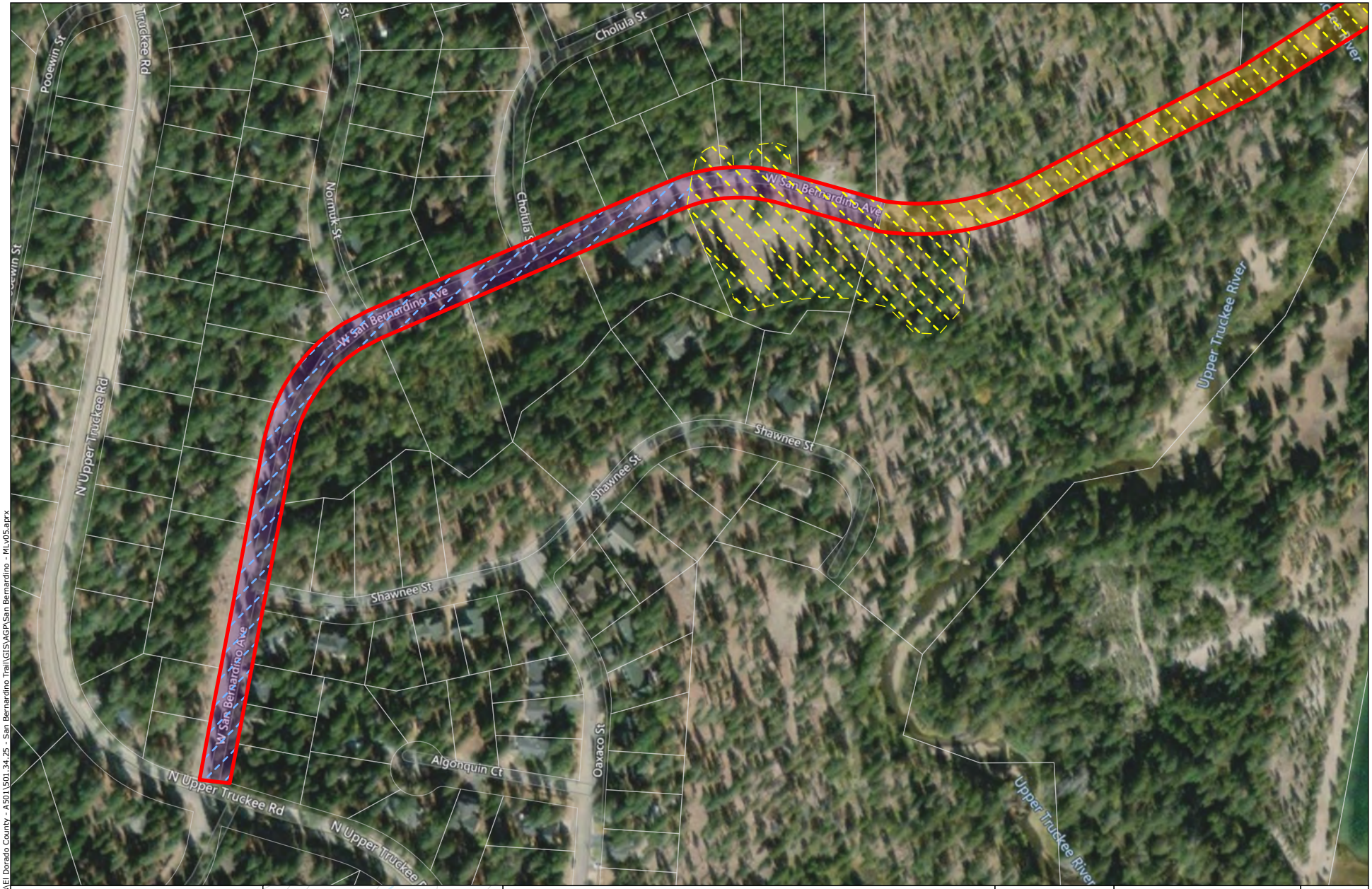
1:24,000

0 1,000 2,000 ft.

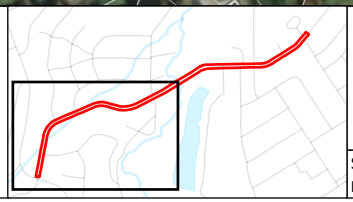
FIGURE 2

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
USA Topo Maps	501.34.25	mlaitinen	7/18/2019	-	jhall

Document Path: P:\Active Projects\El Dorado County - A501\501.34.25 - San Bernardino Trail\GIS\AGP\San Bernardino - MLv04.aprx



Area of Potential Effect
Existing Dirt Road
Existing Paved West and East San Bernardino Avenues
Intensive Survey
Reconnaissance Survey



San Bernardino Class 1 Bike Trail Project

El Dorado County, California

Federal Aid #: STPL-5925(162)

Survey Coverage Map 1 of 2

NCE

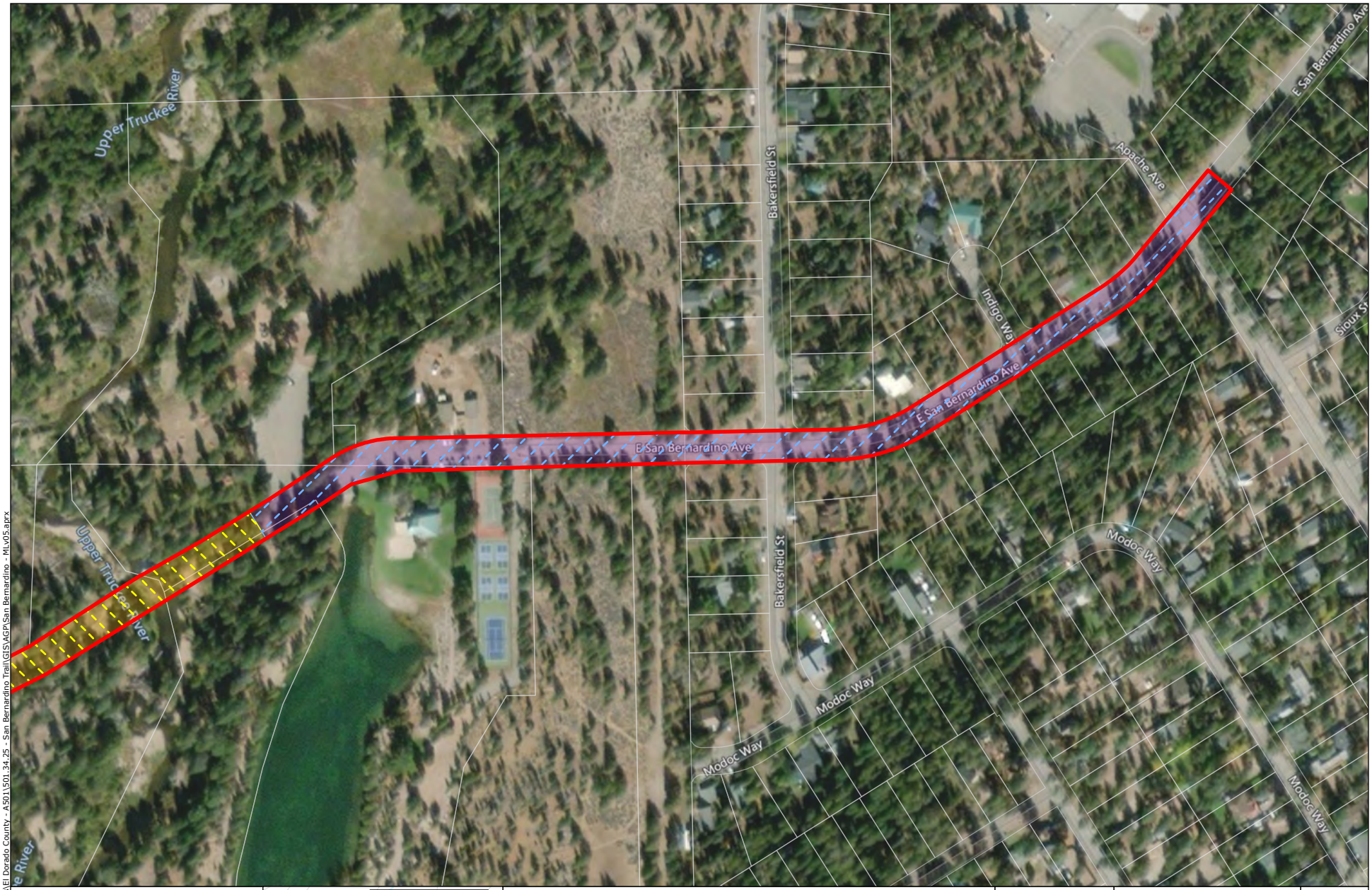
1 in. = 250 ft.

0 250 ft.

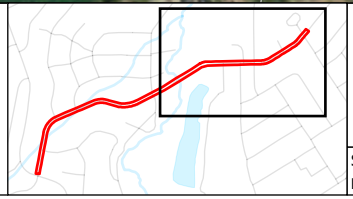
FIGURE 3

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Hybrid Basemap	501.34.25	mlaitinen	7/19/2019	10/25/2019	jhall

Document Path: P:\Active Projects\El Dorado County - A501\501.34.25 - San Bernardino Trail\GIS\AGP\San Bernardino - MLv05.aprx



Area of Potential Effect
Existing Dirt Road
Existing Paved West and East San Bernardino Avenues
Intensive Survey
Reconnaissance Survey



San Bernardino Class 1 Bike Trail Project

El Dorado County, California

Federal Aid #: STPL-5925(162)

Survey Coverage Map 2 of 2

1 in. = 250 ft.

0 250 ft.

FIGURE 4

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Hybrid Basemap	501.34.25	mlaitinen	7/19/2019	10/25/2019	jhall

Document Path: P:\Active Projects\El Dorado County - A501\501.34.25 - San Bernardino Trail\GIS\AGP\San Bernardino - MLv05.aprx

Lisa Machado 11/12/19

Lisa Machado Date
Caltrans PQS: PI-Historical Archaeology and
Co-PI-Prehistoric Archaeology

Ross Foon 11/12/19

Ross Foon Date
Local Agency Engineer

APE
County Parcel

Proposed Improvements

Class 1 Shared-Use Path
Bridge Location
Class 3 Bike Route Sharrows
Class 3 Bike Route Sign

NCE

San Bernardino Class 1 Bike Trail Project

El Dorado County, California
Federal Aid #: STPL-5925(162)

Area of Potential Effect (APE) Map

N

1 in. = 500 ft.

0 500 ft.

FIGURE 5

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Hybrid Basemap	501.34.25	mlaitinen	4/18/2019	10/25/2019	jhall/drios

Document Path: P:\Active Projects\El Dorado County - AS01\501.34.25 - San Bernardino Trail\GIS\ACP\San Bernardino - MXD5.aprx

Appendix B

RECORDS SEARCH RESULTS

(sensitive material redacted for public distribution)

California Historical Resources Information System

NORTH CENTRAL INFORMATION CENTER

AMADOR
EL DORADO
NEVADA
PLACER
SACRAMENTO
YUBA

California State University, Sacramento
6000 J Street, Folsom Hall, Suite 2042
Sacramento, California 95819-6100
phone: (916) 278-6217
fax: (916) 278-5162
email: ncic@csus.edu

11/30/2018 NCIC File No.: ELD-18-105

Molly Laitinen
NCE
P.O. Box 1760
Zephyr Cove, NV 89448

Re: San Bernardino Class 1 Bike Trail Project

The North Central Information Center received your record search request for the project area referenced above, located on the Echo Lake USGS 7.5' quad. The following reflects the results of the records search for the project area and a ¼-mi radius.

As indicated on the data request form, the locations of resources and reports are provided in the following format: ☒ custom GIS maps ☒ shapefiles

Resources within project area: Resources outside project area, within radius:	None P-09-644 P-09-3285 P-09-3286 P-09-4506
Reports within project area: Reports outside project area, within radius:	7213 7578 9378 9424 9429 10277 12188 12424 12553 6633 7216 8627 9406 11878 12561

Resource Database Printout (list): ☒ enclosed ☐ not requested ☐ nothing listed/NA

Resource Database Printout (details): ☒ enclosed ☐ not requested ☐ nothing listed/NA

Resource Digital Database Records: ☒ enclosed ☐ not requested ☐ nothing listed/NA

Report Database Printout (list): ☒ enclosed ☐ not requested ☐ nothing listed/NA

Report Database Printout (details): ☒ enclosed ☐ not requested ☐ nothing listed/NA

Report Digital Database Records: ☒ enclosed ☐ not requested ☐ nothing listed/NA

Resource Record Copies: ☒ enclosed ☐ not requested ☐ nothing listed/NA

Report Copies: ☐ enclosed ☒ not requested ☐ nothing listed/NA

OHP Historic Properties Directory:	☒ enclosed	☐ not requested	☐ nothing listed/NA
Archaeological Determinations of Eligibility:	☒ enclosed	☐ not requested	☐ nothing listed/NA
CA Inventory of Historic Resources (1976):	☒ enclosed	☐ not requested	☐ nothing listed/NA
Caltrans Bridge Survey:	☐ enclosed	☒ not requested	☐ nothing listed/NA
Ethnographic Information:	☐ enclosed	☒ not requested	☐ nothing listed/NA
Historical Literature:	☐ enclosed	☒ not requested	☐ nothing listed/NA
Historical Maps:	☐ enclosed	☒ not requested	☐ nothing listed/NA
Local Inventories:	☐ enclosed	☒ not requested	☐ nothing listed/NA
GLO and/or Rancho Plat Maps:	☐ enclosed	☒ not requested	☐ nothing listed/NA
Shipwreck Inventory:	☐ enclosed	☒ not requested	☐ nothing listed/NA
Soil Survey Maps:	☐ enclosed	☒ not requested	☐ nothing listed/NA

Please forward a copy of any resulting reports from this project to the office as soon as possible. Due to the sensitive nature of archaeological site location data, we ask that you do not include resource location maps and resource location descriptions in your report if the report is for public distribution. If you have any questions regarding the results presented herein, please contact the office at the phone number listed above.

The provision of CHRIS Data via this records search response does not in any way constitute public disclosure of records otherwise exempt from disclosure under the California Public Records Act or any other law, including, but not limited to, records related to archeological site information maintained by or on behalf of, or in the possession of, the State of California, Department of Parks and Recreation, State Historic Preservation Officer, Office of Historic Preservation, or the State Historical Resources Commission.

Due to processing delays and other factors, not all of the historical resource reports and resource records that have been submitted to the Office of Historic Preservation are available via this records search. Additional information may be available through the federal, state, and local agencies that produced or paid for historical resource management work in the search area. Additionally, Native American tribes have historical resource information not in the California Historical Resources Information System (CHRIS) Inventory, and you should contact the California Native American Heritage Commission for information on local/regional tribal contacts.

Should you require any additional information for the above referenced project, reference the record search number listed above when making inquiries. Requests made after initial invoicing will result in the preparation of a separate invoice.

Sincerely,

Paul Rendes, Assistant Coordinator
North Central Information Center

CALIFORNIA INVENTORY
OF
HISTORIC RESOURCES

March 1976

Edmund G. Brown Jr.
Governor
State of California

Claire T. Dedrick
Secretary for Resources

Herbert Rhodes
Director
Department of Parks and Recreation

State of California — The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
P.O. Box 2390 Sacramento 95811

SAKLAN INDIAN VILLAGE. TICE VALLEY, WALNUT CREEK. *THEME: ABORIGINAL.*

SANTA MARIA CHURCH. ORINDA. *THEME: RELIGION.*

SARANAP ELECTRIC RAILROAD. MORAGA VALLEY, *THEME: ECONOMIC/INDUSTRIAL.*

SELBY SMELTER. SELBY. *THEME: ECONOMIC/INDUSTRIAL.*

SHADELANDS RANCH. 2680 YGNACIO VALLEY ROAD, WALNUT CREEK. *THEME: EXPLORATION/SETTLEMENT.*

SHREVE'S STORE. MORAGA VALLEY. *THEME: EXPLORATION/SETTLEMENT.*

SMITHS LANDING. SAN JOAQUIN RIVER, EAST OF ANTIOCH, *THEME: ECONOMIC/INDUSTRIAL.*

SOMERSVILLE-NORTONVILLE COAL MINES AREA. SEVEN MILES EAST OF PITTSBURG, *THEME: ECONOMIC/INDUSTRIAL.*

SULLIVAN RANCH. ORINDA. *THEME: ECONOMIC/INDUSTRIAL.*

SWETT,(JOHN) RANCH. ALHAMBRA VALLEY ROAD, MARTINEZ. *THEME: ECONOMIC/INDUSTRIAL.*

***TAO HOUSE (EUGENE O'NEILL HOME).** END OF KUSS ROAD OFF BRADFORD PLACE, DANVILLE VICINITY. *THEME: ARTS/LEISURE.*

TIMBER LANDING POINT. INDIAN SLOUGH OFF OLD RIVER, *THEME: ECONOMIC/INDUSTRIAL.*

TIMBER TRADING CENTER. WEST UNION CEMETERY AT POINT ..3ER ROAD AND STATE HIGHWAY 4, *THEME: SOCIAL/ EDUCATION.*

UNION OIL COMPANY. OLEUM. *THEME: ECONOMIC/INDUSTRIAL.*

UNION STOCKYARDS SITE. ON RAILROAD AVENUE, TWO BLOCKS SOUTH OF SAN PABLO AVENUE, RODEO. *THEME: ECONOMIC/ INDUSTRIAL.*

VASCO CAVES. SOUTH OF BYRON HOTSPRINGS ROAD, *THEME: EXPLORATION/SETTLEMENT.*

WAGNER RANCH (OAK VIEW RANCH). SAN PABLO DAM ROAD AND BEAR CREEK ROAD INTERSECTION, *THEME: ARCHITECTURE.*

WALKER,(JAMES T.) HOUSE. YGNACIO VALLEY ON PINE CANYON ROAD, WALNUT CREEK. *THEME: SOCIAL/EDUCATION.*

WILLS RANCH. LONE TREE ROAD, NEAR ANTIOCH, *THEME: SOCIAL/ EDUCATION.*

DEL NORTE COUNTY - 14 SITES (ALSO 37 ARCHAEOLOGICAL SITES)**

BROTHER JONATHAN CEMETERY. CRESCENT CITY. *THEME: ECONOMIC/INDUSTRIAL.*

CAMP LINCOLN. 6 MILES EAST OF CRESCENT CITY, *THEME: MILITARY.*

CRESCENT CITY PLANK AND TURNPIKE ROAD. HWY. 101 AND ELK VALLEY ROAD, CRESCENT CITY. *THEME: EXPLORATION/SETTLEMENT.*

CRESCENT CITY LIGHTHOUSE (BATTERY POINT). END OF 'A' STREET, CRESCENT CITY. *THEME: ECONOMIC/INDUSTRIAL.*

DEL NORTE COUNTY JAIL. 577 'H' STREET, CRESCENT CITY. *THEME: GOVERNMENT.*

FORT TER-WER SITE. TERWER VALLEY. *THEME: MILITARY.*

GASQUET TOLL ROAD. GASQUET. *THEME: ECONOMIC/ INDUSTRIAL.*

MCNULTY PIONEER MEMORIAL HOME. 7TH AND 'H' STREET, CRESCENT CITY. *THEME: SOCIAL/EDUCATION.*

***OLD REQUA (REKWOI 4-DNO-5).** REDWOOD NATIONAL PARK. *THEME: ABORIGINAL.*

S.S. EMIDIO. FRONT AND H STREETS, CRESCENT CITY. *THEME: MILITARY.*

SMITH,(JEDEDIAH) CAMPSITE. NEAR HIOUCHI BRIDGE, *THEME: EXPLORATION/SETTLEMENT.*

SMITH,(JEDEDIAH) CAMPSITE. PEBBLE BEACH. *THEME: EXPLORATION/SETTLEMENT.*

TOLOWA INDIAN VILLAGE. PEBBLE BEACH DR. 100 YDS S. OF WESTERLY TERMINUS OF PACIFIC AVE., CRESCENT CITY. *THEME: ABORIGINAL.*

***YONTOCKET HISTORIC DISTRICT.** *THEME: ABORIGINAL.*

[redacted] SITES (ALSO 168 ARCHAEOLOGICAL SITES)

Not Reg.
BAYLEY HOUSE. PILOT HILL. *THEME: ECONOMIC/INDUSTRIAL.*

CARVED TREE MARKER. TRAGEDY SPRINGS. *THEME: EXPLORATION/ SETTLEMENT.*

***COLOMA AND MARSHALL/GOLD DISCOVERY AREA.** STATE ROUTE 49, 9 MILES N. OF PLACERVILLE, *THEME: ECONOMIC INDUSTRIAL.* SHL #530

COLOMA ROAD, COLOMA. MARSHALL GOLD DISCOVERY STATE HISTORIC PARK. *THEME: ECONOMIC/INDUSTRIAL.* SHL # 748

COLOMA ROAD, RESCUE. *THEME: ECONOMIC/INDUSTRIAL.* SHL # 747

CONDEMNED BAR. FOLSOM LAKE STATE RECREATION AREA, *THEME: EXPLORATION/SETTLEMENT.* SHL #572

DIAMOND SPRINGS TOWNSITE. DIAMOND SPRINGS. *THEME: EXPLORATION/SETTLEMENT.* SHL #487

DRY DIGGINS - OLD HANGTOWN. BEDFORD AND MAIN, PLACERVILLE. *THEME: EXPLORATION/SETTLEMENT.* SHL #475

EL DORADO. *THEME: EXPLORATION/SETTLEMENT.* SHL #486

EL DORADO'S FALSE FRONT BUILDINGS. EL DORADO. *THEME: ECONOMIC/INDUSTRIAL.*

EL DORADO-NEVADA HOUSE 'MUD SPRINGS'-OVERLAND PONY EXPRESS ROUTE IN CALIFORNIA. EL DORADO. *THEME: ECONOMIC/ INDUSTRIAL.* SHL #700

FRIDAYS STATION-OVERLAND PONY EXPRESS ROUTE IN CALIFORNIA. EDGEWOOD. *THEME: ECONOMIC/INDUSTRIAL.* ← SHL #728 ← SHL #484

GEORGETOWN. MAIN STREET, *THEME: EXPLORATION/SETTLEMENT.*

GRANGE HALL SITE (CALIFORNIA'S FIRST). 0.5 MILE NORTH OF PILOT HILL, *THEME: SOCIAL/EDUCATION.* SHL #551

GREENWOOD. *THEME: EXPLORATION/SETTLEMENT.* SHL #521

HANGMAN'S TREE. 305 MAIN ST., PLACERVILLE. *THEME: GOVERNMENT.* SHL #141

HOBOKEN HOUSE. GREENWOOD-SPANISH DRY DIGGINGS ROAD, *THEME: ECONOMIC/INDUSTRIAL.* Pg I # 502

LOG BARN. NORTH FORK OF COSUMNES RIVER, NASHVILLE. *THEME: ECONOMIC/INDUSTRIAL.*

MARSHALL'S BLACKSMITH SHOP. KELSEY. *THEME: ECONOMIC/INDUSTRIAL.* SHL#319

MARSHALL,(JAMES W.) HOUSE. TOM ALLEN'S SALOON, KELSEY. *THEME: ARCHITECTURE.*

METHODIST EPISCOPAL CHURCH. THOMPSON WAY, PLACERVILLE. *THEME: RELIGION.* SHL #767

MOORES (RIVERTON)-OVERLAND PONY EXPRESS ROUTE IN CALIFORNIA. 11 MILES E. OF SPORTSMANS HALL, *THEME: ECONOMIC/INDUSTRIAL.* SHL#705

MORMON ISLAND. FOLSOM LAKE STATE RECREATION AREA, *THEME: EXPLORATION/SETTLEMENT.* SHL#569

MORMON TAVERN-OVERLAND PONY EXPRESS ROUTE IN CALIFORNIA. 0.5 MILES W. OF CLARKSVILLE, *THEME: ECONOMIC/INDUSTRIAL.* SHL #699

NEGRO HILL. FOLSOM LAKE STATE RECREATION AREA, *THEME: EXPLORATION/SETTLEMENT.* SHL#570

PILOT HILL HOTEL. 6 MILES N.W. OF GIBSONVILLE, PILOT HILL. *THEME: ECONOMIC/INDUSTRIAL.*

PLACERVILLE HISTORIC DISTRICT. CROSSING OF HWYS. 50 AND 49, *THEME: ECONOMIC/INDUSTRIAL.*

PLACERVILLE-OVERLAND PONY EXPRESS ROUTE. MAIN AND SACRAMENTO, PLACERVILLE. *THEME: ECONOMIC/INDUSTRIAL.* SHL#701

PLEASANT GROVE HOUSE-OVERLAND PONY EXPRESS ROUTE IN CALIFORNIA. GREEN VALLEY RD., 9.5 MILES E. OF FOLSOM, *THEME: ECONOMIC/INDUSTRIAL.* SHL#703

SALMON FALLS. FOLSOM LAKE STATE RECREATION AREA, *THEME: EXPLORATION/SETTLEMENT.* SHL#571

SHINGLE SPRINGS. *THEME: EXPLORATION/SETTLEMENT.* SHL#456

SPORTSMANS HALL-OVERLAND PONY EXPRESS ROUTE IN CALIFORNIA. 12 MILES E. OF PLACERVILLE, *THEME: ECONOMIC/INDUSTRIAL.* SHL #704

SHL#707

STRAWBERRY VALLEY HOUSE-OVERLAND PONY EXPRESS ROUTE IN CALIFORNIA. STRAWBERRY. *THEME: ECONOMIC/INDUSTRIAL.*

STUDEBAKER'S SHOP, SITE OF. 543 MAIN ST., PLACERVILLE. *THEME: ECONOMIC/INDUSTRIAL.* SHL#142

***SUGAR PINE POINT SP.** HIGHWAY 89 3 MILES S. OF HOMEWOOD, *THEME: EXPLORATION/SETTLEMENT.*

TRAGEDY SPRING. HIGHWAY 88, NEAR CARSON PASS SUMMIT, *THEME: EXPLORATION/SETTLEMENT.* Proj I #001

WAKAMATSU TEA AND SILK FARM COLONY. GOLD HILL. *THEME: ECONOMIC/INDUSTRIAL.* SHL# 815

WEBSTERS (SUGAR LOAF HOUSE)-OVERLAND PONY EXPRESS ROUTE IN CALIFORNIA. 1 MILE W. OF KYBURZ, *THEME: ECONOMIC/INDUSTRIAL.* SHL #706

YANKS STATION-OVERLAND PONY EXPRESS ROUTE IN CALIFORNIA. MEYERS. *THEME: ECONOMIC/INDUSTRIAL.* SHL#708

YARNOLD,(DICK) TOLLHOUSE (KYBURZ HOTEL). U.S. 50, 1 MILE FROM SUGAR LOAF HOUSE, KYBURZ. *THEME: ECONOMIC/INDUSTRIAL.*

FRESNO COUNTY - 33 SITES (ALSO 602 ARCHAEOLOGICAL SITES)**

ACADEMY. STATE HIGHWAY 168, *THEME: SOCIAL/EDUCATION.*

ARROYO DE CANTUA. WEST OF HIGHWAY 33, 16 MILES NORTHWEST OF COALINGA, *THEME: SOCIAL/EDUCATION.*

BARTON OPERA HOUSE. FRESNO. *THEME: ARTS/LEISURE.*

CAMPBELL STORE AND POOLES FERRY. NEAR REEDLEY, *THEME: ECONOMIC/INDUSTRIAL.*

COALING STATION A. 300 BLOCK OF WEST ELM AVENUE, COALINGA. *THEME: ECONOMIC/INDUSTRIAL.*

COALINGA MINERAL SPRINGS. 18 MILES WEST OF COALINGA, *THEME: ARTS/LEISURE.*

COPPER MINE. FOUR MILES NORTHEAST OF CLOVIS, *THEME: ECONOMIC/INDUSTRIAL.*

DUSY,(FRANK) HOME. NEAR SELMA, *THEME: EXPLORATION/SETTLEMENT.*

ELKHORN SPRINGS. *THEME: ECONOMIC/INDUSTRIAL.*

FIREBAUGH'S FERRY. FIREBAUGH. *THEME: ECONOMIC/INDUSTRIAL.*

FORT MILLER SITE. MILLERTON LAKE SRA, *THEME: MILITARY.*

FOWLER'S SWITCH. 7TH AND MERCED STREETS, FOWLER. *THEME: ECONOMIC/INDUSTRIAL.*

FREE SPEECH FIGHT OF THE INDUSTRIAL WORKERS OF THE WORLD (SITE). CORNER OF MARIPOSA AND I STS., FRESNO. *THEME: SOCIAL/EDUCATION.*

FRESNO CITY. 1.5 MILES N.W. OF TRANQUILITY, *THEME: EXPLORATION/SETTLEMENT.*

***FRESNO OLD WATER TOWER.** 2444 FRESNO ST., FRESNO. *THEME: ARCHITECTURE.*

***KEARNEY,(M. THEO.) PARK AND MANSION.** 7160 KEARNEY BLVD., FRESNO. *THEME: ARCHITECTURE.*

LA LIBERDAD. WESTERN FRESNO COUNTY, *THEME: EXPLORATION/SETTLEMENT.*

LAS JUNTAS. WESTERN FRESNO COUNTY, *THEME: EXPLORATION/SETTLEMENT.*

LETECHER. A FEW MILES EAST OF ACADEMY, *THEME: ECONOMIC/INDUSTRIAL.*

***MEUX RESIDENCE.** 1007 R ST., FRESNO. *THEME: ARCHITECTURE.*

MILLERTON SITE. 25 MILES NORTHEAST OF FRESNO, *THEME: EXPLORATION/SETTLEMENT.*

MILLWOOD TOWNSITE. NEAR THE WEST ENTRANCE TO KINGS CANYON NATIONAL PARK, *THEME: ECONOMIC/INDUSTRIAL.*

OIL CITY. NINE MILES NORTHEAST OF COALINGA, *THEME: ECONOMIC/INDUSTRIAL.*

***OLD ADMINISTRATION BUILDING, FRESNO CITY COLLEGE.** 1101 UNIVERSITY AVE., FRESNO. *THEME: SOCIAL/EDUCATION.*

POLLASKY RAILROAD. NORTHEASTERN FRESNO COUNTY, *THEME: ECONOMIC/INDUSTRIAL.*

POSO DE CHANE. WESTERN FRESNO COUNTY, *THEME: EXPLORATION/SETTLEMENT.*

SAN JOAQUIN VALLEY COAL MINE. NEAR COALINGA, *THEME: ECONOMIC/INDUSTRIAL.*

SCOTTBURG. NEAR CENTERVILLE, *THEME: EXPLORATION/SETTLEMENT.*

SELMA FLOURMILL. SELMA. *THEME: ECONOMIC/INDUSTRIAL*

California Historical Resource Status Codes

1 Properties listed in the National Register (NR) or the California Register (CR)

1D Contributor to a district or multiple resource property listed in NR by the Keeper. Listed in the CR.
1S Individual property listed in NR by the Keeper. Listed in the CR.

1CD Listed in the CR as a contributor to a district or multiple resource property by the SHRC
1CS Listed in the CR as individual property by the SHRC.
1CL Automatically listed in the California Register – Includes State Historical Landmarks 770 and above and Points of Historical Interest nominated after December 1997 and recommended for listing by the SHRC.

2 Properties determined eligible for listing in the National Register (NR) or the California Register (CR)

2B Determined eligible for NR as an individual property and as a contributor to an eligible district in a federal regulatory process. Listed in the CR.
2D Contributor to a district determined eligible for NR by the Keeper. Listed in the CR.
2D2 Contributor to a district determined eligible for NR by consensus through Section 106 process. Listed in the CR.
2D3 Contributor to a district determined eligible for NR by Part I Tax Certification. Listed in the CR.
2D4 Contributor to a district determined eligible for NR pursuant to Section 106 without review by SHPO. Listed in the CR.
2S Individual property determined eligible for NR by the Keeper. Listed in the CR.
2S2 Individual property determined eligible for NR by a consensus through Section 106 process. Listed in the CR.
2S3 Individual property determined eligible for NR by Part I Tax Certification. Listed in the CR.
2S4 Individual property determined eligible for NR pursuant to Section 106 without review by SHPO. Listed in the CR.

2CB Determined eligible for CR as an individual property and as a contributor to an eligible district by the SHRC.
2CD Contributor to a district determined eligible for listing in the CR by the SHRC.
2CS Individual property determined eligible for listing in the CR by the SHRC.

3 Appears eligible for National Register (NR) or California Register (CR) through Survey Evaluation

3B Appears eligible for NR both individually and as a contributor to a NR eligible district through survey evaluation.
3D Appears eligible for NR as a contributor to a NR eligible district through survey evaluation.
3S Appears eligible for NR as an individual property through survey evaluation.

3CB Appears eligible for CR both individually and as a contributor to a CR eligible district through a survey evaluation.
3CD Appears eligible for CR as a contributor to a CR eligible district through a survey evaluation.
3CS Appears eligible for CR as an individual property through survey evaluation.

4 Appears eligible for National Register (NR) or California Register (CR) through other evaluation

4CM Master List - State Owned Properties – PRC §5024.

5 Properties Recognized as Historically Significant by Local Government

5D1 Contributor to a district that is listed or designated locally.
5D2 Contributor to a district that is eligible for local listing or designation.
5D3 Appears to be a contributor to a district that appears eligible for local listing or designation through survey evaluation.

5S1 Individual property that is listed or designated locally.
5S2 Individual property that is eligible for local listing or designation.
5S3 Appears to be individually eligible for local listing or designation through survey evaluation.

5B Locally significant both individually (listed, eligible, or appears eligible) and as a contributor to a district that is locally listed, designated, determined eligible or appears eligible through survey evaluation.

6 Not Eligible for Listing or Designation as specified

6C Determined ineligible for or removed from California Register by SHRC.
6J Landmarks or Points of Interest found ineligible for designation by SHRC.
6L Determined ineligible for local listing or designation through local government review process; may warrant special consideration in local planning.
6T Determined ineligible for NR through Part I Tax Certification process.
6U Determined ineligible for NR pursuant to Section 106 without review by SHPO.
6W Removed from NR by the Keeper.
6X Determined ineligible for the NR by SHRC or Keeper.
6Y Determined ineligible for NR by consensus through Section 106 process – Not evaluated for CR or Local Listing.
6Z Found ineligible for NR, CR or Local designation through survey evaluation.

7 Not Evaluated for National Register (NR) or California Register (CR) or Needs Revaluation

7J Received by OHP for evaluation or action but not yet evaluated.
7K Resubmitted to OHP for action but not reevaluated.
7L State Historical Landmarks 1-769 and Points of Historical Interest designated prior to January 1998 – Needs to be reevaluated using current standards.
7M Submitted to OHP but not evaluated - referred to NPS.
7N Needs to be reevaluated (Formerly NR Status Code 4)
7N1 Needs to be reevaluated (Formerly NR SC4) – may become eligible for NR w/restoration or when meets other specific conditions.
7R Identified in Reconnaissance Level Survey: Not evaluated.
7W Submitted to OHP for action – withdrawn.

SITE-NUMBER.	PRIMARY-NUM	NRS	EVL-DATE	PROGRAM REF.....	EVAL	OTHER NAMES AND NUMBERS.....
ELD-000017		6Y	05/10/01	ADOE-09-01-001-000	CCPR	FS# 05-03-56-0001, SAND FLAT CAMPGROUND
		6Y	05/10/01	USFS010410A	CCPR	
E[illegible]0058		2S	05/10/76	65000525	KPNP	WINJE SITE
		2S	11/28/78	078 0050081		
ELD-000083/H		2D2	08/04/94	ADOE-09-94-0001-0	GRPR	FS# 05-03-56-0054, MEISS MEADOW CAMP
		2D2	08/04/94	USFS940623B	GRPR	4-ELD-128 B
ELD-000084		2D2	08/04/94	ADOE-09-94-0001-0	GRPR	FS# 05-03-56-0050, BUCKSKIN T.S. TEMP.
		2D2	08/04/94	USFS940623B	GRPR	SITE #2
						4-ELD-127 B
ELD-000145		2S2	08/26/98	ADOE-09-98-003-00	JWPR	09-001248, 09-000233
		2S2	08/26/98	FHWA980804B	JWPR	
ELD-000146		6Y	10/22/91	ADOE-09-91-001-00	HKPR	MOTHER WELTY'S PLACE
		6Y	10/22/91	FHWA910829A	HKPR	
ELD-000166H		6Y	10/09/01	ADOE-09-01-011-000	AMPR	FS# 05-19--0119, SLTAS SITE NO. 1
		6Y	10/09/01	USFS010920B	AMPR	
ELD-000168		6Y	11/14/03	USFS030423A	JDPR	SLTAS SITE #9
ELD-000174		6Y	10/09/01	ADOE-09-01-010-000	AMPR	FS# 05-03-54-0061
		6Y	10/09/01	USFS010920B	AMPR	
ELD-000182		6Y	10/09/01	ADOE-09-01-005-000	AMPR	FS# 05-03-54-0070
		6Y	10/09/01	USFS010913B	AMPR	
ELD-000184		6Y	07/11/02	ADOE-09-02-001-000	JSPR	FS# 05-03-54-0072, TALLAC POINT SITE
		6Y	07/11/02	USFS011119B	JSPR	
ELD-000186		6Y	10/09/01	ADOE-09-01-006-000	AMPR	FS# 05-03-54-0074
		6Y	10/09/01	USFS010913B	AMPR	
ELD-000191H		6Y	11/29/01	ADOE-09-01-014-000	AMPR	FS# 05-03-54-0079
		6Y	11/29/01	USFS011107C	AMPR	
ELD-000260		6Y2	10/19/09	BUR091013A	WEPR	EDH-FFS 2
						F-6-P (SF), F-6-P
ELD-000263		2S2	01/09/92	ADOE-09-92-001-00	NDPR	
		2S2	01/09/92	BUR910822A	NDPR	
ELD-000275H		6Y	06/18/97	USFS970423A	CCPR	FS# 05-03-56-0017, BALTIC TIMBER SALE T.S. #1
ELD-000276H		6Y	06/18/97	USFS970423A	CCPR	FS# 05-03-56-0018, BALTIC TIMBER SALE T.S. #2
ELD-000305		2D2	08/04/94	ADOE-09-94-0001-0	GRPR	FS# 05-03-56-0049, BUCKSKIN T.S. TEMP SITE #1
		2D2	08/04/94	USFS940623B	GRPR	
ELD-000306		2D2	08/04/94	ADOE-09-94-0001-0	GRPR	FS# 05-03-56-0051, BVCHSKIN T.S. TEMP SITE #3
		2D2	08/04/94	USFS940623B	GRPR	
E[illegible]00307		2D2	08/04/94	ADOE-09-94-0001-0	GRPR	FS# 05-03-56-0052, BUCKSKIN T.S. TEMP SITE #4
		2D2	08/04/94	USFS940623B	GRPR	
ELD-000308		2D2	08/04/94	ADOE-09-94-0001-0	GRPR	FS# 05-03-56-0053, BUCKSKIN T.S. TEMP SITE #5
		2D2	08/04/94	USFS940623B	GRPR	
ELD-000355		6Y	02/06/91	USFS910116A	LHPR	FS# 05-03-55-0024
ELD-000405		2S	03/02/82	65000513	KPNP	FS# 05-03-51-0043, TEMPORARY SITE NO. 1, FORMERLY ELD-Z00001
ELD-000457H		2S2	08/28/95	ADOE-09-95-001-000	CCPR	FS# 05-03-56-0335
		2S2	08/28/95	USFS950216K	CCPR	
ELD-000558H		6Y	01/15/04	ADOE-09-002-000	CCPR	ALBERT FINCH HOUSE RUIN
		6Y	01/15/04	COE031016C	CCPR	
ELD-000619		7J	06/12/90	FHWA900208A	TVPR	
ELD-000639H		1S	10/21/91	91001522	KPNP	CRAWFORD DITCH
		2S2	03/28/90	USFS891006C		CLEAR CREEK SEGMENT, 09-000727
ELD-000656		6Y	03/09/95	ADOE-09-95-002-00	GRPR	FS# 05-03-56-0370
		6Y	03/09/95	USFS950124A	GRPR	
ELD-000674		6Y	02/23/90	USFS900126A		
ELD-000676		6Y	02/23/90	USFS900126A		COX CNYN TS CA-ELD-6
ELD-000681		6Y	06/12/90	FHWA900208A	TVPR	
ELD-000682		6Y	06/12/90	FHWA900208A	TVPR	
ELD-000685H		2S2	02/01/06	DOE-09-06-0001-999	CFPR	LOGTOWN HISTORIC MINING DISTRICT, POCAHONTAS MINE
		2S2	02/01/06	FHWA051117A	CFPR	
ELD-000688		6Y	03/26/91	USFS910304A	LHPR	FS #55-271
ELD-000689		6Y	03/26/91	USFS910304A	LHPR	FS #55-272
ELD-000695		6Y	03/26/91	USFS910304A	LHPR	FS#55-278
ELD-000712/H		2D2	08/04/94	ADOE-09-94-0001-0	GRPR	
		2D2	08/04/94	USFS940623B	GRPR	
ELD-000713		2D2	08/04/94	ADOE-09-94-0001-0	GRPR	
		2D2	08/04/94	USFS940623B	GRPR	
ELD-000721H		6Y	01/15/04	ADOE-09-04-001-000	CCPR	WHITE ROCK ROAD (SEGMENT PLACERVILLE RD, LINCOLN HWY, HWY 50
		6Y	01/15/04	COE031016C	CCPR	
ELD-000728		2S2	09/08/06	BUR030226A	MMPR	SLY PARK PICNIC GROUND SITE
ELD-000736		2D2	08/04/94	ADOE-09-94-0001-0	GRPR	
		2D2	08/04/94	USFS940623B	GRPR	
F[illegible]00737/H		2D2	08/04/94	ADOE-09-94-0001-1	GRPR	
		2D2	08/04/94	USFS940623B	GRPR	
ELD-000738		2D2	08/04/94	ADOE-09-94-0001-1	GRPR	
		2D2	08/04/94	USFS940623B	GRPR	
ELD-000836H		6Y	09/14/93	ADOE-09-93-001-00	CCPR	
		6Y	09/14/93	FHWA930624A	CCPR	

SITE-NUMBER.	PRIMARY-NUM	NRS	EVL-DATE	PROGRAM REF.....	EVAL	OTHER NAMES AND NUMBERS.....
ELD-000837H		6Y	09/14/93	ADOE-09-93-002-00	CCPR	
		6Y	09/14/93	FHWA930624A	CCPR	
E[illegible]0838		6Y	09/14/93	ADOE-09-93-003-00	CCPR	
		6Y	09/14/93	FHWA930624A	CCPR	
ELD-000839		6Y	09/14/93	ADOE-09-93-004-00	CCPR	
		6Y	09/14/93	FHWA930624A	CCPR	
ELD-000840H		6Y	09/14/93	ADOE-09-93-005-00	CCPR	
		6Y	09/14/93	FHWA930624A	CCPR	
ELD-000841		6Y	09/14/93	ADOE-09-93-006-00	CCPR	
		6Y	09/14/93	FHWA930624A	CCPR	
ELD-000842H		6Y	09/14/93	ADOE-09-93-007-00	CCPR	
		6Y	09/14/93	FHWA930624A	CCPR	
ELD-000843		6Y	09/14/93	ADOE-09-93-008-00	CCPR	
		6Y	09/14/93	FHWA930624A	CCPR	
ELD-000844H		6Y	09/14/93	ADOE-09-93-009-00	CCPR	
		6Y	09/14/93	FHWA930624A	CCPR	
ELD-000845H		6Y	09/14/93	ADOE-09-93-010-00	CCPR	
		6Y	09/14/93	FHWA930624A	CCPR	
ELD-000846		6Y	09/14/93	ADOE-09-93-011-00	CCPR	
		6Y	09/14/93	FHWA930624A	CCPR	
ELD-000847		6Y	09/14/93	ADOE-09-93-013-00	CCPR	
		6Y	09/14/93	FHWA930624A	CCPR	
ELD-000848		6Y	09/14/93	ADOE-09-93-012-00	CCPR	
		6Y	09/14/93	FHWA930624A	CCPR	
ELD-000849		6Y	09/14/93	ADOE-09-93-014-00	CCPR	
		6Y	09/14/93	FHWA930624A	CCPR	
ELD-000850H		6Y	09/14/93	ADOE-09-93-015-00	CCPR	
		6Y	09/14/93	FHWA930624A	CCPR	
ELD-000851		2S2	02/01/06	FHWA051117A	CFPR	LOGTOWN MIDDEN
ELD-000852H		6Y	07/26/95	USFS950717A	SGPR	
ELD-000959H		6Y	07/30/07	HHS070620A	SBPR	FS# 05-03-53-0334, GEORGETOWN DIVIDE DITCH AND GREENWOOD LAKE, 09-00 1212
		6Y	07/09/07	EPA070510A	WEPR	
ELD-000971H		6Y	02/25/08	FHWA080131C	NTPR	SHIGLE SPRINGS-PLACERVILLE RAILROAD 2.7 MILE SEGMENT
ELD-001238H		6Y2	10/19/09	BUR091013A	WEPR	
		6Y	01/29/08	BUR080111A	WEPR	
E[illegible]01272H		6Y	01/10/07	BUR061226B	WEPR	SMALL SCALE FAMILY RANCH/FARM
E[illegible]01273H		6Y	01/10/07	BUR061226B	WEPR	PLACER MINE TAILINGS
ELD-001274H		6Y	01/10/07	BUR061226B	WEPR	PLACER MINE TAILINGS
ELD-001275H		6Y	01/10/07	BUR061226B	WEPR	PLACER MINE TAILINGS
ELD-001276H		6Y	01/10/07	BUR061226B	WEPR	MINED GROUND ALONG A DITCH
ELD-002203		2S2	08/03/06	USFS060719B	WEPR	FS# 05-19--0621, FREDERICKS PREHISTORIC SITE, TB-2006-017/R200605190 0048
ELD-002336H		6Y	01/10/07	BUR061226B	WEPR	SMALL RANCH COMPLEX
ELD-002753H		6Y	06/20/08	BUR080620A	WEPR	DAM, 09-4430 - CA-ELD-2753H
ELD-002754H		6Y	06/20/08	BUR080620A	WEPR	DAM, 09-4431 - CA-ELD-2754H
ELD-002755H		6Y	06/20/08	BUR080620A	WEPR	REFUSE DEPOSIT/ SCATTER, 09-4432 - CA-ELD-2755H
ELD-002763H		6Y	07/30/08	USFS080609A	CZPR	BUILLION BEND SHAFT
ELD-002764H		2S2	07/30/08	USFS080609A	CZPR	HISTORIC LOGGING ROAD
ELD-002765H		6Y	07/30/08	USFS080609A	CZPR	HISTORIC WAGON ROAD
ELD-002766H		6Y	07/03/08	USFS080609A	CZPR	LOUIS LEPETTIT'S GRADE ROAD
ELD-002767H		6Y	07/30/08	USFS080609A	CZPR	ROAD TO CUTLER MILL
ELD-002790H		2S2	06/04/09	BUR090601A	WEPR	PLI-6
ELD-009944H		6Y2	12/28/00	FHWA001204A	JWPR	RESOURCE 1 STATE ROUTE 11 SEGMENT CIRCA 1917
ELD-009945H		6Y2	12/28/00	FHWA001204A	JWPR	RESOURCE 2 ROCK WALL SEGMENT
ELD-009946H		6Y2	12/28/00	FHWA001204A	JWPR	RESOURCE 4 STATE ROUTE SEGMENT 1940
ELD-01238HH		6Y2	10/19/09	BUR091013A	WEPR	NATOMAS DITCH
		6Y	01/29/08	BUR080111A	WEPR	
ELD-02763HH		6Y	07/30/08	USFS080609A	CZPR	BULLION BEND SHAFT
ELD-02764HH		2S2	07/30/08	USFS080609A	CZPR	HISTORIC LOGGING ROAD
ELD-02765HH		6Y	07/30/08	USFS080609A	CZPR	HISTORIC WAGON ROAD
ELD-02767HH		6Y	07/30/08	USFS080609A	CZPR	ROAD TO CUTLER MILL
ELD-TEMP 1H		6Y	06/10/97	ADOE-09-97-0002-0	HKPR	ZANINI RANCH
		6Y	06/10/97	COE970324A	HKPR	
ELD-TEMP 2H		6Y	06/10/97	ADOE-09-97-0001-0	HKPR	HITCHCOCK RANCH SITE
		6Y	06/10/97	COE970324A	HKPR	
ELD-TEMP 4		2S2	06/10/97	ADOE-09-97-0004-0	HKPR	
		2S2	06/10/97	COE970324A	HKPR	
ELD-TEMP 5H		6Y	06/10/97	ADOE-09-97-0003-0	HKPR	TALC-SCHIST MINE
		6Y	06/10/97	COE970324A	HKPR	
E[illegible]00002		2S	03/02/82			FS# 05-03-56-0096
E[illegible]00003		2S2	02/02/93	USFS930104B	GRPR	FS# 05-03-56-0530
ELD-Z00005		6Y	08/19/93	USFS930602B	GRPR	FS# 05-03-56-0649
ELD-Z00007		7J	09/14/93	FHWA930624A	CCPR	AF-9-81
ELD-Z00008		7J	09/14/93	FHWA930624A	CCPR	AF-9-82
ELD-Z00009		7J	09/14/93	FHWA930624A	CCPR	AF-9-83

SITE-NUMBER. PRIMARY-NUM	NRS	EVL-DATE	PROGRAM REF.....	EVAL	OTHER NAMES AND NUMBERS.....
ELD-Z00010	2S2	10/12/93	ADOE-09-93-016-00	CCPR	WEBER SAWMILL
	2S2	10/12/93	USFS930811A	CCPR	FS05-03-56-614
EL[illegible]0011	6Y	03/07/94	USFS930413A	GRPR	FS# 05-03-56-0705
EL[illegible]0012	6Y	03/14/94	USFS940211A	NDPR	FS# 05-03-55-0040
ELD-Z00013	7J	03/14/94	USFS940211A	NDPR	
ELD-Z00014	6Y	03/14/94	USFS940211A	NDPR	FS# 05-03-55-0040
ELD-Z00015	6Y	03/14/94	USFS940211A	NDPR	FS# 05-03-55-0040
ELD-Z00017	6Y	04/14/94	USFS940401B	SGPR	FS# 05-03-55-0194
ELD-Z00018	6Y	04/14/94	USFS940401C	SGPR	FS# 05-03-56-0280
ELD-Z00019	6Y	04/14/94	USFS940401A	SGPR	FS# 05-03-56-0466
ELD-Z00020	6Y	04/12/94	USFS940329A	SGPR	FS# 05-03-55-0287
ELD-Z00021	6Y	04/12/94	USFS940329A	SGPR	FS# 05-03-55-0159
ELD-Z00022	6Y	04/12/94	USFS940329B	SGPR	FS# 05-03-55-0427
ELD-Z00023	6Y	04/12/94	USFS940329C	SGPR	FS# 05-03-55-0085
ELD-Z00025	6Y	04/12/94	USFS940329D	SGPR	FS# 05-03-55-0293
ELD-Z00026	6Y	04/12/94	USFS940329E	SGPR	FS# 05-03-55-0221
ELD-Z00027	6Y	04/12/94	USFS940329E	SGPR	FS# 05-03-55-0219
ELD-Z00028	6Y	04/12/94	USFS940329F	SGPR	FS# 05-03-55-0119
ELD-Z00029	2S2	07/15/94	USFS940616A	NDPR	FS# 05-03-56-0730, FALSE WALRUS SITE
ELD-Z00030	2S2	10/18/94	ADOE-09-94-02-000	GRPR	FS#05-03-56-574
	2S2	10/18/94	USFS940722A	GRPR	
ELD-Z00031	2S2	10/18/94	ADOE-09-94-0002-0	GRPR	FS#05-03-56-576
	2S2	10/18/94	USFS940722A	GRPR	
ELD-Z00032	2S2	10/18/94	ADOE-09-94-0004-0	GRPR	FS#05-03-56-576
	2S2	10/18/94	USFS940722A	GRPR	
ELD-Z00033	6Y	01/18/95	USFS941221A	SGPR	FS #05-03-55-195
ELD-Z00034H	6Y	08/28/95	USFS950807C	SGPR	2GR-1 LONELY GULCH CREEK WATER SYSTEM
ELD-Z00035H	6Y	02/06/96	USFS960126A	SGPR	FS# 05-03-53-0263
ELD-Z00037/H	6Y	03/26/96	USFS960205C	HKPR	FS# 05-03-53-0055
ELD-Z00038	6Y	03/26/96	USFS960205C	HKPR	FS# 05-03-53-0066
ELD-Z00039	6Y	04/09/96	USFS950404A	SGPR	05-19-674
ELD-Z00040	6Y	04/09/96	USFS950404A	SGPR	05-19-675
ELD-Z00041H	6Y	06/18/97	USFS970423A	CCPR	FS# 05-03-56-0402, HISTORIC DEBRIS SCATTER
ELD-Z00042	2D2	06/18/97	USFS970423A	CCPR	FS# 05-03-56-0405, CAMPINI MINE
ELD-Z00043	6Y	06/18/97	USFS970423A	CCPR	FS# 05-03-56-0406, PORTION OF MINING DITCH
ELD-Z00044	6Y	06/18/97	USFS970423A	CCPR	REMNANTS OF THE BALTIC SAWMILL
EL[illegible]0045	6Y	06/18/97	USFS970423A	CCPR	FS# 05-03-56-0414,05-03-56-0418, COLLAPSED ADIT
EL[illegible]0046	6Y	06/18/97	USFS970423A	CCPR	FS# 05-03-56-0415, WATER CONVEYANCE REMAINS
ELD-Z00047	6Y	06/18/97	USFS970423A	CCPR	FS# 05-03-56-0419, COLLAPSED CABIN
ELD-Z00048/H	2D2	06/18/97	USFS970423A	CCPR	FS# 05-03-56-0528, PREHISTORIC LITHIC SCATTER/MINING AND HABITATION
ELD-Z00049	6Y	06/18/97	USFS970423A	CCPR	FS# 05-03-56-0647, WATER CONVEYANCE DITCH
ELD-Z00050	2D2	06/18/97	USFS970423A	CCPR	FS# 05-03-56-0792, CAMPINI ARRASTRA
ELD-Z00053	6Y	06/30/97	USFS960910B	GRPR	FS# 05-03-56-0278
ELD-Z00054H	6Y	08/25/97	ADOE-09-97-0005-0	SGPR	HENNINGSON LOTUS PARK
	6Y	08/28/97	BLM970527A	SGPR	
ELD-Z00055	2S2	09/11/97	ADOE-09-97-0006-0	JWPR	FS# 05-03-56-0756
	2S2	09/11/97	USFS970818A	JWPR	
ELD-Z00056	6Y	09/11/97	ADOE-09-97-007-00	JWPR	FS# 05-03-56-0488
	6Y	09/11/97	USFS970818A	JWPR	
ELD-Z00057	6Y	09/11/97	ADOE-09-97-0008-0	JWPR	FS# 05-03-56-0532
	6Y	09/11/97	USFS970818A	JWPR	
ELD-Z00058	6Y	09/11/97	ADOE-09-97-0009-0	JWPR	FS# 05-03-56-0550
	6Y	09/11/97	USFS970818A	JWPR	
ELD-Z00059	6Y	09/11/97	ADOE-09-97-0010-0	JWPR	FS# 05-03-56-0569
	6Y	09/11/97	USFS970818A	JWPR	
ELD-Z00060	6Y	09/11/97	ADOE-09-97-0011-0	JWPR	FS# 05-03-56-0727
	6Y	09/11/97	USFS970818A	JWPR	
ELD-Z00061	6Y	09/11/97	ADOE-09-97-0012-0	JWPR	FS# 05-03-56-0783
	6Y	09/11/97	USFS970818A	JWPR	
ELD-Z00062H	2D2	09/25/97	ADOE-09-97-013-00	JWPR	EL DORADO CANAL ROCK WALL - SEGMENT FLUME 24/25
	2D2	09/25/97	FERC970923Z	JWPR	
ELD-Z00063H	6Y	09/25/97	ADOE-09-97-014-00	JWPR	EL DORADO CANAL ROCK WALL - SEGMENT FLUME 27/28
	6Y	09/25/97	FERC970923Z	JWPR	
ELD-Z00064H	6Y	12/16/97	ADOE-09-97-015-00	GRPR	PURSER PARCEL LAND EXC ARS# 96-39-01
ELD-Z00065H	6Y	12/01/97	ADOE-09-97-016-0	GRPR	SLATE MOUNTAIN MINE DITCH
	6Y	12/01/97	USFS950703C	GRPR	FS# 05-03-53-254
ELD-Z00066H	6Y	07/07/98	ADOE-09-98-001-00	SGPR	SPLASH BOARD DAM
	6Y	07/07/98	NRSC980616A	SGPR	
E[illegible]0067H	6Y	07/07/98	ADOE-09-98-002-00	SGPR	LAKE VALLEY RAILROAD MAINLINE GRADE
	6Y	07/07/98	NRCA980616A	SGPR	SLT-97-02
ELD-Z00069H	6Y	08/26/98	ADOE-09-98-004-00	JWPR	CAMINO, PLACERVILLE, AND LAKE TAHOE RAILROAD
	6Y	08/26/98	FHWA980804B	JWPR	
ELD-Z00070H	6Y	08/26/98	ADOE-09-98-005-00	JWPR	SEGMENTS OF OLD U.S. 50
	6Y	08/26/98	FHWA980804B	JWPR	

SITE-NUMBER.	PRIMARY-NUM	NRS EVL-DATE	PROGRAM REF.....	EVAL	OTHER NAMES AND NUMBERS.....
ELD-Z00071		6Y 10/13/98	ADOE-09-98-006-00	GRPR	FS# 05-03-55-0286
		6Y 10/13/98	FERC980420A	GRPR	
E[illegible]0072		6Y 10/13/98	ADOE-09-98-007-00	GRPR	FS# 05-03-55-0319, CALL OF THE MOTH LIGHT
		6Y 10/13/98	FERC980420A	GRPR	
ELD-Z00073		6Y 10/13/98	ADOE-09-98-008-00	GRPR	FS# 05-03-55-0423, SHADOW VORTEX
		6Y 10/13/98	FERC980420A	GRPR	
ELD-Z00074		6Y 10/13/98	ADOE-09-98-009-00	GRPR	FS# 05-03-55-0128
		6Y 10/13/98	FERC980420A	GRPR	
ELD-Z00077H		6Y 06/02/99	ADOE-09-99-001-00	SGPR	FS# 05-03-51-0484
		6Y 06/02/99	USFS980619C	SGPR	
ELD-Z00078H		6Y 03/18/99	ADOE-09-99-002-000	CWPR	ROCK WALL SEGMENT, P-9-945
		6Y 03/18/99	FHWA990219B	CWPR	
ELD-Z00079H		6Y 03/18/99	ADOE-09-99-003-000	CWPR	SR 11 SEGMENT, P-9-946
		6Y 03/18/99	FHWA990219B	CWPR	
ELD-Z00080H		6Y 10/19/99	ADOE-09-99-004-000	SGPR	CAMINO, PLACERVILLE & LAKE TAHOE RAILROAD GRADE
		6Y 10/19/99	FHWA990928A	SGPR	
ELD-Z00081		6Y 10/25/99	ADOE-17-99-005-000	JWPR	PILLSBURY #23, FS# 05-08-54-124
		6Y 10/25/99	USFS960311A	JWPR	
ELD-Z00082		6Y 10/25/99	ADOE-17-99-006-000	JWPR	KINGSLEY ANNEX, FS# 05-08-51-257
		6Y 10/25/99	USFS960311A	JWPR	
ELD-Z00083		6Y 10/09/01	ADOE-09-01-002-000	AMPR	FS# 05-19--0231
		6Y 10/09/01	USFS010913A	AMPR	
ELD-Z00084		6Y 10/09/01	ADOE-09-01-003-000	AMPR	FS# 05-19--0382, LONELY CANS
		6Y 10/09/01	USFS010913A	AMPR	
ELD-Z00085		6Y 10/09/01	ADOE-09-01-004-000	AMPR	FS# 05-03-54-0071
		6Y 10/09/01	USFS010913B	AMPR	
ELD-Z00086		6Y 10/09/01	ADOE-09-01-007-000	AMPR	FS# 05-03-54-0073
		6Y 10/09/01	USFS010914A	AMPR	
ELD-Z00087		6Y 10/09/01	ADOE-09-01-008-000	AMPR	FS# 05-19--0103, CAMP RICH DEBRIS PILES
		6Y 10/09/01	USFS010914A	AMPR	
ELD-Z00088		6Y 10/09/01	ADOE-09-01-009-000	AMPR	FS# 05-19--0410
		6Y 10/09/01	USFS010920A	AMPR	
ELD-Z00089		6Y 11/29/01	ADOE-09-01-012-000	AMPR	FS# 05-19--0229
		6Y 11/29/01	USFS011107B	AMPR	
E[illegible]0090		6Y 11/29/01	ADOE-09-01-013-000	AMPR	FS# 05-19--0754, J & P'S MODERN SHELTER, ENF CROSS REF 05-03-55-488
		6Y 11/29/01	USFS011024A	AMPR	
ELD-Z00091		6Y 11/06/01	ADOE-09-01-015-000	AMPR	FS# 05-19--0416
		6Y 11/06/01	USFS011017A	AMPR	
ELD-Z00093		6Y 06/13/02	ADOE-09-02-002-000	JDPR	MISSOURI FLAT DITCH
		6Y 06/13/02	COE020719B	JDPR	
ELD-Z00094		6Y 08/07/02	ADOE-09-02-003-000	JDPR	FS# 05-19-54-0098
		6Y 08/07/02	USFS020610B	JDPR	
ELD-Z00095		6Y 08/07/02	ADOE-09-02-004-000	JDPR	FS# 05-19-54-0098
		6Y 08/07/02	USFS020610B	JDPR	
ELD-Z00096		6Y 08/13/02	ADOE-09-02-005-000	JRPR	BIG HILL LOOKOUT
		6Y 08/13/02	USFS020725A	JRPR	
ELD-Z00097		6Y 08/13/02	ADOE-09-02-006-000	JRPR	LEEK SPRING LOOKOUT
		6Y 08/13/02	USFS020725A	JRPR	
ELD-Z00099		6Y 02/25/03	ADOE-09-03-001-000	AGPR	FS# 05-03-56-0756
		6Y 02/25/03	USFS020924A	AGPR	
ELD-Z00100		6Y 05/16/03	ADOE-09-03-002-000	MMPR	FS# 05-19--0487
		6Y 05/16/03	USFS030421A	MMPR	
ELD-Z00101		6Y 06/04/03	ADOE-09-03-003-000	JDPR	FS# 05-03-56-0110, ELKINS FLAT CABIN REMAINS
		6Y 06/04/03	USFS030317A	JDPR	
ELD-Z00102		6Y 06/04/03	ADOE-09-03-004-000	JDPR	FS# 05-03-56-0265
		6Y 06/04/03	USFS030317A	JDPR	
ELD-Z00103		6Y 06/04/03	ADOE-09-03-005-000	JDPR	FS# 05-03-56-0266
		6Y 06/04/03	USFS030317A	JDPR	
ELD-Z00104H		6Y 04/22/04	ADOE-09-04=001-000	AMPR	FS# 05-03-55-0477, DR. NEWELL'S CABIN
		6Y 04/22/04	USFS040401C	AMPR	
ELD-Z00105H		6Y 11/06/03	ADOE-09-04-001-000	CCPR	GILMORE MINE
		6Y 11/06/03	USFS030929A	CCPR	
ELD-Z00106H		6Y 01/15/04	ADOE-09-04-003-000	CCPR	ISOLATE P-9-12-H
		6Y 01/15/04	COE031016C	CCPR	
ELD-Z00107H		6Y 01/15/04	ADOE-09-04-004-000	CCPR	STACKED ROCK WALL
		6Y 01/15/04	COE031016C	CCPR	
E[illegible]00108H		6Y 10/31/03	ADOE-09-03-001-000	CCPR	MOUNTAIN TOP MINE
		6Y 10/31/03	USFS031003A	CCPR	
ELD-Z00109H		6Y 09/13/99	USFS990813A	CCPR	FS# 05-03-55-0004, VAN VLECK RANCH
ELD-Z00110H		2S2 05/12/05	USFS050323A	WEPR	HAWLEY GRADE TRAIL, LAKE VALLEY VICINITY
ELD-Z00111H		6Y 08/09/05	FERC040727A	AMPR	CB-3

SITE-NUMBER.	PRIMARY-NUM	NRS	EVL-DATE	PROGRAM REF.....	EVAL	OTHER NAMES AND NUMBERS.....
ELD-Z00112H		6Y	11/04/05	USFS050919C	WEPR	FS# 05-19--1065
ELD-Z00113H		2D2	02/01/06	DOE-09-06-0001-000	CFPR	ROAD-BED SEGMENT
		2D2	02/01/06	FHWA051117A	CFPR	
E[illegible]0114H		2D2	02/01/06	DOE-09-06-0001-000	CFPR	ROAD-BED SEGMENT
		2D2	02/01/06	FHWA051117A	CFPR	
ELD-Z00115H		6Y	09/10/98	USFS970305C	JWPR	FS# 05-03-55-0175, WEBER MILL ROAD SITE/WHITE HALL STATION
ELD-Z00116		6Y	05/01/06	USFS060418A	WEPR	FS# 05-03-56-0770, SILVER FORK SCHOOL SITE
ELD-Z00117H		6Y	11/15/06	BUR061030A	WEPR	TROIS POND
ELD-Z00118H		6Y	02/14/06	USFS060201A	CFPR	05-03-56-200
ELD-Z00119H		6Y	02/14/06	USFS060201A	CFPR	05-03-56-432
ELD-Z00120H		6Y	02/14/06	USFS060201A	CFPR	05-03-56-433
ELD-Z00121H		6Y	02/14/06	USFS060201A	CFPR	05-03-56-451
ELD-Z00122H		6Y	02/14/06	USFS060201A	CFPR	05-03-56-484
ELD-Z00123/H		2S2	02/14/06	USFS060201A	CFPR	LOCUS 3 OF 05-03-56-432, 05-03-56-432
ELD-Z00124H		6Y	06/19/06	FERC040727A	MMPR	CB-1
ELD-Z00125H		6Y	06/19/06	FERC040727A	MMPR	CB-2
ELD-Z00126		6Y	11/06/06	FERC061023A	MMPR	FS# 05-03-56-0723, SEGMENT A-A/ LOWER OGILBY GRADE
ELD-Z00127H		6Y	12/18/06	USFS061218A	DBPR	FS# 05-19-862-0000, HIGH MEADOWS ROAD
ELD-Z00128H		2S2	07/10/07	USFS950907B	CFPR	LAKE KIRKWOOD RECREATION RESIDENCE TRACT
ELD-Z00129H		6Y	01/02/07	USFS061204A	CFPR	FS# 05-19--0404, CONE TOP CANS
ELD-Z00130H		6Y	12/21/06	USFS061122A	CFPR	FS# 05-19--0415, KNOLL TOP DITCH
ELD-Z00131H		6Y	10/15/07	FHWA070919A	NTPR	FS# 05-19--0786, OLD ALPINE STATE HIGHWAY / SEGMENT 8.1, Z00131
ELD-Z00132H		6Y	10/15/07	FHWA070919A	NTPR	FS# 05-19--0786, OLD ALPINE STATE HIGHWAY / SEGMENT 8.2, Z00132
ELD-Z00133H		6Y	10/15/07	FHWA070919A	NTPR	FS# 05-19--0786, OLD ALPINE STATE HIGHWAY / SEGMENT 8.3, Z00133
ELD-Z00134H		6Y	10/15/07	FHWA070919A	NTPR	FS# 05-19--0786, OLD ALPINE STATE HIGHWAY / SEGMENT 8.4, Z00134
ELD-Z00135H		6Y	10/15/07	FHWA070919A	NTPR	FS# 05-19--0786, OLD ALPINE STATE HIGHWAY / SEGMENT 8.5, Z00135
ELD-Z00136H		6Y	10/15/07	FHWA070919A	NTPR	FS# 05-19--0786, OLD ALPINE STATE HIGHWAY / SEGMENT 1, SECTION 1, Z0 0136
ELD-Z00137H		2D2	10/15/07	FHWA070919A	NTPR	FS# 05-19--0786, OLD ALPINE STATE HIGHWAY / SEGMENT 9
ELD-Z00138H		6Y	01/16/07	USFS061211C	CFPR	FS# 05-03-54-0095, LTBMU SITE 05-19-95
ELD-Z00139H		6Y	06/20/08	BUR080620A	WEPR	FRL-1 REFUSE SCATTER, FRL-1
ELD-Z00140H		6Y2	12/28/00	FHWA001204A	JWPR	STATE ROUTE 11 PLACERVILLE RD ROAD SEGMENT A, 03-ED-50
ELD-Z00141H		6Y2	12/28/00	FHWA001204A	JWPR	STATE ROUTE 11 PLACERVILLE RD SEGMENT B, 03-ED-50
ELD-Z00142H		6Y2	10/19/09	BUR091013A	WEPR	08-CCAO-001 HISTORIC PROSPECT PITS

California Historical Resource Status Codes

1 Properties listed in the National Register (NR) or the California Register (CR)

1D Contributor to a district or multiple resource property listed in NR by the Keeper. Listed in the CR.
1S Individual property listed in NR by the Keeper. Listed in the CR.

1CD Listed in the CR as a contributor to a district or multiple resource property by the SHRC
1CS Listed in the CR as individual property by the SHRC.
1CL Automatically listed in the California Register – Includes State Historical Landmarks 770 and above and Points of Historical Interest nominated after December 1997 and recommended for listing by the SHRC.

2 Properties determined eligible for listing in the National Register (NR) or the California Register (CR)

2B Determined eligible for NR as an individual property and as a contributor to an eligible district in a federal regulatory process. Listed in the CR.
2D Contributor to a district determined eligible for NR by the Keeper. Listed in the CR.
2D2 Contributor to a district determined eligible for NR by consensus through Section 106 process. Listed in the CR.
2D3 Contributor to a district determined eligible for NR by Part I Tax Certification. Listed in the CR.
2D4 Contributor to a district determined eligible for NR pursuant to Section 106 without review by SHPO. Listed in the CR.
2S Individual property determined eligible for NR by the Keeper. Listed in the CR.
2S2 Individual property determined eligible for NR by a consensus through Section 106 process. Listed in the CR.
2S3 Individual property determined eligible for NR by Part I Tax Certification. Listed in the CR.
2S4 Individual property determined eligible for NR pursuant to Section 106 without review by SHPO. Listed in the CR.

2CB Determined eligible for CR as an individual property and as a contributor to an eligible district by the SHRC.
2CD Contributor to a district determined eligible for listing in the CR by the SHRC.
2CS Individual property determined eligible for listing in the CR by the SHRC.

3 Appears eligible for National Register (NR) or California Register (CR) through Survey Evaluation

3B Appears eligible for NR both individually and as a contributor to a NR eligible district through survey evaluation.
3D Appears eligible for NR as a contributor to a NR eligible district through survey evaluation.
3S Appears eligible for NR as an individual property through survey evaluation.

3CB Appears eligible for CR both individually and as a contributor to a CR eligible district through a survey evaluation.
3CD Appears eligible for CR as a contributor to a CR eligible district through a survey evaluation.
3CS Appears eligible for CR as an individual property through survey evaluation.

4 Appears eligible for National Register (NR) or California Register (CR) through other evaluation

4CM Master List - State Owned Properties – PRC §5024.

5 Properties Recognized as Historically Significant by Local Government

5D1 Contributor to a district that is listed or designated locally.
5D2 Contributor to a district that is eligible for local listing or designation.
5D3 Appears to be a contributor to a district that appears eligible for local listing or designation through survey evaluation.

5S1 Individual property that is listed or designated locally.
5S2 Individual property that is eligible for local listing or designation.
5S3 Appears to be individually eligible for local listing or designation through survey evaluation.

5B Locally significant both individually (listed, eligible, or appears eligible) and as a contributor to a district that is locally listed, designated, determined eligible or appears eligible through survey evaluation.

6 Not Eligible for Listing or Designation as specified

6C Determined ineligible for or removed from California Register by SHRC.
6J Landmarks or Points of Interest found ineligible for designation by SHRC.
6L Determined ineligible for local listing or designation through local government review process; may warrant special consideration in local planning.
6T Determined ineligible for NR through Part I Tax Certification process.
6U Determined ineligible for NR pursuant to Section 106 without review by SHPO.
6W Removed from NR by the Keeper.
6X Determined ineligible for the NR by SHRC or Keeper.
6Y Determined ineligible for NR by consensus through Section 106 process – Not evaluated for CR or Local Listing.
6Z Found ineligible for NR, CR or Local designation through survey evaluation.

7 Not Evaluated for National Register (NR) or California Register (CR) or Needs Revaluation

7J Received by OHP for evaluation or action but not yet evaluated.
7K Resubmitted to OHP for action but not reevaluated.
7L State Historical Landmarks 1-769 and Points of Historical Interest designated prior to January 1998 – Needs to be reevaluated using current standards.
7M Submitted to OHP but not evaluated - referred to NPS.
7N Needs to be reevaluated (Formerly NR Status Code 4)
7N1 Needs to be reevaluated (Formerly NR SC4) – may become eligible for NR w/restoration or when meets other specific conditions.
7R Identified in Reconnaissance Level Survey: Not evaluated.
7W Submitted to OHP for action – withdrawn.

OFFICE OF HISTORIC PRESERVATION * * * Directory of Properties in the Historic Property Data File for EL DORADO County. Page 1 04-05-12

PROPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
128286			BRIDGEPORT SCHOOL ROAD BRIDGE	AUKUM	M	1942	HIST.RES.	DOE-09-01-0001-0000	05/29/01	6Y	
							PROJ.REVW.	FHWA010409A	05/29/01	6Y	
153188		CARSON RD	REIBER/ROSIER FAMILY FARM	CAMINO	P	1920	PROJ.REVW.	FCC050328F	04/21/55	6Y	
105536	2840	MOUNT DANAHER RD	MOUNT DANAHER RANGER UNIT HEADQUAR	CAMINO	S	1935	ST.AG.5024	ST.AG.-3540-0154	11/25/96	4CM	AD
105538	2840	MOUNT DANAHER RD	MOUNT DANAHER RANGER UNIT HEADQUAR	CAMINO	S	1935	ST.AG.5024	ST.AG.-3540-0154	11/25/96	4CM	AD
105541	2840	MOUNT DANAHER RD	MOUNT DANAHER RANGER UNIT HEADQUAR	CAMINO	S	1936	ST.AG.5024	ST.AG.-3540-0156	11/25/96	4CM	AD
105542	2840	MOUNT DANAHER RD	MOUNT DANAHER RANGER UNIT HEADQUAR	CAMINO	S	1939	ST.AG.5024	ST.AG.-3540-0157	11/25/96	4CM	AD
105543	2840	MOUNT DANAHER RD	MOUNT DANAHER RANGER UNIT HEADQUAR	CAMINO	S	1940	ST.AG.5024	ST.AG.-3540-0158	11/25/96	4CM	AD
103511			MOUNT DANAHER FIRE LOOKOUT	(VIC) CAMINO	SP	1949	ST.AG.5024	ST.AG.-3540-0075	09/19/96	4CM	AD
114952			BRIDGE #25-33 / CHILI BAR BRIDGE	CHILI BAR	S	1922	HIST.RES.	DOE-09-86-0003-0000	10/19/86	2S2	C
							PROJ.REVW.	FHWA860919Z	10/19/86	2S2	C
045985		GOLD HILL RD	JAMES MARSHALL MONUMENT; MARSHALL	COLOMA	S	1890	HIST.SURV.	5619-0001-0001	10/15/86	1D	
							HIST.RES.	SHL-0143-0000	06/06/34	7L	
045988		MT MURPHY'S RD	BRIDGE #25C-4 / COLOMA STEEL TRUSS	COLOMA	C	1915	HIST.SURV.	5619-0003-0000	12/24/85	2S	AC
							PROJ.REVW.	FHWA850823A	12/24/85	2S	AC
							HIST.RES.	65000653	12/24/85	2S	AC
045986		SR 49	COLOMA/MARSHALL GOLD DISCOVERY STA	COLOMA	S	1848	HIST.RES.	NHL-66000207-9999	07/04/61	1S	A
							HIST.RES.	NPS-66000207-0000	10/15/66	1S	A
							HIST.SURV.	5619-0001-9999	10/15/66	1S	
							HIST.RES.	SHL-0530-0000	03/07/55	7L	
045987		SR 49	WAH HOP STORE AND CHINA BANK	COLOMA	S	1850	HIST.SURV.	5619-0001-0002	10/15/66	1D	
090688		SR 49	COLOMA ROAD-COLOMA	COLOMA	S		HIST.RES.	SHL-0748-0000	07/05/60	7L	
070179	0	SOUTHERN PACIFIC RAIL	WEBBER CREEK VIADUCT / M.P. 145.78	(VIC) COLOMA	U	1905	PROJ.REVW.	ICC900504B	04/01/91	6Y	
148693			SCHMIDELL LAKE DAM	(VIC) COOL	S	1950	HIST.RES.	DOE-09-04-0003-0000	05/06/04	6Y	
							PROJ.REVW.	USFS040401A	05/06/04	6Y	
114951		FORNI RD	BRIDGE #25C-116 / WEBER CREEK BRID	(VIC) DIAMOND SPR	C	1914	HIST.RES.	DOE-09-86-0002-0000	10/19/86	2S2	C
							PROJ.REVW.	FHWA860919Z	10/19/86	2S2	C
173237			SILVER LAKE DAM & LAKE TENDER'S CA	(VIC) ECHO LAKE	D	1906	PROJ.REVW.	FERC080731A	08/11/08	6Y	
173238			CAPLES LAKE DAM	(VIC) ECHO LAKE	D	1923	PROJ.REVW.	FERC080731A	08/11/08	6Y	
173239			ECHO DAM	(VIC) ECHO LAKE	D	1991	PROJ.REVW.	FERC080731A	08/11/08	6Y	
173240			ECHO CONDUIT	(VIC) ECHO LAKE	D	1873	PROJ.REVW.	FERC080731A	08/11/08	6Y	
173241			CANAL INTAKE/DIVERSION DAM	(VIC) ECHO LAKE	D	1923	PROJ.REVW.	FERC080731A	08/11/08	6Y	
173242			ALDER CREEK SIPHON	(VIC) ECHO LAKE	D	1920	PROJ.REVW.	FERC080731A	08/11/08	6Y	
173243			EL DORADO FOREBAY DAM	(VIC) ECHO LAKE	D	1922	PROJ.REVW.	FERC080731A	08/11/08	6Y	
173244			EL DORADO CANAL	(VIC) ECHO LAKE	D	1876	PROJ.REVW.	FERC080731A	08/11/08	6Y	
173245			DITCH 1, 2 AND 5	(VIC) ECHO LAKE	D	1922	PROJ.REVW.	FERC080731A	08/11/08	6Y	
173246			EL DORADO PENSTOCK	(VIC) ECHO LAKE	D	1922	PROJ.REVW.	FERC080731A	08/11/08	6Y	
173247			EL DORADO POWERHOUSE	(VIC) ECHO LAKE	D	1923	PROJ.REVW.	FERC080731A	08/11/08	6Y	
173248			LAKE ALOHA DAM COMPLEX	(VIC) ECHO LAKE	D	1917	PROJ.REVW.	FERC080731A	08/11/08	2S2	C
173249			EL DORADO ROCK WALL DISCONTIGUOUS	(VIC) ECHO LAKE	D		PROJ.REVW.	FERC080731A	08/11/08	2S2	C
108529			TIMBER BRIDGE-CEDAR CREEK	EL DORADO			PROJ.REVW.	FEMA960726B	08/01/96	6Y	
085734			OPEN DECK-WOOD, MP 141.74	EL DORADO	U	1913	HIST.RES.	DOE-34-93-0057-0000	12/21/93	6Y	
							PROJ.REVW.	ICC931025A	12/21/93	6Y	
085736			OPEN DECK-WOOD, MP 142.23	EL DORADO	U	1924	HIST.RES.	DOE-34-93-0058-0000	12/21/93	6Y	
							PROJ.REVW.	ICC931025A	12/21/93	6Y	
067405	6168	MAIN ST		EL DORADO	P	1857	PROJ.REVW.	USPS900510A	06/05/90	6Y	
090353		PLEASANT VALLEY RD	EL DORADO (ORIGINALLY 'MUD SPRINGS	EL DORADO	P		HIST.RES.	SHL-0486-0000	08/07/51	7L	

PROPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
090643		PLEASANT VALLEY RD	EL DORADO-NEVADA HOUSE, MUD SPRING	EL DORADO	P		HIST.RES.	SHL-0700-0000	09/11/59	7L	
155331			LEEKS SPRINGS HILL	(VIC) EL DORADO	F	1961	PROJ.REVW.	USFS891005B	12/01/03	6Y	
155332			BALD MOUNTAIN FIRE LOOKOUT	(VIC) EL DORADO	F	1959	PROJ.REVW.	USFS891005B	12/01/03	6Y	
155333			LOOKOUT MOUNTAIN FIRE LOOKOUT	(VIC) EL DORADO	F	1987	PROJ.REVW.	USFS891005B	12/01/03	6Y	
155334			SLATE MOUNTAIN FIRE LOOKOUT	(VIC) EL DORADO	F	1935	PROJ.REVW.	USFS891005B	12/01/03	6Y	
155335			BIG HILL FIRE LOOKOUT	(VIC) EL DORADO	F	1935	PROJ.REVW.	USFS891005B	12/01/03	6Y	
090642		CLARKSVILLE SUBSTATIO	MORMON TAVERN-CALIFORNIA OVERLAND	(VIC) EL DORADO H	P	1849	HIST.RES.	SHL-0699-0000	09/11/59	7L	
090427		E NATOMA ST	MORMON ISLAND	(VIC) EL DORADO H	SF		HIST.RES.	SHL-0569-0000	04/01/57	7L	
090428		GREEN VALLEY RD	NEGRO HILL	(VIC) EL DORADO H	S		HIST.RES.	SHL-0570-0000	04/01/57	7L	
090429		GREEN VALLEY RD	SALMON FALLS	(VIC) EL DORADO H	S		HIST.RES.	SHL-0571-0000	04/01/57	7L	
090430		GREEN VALLEY RD	CONDEMNED BAR	(VIC) EL DORADO H	S		HIST.RES.	SHL-0572-0000	04/01/57	7L	
090645		GREEN VALLEY RD	PLEASANT GROVE HOUSE-CA OVERLAND P	(VIC) EL DORADO H	U		HIST.RES.	SHL-0703-0000	09/11/59	7L	
098519			LOT #7 CABIN / WEST WRIGHTS LAKE T	ELD NF		1920	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098520			LOT #8 CABIN / WEST WRIGHT'S LAKE	ELD NF		1920	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098521			LOT #9 CABIN / WEST WRIGHT'S LAKE	ELD NF		1920	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098522			LOT #10 CABIN / WEST WRIGHT'S LAKE	ELD NF		1920	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098523			LOT #11 CABIN / WEST WRIGHT'S LAKE	ELD NF		1930	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098524			LOT #13 CABIN / WEST WRIGHT'S LAKE	ELD NF		1930	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098525			LOT #14 CABIN / WEST WRIGHT'S LAKE	ELD NF		1930	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098526			LOT #16 CABIN / WEST WRIGHT'S LAKE	ELD NF		1930	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098527			LOT #17 CABIN / WEST WRIGHT'S LAKE	ELD NF		1930	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098528			LOT #18 CABIN / WEST WRIGHT'S LAKE	ELD NF		1930	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098529			LOT #19 CABIN / WEST WRIGHT'S LAKE	ELD NF		1930	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098530			LOT #20 CABIN / WEST WRIGHT'S LAKE	ELD NF		1930	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098531			LOT #21 CABIN / WEST WRIGHT'S LAKE	ELD NF		1930	PROJ.REVW.	USFS950810D	11/27/95	2D2	
098532			LOT #22 CABIN / WEST WRIGHT'S LAKE	ELD NF		1930	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098533			LOT #23 CABIN / WEST WRIGHT'S LAKE	ELD NF		1930	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098534			LOT #24 CABIN / WEST WRIGHT'S LAKE	ELD NF		1930	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098535			LOT #25 CABIN / WEST WRIGHT'S LAKE	ELD NF		1930	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098536			LOT #26 CABIN / WEST WRIGHT'S LAKE	ELD NF		1930	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098537			LOT #27 CABIN / WEST WRIGHT'S LAKE	ELD NF		1930	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098538			LOT #31 CABIN / WEST WRIGHT'S LAKE	ELD NF		1930	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
069691			PACIFIC WORK CENTER / OLD PACIFIC	ELD NF	F	1915	HIST.RES.	DOE-09-90-0001-9999	11/29/90	6Y	
							PROJ.REVW.	USFS901119D	11/29/90	6Y	
098539			LOT #39 CABIN / WEST WRIGHT'S LAKE	ELD NF		1940	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098540			LOT #40 CABIN / WEST WRIGHT'S LAKE	ELD NF		1940	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
069692			WOMEN'S BARRACKS,(OLD RESIDENCE #2	ELD NF	F	1919	HIST.RES.	DOE-09-90-0001-0001	11/29/90	6Y	
							PROJ.REVW.	USFS901119D	11/29/90	6Y	
098541			LOT #41 CABIN / WEST WRIGHT'S LAKE	ELD NF		1930	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
069693			GUARD RESIDENCE,BB-2,PACIFIC WORK	ELD NF	F	1934	HIST.RES.	DOE-09-90-0001-0005	11/29/90	6Y	
							PROJ.REVW.	USFS901119D	11/29/90	6Y	
101041			RESIDENCE 1008	ELD NF	F	1958	HIST.RES.	DOE-09-90-0001-0002	11/29/90	6Y	
							PROJ.REVW.	USFS901119D	11/29/90	6Y	
069694			6-BAY WAREHOUSE #2204,PACIFIC WORK	ELD NF	F	1937	HIST.RES.	DOE-09-90-0001-0008	11/29/90	6Y	
							PROJ.REVW.	USFS901119D	11/29/90	6Y	
101042			RESIDENCE 1007	ELD NF	F	1958	HIST.RES.	DOE-09-90-0001-0003	11/29/90	6Y	
							PROJ.REVW.	USFS901119D	11/29/90	6Y	
101044			TWO-CAR GARAGE	ELD NF	F	1959	HIST.RES.	DOE-09-90-0001-0004	11/29/90	6Y	
							PROJ.REVW.	USFS901119D	11/29/90	6Y	
069695			PACIFIC R.S. STORAGE WAREHOUSE/OLD	ELD NF	F	1934	HIST.RES.	DOE-09-90-0001-0012	11/29/90	6Y	
							PROJ.REVW.	USFS901119D	11/29/90	6Y	
101045			RESIDENCE BB-2 STANDARD WOOD AND T	ELD NF	F	1934	HIST.RES.	DOE-09-90-0001-0006	11/29/90	6Y	
							PROJ.REVW.	USFS901119D	11/29/90	6Y	

PROPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
101046			ENGINE CREW BARRACKS AND MESSHALL	ELD NF	F	1955	HIST.RES.	DOE-09-90-0001-0007	11/29/90	6Y	
							PROJ.REVW.	USFS901119D	11/29/90	6Y	
101047			POLE BUILDING #1	ELD NF	F	1983	HIST.RES.	DOE-09-90-0001-0009	11/29/90	6Y	
							PROJ.REVW.	USFS901119D	11/29/90	6Y	
101048			BONE YARD POLE BUILDING #2	ELD NF	F	1984	HIST.RES.	DOE-09-90-0001-0010	11/29/90	6Y	
							PROJ.REVW.	USFS901119D	11/29/90	6Y	
101049			STORAGE BAY AND LOADING DOCK	ELD NF	F		HIST.RES.	DOE-09-90-0001-0011	11/29/90	6Y	
							PROJ.REVW.	USFS901119D	11/29/90	6Y	
101052			SIGN STORAGE BUILDING	ELD NF	F		HIST.RES.	DOE-09-90-0001-0013	11/29/90	6Y	
							PROJ.REVW.	USFS901119D	11/29/90	6Y	
101053			GAS, OIL AND BURN SUPPLIES STORAGE	ELD NF	F	1986	HIST.RES.	DOE-09-90-0001-0014	11/29/90	6Y	
							PROJ.REVW.	USFS901119D	11/29/90	6Y	
101054			PAINT STORAGE BUILDING	ELD NF	F	1987	HIST.RES.	DOE-09-90-0001-0015	11/29/90	6Y	
							PROJ.REVW.	USFS901119D	11/29/90	6Y	
101055			NEW VEHICLE STORAGE SHED AND LOADI	ELD NF	F	1990	HIST.RES.	DOE-09-90-0001-0016	11/29/90	6Y	
							PROJ.REVW.	USFS901119D	11/29/90	6Y	
101056			CHAIN SAW STORAGE SHED	ELD NF	F	1930	HIST.RES.	DOE-09-90-0001-0017	11/29/90	6Y	
							PROJ.REVW.	USFS901119D	11/29/90	6Y	
101057			OLD ICE HOUSE/VEHICLE WASH SHED AN	ELD NF	F	1930	HIST.RES.	DOE-09-90-0001-0018	11/29/90	6Y	
							PROJ.REVW.	USFS901119D	11/29/90	6Y	
101058			TRAILER HOUSING	ELD NF	F		HIST.RES.	DOE-09-90-0001-0019	11/29/90	6Y	
							PROJ.REVW.	USFS901119D	11/29/90	6Y	
163675			ALDER CREEK SUMMER HOME TRACT	ELD NF	P	1920	PROJ.REVW.	USFS060201D	02/07/06	6Y	
164827				ELD NF			PROJ.REVW.	USFS021001A	10/29/02	6Y	
164869			LOT 4/ GERLE CREEK RECREATION RESI	ELD NF	P	1962	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164870			LOT 5/ GERLE CREEK RECREATION RESI	ELD NF	P	1966	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164871			LOT 6/ GERLE CREEK RECREATION RESI	ELD NF	P	1961	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164872			LOT 7/ GERLE CREEK RECREATION RESI	ELD NF	P	1963	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164873			LOT 8/ GERLE CREEK RECREATION RESI	ELD NF	P	1963	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164874			LOT 9/ GERLE CREEK RECREATION RESI	ELD NF	P	1964	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164875			LOT 10/ GERLE CREEK RECREATION RES	ELD NF	P	1965	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164876			LOT 11/ GERLE CREEK RECREATION RES	ELD NF	P	1961	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164877			LOT 12/ GERLE CREEK RECREATION RES	ELD NF	P	1959	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164878			LOT 13/ GERLE CREEK RECREATION RES	ELD NF	P	1959	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164879			LOT 14/ GERLE CREEK RECREATION RES	ELD NF	P	1964	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164880			LOT 15/ GERLE CREEK RECREATION RES	ELD NF	P	1961	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164881			LOT 17/ GERLE CREEK RECREATION RES	ELD NF	P	1961	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164882			LOT 18/ GERLE CREEK RECREATION RES	ELD NF	P	1962	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164883			LOT 19/ GERLE CREEK RECREATION RES	ELD NF	P	1959	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164884			LOT 20/ GERLE CREEK RECREATION RES	ELD NF	P	1962	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164885			LOT 21/ GERLE CREEK RECREATION RES	ELD NF	P	1961	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164886			LOT 22/ GERLE CREEK RECREATION RES	ELD NF	P	1962	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164887			LOT 24/ GERLE CREEK RECREATION RES	ELD NF	P	1960	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164888			LOT 25/ GERLE CREEK RECREATION RES	ELD NF	P	1964	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164889			LOT 25/ GERLE CREEK RECREATION RES	ELD NF	P	1964	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164890			LOT 27/ GERLE CREEK RECREATION RES	ELD NF	P	1963	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164891			LOT 28/ GERLE CREEK RECREATION RES	ELD NF	P	1961	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164892			LOT 29/ GERLE CREEK RECREATION RES	ELD NF	P	1963	PROJ.REVW.	USFS021001A	10/29/02	6Y	
114969			NEW LUMBERYARD	ELD NF	F		HIST.RES.	DOE-09-98-0001-0000	03/20/98	6Y	
							PROJ.REVW.	USFS980203B	03/20/98	6Y	
164893			LOT 30/ GERLE CREEK RECREATION RES	ELD NF	P	1966	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164894			LOT 31/ GERLE CREEK RECREATION RES	ELD NF	P	1963	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164895			LOT 32/ GERLE CREEK RECREATION RES	ELD NF	P	1960	PROJ.REVW.	USFS021001A	10/29/02	6Y	

PROPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
164896			LOT 33/ GERLE CREEK RECREATION RES	ELD NF	P	1959	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164897			LOT 34/ GERLE CREEK RECREATION RES	ELD NF	P	1959	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164898			LOT 35/ GERLE CREEK RECREATION RES	ELD NF	P	1964	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164899			LOT 36/ GERLE CREEK RECREATION RES	ELD NF	P	1967	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164900			LOT 37/ GERLE CREEK RECREATION RES	ELD NF	P	1959	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164901			LOT 38/ GERLE CREEK RECREATION RES	ELD NF	P	1962	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164902			LOT 39/ GERLE CREEK RECREATION RES	ELD NF	P	1961	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164904			LOT 40/ GERLE CREEK RECREATION RES	ELD NF	P	1959	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164905			LOT 41/ GERLE CREEK RECREATION RES	ELD NF	P	1963	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164906			LOT 42/ GERLE CREEK RECREATION RES	ELD NF	P	1967	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164907			LOT 43/ GERLE CREEK RECREATION RES	ELD NF	P	1963	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164908			LOT 44/ GERLE CREEK RECREATION RES	ELD NF	P	1961	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164909			LOT 45/ GERLE CREEK RECREATION RES	ELD NF	P	1965	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164910			LOT 46/ GERLE CREEK RECREATION RES	ELD NF	P	1959	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164911			LOT 47/ GERLE CREEK RECREATION RES	ELD NF	P	1961	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164912			LOT 1/ BEAR RIVER RECREATION RESID	ELD NF	P	1984	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164913			LOT 2/ BEAR RIVER RECREATION RESID	ELD NF	P	1963	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164922			LOT 3/ BEAR RIVER RECREATION RESID	ELD NF	P	1959	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164923			LOT 4/ BEAR RIVER RECREATION RESID	ELD NF	P	1962	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164924			LOT 5/ BEAR RIVER RECREATION RESID	ELD NF	P	1966	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164925			LOT 6/ BEAR RIVER RECREATION RESID	ELD NF	P	1959	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164926			LOT 7/ BEAR RIVER RECREATION RESID	ELD NF	P	1966	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164927			LOT 8/ BEAR RIVER RECREATION RESID	ELD NF	P	1961	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164928			LOT 9/ BEAR RIVER RECREATION RESID	ELD NF	P	1962	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164929			LOT 10/ BEAR RIVER RECREATION RESI	ELD NF	P	1984	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164930			LOT 11/ BEAR RIVER RECREATION RESI	ELD NF	P	1960	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164931			LOT 12/ BEAR RIVER RECREATION RESI	ELD NF	P	1961	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164932			LOT 13/ BEAR RIVER RECREATION RESI	ELD NF	P	1959	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164933			LOT 14/ BEAR RIVER RECREATION RESI	ELD NF	P	1973	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164934			LOT 15/ BEAR RIVER RECREATION RESI	ELD NF	P	1960	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164935			LOT 16/ BEAR RIVER RECREATION RESI	ELD NF	P	1962	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164936			LOT 17/ BEAR RIVER RECREATION RESI	ELD NF	P	1959	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164937			LOT 18/ BEAR RIVER RECREATION RESI	ELD NF	P	1962	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164938			LOT 19/ BEAR RIVER RECREATION RESI	ELD NF	P	1966	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164939			LOT 20/ BEAR RIVER RECREATION RESI	ELD NF	P	1972	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164940			LOT 21/ BEAR RIVER RECREATION RESI	ELD NF	P	1984	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164941			LOT 22/ BEAR RIVER RECREATION RESI	ELD NF	P	1959	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164942			LOT 23/ BEAR RIVER RECREATION RESI	ELD NF	P	1963	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164943			LOT 24/ BEAR RIVER RECREATION RESI	ELD NF	P	1962	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164944			LOT 25/ BEAR RIVER RECREATION RESI	ELD NF	P	1959	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164945			LOT 26/ BEAR RIVER RECREATION RESI	ELD NF	P	1962	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164946			LOT 27/ BEAR RIVER RECREATION RESI	ELD NF	P	1962	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164947			LOT 28/ BEAR RIVER RECREATION RESI	ELD NF	P	1962	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164948			LOT 29/ BEAR RIVER RECREATION RESI	ELD NF	P	1965	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164949			LOT 30/ BEAR RIVER RECREATION RESI	ELD NF	P	1959	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164950			LOT 31/ BEAR RIVER RECREATION RESI	ELD NF	P	1959	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164951			LOT 32/ BEAR RIVER RECREATION RESI	ELD NF	P	1963	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164952			LOT 33/ BEAR RIVER RECREATION RESI	ELD NF	P	1959	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164953			LOT 34/ BEAR RIVER RECREATION RESI	ELD NF	P	1959	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164954			LOT 35/ BEAR RIVER RECREATION RESI	ELD NF	P	1960	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164955			LOT 36/ BEAR RIVER RECREATION RESI	ELD NF	P	1962	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164956			LOT 37/ BEAR RIVER RECREATION RESI	ELD NF	P	1966	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164957			LOT 38/ BEAR RIVER RECREATION RESI	ELD NF	P	1959	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164958			LOT 39/ BEAR RIVER RECREATION RESI	ELD NF	P	1962	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164959			LOT 40/ BEAR RIVER RECREATION RESI	ELD NF	P	1963	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164960			LOT 41/ BEAR RIVER RECREATION RESI	ELD NF	P	1974	PROJ.REVW.	USFS021001A	10/29/02	6Y	

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164961			LOT 42/ BEAR RIVER RECREATION RESI	ELD NF	P	1969	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164962			LOT 43/ BEAR RIVER RECREATION RESI	ELD NF	P	1967	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164963			LOT 44/ BEAR RIVER RECREATION RESI	ELD NF	P	1962	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164964			LOT 45/ BEAR RIVER RECREATION RESI	ELD NF	P	1963	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164965			LOT 1/ 36 MILESTONE RECREATION RES	ELD NF	P	1929	PROJ.REVW.	USFS020924A	02/25/03	6Y	
							PROJ.REVW.	USFS021001A	10/29/02	6Y	
164966			LOT 2/ 36 MILESTONE RECREATION RES	ELD NF	P	1929	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164967			LOT 3/ 36 MILESTONE RECREATION RES	ELD NF	P	1939	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164968			LOT 4/ 36 MILESTONE RECREATION RES	ELD NF	P	1932	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164969			LOT 5/ 36 MILESTONE RECREATION RES	ELD NF	P	1931	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164970			LOT 6/ 36 MILESTONE RECREATION RES	ELD NF	P	1939	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164971			LOT 7/ 36 MILESTONE RECREATION RES	ELD NF	P	1933	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164972			LOT 8/ 36 MILESTONE RECREATION RES	ELD NF	P	1933	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164973			LOT 9/ 36 MILESTONE RECREATION RES	ELD NF	P	1943	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164974			LOT 10/ 36 MILESTONE RECREATION RE	ELD NF	P	1937	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164975			LOT 11/ 36 MILESTONE RECREATION RE	ELD NF	P	1933	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164976			LOT 12/ 36 MILESTONE RECREATION RE	ELD NF	P	1939	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164977			LOT 13/ 36 MILESTONE RECREATION RE	ELD NF	P	1944	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164978			LOT 14/ 36 MILESTONE RECREATION RE	ELD NF	P	1935	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164979			LOT 15/ 36 MILESTONE RECREATION RE	ELD NF	P	1936	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164980			LOT 16/ 36 MILESTONE RECREATION RE	ELD NF	P	1937	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164981			LOT 18/ 36 MILESTONE RECREATION RE	ELD NF	P	1940	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164982			LOT 19/ 36 MILESTONE RECREATION RE	ELD NF	P	1946	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164983			LOT 20/ 36 MILESTONE RECREATION RE	ELD NF	P	1942	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164984			LOT 21/ 36 MILESTONE RECREATION RE	ELD NF	P	1945	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164985			LOT 22/ 36 MILESTONE RECREATION RE	ELD NF	P	1940	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164986			LOT 23/ 36 MILESTONE RECREATION RE	ELD NF	P	1950	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164987			LOT 24/ 36 MILESTONE RECREATION RE	ELD NF	P	1946	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164988			LOT 25/ 36 MILESTONE RECREATION RE	ELD NF	P	1943	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164989			LOT 1/ STRAWBERRY CREEK RECREATION	ELD NF	P	1951	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164990			LOT 2/ STRAWBERRY CREEK RECREATION	ELD NF	P	1944	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164991			LOT 3/ STRAWBERRY CREEK RECREATION	ELD NF	P	1943	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164992			LOT 4/ STRAWBERRY CREEK RECREATION	ELD NF	P	1944	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164993			LOT 5/ STRAWBERRY CREEK RECREATION	ELD NF	P	1943	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164994			LOT 6/ STRAWBERRY CREEK RECREATION	ELD NF	P	1952	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164995			LOT 7/ STRAWBERRY CREEK RECREATION	ELD NF	P	1943	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164996			LOT 8/ STRAWBERRY CREEK RECREATION	ELD NF	P	1946	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164997			LOT 9/ STRAWBERRY CREEK RECREATION	ELD NF	P	1952	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164998			LOT 10/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1954	PROJ.REVW.	USFS021001A	10/29/02	6Y	
164999			LOT 12/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1952	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165000			LOT 13/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1949	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165001			LOT 15/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1947	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165002			LOT 16/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1947	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165003			LOT 17/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1954	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165004			LOT 18/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1948	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165005			LOT 19/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1951	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165006			LOT 20/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1950	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165007			LOT 21/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1950	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165008			LOT 22/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1951	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165009			LOT 23/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1950	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165010			LOT 24/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1946	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165011			LOT 25/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1954	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165012			LOT 26/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1948	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165013			LOT 27/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1947	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165014			LOT 28/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1943	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165015			LOT 29/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1948	PROJ.REVW.	USFS021001A	10/29/02	6Y	

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165016			LOT 30/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1947	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165017			LOT 31/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1943	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165018			LOT 32/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1943	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165019			LOT 33/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1947	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165020			LOT 34/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1949	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165021			LOT 35/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1949	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165022			LOT 36/ STRAWBERRY CREEK RECREATIO	ELD NF	P	1948	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165023			LOT 1/ SCIOTS/CODY RECREATION RESI	ELD NF	P	1935	PROJ.REVW.	USFS021001A	10/29/02	6Y	
077960			HARVEY WEST CABIN	ELD NF	F	0	PROJ.REVW.	USFS920914D	10/22/92	2S2	B
165024			LOT 2/ SCIOTS/CODY RECREATION RESI	ELD NF	P	1928	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165025			LOT 3/ SCIOTS/CODY RECREATION RESI	ELD NF	P	1927	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165026			LOT 4/ SCIOTS/CODY RECREATION RESI	ELD NF	P	1923	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165027			LOT 5/ SCIOTS/CODY RECREATION RESI	ELD NF	P	1924	PROJ.REVW.	USFS021001A	10/29/02	6Y	
080839			CREW QUARTERS	ELD NF	M		HIST.RES.	DOE-09-93-0007-0000	04/20/93	6Y	
							PROJ.REVW.	USFS930311A	04/20/93	6Y	
165028			LOT 7/ SCIOTS/CODY RECREATION RESI	ELD NF	P	1930	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165029			LOT 8/ SCIOTS/CODY RECREATION RESI	ELD NF	P	1930	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165087			LOT 108/ SCIOTS/CODY RECREATION RE	ELD NF	P	1970	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165030			LOT 9/ SCIOTS/CODY RECREATION RESI	ELD NF	P	1934	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165031			LOT 10/ SCIOTS/CODY RECREATION RES	ELD NF	P	1936	PROJ.REVW.	USFS021001A	10/29/02	6Y	
082695			05-03-56-427 (SEG 1)	ELD NF	U	1850	HIST.RES.	DOE-09-93-0008-0000	07/07/93	2S2	ABC
							PROJ.REVW.	USFS930506D	07/07/93	2S2	ABC
165083			LOT 94/ SCIOTS/CODY RECREATION RES	ELD NF	P	1979	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165032			LOT 11/ SCIOTS/CODY RECREATION RES	ELD NF	P	1947	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165033			LOT 12/ SCIOTS/CODY RECREATION RES	ELD NF	P	1949	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165034			LOT 13/ SCIOTS/CODY RECREATION RES	ELD NF	P	1933	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165079			LOT 64/ SCIOTS/CODY RECREATION RES	ELD NF	P	1933	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165035			LOT 14/ SCIOTS/CODY RECREATION RES	ELD NF	P	1927	PROJ.REVW.	USFS021001A	10/29/02	6Y	
082696			05-03-56-427 (SEG 2)	ELD NF	U	1850	HIST.RES.	DOE-09-93-0009-0000	07/07/93	6Y	
							PROJ.REVW.	USFS930506D	07/07/93	6Y	
165036			LOT 15/ SCIOTS/CODY RECREATION RES	ELD NF	P	1932	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165037			LOT 16/ SCIOTS/CODY RECREATION RES	ELD NF	P	1930	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165038			LOT 17/ SCIOTS/CODY RECREATION RES	ELD NF	P	1964	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165039			LOT 18/ SCIOTS/CODY RECREATION RES	ELD NF	P	1956	PROJ.REVW.	USFS021001A	10/29/02	6Y	
082697			05-03-56-381	ELD NF	U	1860	HIST.RES.	DOE-09-93-0001-0000	07/06/93	6Y	
							PROJ.REVW.	USFS930506B	07/06/93	6Y	
165071			LOT 56/ SCIOTS/CODY RECREATION RES	ELD NF	P	1926	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165040			LOT 19/ SCIOTS/CODY RECREATION RES	ELD NF	P	1939	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165041			LOT 20/ SCIOTS/CODY RECREATION RES	ELD NF	P	1930	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165042			LOT 21/ SCIOTS/CODY RECREATION RES	ELD NF	P	1934	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165067			LOT 52/ SCIOTS/CODY RECREATION RES	ELD NF	P	1934	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165043			LOT 22/ SCIOTS/CODY RECREATION RES	ELD NF	P	1931	PROJ.REVW.	USFS021001A	10/29/02	6Y	
082698			05-03-56-383	ELD NF	U	1860	HIST.RES.	DOE-09-93-0002-0000	07/06/93	6Y	
							PROJ.REVW.	USFS930506B	07/06/93	6Y	
165044			LOT 23/ SCIOTS/CODY RECREATION RES	ELD NF	P	1922	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165063			LOT 47/ SCIOTS/CODY RECREATION RES	ELD NF	P	1958	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165045			LOT 24/ SCIOTS/CODY RECREATION RES	ELD NF	P	1934	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165061			LOT 44/ SCIOTS/CODY RECREATION RES	ELD NF	P	1936	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165046			LOT 25/ SCIOTS/CODY RECREATION RES	ELD NF	P	1934	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165047			LOT 26/ SCIOTS/CODY RECREATION RES	ELD NF	P	1953	PROJ.REVW.	USFS021001A	10/29/02	6Y	
082699			05-03-56-386	ELD NF	U	1860	HIST.RES.	DOE-09-93-0003-0000	07/06/93	6Y	
							PROJ.REVW.	USFS930506B	07/06/93	6Y	
165048			LOT 27/ SCIOTS/CODY RECREATION RES	ELD NF	P	1929	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165049			LOT 28/ SCIOTS/CODY RECREATION RES	ELD NF	P	1939	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165050			LOT 29/ SCIOTS/CODY RECREATION RES	ELD NF	P	1948	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165051			LOT 30/ SCIOTS/CODY RECREATION RES	ELD NF	P	1970	PROJ.REVW.	USFS021001A	10/29/02	6Y	

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082700			05-03-56-436	ELD NF	U	1860	HIST.RES.	DOE-09-93-0004-0000	07/06/93	6Y	
							PROJ.REVW.	USFS930506B	07/06/93	6Y	
165052			LOT 31/ SCIOTS/CODY RECREATION RES	ELD NF	P	1936	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165053			LOT 32/ SCIOTS/CODY RECREATION RES	ELD NF	P	1930	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165054			LOT 33/ SCIOTS/CODY RECREATION RES	ELD NF	P	1935	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165055			LOT 34/ SCIOTS/CODY RECREATION RES	ELD NF	P	1958	PROJ.REVW.	USFS021001A	10/29/02	6Y	
082702			05-03-56-591	ELD NF	U	1860	HIST.RES.	DOE-09-93-0005-0000	07/06/93	6Y	
							PROJ.REVW.	USFS930506B	07/06/93	6Y	
165056			LOT 35/ SCIOTS/CODY RECREATION RES	ELD NF	P	1960	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165057			LOT 36/ SCIOTS/CODY RECREATION RES	ELD NF	P	1935	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165058			LOT 37/ SCIOTS/CODY RECREATION RES	ELD NF	P	1947	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165059			LOT 42/ SCIOTS/CODY RECREATION RES	ELD NF	P	1956	PROJ.REVW.	USFS021001A	10/29/02	6Y	
082785			SITE 05-03-56-635	ELD NF	U	1850	PROJ.REVW.	USFS930506C	07/08/93	6Y	
165060			LOT 43/ SCIOTS/CODY RECREATION RES	ELD NF	P	1940	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165062			LOT 46/ SCIOTS/CODY RECREATION RES	ELD NF	P	1933	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165064			LOT 48/ SCIOTS/CODY RECREATION RES	ELD NF	P	1935	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165065			LOT 50/ SCIOTS/CODY RECREATION RES	ELD NF	P	1935	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165066			LOT 51/ SCIOTS/CODY RECREATION RES	ELD NF	P	1935	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165068			LOT 53/ SCIOTS/CODY RECREATION RES	ELD NF	P	1930	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165069			LOT 54/ SCIOTS/CODY RECREATION RES	ELD NF	P	1932	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165070			LOT 55/ SCIOTS/CODY RECREATION RES	ELD NF	P	1933	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165072			LOT 57/ SCIOTS/CODY RECREATION RES	ELD NF	P	1931	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165073			LOT 58/ SCIOTS/CODY RECREATION RES	ELD NF	P	1950	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165074			LOT 59/ SCIOTS/CODY RECREATION RES	ELD NF	P	1939	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165075			LOT 60/ SCIOTS/CODY RECREATION RES	ELD NF	P	1954	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165076			LOT 61/ SCIOTS/CODY RECREATION RES	ELD NF	P	1936	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165077			LOT 62/ SCIOTS/CODY RECREATION RES	ELD NF	P	1937	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165078			LOT 63/ SCIOTS/CODY RECREATION RES	ELD NF	P	1983	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165080			LOT 89/ SCIOTS/CODY RECREATION RES	ELD NF	P	1933	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165081			LOT 90/ SCIOTS/CODY RECREATION RES	ELD NF	P	1972	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165082			LOT 93/ SCIOTS/CODY RECREATION RES	ELD NF	P	1935	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165084			LOT 105/ SCIOTS/CODY RECREATION RE	ELD NF	P	1979	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165085			LOT 106/ SCIOTS/CODY RECREATION RE	ELD NF	P	1972	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165086			LOT 107/ SCIOTS/CODY RECREATION RE	ELD NF	P	1964	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165088			LOT 109/ SCIOTS/CODY RECREATION RE	ELD NF	P	1963	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165089			LOT 110/ SCIOTS/CODY RECREATION RE	ELD NF	P	1971	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165090			LOT 111/ SCIOTS/CODY RECREATION RE	ELD NF	P	1965	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165091			LOT 112/ SCIOTS/CODY RECREATION RE	ELD NF	P	1964	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165092			LOT 113/ SCIOTS/CODY RECREATION RE	ELD NF	P	1965	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165093			LOT 114/ SCIOTS/CODY RECREATION RE	ELD NF	P	1963	PROJ.REVW.	USFS021001A	10/29/02	6Y	
165094			LOT 1A/ SCIOTS/CODY RECREATION RES	ELD NF	P	1921	PROJ.REVW.	USFS021001A	10/29/02	6Y	
089247			FS05-03-55-17 (SCHEIBER CABIN)	ELD NF	U		HIST.RES.	DOE-09-94-0001-0000	05/02/94	2S2	C
							PROJ.REVW.	USFS940318B	05/02/94	2S2	C
089296			FSS #05-03-56-417,BARTLETT DITCH	ELD NF	U		HIST.RES.	DOE-09-94-0005-0000	04/10/94	6Y	
							PROJ.REVW.	USFS940318A	04/10/94	6Y	
067733			ALDER RIDGE LOOKOUT	ELD NF	F	1937	HIST.RES.	DOE-09-89-0002-0000	12/14/89	2S2	AC
							PROJ.REVW.	USFS891005B	12/14/89	2S2	AC
067734			ARMSTRONG HILL LOOKOUT	ELD NF	F	1937	HIST.RES.	DOE-09-89-0003-0000	12/14/89	2S2	AC
							PROJ.REVW.	USFS891005B	12/14/89	2S2	AC
067735			BALTIC PEAK LOOKOUT	ELD NF	F	1931	HIST.RES.	DOE-09-02-0031-0000	01/30/03	6Y	
							PROJ.REVW.	USFS020927A	01/30/03	6Y	
							HIST.RES.	DOE-09-89-0004-0000	12/14/89	2S2	AC
							PROJ.REVW.	USFS891005B	12/14/89	2S2	AC
067736			BUNKER HILL LOOKOUT	ELD NF	F	1940	HIST.RES.	DOE-09-89-0005-0000	12/14/89	2S2	AC
							PROJ.REVW.	USFS891005B	12/14/89	2S2	AC
067737			PLUMMER RIDGE LOOKOUT	ELD NF	F	1935	HIST.RES.	DOE-09-89-0006-0000	12/14/89	2S2	AC

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							PROJ.REVW.	USFS891005B	12/14/89	2S2	AC
067738			ROBBS PEAK LOOKOUT	ELD NF	F	1937	HIST.RES.	DOE-09-89-0007-0000	12/14/89	2S2	AC
							PROJ.REVW.	USFS891005B	12/14/89	2S2	AC
096637			BULL CREEK BRIDGE	ELD NF		1933	HIST.RES.	DOE-09-95-0002-0000	07/11/95	6Y	
							PROJ.REVW.	USFS950418A	07/11/95	6Y	
068066			DOGTIE DITCHES 05-03-56-115	ELD NF	U		PROJ.REVW.	USFS890112C	04/18/89	6Y	
096638			SAD BRIDGE	ELD NF		1938	HIST.RES.	DOE-09-95-0003-0000	07/11/95	2S2	AC
							PROJ.REVW.	USFS950418B	07/11/95	2S2	AC
068078			EAGLE DITCH FS 05-30-56-397	ELD NF	U		PROJ.REVW.	USFS890310A	07/13/89	2	AC
098513			WEST WRIGHT'S LAKE TRACT HISTORIC	ELD NF		1920	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098514			LOT #1 CABIN / WEST WRIGHT'S LAKE	ELD NF		1920	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098515			LOT #2 CABIN / WEST WRIGHT'S LAKE	ELD NF		1920	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098516			LOT #3 CABIN / WEST WRIGHT'S LAKE	ELD NF		1920	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
068285			DOGTIE DITCH; FS 05-03-56-372	ELD NF	U		PROJ.REVW.	USFS890112C	04/18/89	6Y	
098517			LOT #4 CABIN / WEST WRIGHT'S LAKE	ELD NF		1920	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
098518			LOT #5 CABIN / WEST WRIGHT'S LAKE	ELD NF		1920	PROJ.REVW.	USFS950810D	11/27/95	2D2	AC
068536	0		PYRAMID CREEK POWERHOUSE	ELD NF	U		PROJ.REVW.	FERC820928A	12/22/87	6Y	
077020	0		HARRICKS RAVINE DITCH #05-03-53-24	ELD NF	U	1852	PROJ.REVW.	USFS920406A	05/29/92	6Y	
077022	0		HARRICKS RAVINE DITCH #05-03-53-25	ELD NF	F	1852	PROJ.REVW.	USFS920406B	05/29/92	6Y	
077025	0		HARRICKS RAVINE DITCH #05-03-53-25	ELD NF	F	1852	PROJ.REVW.	USFS920406C	05/27/92	6Y	
077028	0		HARRICKS RAVINE DITCH #05-03-53-25	ELD NF	F	1852	PROJ.REVW.	USFS920406D	05/27/92	6Y	
083147		HAPPY VALLEY RD	PRAY DITCH / F 5-05-03-56-188	ELD NF	U	1886	PROJ.REVW.	USFS930416A	07/23/93	6Y	
181346	7169	SIERRA PINES RD	SIERRA PINES CAMP	ELD NF	P	1947	PROJ.REVW.	USFS101012A	10/28/10	6Y	
090702		SR 88	TRAGEDY SPRING	ELD NF	S		HIST.RES.	SPHI-ELD-001	06/12/67	7L	
092803		WENTWORTH SPRINGS RD	AF-9-86-H,MICHIGAN-CALIFORNIA RAIL	ELD NF		1918	HIST.RES.	DOE-09-94-0002-0000	11/08/94	6Y	
							PROJ.REVW.	FHWA930624A	11/08/94	6Y	
092805		WENTWORTH SPRINGS RD	AF-9-85-H,MICHIGAN-CALIFORNIA RAIL	ELD NF		1918	HIST.RES.	DOE-09-94-0003-0000	11/08/94	6Y	
							PROJ.REVW.	FHWA930624A	11/08/94	6Y	
092807		WENTWORTH SPRINGS RD	AF-9-84-H,MICHIGAN-CALIFORNIA RAIL	ELD NF		1918	HIST.RES.	DOE-09-94-0004-0000	11/08/94	6Y	
							PROJ.REVW.	FHWA930624A	11/08/94	6Y	
152793			30 MILESTONE TRACT, LEWIS CABIN LO	(VIC) ELD NF	F	1937	HIST.RES.	DOE-09-03-0002-0000	02/25/03	6Y	
							PROJ.REVW.	USFA020924A	02/25/03	6Y	
163346			LOT 23/EMERALD BAY RECREATION RESI	EMERALD BAY	P	1934	HIST.RES.	DOE-09-06-0001-0022	04/18/06	2D2	
							PROJ.REVW.	USFS060330A	04/18/06	2D2	
114953			BRIDGE #25-45	EMERALD BAY	S	1929	HIST.RES.	DOE-09-86-0004-0000	10/19/86	2S2	C
							PROJ.REVW.	FHWA860919Z	10/19/86	2S2	C
163325			EMERALD BAY RECREATION RESIDENCE T	(VIC) EMERALD BAY	P	1927	HIST.RES.	DOE-09-06-0001-0001	04/18/06	2S2	AC
							PROJ.REVW.	USFS060330A	04/18/06	2S2	AC
163326			LOT 1/EMERALD BAY RECREATION RESID	(VIC) EMERALD BAY	P	1927	HIST.RES.	DOE-09-06-0001-0002	04/18/06	2D2	
							PROJ.REVW.	USFS060330A	04/18/06	2D2	
163327			LOT 2/EMERALD BAY RECREATION RESID	(VIC) EMERALD BAY	P	1935	HIST.RES.	DOE-09-06-0001-0003	04/18/06	2D2	
							PROJ.REVW.	USFS060330A	04/18/06	2D2	
163328			LOT 3/EMERALD BAY RECREATION RESID	(VIC) EMERALD BAY	P	1935	HIST.RES.	DOE-09-06-0001-0004	04/18/06	6Y	
							PROJ.REVW.	USFS060330A	04/18/06	6Y	
163329			LOT 4/EMERALD BAY RECREATION RESID	(VIC) EMERALD BAY	P	1941	HIST.RES.	DOE-09-06-0001-0005	04/18/06	2D2	
							PROJ.REVW.	USFS060330A	04/18/06	2D2	
163330			LOT 5/EMERALD BAY RECREATION RESID	(VIC) EMERALD BAY	P	1931	HIST.RES.	DOE-09-06-0001-0006	04/18/06	6Y	
							PROJ.REVW.	USFS060330A	04/18/06	6Y	
163331			LOT 6/EMERALD BAY RECREATION RESID	(VIC) EMERALD BAY	P	1930	HIST.RES.	DOE-09-06-0001-0007	04/18/06	6Y	
							PROJ.REVW.	USFS060330A	04/18/06	6Y	
163332			LOT 7/EMERALD BAY RECREATION RESID	(VIC) EMERALD BAY	P	1931	HIST.RES.	DOE-09-06-0001-0008	04/18/06	2D2	
							PROJ.REVW.	USFS060330A	04/18/06	2D2	
163333			LOT 8/EMERALD BAY RECREATION RESID	(VIC) EMERALD BAY	P	1931	HIST.RES.	DOE-09-06-0001-0009	04/18/06	2D2	

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							PROJ.REVW.	USFS060330A	04/18/06	2D2	
163334			LOT 9/EMERALD BAY RECREATION RESID	(VIC) EMERALD BAY	P	1931	HIST.RES.	DOE-09-06-0001-0010	04/18/06	6Y	
							PROJ.REVW.	USFS060330A	04/18/06	6Y	
163335			LOT 12/EMERALD BAY RECREATION RESI	(VIC) EMERALD BAY	P	1948	HIST.RES.	DOE-09-06-0001-0011	04/18/06	6Y	
							PROJ.REVW.	USFS060330A	04/18/06	6Y	
163336			LOT 13/EMERALD BAY RECREATION RESI	(VIC) EMERALD BAY	P	1949	HIST.RES.	DOE-09-06-0001-0012	04/18/06	2D2	
							PROJ.REVW.	USFS060330A	04/18/06	2D2	
163337			LOT 14/EMERALD BAY RECREATION RESI	(VIC) EMERALD BAY	P	1950	HIST.RES.	DOE-09-06-0001-0013	04/18/06	2D2	
							PROJ.REVW.	USFS060330A	04/18/06	2D2	
163338			LOT 15/EMERALD BAY RECREATION RESI	(VIC) EMERALD BAY	P	1941	HIST.RES.	DOE-09-06-0001-0014	04/18/06	2D2	
							PROJ.REVW.	USFS060330A	04/18/06	2D2	
163339			LOT 16/EMERALD BAY RECREATION RESI	(VIC) EMERALD BAY	P	1935	HIST.RES.	DOE-09-06-0001-0015	04/18/06	6Y	
							PROJ.REVW.	USFS060330A	04/18/06	6Y	
163340			LOT 17/EMERALD BAY RECREATION RESI	(VIC) EMERALD BAY	P	1935	HIST.RES.	DOE-09-06-0001-0016	04/18/06	2D2	
							PROJ.REVW.	USFS060330A	04/18/06	2D2	
163341			LOT 18/EMERALD BAY RECREATION RESI	(VIC) EMERALD BAY	P	1930	HIST.RES.	DOE-09-06-0001-0017	04/18/06	2D2	
							PROJ.REVW.	USFS060330A	04/18/06	2D2	
163342			LOT 19/EMERALD BAY RECREATION RESI	(VIC) EMERALD BAY	P	1930	HIST.RES.	DOE-09-06-0001-0018	04/18/06	2D2	
							PROJ.REVW.	USFS060330A	04/18/06	2D2	
163343			LOT 20/EMERALD BAY RECREATION RESI	(VIC) EMERALD BAY	P	1933	HIST.RES.	DOE-09-06-0001-0019	04/18/06	2D2	
							PROJ.REVW.	USFS060330A	04/18/06	2D2	
163344			LOT 21/EMERALD BAY RECREATION RESI	(VIC) EMERALD BAY	P	1935	HIST.RES.	DOE-09-06-0001-0020	04/18/06	2D2	
							PROJ.REVW.	USFS060330A	04/18/06	2D2	
163345			LOT 22/EMERALD BAY RECREATION RESI	(VIC) EMERALD BAY	P	1934	HIST.RES.	DOE-09-06-0001-0021	04/18/06	2D2	
							PROJ.REVW.	USFS060330A	04/18/06	2D2	
163347			LOT 24/EMERALD BAY RECEATION RESID	(VIC) EMERALD BAY	P	1935	HIST.RES.	DOE-09-06-0001-0023	04/18/06	2D2	
							PROJ.REVW.	USFS060330A	04/18/06	2D2	
105525	5061	GARDEN VALLEY-COLOMA	GARDEN VALLEY FOREST FIRE STATION	GARDEN VALLEY	S	1936	ST.AG.5024	ST.AG.-3540-0150	11/22/96	4CM	AD
095486			MICHIGAN-CALIFORNIA RAILROAD	GEORGETOWN		1918	HIST.RES.	DOE-09-95-0001-0000	04/06/95	6Y	
							PROJ.REVW.	FHWA930624A	04/06/95	6Y	
090703		GREENWOOD-SPANISH DRY	HOBOKEN HOUSE	GEORGETOWN	U	1850	HIST.RES.	SPHI-ELD-002	01/19/71	7L	
090351		MAIN ST	GEORGETOWN	GEORGETOWN	C	1849	HIST.RES.	SHL-0484-0000	08/07/51	7L	
168086		SR 193	FORMER ALIGNMENT OF STATE ROUTE 19	GEORGETOWN	U		PROJ.REVW.	HHS070620A	07/30/07	6Y	
							PROJ.REVW.	EPA070510A	07/09/07	6Y	
128643		WENTWORTH SPRINGS RD	BUILDING 1022/ GEORGETOWN RANGER D	GEORGETOWN	F	1935	HIST.RES.	DOE-09-01-0014-0000	07/06/01	6Y	
							PROJ.REVW.	USFS010501A	07/06/01	6Y	
							HIST.RES.	DOE-09-01-0003-0000	04/07/01	6Y	
							PROJ.REVW.	USFS010322A	04/07/01	6Y	
128642	7600	WENTWORTH SPRINGS RD	BUILDING 1000/ GEORGETOWN RANGER D	GEORGETOWN	F	1937	HIST.RES.	DOE-09-01-0013-0000	07/06/01	6Y	
							PROJ.REVW.	USFS010501A	07/06/01	6Y	
							HIST.RES.	DOE-09-01-0002-0000	04/07/01	6Y	
							PROJ.REVW.	USFS010322A	04/07/01	6Y	
128644	7600	WENTWORTH SPRINGS RD	BUILDING 1023/ GEORGETOWN RANGER D	GEORGETOWN	F	1936	HIST.RES.	DOE-09-01-0015-0000	07/06/01	6Y	
							PROJ.REVW.	USFS010501A	07/06/01	6Y	
							HIST.RES.	DOE-09-01-0004-0000	04/07/01	6Y	
							PROJ.REVW.	USFS010322A	04/07/01	6Y	
128645	7600	WENTWORTH SPRINGS RD	BUILDING 1449/ GEORGETOWN RANGER D	GEORGETOWN	F	1939	HIST.RES.	DOE-09-01-0016-0000	07/06/01	6Y	
							PROJ.REVW.	USFS010501A	07/06/01	6Y	
							HIST.RES.	DOE-09-01-0005-0000	04/07/01	6Y	
							PROJ.REVW.	USFS010322A	04/07/01	6Y	
128646	7600	WENTWORTH SPRINGS RD	BUILDING 1506/ GEORGETOWN RANGER D	GEORGETOWN	F	1941	HIST.RES.	DOE-09-01-0017-0000	07/06/01	6Y	
							PROJ.REVW.	USFS010501A	07/06/01	6Y	
							HIST.RES.	DOE-09-01-0006-0000	04/07/01	6Y	
							PROJ.REVW.	USFS010322A	04/07/01	6Y	

PROPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
128647		7600 WENTWORTH SPRINGS RD	BUILDING 1533/ GEORGETOWN RANGER D	GEORGETOWN	F	1920	HIST.RES.	DOE-09-01-0018-0000	07/06/01	6Y	
							PROJ.REVW.	USFS010501A	07/06/01	6Y	
							HIST.RES.	DOE-09-01-0007-0000	04/07/01	6Y	
							PROJ.REVW.	USFS010322A	04/07/01	6Y	
128648		7600 WENTWORTH SPRINGS RD	BUILDING 1600/ GEORGETOWN RANGER D	GEORGETOWN	F	1941	HIST.RES.	DOE-09-01-0019-0000	07/06/01	6Y	
							PROJ.REVW.	USFS010501A	07/06/01	6Y	
							HIST.RES.	DOE-09-01-0008-0000	04/07/01	6Y	
							PROJ.REVW.	USFS010322A	04/07/01	6Y	
128649		7600 WENTWORTH SPRINGS RD	BUILDING 2022/ GEORGETOWN RANGER D	GEORGETOWN	F	1937	HIST.RES.	DOE-09-01-0020-0000	07/06/01	6Y	
							PROJ.REVW.	USFS010501A	07/06/01	6Y	
							HIST.RES.	DOE-09-01-0009-0000	04/07/01	6Y	
							PROJ.REVW.	USFS010322A	04/07/01	6Y	
128650		7600 WENTWORTH SPRINGS RD	BUILDING 2208/ GEORGETOWN RANGER D	GEORGETOWN	F	1934	HIST.RES.	DOE-09-01-0021-0000	07/06/01	6Y	
							PROJ.REVW.	USFS010501A	07/06/01	6Y	
							HIST.RES.	DOE-09-01-0010-0000	04/07/01	6Y	
							PROJ.REVW.	USFS010322A	04/07/01	6Y	
128651		7600 WENTWORTH SPRINGS RD	BUILDING 2225/ GEORGETOWN RANGER D	GEORGETOWN	F	1936	HIST.RES.	DOE-09-01-0022-0000	07/06/01	6Y	
							PROJ.REVW.	USFS010501A	07/06/01	6Y	
							HIST.RES.	DOE-09-01-0011-0000	04/07/01	6Y	
							PROJ.REVW.	USFS010322A	04/07/01	6Y	
046331		SR 193	SPANISH DRY DIGGINS	(VIC) GEORGETOWN	P	1848	HIST.SURV.	5634-0001-0000		7R	
090379		SR 193	GREENWOOD	(VIC) GEORGETOWN	C		HIST.RES.	SHL-0521-0000	11/01/54	7L	
178076		941 COLD SPRINGS RD	RESIDENCE / WAKAMATSU TEA & SILK F	GOLD HILL	P	1869	HIST.RES.	NPS-09000397-0005	10/09/09	6X	
178065		941 COLD SPRINGS RD	WAKAMATSU TEA AND SILK FARM SITE	GOLD HILL	P	1869	HIST.RES.	NPS-09000397-0001	10/09/09	1D	A
178067		941 COLD SPRINGS RD	MAIN RESIDENCE / WAKAMATSU TEA AND	GOLD HILL	P	1869	HIST.RES.	NPS-09000397-0002	10/09/09	1D	A
178068		941 COLD SPRINGS RD	BARN / WAKAMATSU TEA AND SILK COLO	GOLD HILL	P	1869	HIST.RES.	NPS-09000397-0003	10/09/09	1D	A
178071		941 COLD SPRINGS RD	DAIRY BARN / WAKAMATSU TEA AND SIL	GOLD HILL	P	1869	HIST.RES.	NPS-09000397-0004	10/09/09	6X	
178082		941 COLD SPRINGS RD	RESIDENCE / WAKAMATSU TEA AND SILK	GOLD HILL	P		HIST.RES.	NPS-09000397-0006	10/09/09	6X	
178083		941 COLD SPRINGS RD	SHED / WAKAMATSU TEA AND SILK COLO	GOLD HILL	P		HIST.RES.	NPS-09000397-0007	10/09/09	6X	
178084		941 COLD SPRINGS RD	SHED / WAKAMATSU TEA AND SILK COLO	GOLD HILL	P		HIST.RES.	NPS-09000397-0010	10/09/09	6X	
178085		941 COLD SPRINGS RD	GARAGE / WAKAMATSU TEA AND SILK CO	GOLD HILL	P		HIST.RES.	NPS-09000397-0009	10/09/09	6X	
178148		941 COLD SPRINGS RD	TRACTOR BARN / WAKAMATSU TEA AND S	GOLD HILL	P	1883	HIST.RES.	NPS-09000397-0008	10/09/09	6X	
046501	09-005155	941 COLD SPRINGS RD	WAKAMATSU TEA & SILK FARM COLONY D	(VIC) GOLD HILL	P	1869	HIST.RES.	NPS-09000397-9999	10/09/09	1S	A
							NAT.REG.	09-0018	01/14/09	3S	A
							HIST.SURV.	5667-0064-0000		5S2	
							HIST.RES.	SHL-0815-0000	12/19/66	1CL	
143175		SR 89	DILAPATED MEEKS MEADOW CABIN	(VIC) HOMEWOOD	U		HIST.RES.	DOE-09-03-0001-0000	08/29/03	6Y	
							PROJ.REVW.	USFS030731A	08/29/03	6Y	
047511		SR 89	PHIPPS-HELLMAN-EHRMAN ESTATE/SUGAR	(VIC) HOMEWOOD	S	1872	HIST.RES.	NPS-73000401-0000	03/30/73	1S	AC
							HIST.SURV.	5718-0001-0000	03/30/73	1S	AC
046353		SR 193	MARSHALL BLACKSMITH SHOP MUSEUM	KELSEY	P	1919	HIST.SURV.	5643-0002-0000		3S	
							HIST.RES.	SHL-0319-0000	07/12/39	7L	
114950		ROCK CREEK RD	BRIDGE #25C-99	(VIC) KELSEY	C	1936	HIST.RES.	DOE-09-86-0001-0000	10/19/86	2S2	C
							PROJ.REVW.	FHWA860919Z	10/19/86	2S2	C
046352		SR 193	BRIDGE #25-33	(VIC) KELSEY	S	1922	HIST.SURV.	5643-0001-0000		7N	
069923			EL DORADO CANAL	KYBURZ	P	1874	PROJ.REVW.	USFS910125Z	01/25/91	7J	
073186			OLD US ROUTE 50 / MOTHER WELTY SEG	KYBURZ	F	1860	HIST.RES.	DOE-09-91-0004-0000	10/22/91	2S2	AC
							PROJ.REVW.	FHWA910829A	10/22/91	2S2	A C

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109256		WILDWOOD WY	WILDWOOD TRUSS BRIDGE	KYBURZ		1927	PROJ.REVW.	FEMA970623A	06/20/97	6Y	
128664			VEERKAMP CABIN	(VIC) KYBURZ	P	1928	HIST.RES.	DOE-09-01-0012-0000	03/21/01	6Y	
							PROJ.REVW.	USFS010209C	03/21/01	6Y	
148028			TAYLOR CABIN, #15 / 35 MILESTONE T	(VIC) KYBURZ	P	1926	HIST.RES.	DOE-09-04-0001-0000	05/25/04	6Y	
							PROJ.REVW.	USFS040401B	05/25/04	6Y	
148029			CABIN #125 / 46-MILE SUMMER HOME T	(VIC) KYBURZ	P	1941	HIST.RES.	DOE-09-04-0002-0000	05/25/04	6Y	
							PROJ.REVW.	USFS040401B	05/25/04	6Y	
119027		SR 50	US ROUTE 50 CORRIDOR / DOUBLE BRID	(VIC) KYBURZ	F	1862	HIST.RES.	DOE-09-98-0008-0000	07/21/98	2S2	AC
							PROJ.REVW.	FHWA980618A	07/21/98	2S2	AC
090647		SR 50	MOORE'S, RIVERTON-CA OVERLAND PONY	(VIC) KYBURZ	F		HIST.RES.	SHL-0705-0000	09/11/59	7L	
090648		SR 50	WEBSTER'S, SUGAR LOAF HOUSE-OVERLA	(VIC) KYBURZ	U		HIST.RES.	SHL-0706-0000	09/11/59	7L	
154927			ALPINE FALLS TRACT	LTBMU	P	1921	PROJ.REVW.	USFS040907D	11/03/04	6Y	
155731			STANFORD TRACT RECREATION RESIDENC	LTBMU	P	1912	HIST.RES.	DOE-09-04-0007-9999	09/28/04	2S2	AC
							PROJ.REVW.	USFS040907C	09/28/04	2S2	AC
155732			STANFORD TRACT/ LOT 1	LTBMU	P	1927	HIST.RES.	DOE-09-04-0007-0001	09/28/04	2D2	AC
							PROJ.REVW.	USFS040907C	09/28/04	2D2	AC
155733			STANFORD TRACT/ LOT 2	LTBMU	P	1939	HIST.RES.	DOE-09-04-0007-0002	09/28/04	2D2	AC
							PROJ.REVW.	USFS040907C	09/28/04	2D2	AC
155734			STANFORD TRACT/ LOT 3	LTBMU	P	1934	HIST.RES.	DOE-09-04-0007-0003	09/28/04	6Y	
							PROJ.REVW.	USFS040907C	09/28/04	6Y	
155735			STANFORD TRACT / LOT #4	LTBMU	P	1928	HIST.RES.	DOE-09-04-0007-0004	09/28/04	2D2	AC
							PROJ.REVW.	USFS040907C	09/28/04	2D2	AC
155736			STANFORD TRACT / LOT #5	LTBMU	P	1927	HIST.RES.	DOE-09-04-0007-0005	09/28/04	2D2	AC
							PROJ.REVW.	USFS040907C	09/28/04	2D2	AC
155737			STANFORD TRACT / LOT #6	LTBMU	P	1958	HIST.RES.	DOE-09-04-0007-0006	09/28/04	2D2	AC
							PROJ.REVW.	USFS040907C	09/28/04	2D2	AC
155738			STANFORD TRACT / LOT #8	LTBMU	P	1940	HIST.RES.	DOE-09-04-0007-0007	09/28/04	2D2	AC
							PROJ.REVW.	USFS040907C	09/28/04	2D2	AC
155739			STANFORD TRACT / LOT #9	LTBMU	P	1912	HIST.RES.	DOE-09-04-0007-0008	09/28/04	6Y	
							PROJ.REVW.	USFS040907C	09/28/04	6Y	
155740			STANFORD TRACT/ LOT 10	LTBMU	P	1952	HIST.RES.	DOE-09-04-0007-0009	09/28/04	2D2	AC
							PROJ.REVW.	USFS040907C	09/28/04	2D2	AC
155741			STANFORD TRACT/ LOT 11	LTBMU	P	1920	HIST.RES.	DOE-09-04-0007-0010	09/28/04	2D2	AC
							PROJ.REVW.	USFS040907C	09/28/04	2D2	AC
159281			LOT #1 / FALLEN LEAF LAKE TRACT	LTBMU	P	1940	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159282			LOT #6 / FALLEN LEAF LAKE TRACT	LTBMU	P	1960	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159283			LOT #7 / FALLEN LEAF LAKE TRACT	LTBMU	P	1941	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159284			LOT #8 / FALLEN LEAF LAKE TRACT	LTBMU	P	1952	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159285			LOT #9 / FALLEN LEAF LAKE TRACT	LTBMU	P	1932	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159287			LOT #11 / FALLEN LEAF LAKE TRACT	LTBMU	P	1953	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159288			LOT #12 / FALLEN LEAF LAKE TRACT	LTBMU	P	1927	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159289			LOT #13 / FALLEN LEAF LAKE TRACT	LTBMU	P	1920	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159290			LOT #14 / FALLEN LEAF LAKE TRACT	LTBMU	P	1935	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159291			LOT #15 / FALLEN LEAF LAKE TRACT	LTBMU	P	1947	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159292			LOT #16 / FALLEN LEAF LAKE TRACT	LTBMU	P	1951	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159293			LOT #17 / FALLEN LEAF LAKE TRACT	LTBMU	P		PROJ.REVW.	USFS050203A	02/15/05	6Y	
159294			LOT #18 / FALLEN LEAF LAKE TRACT	LTBMU	P	1917	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159295			LOT #19 / FALLEN LEAF LAKE TRACT	LTBMU	P	1936	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159296			LOT #20 / FALLEN LEAF LAKE TRACT	LTBMU	P		PROJ.REVW.	USFS050203A	02/15/05	6Y	
159297			LOT #21 / FALLEN LEAF LAKE TRACT	LTBMU	P		PROJ.REVW.	USFS050203A	02/15/05	6Y	
159298			LOT #22 / FALLEN LEAF LAKE TRACT	LTBMU	P	1928	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159299			LOT #23 / FALLEN LEAF LAKE TRACT	LTBMU	P	1956	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159300			LOT #26 / FALLEN LEAF LAKE TRACT	LTBMU	P	1946	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159301			LOT #32 / FALLEN LEAF LAKE TRACT	LTBMU	P	1986	PROJ.REVW.	USFS050203A	02/15/05	6Y	

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159302			LOT #35 / FALLEN LEAF LAKE TRACT	LTBMU	P	1950	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159303			LOT #36 / FALLEN LEAF LAKE TRACT	LTBMU	P	1942	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159304			LOT #38 / FALLEN LEAF LAKE TRACT	LTBMU	P	1957	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159305			LOT #39 / FALLEN LEAF LAKE TRACT	LTBMU	P	1930	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159306			LOT #40 / FALLEN LEAF LAKE TRACT	LTBMU	P	1935	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159307			LOT #41 / FALLEN LEAF LAKE TRACT	LTBMU	P	1943	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159308			LOT #42 / FALLEN LEAF LAKE TRACT	LTBMU	P	1939	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159309			LOT #43 / FALLEN LEAF LAKE TRACT	LTBMU	P	1947	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159310			LOT #44 / FALLEN LEAF LAKE TRACT	LTBMU	P	1933	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159311			LOT #45 / FALLEN LEAF LAKE TRACT	LTBMU	P	1942	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159312			LOT #46 / FALLEN LEAF LAKE TRACT	LTBMU	P	1980	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159313			LOT #52 / FALLEN LEAF LAKE TRACT	LTBMU	P	1931	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159314			LOT #53 / FALLEN LEAF LAKE TRACT	LTBMU	P	1931	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159315			LOT #54 / FALLEN LEAF LAKE TRACT	LTBMU	P	1943	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159316			LOT #55 / FALLEN LEAF LAKE TRACT	LTBMU	P		PROJ.REVW.	USFS050203A	02/15/05	6Y	
159318			LOT #56 / FALLEN LEAF LAKE TRACT	LTBMU	P	1937	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159344			LOT #57 / FALLEN LEAF LAKE TRACT	LTBMU	P	1948	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159345			LOT #58 / FALLEN LEAF LAKE TRACT	LTBMU	P	1938	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159346			LOT #59 / FALLEN LEAF LAKE TRACT	LTBMU	P	1940	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159347			LOT #60 / FALLEN LEAF LAKE TRACT	LTBMU	P	1933	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159348			LOT #62 / FALLEN LEAF LAKE TRACT	LTBMU	P	1946	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159349			LOT #63 / FALLEN LEAF LAKE TRACT	LTBMU	P	1946	PROJ.REVW.	USFS050203A	02/15/05	6Y	
159466			LOT #1 / FALLEN LAKE PARK RECREATI	LTBMU	P	1937	PROJ.REVW.	USFS040910E	09/28/04	6Y	
161592			BRIDGE TRACT ACCESS ROAD	LTBMU	F	1930	PROJ.REVW.	USFS050429A	08/01/05	6Y	
074423			MEEKS BAY GUARD STATION GARAGE	LTBMU	U	0	PROJ.REVW.	USFS920108A	02/25/92	6Y	
118875			UPPER TRUCKEE RANGER STATION	LTBMU	F	1912	HIST.RES.	DOE-09-98-0006-0000	02/24/98	2S2	C
							PROJ.REVW.	USFS980112A	02/24/98	2S2	C
118953			ECHO ROAD SUMMER HOME TRACT; FS 05	LTBMU	P	1923	HIST.RES.	DOE-09-98-0007-9999	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118954			ECHO ROAD TRACT LOT 14	LTBMU	P		HIST.RES.	DOE-09-98-0007-0001	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118955			LOT #57 / ECHO ROAD TRACT	LTBMU	P		HIST.RES.	DOE-09-98-0007-0002	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118956			LOT #58 / ECHO ROAD TRACT	LTBMU	P	1928	HIST.RES.	DOE-09-98-0007-0003	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118957			ECHO ROAD TRACT LOT #1	LTBMU	P	1928	HIST.RES.	DOE-09-98-0007-0004	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118958			LOT #3 / ECHO ROAD TRACT	LTBMU	P	1926	HIST.RES.	DOE-09-98-0007-0005	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118959			LOT #4 / ECHO ROAD TRACT	LTBMU	P	1928	HIST.RES.	DOE-09-98-0007-0006	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118977			LOT #5 / ECHO ROAD TRACT	LTBMU	P	1928	HIST.RES.	DOE-09-98-0007-0007	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118978			LOT #6 / ECHO ROAD TRACT	LTBMU	P		HIST.RES.	DOE-09-98-0007-0008	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118979			LOT #10, ECHO ROAD TRACT	LTBMU	P	1923	HIST.RES.	DOE-09-98-0007-0009	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118980			LOT 11, ECHO ROAD TRACT	LTBMU	P		HIST.RES.	DOE-09-98-0007-0010	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118981			LOT 13, ECHO ROAD TRACT	LTBMU	P	1927	HIST.RES.	DOE-09-98-0007-0011	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118982			LOT 18, ECHO ROAD TRACT	LTBMU	P		HIST.RES.	DOE-09-98-0007-0012	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118983			LOT 19, ECHO ROAD TRACT	LTBMU	P	1961	HIST.RES.	DOE-09-98-0007-0013	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	

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118984			LOT 20, ECHO ROAD TRACT	LTBMU	P	1928	HIST.RES.	DOE-09-98-0007-0014	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118985			LOT 21, ECHO ROAD TRACT	LTBMU	P		HIST.RES.	DOE-09-98-0007-0015	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118986			LOT 22, ECHO ROAD TRACT	LTBMU	P		HIST.RES.	DOE-09-98-0007-0016	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118987			LOT 23, ECHO ROAD TRACT	LTBMU	P	1949	HIST.RES.	DOE-09-98-0007-0017	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118988			LOT 24, ECHO ROAD TRACT	LTBMU	P	1949	HIST.RES.	DOE-09-98-0007-0018	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118989			LOT 25, ECHO ROAD TRACT	LTBMU	P		HIST.RES.	DOE-09-98-0007-0019	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118990			LOT #26 / ECHO ROAD TRACT	LTBMU	P	1928	HIST.RES.	DOE-09-98-0007-0020	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118991			LOT #28 / ECHO ROAD TRACT	LTBMU	P		HIST.RES.	DOE-09-98-0007-0021	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118992			LOT #29 / ECHO ROAD TRACT	LTBMU	P	1925	HIST.RES.	DOE-09-98-0007-0022	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118993			LOT #31 / ECHO ROAD TRACT	LTBMU	P	1925	HIST.RES.	DOE-09-98-0007-0023	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118994			LOT #32 / ECHO ROAD TRACT	LTBMU	P		HIST.RES.	DOE-09-98-0007-0024	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118995			LOT #33 / ECHO ROAD TRACT	LTBMU	P	1927	HIST.RES.	DOE-09-98-0007-0025	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118996			LOT #34 / ECHO ROAD TRACT	LTBMU	P	1931	HIST.RES.	DOE-09-98-0007-0026	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118997			LOT #35 / ECHO ROAD TRACT	LTBMU	P	1930	HIST.RES.	DOE-09-98-0007-0027	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118998			LOT #38 / ECHO ROAD TRACT	LTBMU	P		HIST.RES.	DOE-09-98-0007-0028	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
118999			LOT #39 / ECHO ROAD TRACT	LTBMU	P		HIST.RES.	DOE-09-98-0007-0029	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
119000			LOT #41 / ECHO ROAD TRACT	LTBMU	P		HIST.RES.	DOE-09-98-0007-0030	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
119001			LOT #43 / ECHO ROAD TRACT	LTBMU	P	1932	HIST.RES.	DOE-09-98-0007-0031	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
119002			LOT #45 / ECHO ROAD TRACT	LTBMU	P	1951	HIST.RES.	DOE-09-98-0007-0032	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
119003			LOT #46 / ECHO ROAD TRACT	LTBMU	P	1960	HIST.RES.	DOE-09-98-0007-0033	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
119005			LOT #47 / ECHO ROAD TRACT	LTBMU	P	1940	HIST.RES.	DOE-09-98-0007-0034	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
119007			LOT #48 / ECHO ROAD TRACT	LTBMU	P	1953	HIST.RES.	DOE-09-98-0007-0035	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
119008			LOT #49 / ECHO ROAD TRACT	LTBMU	P		HIST.RES.	DOE-09-98-0007-0036	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
119009			LOT #50 / ECHO ROAD TRACT	LTBMU	P		HIST.RES.	DOE-09-98-0007-0037	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
119010			LOT #51 / ECHO ROAD TRACT	LTBMU	P	1923	HIST.RES.	DOE-09-98-0007-0038	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
119011			LOT #52 / ECHO ROAD TRACT	LTBMU			HIST.RES.	DOE-09-98-0007-0039	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
119013			LOT #54 / ECHO ROAD TRACT	LTBMU	P	1946	HIST.RES.	DOE-09-98-0007-0040	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	

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119014			LOT #55 / ECHO ROAD TRACT	LTBMU	P	1945	HIST.RES.	DOE-09-98-0007-0041	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
119015			LOT #56 / ECHO ROAD TRACT	LTBMU		1940	HIST.RES.	DOE-09-98-0007-0042	11/12/98	6Y	
							PROJ.REVW.	USFS980922B	11/12/98	6Y	
171002			HIGH MEADOWS DIVERSIONARY DITCH CO	LTBMU	F		PROJ.REVW.	USFS071019B	11/19/07	6Y	
172614			ECHO SUMMIT LODGE OUTBUILDING #2	LTBMU	F	1928	PROJ.REVW.	USFS070511A	11/19/07	6Y	
153118			FISH HATCHERY TRACT	LTBMU		1914	HIST.RES.	DOE-09-04-0005-9999	10/27/04	2S2	C
							PROJ.REVW.	USFS040910C	10/27/04	2S2	C
067729			ANGORA RIDGE LOOKOUT	LTBMU	F	1924	HIST.RES.	DOE-09-89-0001-0000	12/14/89	2S2	AC
							PROJ.REVW.	USFS891005B	12/14/89	2S2	AC
068080			TAHOE TIM TRAIL SEGMENT 3 FS 05-19	LTBMU	U		PROJ.REVW.	USFS890831C	09/13/89	6Y	
072759	0		ECHO LAKE CHALET	LTBMU	U	1938	HIST.RES.	DOE-09-91-0003-0000	07/30/91	6Y	
							PROJ.REVW.	USFS910708A	07/30/91	6Y	
072760	0		ECHO LAKE MINI HYDRO SITE (CA-EL-2	LTBMU	U	1939	HIST.RES.	DOE-09-91-0002-0000	07/30/91	6Y	
							PROJ.REVW.	USFS910708A	07/30/91	6Y	
072761	0		ECHO LAKE DAM	LTBMU	U	1876	HIST.RES.	DOE-09-91-0001-0000	07/30/91	6Y	
							PROJ.REVW.	USFS910708A	07/30/91	6Y	
155055	3851	PENTAGON DR		LTBMU		1953	PROJ.REVW.	USFS050222A	03/24/05	6Y	
155056	3857	PENTAGON DR		LTBMU		1950	PROJ.REVW.	USFS050222A	03/24/05	6Y	
170264	3030	SR 89	DUPLEX, MEYERS WORK STATION BUILDI	LTBMU	F	1946	PROJ.REVW.	USFS070914A	10/10/07	6Y	
170260	3030	SR 89	A HOUSE, MEYERS WORK STATION BUILD	LTBMU	F	1940	PROJ.REVW.	USFS070914A	10/10/07	6Y	
170257	3030	SR 89	MEYERS RANGER STATION	LTBMU	F	1938	PROJ.REVW.	USFS070914A	10/10/07	6Y	
170259	3030	SR 89	OFFICE, MEYERS WORK STATION	LTBMU	F	1938	PROJ.REVW.	USFS070914A	10/10/07	6Y	
170261	3030	SR 89	'A' GARAGE, MEYERS WORK STATION BL	LTBMU	F	1958	PROJ.REVW.	USFS070914A	10/10/07	6Y	
170262	3030	SR 89	'B' HOUSE, MEYERS WORK STATION BLD	LTBMU	F	1940	PROJ.REVW.	USFS070914A	10/10/07	6Y	
170263	3030	SR 89	'B' SHED, MEYERS WORK STATION BLDG	LTBMU	F	1958	PROJ.REVW.	USFS070914A	10/10/07	6Y	
153133			LILY LAKE / LOT #5 / BUILDING #5	(VIC) LTBMU		1949	HIST.RES.	DOE-09-04-0006-0004	10/28/04	2S2	C
							PROJ.REVW.	USFS040910B	10/28/04	2S2	C
152461			FALLEN LEAF LODGE LOT #9	(VIC) LTBMU		1943	HIST.RES.	DOE-09-05-0001-0004	02/09/05	6Y	
							PROJ.REVW.	USFS040910A	02/09/05	6Y	
152460			FALLEN LEAF LODGE LOT #7	(VIC) LTBMU	U	1921	HIST.RES.	DOE-09-05-0001-0003	02/09/05	6Y	
							PROJ.REVW.	USFS040910A	02/09/05	6Y	
152464			FALLEN LEAF LODGE LOT 14	(VIC) LTBMU		1926	HIST.RES.	DOE-09-05-0001-0006	02/09/05	6Y	
							PROJ.REVW.	USFS040910A	02/09/05	6Y	
172611			ECHO SUMMIT LODGE	(VIC) LTBMU	F	1928	PROJ.REVW.	USFS070511A	11/19/07	6Y	
172613			ECHO SUMMIT LODGE OUTBUILDING #1	(VIC) LTBMU	F	1928	PROJ.REVW.	USFS070511A	11/19/07	6Y	
135580			CINDER BLOCK INCINERATOR	(VIC) LTBMU	P		HIST.RES.	DOE-09-02-0028-0000	09/23/02	6Y	
							PROJ.REVW.	USFS020815A	09/23/02	6Y	
135581			CABIN/ LTBMU	(VIC) LTBMU	P		HIST.RES.	DOE-09-02-0029-0000	09/23/02	6Y	
							PROJ.REVW.	USFS020815A	09/23/02	6Y	
152367			FIR CRAGS RECREATION RESIDENCE TRA	(VIC) LTBMU		1954	HIST.RES.	DOE-19-04-0004-0001	11/19/04	6Y	
							PROJ.REVW.	USFS040907E	11/19/04	6Y	
152368			FIR CRAGS RECREATION RESIDENCE TRA	(VIC) LTBMU		1960	HIST.RES.	DOE-09-04-0004-0001	11/19/04	6Y	
							PROJ.REVW.	USFS040907E	11/19/04	6Y	
152369			FIR CRAGS RECREATION RESIDENCE TRA	(VIC) LTBMU		1953	HIST.RES.	DOE-09-04-0004-0003	11/19/04	6Y	
							PROJ.REVW.	USFS040907E	11/19/04	6Y	
152370			FIR CRAGS RECREATION RESIDENCE TRA	(VIC) LTBMU		1949	HIST.RES.	DOE-09-04-0004-0004	11/19/04	6Y	
							PROJ.REVW.	USFS040907E	11/19/04	6Y	
152372			FIR CRAGS RECREATION RESIDENCE TRA	(VIC) LTBMU		1961	HIST.RES.	DOE-09-04-0004-0005	11/19/04	6Y	
							PROJ.REVW.	USFS040907E	11/19/04	6Y	
152373			FIR CRAGS RECREATION RESIDENCE TRA	(VIC) LTBMU		1953	HIST.RES.	DOE-09-04-0004-0006	11/19/04	6Y	
							PROJ.REVW.	USFS040907E	11/19/04	6Y	
152374			FIR CRAGS RECREATION RESIDENCE TRA	(VIC) LTBMU		1952	HIST.RES.	DOE-09-04-0004-0007	11/19/04	6Y	

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							PROJ.REVW.	USFS040907E	11/19/04	6Y	
152375			FIR CRAGS RECREATION RESIDENCE TRA	(VIC) LTBMU		1955	HIST.RES.	DOE-09-04-0004-0008	11/19/04	6Y	
							PROJ.REVW.	USFS040907E	11/19/04	6Y	
152376			FIR CRAGS RECREATION RESIDENCE TRA	(VIC) LTBMU		1950	HIST.RES.	DOE-09-04-0004-0009	11/19/04	6Y	
							PROJ.REVW.	USFS040907E	11/19/04	6Y	
152377			FIR CRAGS RECREATION RESIDENCE TRA	(VIC) LTBMU		1961	HIST.RES.	DOE-09-04-0004-0010	11/19/04	6Y	
							PROJ.REVW.	USFS040907E	11/19/04	6Y	
152378			FIR CRAGS RECREATION RESIDENCE TRA	(VIC) LTBMU		1957	HIST.RES.	DOE-09-04-0004-0011	11/19/04	6Y	
							PROJ.REVW.	USFS040907E	11/19/04	6Y	
152380			FIR CRAGS RECREATION RESIDENCE TRA	(VIC) LTBMU		1955	HIST.RES.	DOE-09-04-0004-0012	11/19/04	6Y	
							PROJ.REVW.	USFS040907E	11/19/04	6Y	
152384			FIR CRAGS RECREATION RESIDENCE TRA	(VIC) LTBMU		1960	HIST.RES.	DOE-09-04-0004-0013	11/19/04	6Y	
							PROJ.REVW.	USFS040907E	11/19/04	6Y	
152387			FIR CRAGS RECREATION RESIDENCE TRA	(VIC) LTBMU		1973	HIST.RES.	DOE-09-04-0004-0014	11/19/04	6Y	
							PROJ.REVW.	USFS040907E	11/19/04	6Y	
152389			FIR CRAGS RECREATION RESIDENCE TRA	(VIC) LTBMU		1972	HIST.RES.	DOE-09-04-0004-0015	11/19/04	6Y	
							PROJ.REVW.	USFS040907E	11/19/04	6Y	
152391			FIR CRAGS RECREATION RESIDENCE TRA	(VIC) LTBMU		1953	HIST.RES.	DOE-09-04-0004-0016	11/19/04	6Y	
							PROJ.REVW.	USFS040907E	11/19/04	6Y	
152392			FIR CRAGS RECREATION RESIDENCE TRA	(VIC) LTBMU			HIST.RES.	DOE-09-04-0004-9999	11/19/04	6Y	
							PROJ.REVW.	USFS040907E	11/19/04	6Y	
152455			FALLEN LEAF LODGE RECREATION RESID	(VIC) LTBMU	U	1914	HIST.RES.	DOE-09-05-0001-9999	02/09/05	6Y	
							PROJ.REVW.	USFS040910A	02/09/05	6Y	
152457			FALLEN LEAF LODGE LOT #5	(VIC) LTBMU	U	1957	HIST.RES.	DOE-09-05-0001-0001	02/09/05	6Y	
							PROJ.REVW.	USFS040910A	02/09/05	6Y	
152458			FALLEN LEAF LODGE / LOT #6	(VIC) LTBMU		1920	HIST.RES.	DOE-09-05-0001-0002	02/09/05	6Y	
							PROJ.REVW.	USFS040910A	02/09/05	6Y	
152462			FALLEN LEAF LODGE LOT 13	(VIC) LTBMU		1931	HIST.RES.	DOE-09-05-0001-0005	02/09/05	6Y	
							PROJ.REVW.	USFS040910A	02/09/05	6Y	
152465			FALLEN LEAF LODGE LOT 15	(VIC) LTBMU		1926	HIST.RES.	DOE-09-05-0001-0007	02/09/05	6Y	
							PROJ.REVW.	USFS040910A	02/09/05	6Y	
152467			FALLEN LEAF LODGE LOT 16	(VIC) LTBMU		1925	HIST.RES.	DOE-09-05-0001-0008	02/09/05	6Y	
							PROJ.REVW.	USFS040910A	02/09/05	6Y	
152469			FALLEN LEAF LODGE LOT 17	(VIC) LTBMU		1947	HIST.RES.	DOE-09-05-0001-0009	02/09/05	6Y	
							PROJ.REVW.	USFS040910A	02/09/05	6Y	
152470			FALLEN LEAF LODGE LOT 18	(VIC) LTBMU		1937	HIST.RES.	DOE-09-05-0001-0010	02/09/05	6Y	
							PROJ.REVW.	USFS040910A	02/09/05	6Y	
152471			FALLEN LEAF LODGE LOT 20	(VIC) LTBMU		1949	HIST.RES.	DOE-09-05-0001-0011	02/09/05	6Y	
							PROJ.REVW.	USFS040910A	02/09/05	6Y	
152472			FALLEN LEAF LODGE LOT 21	(VIC) LTBMU		1924	HIST.RES.	DOE-09-05-0001-0012	02/09/05	2D2	
							PROJ.REVW.	USFS040910A	02/09/05	2D2	
152473			FALLEN LEAF LODGE LOT 22	(VIC) LTBMU		1962	HIST.RES.	DOE-09-05-0001-0013	02/09/05	6Y	
							PROJ.REVW.	USFS040910A	02/09/05	6Y	
152474			FALLEN LEAF LODGE LOT 23	(VIC) LTBMU		1943	HIST.RES.	DOE-09-05-0001-0014	02/09/05	6Y	
							PROJ.REVW.	USFS040910A	02/09/05	6Y	
152476			FALLEN LEAF LODGE LOT 25	(VIC) LTBMU		1923	HIST.RES.	DOE-09-05-0001-0015	02/09/05	6Y	
							PROJ.REVW.	USFS040910A	02/09/05	6Y	
152477			FALLEN LEAF LODGE LOT 26	(VIC) LTBMU		1950	HIST.RES.	DOE-09-05-0001-0016	02/09/04	6Y	
							PROJ.REVW.	USFS040910A	02/09/04	6Y	
152479			FALLEN LEAF LODGE LOT 27	(VIC) LTBMU		1965	HIST.RES.	DOE-09-05-0001-0017	02/09/05	6Y	
							PROJ.REVW.	USFS040910A	02/09/05	6Y	
152480			FALLEN LEAF LODGE LOT 28	(VIC) LTBMU		1936	HIST.RES.	DOE-09-05-0001-0018	02/09/05	6Y	
							PROJ.REVW.	USFS040910A	02/09/05	6Y	

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152482			FALLEN LEAF LODGE LOT 29	(VIC) LTBMU		1950	HIST.RES.	DOE-09-05-0001-0019	02/09/04	2D2	
							PROJ.REVW.	USFS040910A	02/09/04	2D2	
152484			FALLEN LEAF LODGE LOT 30	(VIC) LTBMU		1920	HIST.RES.	DOE-09-04-0001-0020	02/09/04	6Y	
							PROJ.REVW.	USFS040910A	02/09/04	6Y	
152485			FALLEN LEAF LODGE LOT 31	(VIC) LTBMU		1920	HIST.RES.	DOE-09-05-0001-0021	02/09/05	6Y	
							PROJ.REVW.	USFS040910A	02/09/05	6Y	
152486			FALLEN LEAF LODGE LOT 32	(VIC) LTBMU		1914	HIST.RES.	DOE-09-05-0001-0022	02/09/05		
							PROJ.REVW.	USFS040910A	02/09/05		
153121			FISH HATCHERY LOT #3 / BUILDING #1	(VIC) LTBMU		1929	HIST.RES.	DOE-09-04-0005-0001	10/27/04	2S2	C
							PROJ.REVW.	USFS040910C	10/27/04	2S2	C
153122			FISH HATCHERY / LOT #4 / BUILDINGS	(VIC) LTBMU			HIST.RES.	DOE-09-04-0005-0002	10/27/04	2S2	C
							PROJ.REVW.	USFS040910C	10/27/04	2S2	C
153123			FISH HATCHERY / LOT #6 / BUILDING	(VIC) LTBMU			HIST.RES.	DOE-09-04-0005-0003	10/27/04	2S2	C
							PROJ.REVW.	USFS040910C	10/27/04	2S2	C
153125			LILY LAKE TRACT	(VIC) LTBMU		1914	HIST.RES.	DOE-09-04-0006-9999	10/28/04	2S2	C
							PROJ.REVW.	USFS040910B	10/28/04	2S2	C
153127			LTBMU, LOT 2, BUILDING #999-2	(VIC) LTBMU		1926	HIST.RES.	DOE-09-04-0006-0001	10/28/04	2S2	C
							PROJ.REVW.	USFS040910B	10/28/04	2S2	C
153129			LILY LAKE / LOT #3 / BUILDING #999	(VIC) LTBMU		1927	HIST.RES.	DOE-09-04-0006-0002	10/28/04	2S2	C
							PROJ.REVW.	USFS040910B	10/28/04	2S2	C
153132			LILY LAKE / LOT #4 / BUILDING #999	(VIC) LTBMU		1929	HIST.RES.	DOE-09-04-0006-0003	10/28/04	2S2	C
							PROJ.REVW.	USFS040910B	10/28/04	2S2	C
153134			LILY LAKE / LOT #7 / BUILDING #999	(VIC) LTBMU		1938	HIST.RES.	DOE-09-04-0006-0005	10/28/04	2S2	C
							PROJ.REVW.	USFS040910B	10/28/04	2S2	C
153135			LILY LAKE / LOT #8 / BUILDING #999	(VIC) LTBMU		1939	HIST.RES.	DOE-09-04-0006-0006	10/28/04	2S2	C
							PROJ.REVW.	USFS040910B	10/28/04	2S2	C
153136			LILY LAKE / LOT #9 / BUILDING #999	(VIC) LTBMU		1941	HIST.RES.	DOE-09-04-0006-0007	10/28/04	2S2	C
							PROJ.REVW.	USFS040910B	10/28/04	2S2	C
153138			LILY LAKE / LOT #10 / BUILDING #99	(VIC) LTBMU		1928	HIST.RES.	DOE-09-04-0006-0008	10/28/04	2S2	C
							PROJ.REVW.	USFS040910B	10/28/04	2S2	C
153139			LILY LAKE / LOT #11 / BUILDING #99	(VIC) LTBMU		1929	HIST.RES.	DOE-09-04-0006-0009	10/28/04	2S2	C
							PROJ.REVW.	USFS040910B	10/28/04	2S2	C
175879			SUGAR PINE POINT STATE PARK LINEAR	(VIC) MEEKS BAY	S		PROJ.REVW.	BUR090601A	06/04/09	6Y	
176805			CAMP WASIU	(VIC) MEEKS BAY	F		PROJ.REVW.	USFS090828A	10/19/08	6Y	
124830		MOFFETT BLVD		MOUNTAIN VIEW	P		PROJ.REVW.	FCC000605B	06/15/00	6Y	
103518			PILOT HILL FIRE LOOKOUT STATION	(VIC) PILOT HILL	S	1958	ST.AG.5024	ST.AG.-3540-0074	09/19/96	4CM	AD
046408	09-004467	SR 49	BAYLEY HOTEL	(VIC) PILOT HILL	C	1863	HIST.RES.	NPS-78000660-0000	12/18/78	1S	C
							HIST.SURV.	5664-0001-0000	12/18/78	1S	C
089627		SR 49	CALIFORNIA'S FIRST GRANGE HALL SIT	(VIC) PILOT HILL	P	1880	HIST.RES.	SHL-0551-0000	03/29/56	7L	
154871			BELL TOWER	PLACERVILLE		1910	HIST.SURV.	5667-0110-0000	04/01/01	7R	
131355			FAIRGROUNDS OVERCROSSING/ BRIDGE #	PLACERVILLE	S	1963	HIST.RES.	DOE-09-02-0023-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
131346			MISSOURI FLAT DITCH	PLACERVILLE		1873	HIST.RES.	DOE-09-02-0017-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
131352			BRIDGE #25-0005L	PLACERVILLE	S	1963	HIST.RES.	DOE-09-02-0021-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	

PROPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
131354			BRIDGE #25-0005R	PLACERVILLE	S	1963	HIST.RES.	DOE-09-02-0022-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
131347			FARMER'S FREE DITCH	PLACERVILLE		1920	HIST.RES.	DOE-09-02-0018-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
131349			OLD US ROUTE 50	PLACERVILLE	S	1937	HIST.RES.	DOE-09-02-0019-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
131341			STONE STRUCTURE	PLACERVILLE		1930	HIST.RES.	DOE-09-02-0012-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
131351			OLD WEBER CREEK BRIDGE/ BRIDGE #25	PLACERVILLE	S	1937	HIST.RES.	DOE-09-02-0020-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
131356			MISSOURI FLAT ROAD OVERCROSSING /	PLACERVILLE	S	1969	HIST.RES.	DOE-09-02-0024-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
067434			CHILI BAR BRIDGE 25-33	PLACERVILLE	U	1922	PROJ.REVW.	FHWA900208A	06/12/90	2S2	C
046413	09-005062	2501 BEDFORD AVE	HATTIE (GOLD BUG) MINES & STAMPMIL	PLACERVILLE	M	1860	ST.FND.PRG	619.0-84-HP-09-005	09/30/86	3	
							HIST.RES.	NPS-85003522-0000	11/15/85	1S	AC
							ST.FND.PRG	619.0-84-HP-09-001	12/31/84	3	
							HIST.RES.	SPHI-ELD-004	11/16/84	7L	
							HIST.SURV.	5667-0005-0000		3S	
046493	09-005147	2934 BEDFORD AVE	PLUMADO HOUSE, GLADWELL HOUSE	PLACERVILLE	P	1860	HIST.SURV.	5667-0056-0000		7N	
046494	09-005148	2940 BEDFORD AVE	PLACERVILLE SHAKESPEARE CLUB	PLACERVILLE	P	1930	HIST.SURV.	5667-0057-0000		3S	
046492	09-005146	2957 BEDFORD AVE	BOSQUIT HOUSE	PLACERVILLE	P	1900	HIST.SURV.	5667-0055-0000		3S	
046491	09-005145	2977 BEDFORD AVE	A. J. KENNEDY HOUSE, IRVIN APARTME	PLACERVILLE	P	1878	HIST.SURV.	5667-0054-0000		7N	
046490	09-005144	2985 BEDFORD AVE	INGHAM ATWOOD HOUSE, FERGUSON HOUS	PLACERVILLE	P	1870	HIST.SURV.	5667-0053-0000		7N	
046489	09-004695	2991 BEDFORD AVE	GOODRICH HOUSE	PLACERVILLE	P	1918	HIST.SURV.	5667-0052-0000		7N	
090342		BELFORD AVE	OLD DRY DIGGINS-OLD HANGTOWN-PLACE	PLACERVILLE	C	1848	HIST.RES.	SHL-0475-0000	11/30/50	7L	
046503	09-005154	1160 BROADWAY	WILCOX WAREHOUSE	PLACERVILLE	P	1861	HIST.SURV.	5667-0066-0000		3S	
075498		2480 CARSON RD	NATURAL AREA-EDDY TREE BREEDING ST	PLACERVILLE	F	1925	HIST.SURV.	5667-0067-0019	03/31/87	1D	AC
075493		2480 CARSON RD	INSECTARY-EDDY TREE BREEDING STATI	PLACERVILLE	F	1957	HIST.SURV.	5667-0067-0016	03/31/87	6X	
074323		2480 CARSON RD	EDDY TREE BREEDING STATION / INSTI	PLACERVILLE	F	1925	HIST.RES.	NPS-87000485-0000	03/31/87	1S	AC
							HIST.SURV.	5667-0067-9999	03/31/87	1S	AC
075467		2480 CARSON RD	ADMINISTRATIVE BLDG-EDDY TREE BREE	PLACERVILLE	F	1937	HIST.SURV.	5667-0067-0001	03/31/87	1D	ABC
075468		2480 CARSON RD	MIROY LAB & OFFICE BLDG-EDDY TREE	PLACERVILLE	F	1938	HIST.SURV.	5667-0067-0002	03/31/87	1D	ABC
075470		2480 CARSON RD	STAFF HOUSE-EDDY TREE BREEDING STA	PLACERVILLE	F	1937	HIST.SURV.	5667-0067-0003	03/31/87	1D	ABC
075471		2480 CARSON RD	GUEST HOUSE-EDDY TREE BREEDING STA	PLACERVILLE	F	1936	HIST.SURV.	5667-0067-0004	03/31/87	1D	ABC
075473		2480 CARSON RD	SUPERINTENDENT'S HOUSE-EDDY TREE B	PLACERVILLE	F	1936	HIST.SURV.	5667-0067-0005	03/31/87	1D	ABC
075475		2480 CARSON RD	WAREHOUSE / GARAGE-EDDY TREE BREED	PLACERVILLE	F	1936	HIST.SURV.	5667-0067-0006	03/31/87	1D	ABC
075476		2480 CARSON RD	GAS PUMP-EDDY TREE BREEDING STATIO	PLACERVILLE	F	1938	HIST.SURV.	5667-0067-0007	03/31/87	1D	ABC
075478		2480 CARSON RD	EAST GREENHOUSE-EDDY TREE BREEDING	PLACERVILLE	F	1937	HIST.SURV.	5667-0067-0008	03/31/87	1D	ABC
075480		2480 CARSON RD	PUMPHOUSE-EDDY TREE BREEDING STATI	PLACERVILLE	F	1937	HIST.SURV.	5667-0067-0009	03/31/87	1D	ABC
075481		2480 CARSON RD	WEST GREENHOUSE-EDDY TREE BREEDING	PLACERVILLE	F	1959	HIST.SURV.	5667-0067-0010	03/31/87	6X	
075483		2480 CARSON RD	NURSERY BLDG-EDDY TREE BREEDING ST	PLACERVILLE	F	1936	HIST.SURV.	5667-0067-0011	03/31/87	6X	
075485		2480 CARSON RD	CHEMICAL STORAGE BLDG-EDDY TREE BR	PLACERVILLE	F	1983	HIST.SURV.	5667-0067-0012	03/31/87	6X	
075487		2480 CARSON RD	PAINT STORAGE BLDG-EDDY TREE BREED	PLACERVILLE	F	1963	HIST.SURV.	5667-0067-0013	03/31/87	6X	
075489		2480 CARSON RD	LATH HOUSE I-EDDY TREE BREEDING ST	PLACERVILLE	F	1969	HIST.SURV.	5667-0067-0015	03/31/87	6X	
075491		2480 CARSON RD	LATH HOUSE II-EDDY TREE BREEDING S	PLACERVILLE	F	1986	HIST.SURV.	5667-0067-0014	03/31/87	6X	
075494		2480 CARSON RD	EDDY ABORETUM-EDDY TREE BREEDING S	PLACERVILLE	F	1925	HIST.SURV.	5667-0067-0017	03/31/87	1D	AC
075496		2480 CARSON RD	NURSERY-EDDY TREE BREEDING STATION	PLACERVILLE	F	1925	HIST.SURV.	5667-0067-0018	03/31/87	1D	AC
075502		2480 CARSON RD	PONDEROSA PROGENIES TEST-EDDY TREE	PLACERVILLE	F	0	HIST.SURV.	5667-0067-0021	03/31/87	1D	AC
075504		2480 CARSON RD	PONDEROSA ELEVATIONAL TEST-EDDY TR	PLACERVILLE	F	0	HIST.SURV.	5667-0067-0022	03/31/87	1D	AC
075500		2480 CARSON RD	HYBRID PLANTATIONS-EDDY TREE BREED	PLACERVILLE	F	0	HIST.SURV.	5667-0067-0020	03/31/87	1D	AC
046463		CEDAR RAVINE ST	CEDAR RAVINE RESIDENTIAL DIST	PLACERVILLE	P	1880	HIST.SURV.	5667-0050-9999		7N	
046461	09-005114	2139 CEDAR RAVINE ST		PLACERVILLE	P	1880	HIST.SURV.	5667-0050-0004		7N	
046462	09-005087	3059 CEDAR RAVINE ST	COMBELLACK BLAIR HOUSE	PLACERVILLE	P	1895	TAX.CERT.	537.9-09-0001	09/28/92	7K	
							HIST.RES.	NPS-85000259-0000	02/14/85	1S	C
							HIST.SURV.	5667-0050-0005	02/13/85	1D	
046459	09-005112	3062 CEDAR RAVINE ST		PLACERVILLE	P	1851	HIST.SURV.	5667-0050-0002		7N	

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046460	09-005113	3116 CEDAR RAVINE ST		PLACERVILLE	P	1898	HIST.SURV.	5667-0050-0003		7N	
154724		3182 CENTER ST	Z PIES	PLACERVILLE	P	1890	PROJ.REVW.	FHWA050519K	06/27/05	6Y	
046457	09-005111	3022 CHAPEL ST	GEBENHEIM/FAUSEL HOUSE AND BREWERY	PLACERVILLE	P	1861	HIST.SURV.	5667-0049-0000	01/01/78	2S	
							PROJ.REVW.	65000769	11/17/75	2S	
154723		CLAY ST	HANGTOWN CREEK RETAINING WALL	PLACERVILLE	M	1905	PROJ.REVW.	FHWA050519K	06/27/05	6Y	
046495	09-005149	2985 CLAY ST	JAMES BLAIR HOUSE	PLACERVILLE	P	1900	HIST.SURV.	5667-0058-0000		3S	
046488		COLOMA ST	COLOMA/SPRING ST HISTORIC DIST	PLACERVILLE	P	1860	HIST.SURV.	5667-0051-9999		7N	
046470	09-005122	2883 COLOMA ST		PLACERVILLE	P	1900	HIST.SURV.	5667-0051-0007		7N	
046471	09-005123	2889 COLOMA ST		PLACERVILLE	P	1900	HIST.SURV.	5667-0051-0008		7N	
046472	09-005124	2895 COLOMA ST		PLACERVILLE	P	1900	HIST.SURV.	5667-0051-0009		7N	
046473	09-005125	2904 COLOMA ST		PLACERVILLE	P	1900	HIST.SURV.	5667-0051-0010		7N	
046474	09-005126	2910 COLOMA ST		PLACERVILLE	P	1930	HIST.SURV.	5667-0051-0011		7N	
046475	09-005127	2916 COLOMA ST		PLACERVILLE	P	1910	HIST.SURV.	5667-0051-0012		7N	
046476	09-005128	2920 COLOMA ST		PLACERVILLE	P	1900	HIST.SURV.	5667-0051-0013		7N	
046477	09-005129	2923 COLOMA ST		PLACERVILLE	P	1900	HIST.SURV.	5667-0051-0014		7N	
046478	09-005130	2934 COLOMA ST		PLACERVILLE	P	1870	HIST.SURV.	5667-0051-0015		7N	
046479	09-005131	2935 COLOMA ST		PLACERVILLE	P	1920	HIST.SURV.	5667-0051-0016		7N	
046480	09-005132	2941 COLOMA ST		PLACERVILLE	P	1900	HIST.SURV.	5667-0051-0017		7N	
046481	09-005133	2942 COLOMA ST		PLACERVILLE	P	1900	HIST.SURV.	5667-0051-0018		7N	
046482	09-005134	2951 COLOMA ST		PLACERVILLE	P	1920	HIST.SURV.	5667-0051-0019		7N	
046483	09-005135	2955 COLOMA ST		PLACERVILLE	P	1930	HIST.SURV.	5667-0051-0020		7N	
046484	09-005136	2960 COLOMA ST		PLACERVILLE	P	1909	HIST.SURV.	5667-0051-0021		7N	
046485		2971 COLOMA ST		PLACERVILLE	P	1880	HIST.SURV.	5667-0051-0022		7N	
046411	09-005060	2979 COLOMA ST	METHODIST EPISCOPAL CHURCH / EPISC	PLACERVILLE	P	1890	HIST.RES.	SPHI-ELD-003	07/31/79	7L	
							HIST.RES.	NPS-77000291-0000	11/17/77	1S	
							HIST.SURV.	5667-0003-0000	01/14/77	1S	
046486	09-005138	2980 COLOMA ST	PLACERVILLE ROOMS	PLACERVILLE	P	1855	HIST.SURV.	5667-0051-0023		7N	
099948		2960 CONRAD ST		PLACERVILLE	P	1910	PROJ.REVW.	HUD951204B	01/04/96	6Y	
161865		EL DORADO RD	MISSOURI FLAT DITCH	PLACERVILLE	P	1873	PROJ.REVW.	COE991229A	01/27/00	2S2	A
161867		3655 EL DORADO RD	MISSOURI FLAT CEMETERY	PLACERVILLE	U	1856	PROJ.REVW.	COE991229A	01/27/00	2S2	ACD
171379		642 EXCELSIOR RD		PLACERVILLE	P	1957	PROJ.REVW.	HUD080519E	06/12/08	6Y	
131345		FORNI RD	BARN	PLACERVILLE	P		HIST.RES.	DOE-09-02-0016-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
131338		3608 FORNI RD		PLACERVILLE	P	1953	HIST.RES.	DOE-09-02-0009-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
131342		3610 FORNI RD		PLACERVILLE	P		HIST.RES.	DOE-09-02-0013-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
131343		3612 FORNI RD		PLACERVILLE	P		HIST.RES.	DOE-09-02-0014-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
131344		3614 FORNI RD		PLACERVILLE	P		HIST.RES.	DOE-09-02-0015-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
046496	09-005150	2925 GRANDVIEW AVE	HUTCHISON HOUSE, GERACI HOUSE	PLACERVILLE	P		HIST.SURV.	5667-0059-0000		7N	
089206		850 GREEN ST		PLACERVILLE	P	1916	PROJ.REVW.	HUD940412D	04/27/94	6Y	
131339		2490 HEADINGTON RD		PLACERVILLE	P	1930	HIST.RES.	DOE-09-02-0010-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
131340		2500 HEADINGTON RD		PLACERVILLE	P	1930	HIST.RES.	DOE-09-02-0011-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
046487	09-005139	805 LILAC LANE	HENRY S. MOREY HOUSE	PLACERVILLE	P	1860	HIST.SURV.	5667-0051-0024		7N	
070115		1500 LOTUS RD	NORTH HOUSE/ARROWBEE RANCH	PLACERVILLE	U	1905	PROJ.REVW.	FHWA910227A	03/26/91	6Y	
154887		MAIN ST	VIOLETS ARE BLUE	PLACERVILLE	P		HIST.SURV.	5667-0126-0000	04/01/01	7R	
089710		MAIN ST	SITE OF STUDEBAKER'S SHOP	PLACERVILLE	P		HIST.RES.	SHL-0142-0000	06/06/34	7L	
090644		MAIN ST	PLACERVILLE - CA OVERLAND PONY EXP	PLACERVILLE	P	1860	HIST.RES.	SHL-0701-0000	09/11/59	7L	
046435	09-005084	82 MAIN ST	OKEEFE RESIDENCE & TOLL HOUSE, HER	PLACERVILLE	P	1860	HIST.SURV.	5667-0027-0000		7N	
154713	09-005324	247 MAIN ST	EL DORADO SAVINGS BANK	PLACERVILLE	P	1895	HIST.SURV.	5667-0069-0000	04/01/01	7R	
							PROJ.REVW.	FHWA050519K	06/27/05	6Y	
046436	09-005085	248 MAIN ST	BAYLESS & COMPANY BRICK, PLACERVIL	PLACERVILLE	P	1853	HIST.SURV.	5667-0070-0000	04/01/01	7R	

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							HIST.SURV.	5667-0028-0000		7N	
046437	09-005086	250 MAIN ST	CIT BAKERY/LACY & COMPANY BAKERY,	PLACERVILLE	P	1856	HIST.SURV.	5667-0071-0000	04/01/01	7R	
							HIST.SURV.	5667-0029-0000		7N	
046434	09-005083	251 MAIN ST	LA CASA GRANDE RESTAURANT/CANTINA,	PLACERVILLE	P	1856	HIST.SURV.	5667-0072-0000	04/01/01	7R	
							PROJ.REVW.	FHWA050519K	06/27/05	6Y	
							HIST.SURV.	5667-0026-0000		7N	
046433	09-005082	253 MAIN ST	LANDECKERS BRICK, YOUNGS TRADING P	PLACERVILLE	P	1856	HIST.SURV.	5667-0025-0000		7N	
046438	09-005092	254 MAIN ST	BAYLESS AND COMPANY STORE, PHOT OF	PLACERVILLE	P	1855	HIST.SURV.	5667-0075-0000	04/01/01	7R	
							HIST.SURV.	5667-0030-0000		7N	
046432	09-005081	255 MAIN ST	OHIO HOUSE LODGING & RESTAURANT, L	PLACERVILLE	P	1856	HIST.SURV.	5667-0076-0000	04/01/01	7R	
							PROJ.REVW.	FHWA050519K	06/27/05	6Y	
							HIST.SURV.	5667-0024-0000		7N	
046439	09-005093	262 MAIN ST	ARCH SALOON/WINCHELLS FURNITURE, D	PLACERVILLE	P	1866	HIST.SURV.	5667-0077-0000	04/01/01	7R	
							HIST.SURV.	5667-0031-0000		3S	
046431	09-005080	263 MAIN ST	49ER CORNER SALOON, CHABLIS GALLER	PLACERVILLE	P	1886	HIST.SURV.	5667-0078-0000	04/01/01	7R	
							PROJ.REVW.	FHWA050519K	06/27/05	6Y	
							HIST.SURV.	5667-0023-0000		7N	
046440	09-005094	300 MAIN ST	CARY HOUSE, CARY HOUSE/RAFFLES HOT	PLACERVILLE	P	1866	HIST.SURV.	5667-0079-0000	04/01/01	7R	
							HIST.SURV.	5667-0032-0000		7N	
046430	09-005079	305 MAIN ST	BENSWANGERS & HERRICK BONSTELL, HA	PLACERVILLE	P	1852	HIST.SURV.	5667-0081-0000	04/01/01	7R	
							HIST.SURV.	5667-0022-0000		7N	
							HIST.RES.	SHL-0141-0000	06/06/34	7L	
046429	09-005078	311 MAIN ST	GELATO de ORO/ GOLDSMITH GALLERY	PLACERVILLE	P	1856	HIST.SURV.	5667-0082-0000	04/01/01	7R	
							HIST.SURV.	5667-0021-0000		7N	
154861	09-005333	312 MAIN ST	RUPLEY BUILDING	PLACERVILLE	P	1984	HIST.SURV.	5667-0083-0000	04/01/01	7R	
046441	09-005095	316 MAIN ST	THE BOOKERY	PLACERVILLE	P	1860	HIST.SURV.	5667-0085-0000	04/01/01	7R	
							HIST.SURV.	5667-0033-0000		7N	
069132	09-005335	318 MAIN ST	PLACERVILLE FLOWER SHOP	PLACERVILLE	P	1860	HIST.SURV.	5667-0086-0000	04/01/01	7R	
							MAINST.PRG	SIPLACERVILLE 6		7K	
069131	09-005336	320 MAIN ST	HOUSE SHOP	PLACERVILLE	P	1860	HIST.SURV.	5667-0087-0000	04/01/01	7R	
							MAINST.PRG	SIPLACERVILLE 5		7K	
046428	09-005077	325 MAIN ST	TRACY BUILDING	PLACERVILLE	P	1856	HIST.SURV.	5667-0088-0000	04/01/01	7R	
							HIST.SURV.	5667-0020-0000		7N	
154862	09-005337	326 MAIN ST	THE BOOKERY / SUNBURST	PLACERVILLE	P	1860	HIST.SURV.	5667-0089-0000	04/01/01	7R	
046427	09-005076	327 MAIN ST	MIERSON BUILDING/ PLACERVILLE CLOT	PLACERVILLE	P	1856	HIST.SURV.	5667-0090-0000	04/01/01	7R	
							HIST.SURV.	5667-0019-0000		7N	
046426	09-005075	339 MAIN ST	COMBELLACKS MEN STORE	PLACERVILLE	P	1856	HIST.SURV.	5667-0091-0000	04/01/01	7R	
							HIST.SURV.	5667-0018-0000		7N	
							MAINST.PRG	SIPLACERVILLE 4		7K	
154863	09-005340	346 MAIN ST	WINESMITH	PLACERVILLE	P	1800	HIST.SURV.	5667-0092-0000	04/01/01	7R	
154864	09-005341	348 MAIN ST	RIVER CITY BANK	PLACERVILLE	P	1800	HIST.SURV.	5667-0094-0000	04/01/01	7R	
046442	09-005096	352 MAIN ST	VAN VOORHIES IRON FRONT BUILDING,	PLACERVILLE	P	1856	HIST.SURV.	5667-0095-0000	04/01/01	7R	
							HIST.SURV.	5667-0034-0000		7N	
							MAINST.PRG	SIPLACERVILLE 1		7K	
046425	09-005074	359 MAIN ST	HARVEY DORSEY BRICK BUILDING, ROBI	PLACERVILLE	P	1856	HIST.SURV.	5667-0017-0000		7N	
046424	09-005073	359 MAIN ST	WHITE & METZLERS BRICK, ROBINSONS	PLACERVILLE	P	1856	HIST.SURV.	5667-0093-0000	04/01/01	7R	
							HIST.SURV.	5667-0016-0000		7N	
046443	09-005097	360 MAIN ST	PETTIT VAN VOORHIES DRUG STORE, FO	PLACERVILLE	P	1856	HIST.SURV.	5667-0096-0000	04/01/01	7R	
							HIST.SURV.	5667-0035-0000		7N	
046444	09-005098	364 MAIN ST	REYNOLDS AND COMPANY PROVISIONS ST	PLACERVILLE	P	1856	HIST.SURV.	5667-0097-0000	04/01/01	7R	
							HIST.SURV.	5667-0036-0000		7N	
154867	09-005338	366 MAIN ST		PLACERVILLE	P	1850	HIST.SURV.	5667-0098-0000	04/01/01	7R	
046423	09-005072	369 MAIN ST	SANTEX BUILDING	PLACERVILLE	P	1856	HIST.SURV.	5667-0099-0000	04/01/01	7R	
							HIST.SURV.	5667-0015-0000		3S	
							MAINST.PRG	SIPLACERVILLE 3		7K	
154868	09-005331	372 MAIN ST	GILS BAR & GENTLEMEN'S DEN	PLACERVILLE	P	1886	HIST.SURV.	5667-0100-0000	04/01/01	7R	

PROPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
069128		375 MAIN ST	RANDOLPH JEWELERS	PLACERVILLE	P	1856	HIST.SURV.	5667-0101-0000	04/01/01	7R	
							MAINST.PRG	SIPLACERVILLE 2		7K	
046445	09-005099	376 MAIN ST	ROUND TENT BAR AND CAFE	PLACERVILLE	P	1891	HIST.SURV.	5667-0102-0000	04/01/01	7R	
							HIST.SURV.	5667-0037-0000		7N	
046422	09-005071	379 MAIN ST	KLINE/BAMBERGER & HAAS STORES, D &	PLACERVILLE	P	1866	HIST.SURV.	5667-0103-0000	04/01/01	7R	
							HIST.SURV.	5667-0014-0000		7N	
046446	09-005100	384 MAIN ST	ROUND TENT STORE, BEVERLY'S FABRIC	PLACERVILLE	P	1856	HIST.SURV.	5667-0106-0000	04/01/01	7R	
							HIST.SURV.	5667-0038-0000		7N	
046421	09-005070	385 MAIN ST	PLAZA BUILDING, HANGTOWN BAKERY	PLACERVILLE	P	1866	HIST.SURV.	5667-0104-0000	04/01/01	7R	
							HIST.SURV.	5667-0013-0000		7N	
154869	09-005325	398 MAIN ST	MAIN STREET HOME	PLACERVILLE	P	1856	HIST.SURV.	5667-0107-0000	04/01/01	7R	
154870	09-005326	400 MAIN ST	ROCKY'S GALLERY AND GOLD JEWELERS	PLACERVILLE	P		HIST.SURV.	5667-0108-0000	04/01/01	7R	
046420	09-005069	409 MAIN ST	DAVIS & ROY PERIODICAL DEPOT, PLAC	PLACERVILLE	P	1856	HIST.SURV.	5667-0109-0000	04/01/01	7R	
							PROJ.REVW.	FHWA050519K	06/27/05	2S2	C
							HIST.SURV.	5667-0012-0000		7N	
046419	09-005068	413 MAIN ST	MASONIC TEMPLE, OLD TOWN CENTER	PLACERVILLE	P	1893	HIST.SURV.	5667-0111-0000	04/01/01	7R	
							PROJ.REVW.	FHWA050519K	06/27/05	2S2	AC
							HIST.SURV.	5667-0011-0000		7N	
154872	09-005329	414 MAIN ST		PLACERVILLE	P	1929	HIST.SURV.	5667-0112-0000	04/01/01	7R	
046418	09-005067	425 MAIN ST	LOWER FAIRCHILD BUILDING	PLACERVILLE	P	1903	HIST.SURV.	5667-0113-0000	04/01/01	7R	
							PROJ.REVW.	FHWA050519K	06/27/05	2S2	AC
							HIST.SURV.	5667-0010-0000		7N	
046416	09-005065	435 MAIN ST	WELLS FARGO AND COMPANY, FLORENCES	PLACERVILLE	P	1856	HIST.SURV.	5667-0008-0000		3S	
046417	09-005066	435 MAIN ST	ADAMS AND COMPANY EXPRESS COMPANY,	PLACERVILLE	P	1856	HIST.SURV.	5667-0115-0000	04/01/01	7R	
							PROJ.REVW.	FHWA050519K	06/27/05	6Y	
							HIST.SURV.	5667-0009-0000		7N	
154877	09-005330	437 MAIN ST	ANTIQUE STORE	PLACERVILLE	P	1856	HIST.SURV.	5667-0116-0000	04/01/01	7R	
154878	09-005332	438 MAIN ST	CRYSTAL'S	PLACERVILLE	P		HIST.SURV.	5667-0117-0000	04/01/01	7R	
154879	09-005342	440 MAIN ST	RED DOOR GALLERY	PLACERVILLE	P		HIST.SURV.	5667-0118-0000	04/01/01	7R	
046415	09-005064	441 MAIN ST	PIONEER HARDWARE, PLACERVILLE HARD	PLACERVILLE	P	1856	PROJ.REVW.	FHWA050519K	06/27/05	6Y	
							HIST.SURV.	5667-0119-0000	04/01/01	7R	
							HIST.SURV.	5667-0007-0000		7N	
046447	09-005101	442 MAIN ST	HART BUILDING, SUKASIAN PHOTOGRAPH	PLACERVILLE	P	1855	HIST.SURV.	5667-0120-0000	04/01/01	7R	
							HIST.SURV.	5667-0039-0000		7N	
046414	09-005063	443 MAIN ST	MOUNTAIN DEMOCRAT BUILDING	PLACERVILLE	P	1856	PROJ.REVW.	FHWA050519K	06/27/05	6Y	
							HIST.SURV.	5667-0121-0000	04/01/01	7R	
							HIST.SURV.	5667-0006-0000		7N	
046448	09-005102	444 MAIN ST	OLD TOWN GRILL	PLACERVILLE	P	1856	HIST.SURV.	5667-0123-0000	04/01/01	7R	
							HIST.SURV.	5667-0040-0000		7N	
154714	09-005344	447 MAIN ST	TONY MATTHEWS	PLACERVILLE	P	1940	HIST.SURV.	5667-0125-0000	04/01/01	7R	
							PROJ.REVW.	FHWA050519K	06/27/05	6Y	
154881	09-005343	448 MAIN ST	PLACERVILLE ANTIQUES AND COLLECTIB	PLACERVILLE	P		HIST.SURV.	5667-0124-0000	04/01/01	7R	
154888	09-005346	450 MAIN ST	D & E WESTERN	PLACERVILLE	P		HIST.SURV.	5667-0127-0000	04/01/01	7R	
154889	09-005347	451 MAIN ST	LIGHTHOUSE PLACE/ CREEKSIDE	PLACERVILLE	P		HIST.SURV.	5667-0128-0000	04/01/01	7R	
046500	09-005153	459 MAIN ST	UPPER FIARCHILD BUILDING, UPPER FA	PLACERVILLE	P	1913	PROJ.REVW.	FHWA050519K	06/27/05	2S2	AC
							HIST.SURV.	5667-0129-0000	04/01/01	7R	
							HIST.SURV.	5667-0063-0000		7N	
154891	09-005348	460 MAIN ST	BLACK OAK MILL	PLACERVILLE	P	1940	HIST.SURV.	5667-0130-0000	04/01/01	7R	
046449	09-005103	462 MAIN ST	ACE COPY FRANKLIN HEARING AIDS	PLACERVILLE	P	1910	HIST.SURV.	5667-0131-0000	04/01/01	7R	
							HIST.SURV.	5667-0041-0000		7N	
046499	09-005152	469 MAIN ST	PLACERVILLE IOOF HALL / ODD FELLOW	PLACERVILLE	P	1861	PROJ.REVW.	FHWA050519K	06/27/05	2S2	AC
							HIST.SURV.	5667-0132-0000	04/01/01	7R	
							HIST.SURV.	5667-0062-0000		7N	
154900	09-005349	473 MAIN ST	PLACERVILLE CITY HALL PARKING	PLACERVILLE			HIST.SURV.	5667-0133-0000	04/01/01	7R	
154901	09-005350	474 MAIN ST	LAW OFFICES	PLACERVILLE	PP		HIST.SURV.	5667-0134-0000	04/01/01	7R	
046450	09-005104	480 MAIN ST	ROLLERI BUILDING, PLACER STATION/D	PLACERVILLE	P	1872	HIST.SURV.	5667-0135-0000	04/01/01	7R	

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							HIST.SURV.	5667-0042-0000		7N	
046451	09-005105	484 MAIN ST	JUSTICE OF THE PEACE OFFICE, SILEN	PLACERVILLE	P	1872	HIST.SURV.	5667-0136-0000	04/01/01	7R	
							HIST.SURV.	5667-0043-0000		7N	
046412	09-005061	487 MAIN ST	CONFIDENCE HALL/PLACERVILLE CITY H	PLACERVILLE	M	1860	HIST.SURV.	5667-0137-0000	04/01/01	7R	
							HIST.RES.	NPS-82002174-0000	01/01/82	1S	
							HIST.SURV.	5667-0004-0000	01/01/82	1S	
046498	09-005151	489 MAIN ST	EMIGRANT JANE BLDG, CITY HALL, PLA	PLACERVILLE	M	1861	PROJ.REVW.	FHWA050519K	06/27/05	2S2	AC
							HIST.SURV.	5667-0138-0000	04/01/01	7R	
							HIST.SURV.	5667-0061-0000		3S	
046497	09-004693	495 MAIN ST	ELDORADO COUNTY COURTHOUSE	PLACERVILLE	C	1913	HIST.SURV.	5667-0139-0000	04/01/01	7R	
							HIST.SURV.	5667-0060-0000		3S	
046452	09-005106	516 MAIN ST	PACIFIC GAS & ELECTRIC CO. LITTLE	PLACERVILLE	P	1920	HIST.SURV.	5667-0044-0000		7N	
046454	09-005108	524 MAIN ST	VETERANS ADMINISTRATION, EL DORADO	PLACERVILLE	C	1923	HIST.SURV.	5667-0046-0000		7N	
046453	09-005089	524 MAIN ST	FOUNTAIN TALLMAN SODA WORKS/FOUNTA	PLACERVILLE	C	1853	ST.FND.PRG	619.0-HP-88-09-001	12/19/88	3	
							HIST.RES.	NPS-84000770-0000	09/13/84	1S	
							HIST.SURV.	5667-0045-0000	09/13/84	1S	
154715		525 MAIN ST	BOARD OF SUPERVISORS	PLACERVILLE	C	1936	PROJ.REVW.	FHWA050519K	06/27/05	6Y	
154716		533 MAIN ST	BOND INSURANCE	PLACERVILLE	P	1950	PROJ.REVW.	FHWA050519K	06/27/05	6Y	
154717		535 MAIN ST	CERTIFIED PUBLIC ACCOUNTANT AND AT	PLACERVILLE	P	2003	PROJ.REVW.	FHWA050519K	06/27/05	6Y	
154718		537 MAIN ST	HANGTOWN TATTOO	PLACERVILLE	P	1940	PROJ.REVW.	FHWA050519K	06/27/05	6Y	
154719		559 MAIN ST	CARBON COPY, INCORPORATED	PLACERVILLE	P	1920	PROJ.REVW.	FHWA050519K	06/27/05	6Y	
154720		577 MAIN ST	SWEETIE PIE'S	PLACERVILLE	P	1895	PROJ.REVW.	FHWA050519K	06/27/05	6Y	
090704		582 MAIN ST	THE STABLE BUILDING	PLACERVILLE	P	1862	HIST.RES.	SPHI-ELD-006	07/02/85	7L	
154721		585 MAIN ST	LOFTY LOU'S YARN SHOP	PLACERVILLE	P	1930	PROJ.REVW.	FHWA050519K	06/27/05	2S2	C
154722		589 MAIN ST	BOB DARLING PHOTOGRAPHY	PLACERVILLE	P	1902	PROJ.REVW.	FHWA050519K	06/27/05	2S2	C
046455	09-005090	594 MAIN ST	PEARSON'S SODA WORKS	PLACERVILLE	P	1859	HIST.RES.	NPS-85003326-0000	12/12/85	1S	AC
							HIST.SURV.	5667-0047-0000	05/01/84	7N	
							HIST.RES.	SPHI-ELD-005	07/02/85	7L	
046456	09-005110	692 MAIN ST	SAMUEL L. TURNER RESIDENCE	PLACERVILLE	P	1884	HIST.SURV.	5667-0048-0000		7N	
133055		2490 MISSOURI FLAT RD	HEADINGTON FARM COMPLEX	PLACERVILLE	P	1928	HIST.RES.	DOE-09-02-0025-0000	06/13/02	6Y	
							PROJ.REVW.	COE020719B	06/13/02	6Y	
161864		3880 MISSOURI FLAT RD		PLACERVILLE	P	1948	PROJ.REVW.	COE991229A	01/27/00	6Y	
161863		3908 MISSOURI FLAT RD		PLACERVILLE	P	1948	PROJ.REVW.	COE991229A	01/27/00	6Y	
161862		3916 MISSOURI FLAT RD		PLACERVILLE	P	1925	PROJ.REVW.	COE991229A	01/27/00	6Y	
131330		3921 MISSOURI FLAT RD		PLACERVILLE	P	1945	HIST.RES.	DOE-09-02-0001-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
131336		4111 MISSOURI FLAT RD		PLACERVILLE	P	1948	HIST.RES.	DOE-09-02-0007-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
131337		4133 MISSOURI FLAT RD		PLACERVILLE	P	1950	HIST.RES.	DOE-09-02-0008-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
165540		2900 NORMAN LANE		PLACERVILLE	P	1940	PROJ.REVW.	FHWA000523C	11/26/01	6Y	
046409	09-005058	847 PACIFIC ST	STONE HOUSE	PLACERVILLE	P	1865	HIST.SURV.	5667-0001-0000		7R	
046458	09-005109	980 PACIFIC ST	JOHN BLAIR HOUSE	PLACERVILLE	P	1886	HIST.SURV.	5667-0050-0001		7N	
172607		4832 PANORAMA DR	MOTHER LOAD/ SAC-371B	PLACERVILLE	P	1998	PROJ.REVW.	FCC080515B	06/30/08	6Y	
117678		2920 PAUL BUNYAN RD		PLACERVILLE	U		HIST.RES.	DOE-09-98-0002-0000	08/26/98	6Y	
							PROJ.REVW.	FHWA980804B	08/26/98	6Y	
131335		PERKS CT		PLACERVILLE	P	1945	HIST.RES.	DOE-09-02-0006-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
131332		3069 PERKS CT		PLACERVILLE	P	1942	HIST.RES.	DOE-09-02-0003-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
131334		6844 PERKS CT		PLACERVILLE	P	1950	HIST.RES.	DOE-09-02-0005-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
131331		6848 PERKS CT		PLACERVILLE	P	1947	HIST.RES.	DOE-09-02-0002-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	
131333		6880 PERKS CT		PLACERVILLE	P	1955	HIST.RES.	DOE-09-02-0004-0000	04/10/02	6Y	
							PROJ.REVW.	FHWA020308A	04/10/02	6Y	

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095872		728 PYTHIAN CT		PLACERVILLE	P	1920	PROJ.REVW.	HUD950320F	05/17/95	6Y	
046464	09-005116	768 SPRING ST		PLACERVILLE	P	1860	HIST.SURV.	5667-0051-0001		7N	
046466	09-005118	787 SPRING ST		PLACERVILLE	P	1900	HIST.SURV.	5667-0051-0003		7N	
046465	09-005117	800 SPRING ST		PLACERVILLE	P	1860	HIST.SURV.	5667-0051-0002		7N	
046467	09-005119	811 SPRING ST		PLACERVILLE	P	1890	HIST.SURV.	5667-0051-0004		7N	
046468	09-005120	855 SPRING ST		PLACERVILLE	P	1900	HIST.SURV.	5667-0051-0005		7N	
046469	09-005121	861 SPRING ST		PLACERVILLE	P	1910	HIST.SURV.	5667-0051-0006		7N	
149641		SR 49	SACRAMENTO-PACERVILLE RAILROAD BRI	PLACERVILLE	M	1888	NAT.REG.	09-0014	12/01/04	7W	
072842		SR 50	SPANISH HILL MINE COMPLEX	PLACERVILLE	P	1849	HIST.RES.	SPHI-ELD-010	05/30/95	7L	
							ST.PT.INT.	09-0007	12/13/94	7J	
117679		2860 SR 50		PLACERVILLE	U		HIST.RES.	DOE-09-98-0003-0000	08/26/98	6Y	
							PROJ.REVW.	FHWA980804B	08/26/98	6Y	
090774		1031 THOMPSON WY	METHODIST EPISCOPAL CHURCH	PLACERVILLE	P	1851	HIST.RES.	SHL-0767-0000	11/03/61	7L	
088782		3107 WASHINGTON ST		PLACERVILLE	P	1906	PROJ.REVW.	HUD940218C	03/28/94	6Y	
172604		3457 WEDGE HILL RD	DIAMOND ROAD/ SAC-372B	PLACERVILLE	P	1926	PROJ.REVW.	FCC080425B	07/01/08	6Y	
117681			SNOW ROAD UNDERCROSSING AT KP 40.6	(VIC) PLACERVILLE	S	1956	HIST.RES.	DOE-09-98-0004-0000	09/16/98	6Y	
							PROJ.REVW.	FHWA980804B	09/16/98	6Y	
103513			PINE HILL FIRE LOOKOUT STATION	(VIC) PLACERVILLE	S	1936	ST.AG.5024	ST.AG.-3540-0076	09/19/96	4CM	AD
161866			SITE SP-3/CELLAR	(VIC) PLACERVILLE	P	1870	PROJ.REVW.	COE991229A	01/27/00	6Y	
123630			CORNETT LUMBER MILL	(VIC) PLACERVILLE	U	1940	HIST.RES.	DOE-09-99-0002-0000	10/19/99	6Y	
							PROJ.REVW.	FHWA990928A	10/19/99	6Y	
133156			LEEK SPRING HILL LOOKOUT	(VIC) PLACERVILLE	F		HIST.RES.	DOE-09-02-0026-0000	08/13/02	6Y	
							PROJ.REVW.	USFS020725A	08/13/02	6Y	
133157			BIG HILL LOOKOUT	(VIC) PLACERVILLE	F	1934	HIST.RES.	DOE-09-02-0027-0000	08/13/02	6Y	
							PROJ.REVW.	USFS020725A	08/13/02	6Y	
151807			WEBBER DAM SIESMIC RETROFIT PROJEC	(VIC) PLACERVILLE		1920	HIST.RES.	DOE-09-99-0003-0000	03/26/99	6Y	
							PROJ.REVW.	FERC990223A	03/26/99	6Y	
117682			SAWMILL UNDERCROSSING AT KP 46.4 /	(VIC) PLACERVILLE	S	1962	HIST.RES.	DOE-09-98-0005-0000	09/16/98	6Y	
							PROJ.REVW.	FHWA980804B	09/16/98	6Y	
046410	09-005059	1709 CARSON RD	LOMBARDO RANCH/FOSSATI'S WINERY/BO	(VIC) PLACERVILLE	P	1856	HIST.RES.	NPS-77000292-0000	09/30/77	1S	
							HIST.SURV.	5667-0002-0000	01/01/77	1S	
139157		GREEN VALLEY RD	DRY CREEK BRIDGE 25C0059	(VIC) PLACERVILLE	S	1923	HIST.RES.	DOE-09-01-0023-0000	07/20/01	6Y	
							PROJ.REVW.	FHWA010508A	07/20/01	6Y	
090646		PONY EXPRESS TRAIL	SPORTMAN'S HALL-CA OVERLAND PONY E	(VIC) PLACERVILLE	U		HIST.RES.	SHL-0704-0000	09/11/59	7L	
090705		2021 SMITH FLAT RD	THE SMITH FLAT HOUSE	(VIC) PLACERVILLE	U	1853	HIST.RES.	SPHI-ELD-007	02/11/91	7L	
046502		SR 193	CHILEAN BAR, CHILI BAR	(VIC) PLACERVILLE	P	1849	HIST.SURV.	5667-0065-0000		7R	
090355		SR 49	DIAMOND SPRINGS	(VIC) PLACERVILLE	P		HIST.RES.	SHL-0487-0000	08/07/51	7L	
155130		SR 50		(VIC) PLACERVILLE	P		PROJ.REVW.	FERC950920A	07/10/05	6Y	
073450		0 BUCKS BAR RD	CRAWFORD DITCH,CLEAR CREEK SEG, JO	PLEASANT VALLEY	M	1852	HIST.RES.	NPS-91001522-0000	10/21/91	1S	AC
							NAT.REG.	09-0004	09/04/91	3S	AC
							PROJ.REVW.	USFS891006C	02/14/90	2S2	ABC
077624			CRAWFORD DITCH, CAMP CREEK SEGMENT	(VIC) PLEASANT VA	U		PROJ.REVW.	USFS891006C	02/14/90	6Y	
077627			CRAWFORD DITCH, NORTH FORK EXTENSI	(VIC) PLEASANT VA	U		PROJ.REVW.	USFS891006C	02/14/90	6Y	
170981			MILL RUN ROAD ABANDONED HIGHWAY SE	POLLOCK PINES	S		PROJ.REVW.	FHWA080215A	03/24/08	6Y	
170979			US 50 15 MILESTONE GRANITE MARKER	POLLOCK PINES	S	1908	PROJ.REVW.	FHWA080215A	03/24/08	6Y	
170885		2924 POLARIS ST		POLLOCK PINES	P	1946	PROJ.REVW.	HUD080321A	04/11/08	6Y	
135918			EL DORADO POWERHOUSE	(VIC) POLLOCK PIN	C	1923	HIST.RES.	DOE-09-02-0030-0000	06/20/02	6Y	
							PROJ.REVW.	USFS020515A	06/20/02	6Y	
047512		SR 50	BRIDGE #25-08	(VIC) POLLOCK PIN	S	1930	HIST.SURV.	5726-0001-0000		7R	
090687		GREEN VALLEY RD	COLOMA ROAD-RESCUE	RESCUE	P		HIST.RES.	SHL-0747-0000	07/05/60	7L	

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105973		15035 SHENANDOAH RD	PINE LODGE FOREST FIRE STATION	(VIC) RIVER PINES	S	1991	ST.AG.5024	ST.AG.-3540-0166	12/30/96	4CM	AD
105974		15035 SHENANDOAH RD	PINE LODGE FOREST FIRE STATION TRU	(VIC) RIVER PINES	S	1943	ST.AG.5024	ST.AG.-3540-0167	12/30/96	4CM	AD
187027		8872 RUBICON DR		RIVERTON	P	1954	PROJ.REVW.	TRPA110921A	10/26/11	6Y	
085732			OPEN DECK-WOOD, MP 141.09	SHINGLE SPRINGS	U	1913	HIST.RES.	DOE-34-93-0056-0000	12/21/93	6Y	
							PROJ.REVW.	ICC931025A	12/21/93	6Y	
085731			OPEN DECK-WOOD, MP 138.22	SHINGLE SPRINGS	U	1920	HIST.RES.	DOE-34-93-0055-0000	12/21/93	6Y	
							PROJ.REVW.	ICC931025A	12/21/93	6Y	
090301		MOTHER LODE DR	SHINGLE SPRINGS	SHINGLE SPRINGS	U		HIST.RES.	SHL-0456-0000	01/11/50	7L	
084153			UNCLE TOM'S CABIN	SIE NF	U	1868	HIST.RES.	DOE-09-93-0006-0000	09/04/93	2S2	A
							PROJ.REVW.	FHWA930624A	09/14/93	2S2	A
072945		2021 SMITH FLAT RD	SMITH FLAT HOUSE, THE	SMITHFLAT	U	1853	ST.PT.INT.	09-0001	02/01/91	7L	
072757		7960 GRIZZLY FLAT RD	WILLOW SCHOOL	SOMERSET	C	1933	HIST.RES.	SPHI-ELD-008	08/08/91	7L	
							ST.PT.INT.	09-0006	06/24/91	7L	
046524	09-005050	HAPPY VALLEY RD	BRIDGE #25C-25 / HAPPY VALLEY CUT-	SOMERSET	C	1906	HIST.SURV.	5684-0001-0000	12/24/85	2S	AC
							PROJ.REVW.	FHWA850823A	12/24/85	2S	AC
							HIST.RES.	65007419	12/24/85	2S	AC
064413			CAMP RICHARDSON RESORT	SOUTH LAKE TAHOE	U		PROJ.REVW.	USFS851115A	03/13/86	2	A
073331			LAPHAM'S LAKESIDE BARN / LAKESIDE	SOUTH LAKE TAHOE	P	1860	NAT.REG.	09-0005	02/06/91	7J	
165808			JOHNSON PUMP HOUSE	SOUTH LAKE TAHOE	P	1952	PROJ.REVW.	FHWA010702A	11/01/06	6Y	
064414			CAMP RICHARDSON RESORT	SOUTH LAKE TAHOE	U		PROJ.REVW.	USFS851115A	03/13/86	6Y	
154466				SOUTH LAKE TAHOE	P	1931	PROJ.REVW.	FHWA010702A	10/09/01		
170851			UPPER MEYERS GRADE	SOUTH LAKE TAHOE	S	1939	PROJ.REVW.	FHWA070712A	08/08/07	2S2	C
182678		1909 10TH ST		SOUTH LAKE TAHOE	P	1953	PROJ.REVW.	HUD110429H	05/06/11	6Y	
182326		1901 AIPORT RD		SOUTH LAKE TAHOE	P	1969	PROJ.REVW.	HUD110414J	04/20/11	6Y	
097432		869 ALAMEDA AVE		SOUTH LAKE TAHOE	P		PROJ.REVW.	HUD950726B	09/20/95	6Y	
182076		2601 ARMSTRONG AVE		SOUTH LAKE TAHOE	P		PROJ.REVW.	HUD110307U	03/16/11	6Y	
174308		3798 ASPEN AVE		SOUTH LAKE TAHOE	P	1958	PROJ.REVW.	TRPA081112A	12/19/08	6Y	
182885		941 BROCKWAY AVE		SOUTH LAKE TAHOE	P	1953	PROJ.REVW.	HUD110620M	06/27/11	6Y	
182882		945 BROCKWAY AVE		SOUTH LAKE TAHOE	P	1950	PROJ.REVW.	HUD110620L	06/27/11	6Y	
181708		1961 CAHUILLA RD		SOUTH LAKE TAHOE	P	1958	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
187385		884 CAPISTRANO AVE		SOUTH LAKE TAHOE	P	1947	PROJ.REVW.	HUD120209E	02/21/12	6Y	
182233		3511 CLOVERDALE AVE		SOUTH LAKE TAHOE	P	1954	PROJ.REVW.	HUD110329B	04/11/11	6Y	
180355		1124 CRAIG AVE		SOUTH LAKE TAHOE	P	1946	PROJ.REVW.	TRPA101004A	11/18/10	6Y	
176732		1247 DEDI AVE		SOUTH LAKE TAHOE	P	1957	PROJ.REVW.	TRPA090914A	09/17/09	6Y	
182072		3370 DEER PARK AVE	10128	SOUTH LAKE TAHOE	P		PROJ.REVW.	HUD110307T	03/16/11	6Y	
180347		1916 DELTA ST		SOUTH LAKE TAHOE	P	1959	PROJ.REVW.	TRPA100920B	11/18/10	6Y	
177028		1080 EMERALD BAY RD	TWO CABINS	SOUTH LAKE TAHOE	P	1955	PROJ.REVW.	TRPA091007A	10/22/09	6Y	
169505		1020 FALLEN LEAF RD		SOUTH LAKE TAHOE	P	1953	PROJ.REVW.	TRPA071025A	11/28/07	6Y	
184229		3825 FIGUEROA LANE		SOUTH LAKE TAHOE	P	1960	PROJ.REVW.	HUD100907P	09/27/10	6Y	
180350		3404 FREEL ST		SOUTH LAKE TAHOE	P	1959	PROJ.REVW.	TRPA100920A	11/18/10	6Y	
183260		1022 GLEN RD		SOUTH LAKE TAHOE	P	1947	PROJ.REVW.	TRPA100628A	06/28/10	6Y	
154458		988 GOLD TIP AVE		SOUTH LAKE TAHOE	P	1936	PROJ.REVW.	FHWA010702A	10/09/01	3D	AC
154459		991 GOLD TIP AVE		SOUTH LAKE TAHOE	P	1941	PROJ.REVW.	FHWA010702A	10/09/01	6Y	
154463		3043 HARRISON AVE		SOUTH LAKE TAHOE	P	1943	PROJ.REVW.	FHWA010702A	10/09/01	3D	
154456		3059 HARRISON AVE	SNOWFLAKE DRIVE-IN	SOUTH LAKE TAHOE	P	1950	PROJ.REVW.	FHWA010702A	03/14/02	6Y	
184570		2241 IDAHO AVE		SOUTH LAKE TAHOE	P	1958	PROJ.REVW.	HUD100914L	09/29/10	6Y	
182068		1900 JAMESON BEACH RD	BADGER'S DEN AND EAGLE'S NEST REST	SOUTH LAKE TAHOE	F	1950	PROJ.REVW.	USFS110131A	03/08/11	6Y	
170530		2504 KUBEL AVE		SOUTH LAKE TAHOE	P	1958	PROJ.REVW.	TRPA071119A	11/26/07	6Y	
171410		2621 LAKE TAHOE BLVD		SOUTH LAKE TAHOE	P	1960	PROJ.REVW.	TRPA070730A	08/27/07	6Y	
165807		3050 LAKE TAHOE BLVD	CARETAKER'S CABIN & GARAGE/ SOUTH	SOUTH LAKE TAHOE	C	1947	PROJ.REVW.	FHWA010702A	11/01/06	6Y	

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154455		3369 LAKE TAHOE BLVD	LAKE FOREST WEDDING CHAPEL	SOUTH LAKE TAHOE	P	1930	PROJ.REVW.	FHWA010702A	10/09/01	6Y	
175876		4021 LAKESHORE BLVD		SOUTH LAKE TAHOE	P	1949	PROJ.REVW.	TRPA090416A	04/27/09	6Y	
119649		857 LAKEVIEW AVE	GOBLIN ESTATE; WOOD, STONE, AND BR	SOUTH LAKE TAHOE	P		ST.PT.INT.	09-0013			
182838		960 LAKEVIEW AVE		SOUTH LAKE TAHOE	P	1951	PROJ.REVW.	HUD110516T	05/18/11	6Y	
175877		969 LAKEVIEW AVE		SOUTH LAKE TAHOE	P	1953	PROJ.REVW.	TRPA090225A	03/26/09	6Y	
182327		1052 LATA LN		SOUTH LAKE TAHOE	M	1977	PROJ.REVW.	HUD110414K	04/20/11	6Y	
182071		1121 LONG VALLEY AVE	10145	SOUTH LAKE TAHOE	P	1946	PROJ.REVW.	HUD110307S	03/16/11	6Y	
154462		974 LOS ANGELES AVE		SOUTH LAKE TAHOE	P	1957	PROJ.REVW.	FHWA010702A	10/09/01	3D	AC
154465		1001 LOS ANGELES AVE		SOUTH LAKE TAHOE	P	1931	PROJ.REVW.	FHWA010702A	10/09/01	2D2	AC
184669		3994 MANZANITA AVE		SOUTH LAKE TAHOE	P	1950	PROJ.REVW.	HUD110812J	08/18/11	6Y	
184232		1271 MARAGARET AVE		SOUTH LAKE TAHOE	P	1966	PROJ.REVW.	HUD100907S	09/27/10	6Y	
184485		1146 MARGARET AVE		SOUTH LAKE TAHOE	P	1958	PROJ.REVW.	HUD101019AA	11/03/10	6Y	
184230		3225 MARLETTE CR		SOUTH LAKE TAHOE	P	1959	PROJ.REVW.	HUD100907Q	09/27/10	6Y	
181466		881 MODESTO AVE	UNITS A&B 1-8	SOUTH LAKE TAHOE	P	1960	PROJ.REVW.	HUD110207I	02/10/11	6Y	
184108		1220 MONUMENT DR		SOUTH LAKE TAHOE	P	1960	PROJ.REVW.	HUD110729C	08/04/11	6Y	
186817		3841 PENTAGON RD	UNITS 1, 2, 3, AND 4	SOUTH LAKE TAHOE	P	1962	PROJ.REVW.	HUD111128I	12/07/11	6Y	
185282		1077 PINE GROVE AVE		SOUTH LAKE TAHOE	P	1940	PROJ.REVW.	HUD110916F	09/16/11	6Y	
182880		1083 PINE GROVE AVE		SOUTH LAKE TAHOE	P	1957	PROJ.REVW.	HUD110620K	06/27/11	6Y	
181778		871 POMO RD		SOUTH LAKE TAHOE	P	1959	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
182078		1231 RENO AVE	10149	SOUTH LAKE TAHOE	P		PROJ.REVW.	HUD110307W	03/16/11	6Y	
182328		1180 RUFUS ALLEN BLVD		SOUTH LAKE TAHOE	M	1975	PROJ.REVW.	HUD110414L	04/20/11	6Y	
173035		2135 RUTH AVE		SOUTH LAKE TAHOE	P	1953	PROJ.REVW.	TRPA080206E	03/04/08	6Y	
172903		2141 RUTH AVE		SOUTH LAKE TAHOE	P	1958	PROJ.REVW.	TRPA080206B	03/04/08	6Y	
172978		2143 RUTH AVE		SOUTH LAKE TAHOE	P	1953	PROJ.REVW.	TRPA080206A	03/04/08	6Y	
181567		1108 SIERRA BLVD		SOUTH LAKE TAHOE	P	1951	PROJ.REVW.	HUD110207H	02/10/11	6Y	
073449	09-005091	0 SKI RUN BLVD	TAHOE MEADOWS	SOUTH LAKE TAHOE	P	1925	NAT.REG.	09-0016	07/25/08	7J	
							HIST.RES.	NPS-90000555-0000	03/29/90	1S	AC
							NAT.REG.	09-0003	03/29/90	1S	AC
							HIST.SURV.	5705-0009-9999	03/29/90	1S	AC
181683		1858 SPRING CREEK RD		SOUTH LAKE TAHOE	P	1961	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181682		1870 SPRING CREEK RD		SOUTH LAKE TAHOE	P	1958	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181681		1880 SPRING CREEK RD		SOUTH LAKE TAHOE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181680		1890 SPRING CREEK RD		SOUTH LAKE TAHOE	P	1958	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181677		1920 SPRING CREEK RD		SOUTH LAKE TAHOE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
090670		SR 50	FRIDAY'S STATION-CALIFORNIA OVERLA	SOUTH LAKE TAHOE	U		HIST.RES.	SHL-0728-0000	04/08/60	7L	
123609		SR 89	RED BARN BUILDING	SOUTH LAKE TAHOE	F		HIST.RES.	DOE-09-99-0001-0000	09/30/99	6Y	
							PROJ.REVW.	USFS990909F	09/30/99	6Y	
074322		0 SR 89	HELLER ESTATE	SOUTH LAKE TAHOE	U	1899	HIST.RES.	NPS-87000497-0000	04/01/87	1S	AC
							HIST.SURV.	5705-0008-0000	04/01/87	1S	AC
074319		0 SR 89	BALDWIN ESTATE	SOUTH LAKE TAHOE	U	1920	HIST.RES.	NPS-87000496-0000	04/01/87	1S	AC
							HIST.SURV.	5705-0006-0000	04/01/87	1S	AC
074320		0 SR 89	POPE ESTATE	SOUTH LAKE TAHOE	U	1884	PROJ.REVW.	USFS970218A	03/24/97	2S2	
							HIST.RES.	NPS-87000495-0000	04/01/87	1S	AC
							HIST.SURV.	5705-0007-0000	04/01/87	1S	AC
073448		0 SR 89	CAMP RICHARDSON, CAMP RICHARDSON R	SOUTH LAKE TAHOE	U	0	NAT.REG.	09-0002	06/03/85	7J	
109328		10001 SR 89	ROCK WORK AND TRAIL, VIKINGSHOLM	SOUTH LAKE TAHOE	S	1928	HIST.RES.	NPS-96001078-0004	10/10/96	1D	C
							NAT.REG.	09-0012	10/10/96	3D	C
109327		10001 SR 89	DUPLEX, VIKINGSHOLM	SOUTH LAKE TAHOE	S	1928	HIST.RES.	NPS-96001078-0003	10/10/96	1D	C
							NAT.REG.	09-0012	10/10/96	3D	C
109330		10001 SR 89	BOAT BAY, VIKINGSHOLM	SOUTH LAKE TAHOE	S	1928	HIST.RES.	NPS-96001078-0005	10/10/96	1D	C
							NAT.REG.	09-0012	10/10/96	3D	C
109334		10001 SR 89	TEAHOUSE, VIKINGSHOLM	SOUTH LAKE TAHOE	S	1930	HIST.RES.	NPS-96001078-0006	10/10/96	1D	C
							NAT.REG.	09-0012	10/10/96	3D	C
109336		10001 SR 89	GARDENER'S COTTAGE, VIKINGSHOLM	SOUTH LAKE TAHOE	S	1930	HIST.RES.	NPS-96001078-0008	10/10/96	1D	C
							NAT.REG.	09-0012	10/10/96	3D	C
109326		10001 SR 89	WAREHOUSE, VIKINGSHOLM	SOUTH LAKE TAHOE	S	1928	HIST.RES.	NPS-96001078-0002	10/10/96	1D	C

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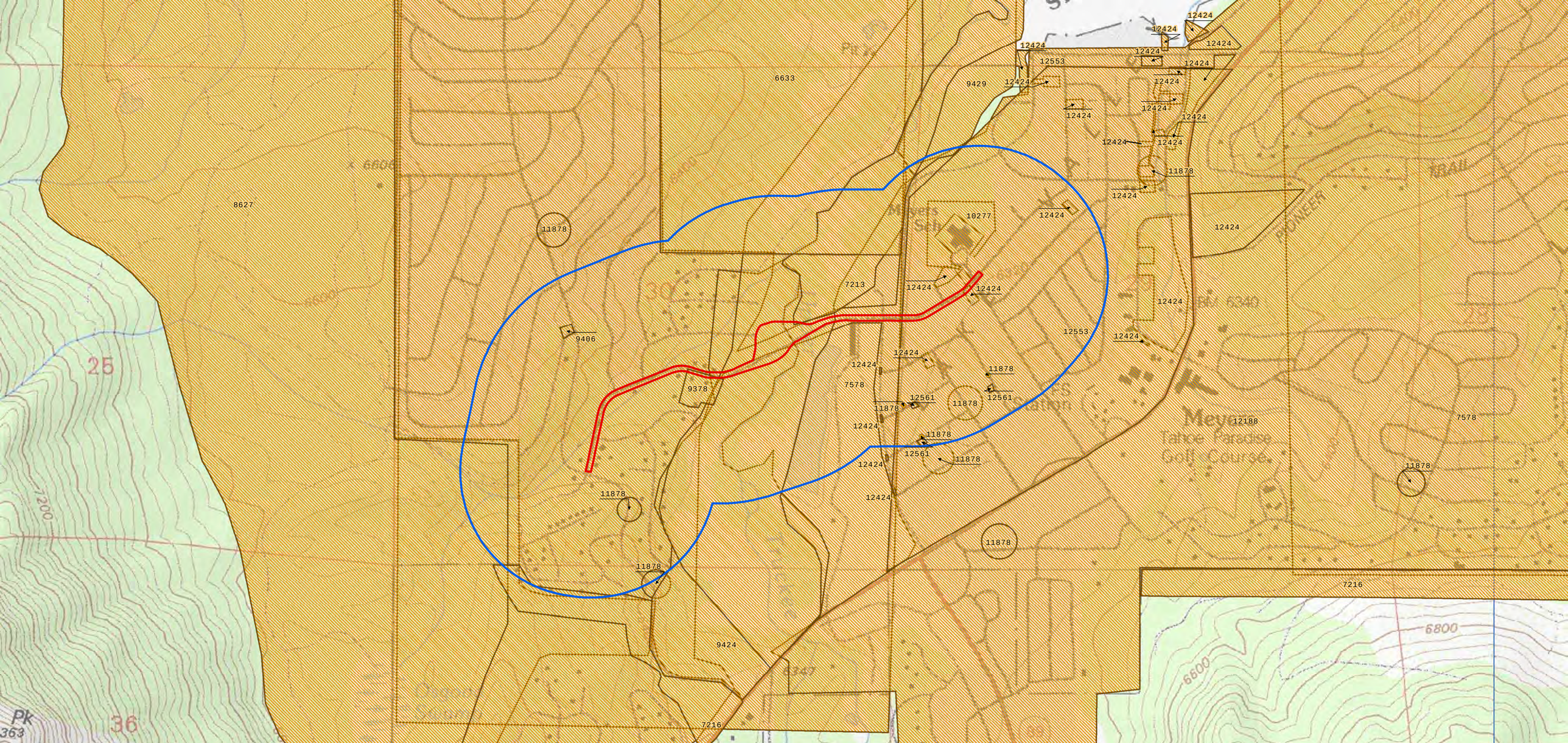
							NAT.REG.	09-0012	10/10/96	3D	C
109325		10001 SR 89	VIKINGSHOLM, MAIN HOUSE	SOUTH LAKE TAHOE	S	1928	HIST.RES.	NPS-96001078-0001	10/10/96	1D	C
							NAT.REG.	09-0012	10/10/96	3D	C
109335		10001 SR 89	TRANSFORMER BUILDING, VIKINGSHOLM	SOUTH LAKE TAHOE	S	1928	HIST.RES.	NPS-96001078-0007	10/10/96	1D	C
							NAT.REG.	09-0012	10/10/96	3D	C
109338		10001 SR 89	WATER TANKS, VIKINGSHOLM	SOUTH LAKE TAHOE	S		HIST.RES.	NPS-96001078-0010	10/10/96	1D	C
							NAT.REG.	09-0012	10/10/96	3D	C
109337		10001 SR 89	MRS KNIGHT'S ROAD, VIKINGSHOLM	SOUTH LAKE TAHOE	S	1929	HIST.RES.	NPS-96001078-0009	10/10/96	1D	C
							NAT.REG.	09-0012	10/10/96	3D	C
175961		7701 SR-89		SOUTH LAKE TAHOE	P	1934	PROJ.REVW.	TRPA090122A	02/18/09	6Y	
182077		2609 SUSSEX AVE		SOUTH LAKE TAHOE	P		PROJ.REVW.	HUD110307V	03/16/11	6Y	
184231		1208 TATA LANE		SOUTH LAKE TAHOE	P	1954	PROJ.REVW.	HUD100907R	09/27/10	6Y	
154460		988 TROUT CREEK AVE		SOUTH LAKE TAHOE	P	1938	PROJ.REVW.	FHWA010702A	10/09/01	3D	
154461		989 TROUT CREEK AVE		SOUTH LAKE TAHOE	P	1932	PROJ.REVW.	FHWA010702A	10/09/01	3D	AC
154464		1000 TROUT CREEK AVE		SOUTH LAKE TAHOE	P	1931	PROJ.REVW.	FHWA010702A	03/14/02	2D2	AC
154457		981 TULARE AVE		SOUTH LAKE TAHOE	P	1942	PROJ.REVW.	FHWA010702A	10/09/01	3D	AC
182079		3610 VANDA LEE WY		SOUTH LAKE TAHOE	P		PROJ.REVW.	HUD110307X	03/16/11	6Y	
187011		2563 WILLIAM AVE		SOUTH LAKE TAHOE	P	1957	PROJ.REVW.	HUD111212C	12/21/11	6Y	
184109		2617 WILLIAM AVE	10172-10173	SOUTH LAKE TAHOE	P	1950	PROJ.REVW.	HUD110729B	08/04/11	6Y	
182870		3697 WILLOW AVE		SOUTH LAKE TAHOE	P	1953	PROJ.REVW.	HUD110429I	05/06/11	6Y	
069319			GLEN ALPINE SPRINGS/CAMP RICHARDSO	(VIC) SOUTH LAKE	U		PROJ.REVW.	65000775	12/22/81	2S	
077731		0	CORD CABIN/CAMP RICHARDSON HISTORI	(VIC) SOUTH LAKE	F	0	PROJ.REVW.	USFS920826C	10/06/92	2S	A
181694		931 ALLIKLIK RD		(VIC) SOUTH LAKE	P	1954	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181701		1900 ALLIKLIK RD		(VIC) SOUTH LAKE	P	1958	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181700		1910 ALLIKLIK RD		(VIC) SOUTH LAKE	P	1959	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181699		1931 ALLIKLIK RD		(VIC) SOUTH LAKE	P	1953	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181698		1941 ALLIKLIK RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181697		1951 ALLIKLIK RD		(VIC) SOUTH LAKE	P	1963	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181696		1966 ALLIKLIK RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181695		1976 ALLIKLIK RD		(VIC) SOUTH LAKE	P	1955	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181702		1962 CAHUILLA RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181707		1969 CAHUILLA RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181703		1972 CAHUILLA RD		(VIC) SOUTH LAKE	P	1954	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181706		1979 CAHUILLA RD		(VIC) SOUTH LAKE	P	1955	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181704		1982 CAHUILLA RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181705		1989 CAHUILLA RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181709		1960 HUPA RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181710		1970 HUPA RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181717		933 KAROK RD		(VIC) SOUTH LAKE	P	1970	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181692		941 KAROK RD		(VIC) SOUTH LAKE	P	1959	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181716		965 KAROK RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181712		977 KAROK RD		(VIC) SOUTH LAKE	P	1954	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181713		987 KAROK RD		(VIC) SOUTH LAKE	P	1954	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181714		993 KAROK RD		(VIC) SOUTH LAKE	P	1959	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181803		1800 MAIDU RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181745		1801 MAIDU RD		(VIC) SOUTH LAKE	P	1959	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181746		1808 MAIDU RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181744		1811 MAIDU RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181743		1812 MAIDU RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181742		1813 MAIDU RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	03/01/11	2D2	AC
181747		1816 MAIDU RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181748		1828 MAIDU RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181741		1797 MATTOLE CT		(VIC) SOUTH LAKE	P	1958	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181740		1807 MATTOLE CT		(VIC) SOUTH LAKE	P	1958	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181735		757 MATTOLE RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	6Y	

PROPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
181736		766 MATTOLE RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181734		767 MATTOLE RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181737		776 MATTOLE RD		(VIC) SOUTH LAKE	P	1954	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181733		777 MATTOLE RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181738		786 MATTOLE RD		(VIC) SOUTH LAKE	P	1959	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181732		787 MATTOLE RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181739		794 MATTOLE RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181731		797 MATTOLE RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181730		809 MATTOLE RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181729		833 MATTOLE RD		(VIC) SOUTH LAKE	P	1954	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181728		877 MATTOLE RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181727		885 MATTOLE RD		(VIC) SOUTH LAKE	P	1959	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181726		891 MATTOLE RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181725		909 MATTOLE RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181724		941 MATTOLE RD		(VIC) SOUTH LAKE	P	1980	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181723		951 MATTOLE RD		(VIC) SOUTH LAKE	P	1960	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181722		961 MATTOLE RD		(VIC) SOUTH LAKE	P	1954	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181721		971 MATTOLE RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181720		981 MATTOLE RD		(VIC) SOUTH LAKE	P	1954	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181719		989 MATTOLE RD		(VIC) SOUTH LAKE	P	1954	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181718		1003 MATTOLE RD		(VIC) SOUTH LAKE	P	1954	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181749		1010 MATTOLE RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181757		983 NICOLENO CT		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181754		1778 NICOLENO CT		(VIC) SOUTH LAKE	P	1954	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181756		1781 NICOLENO CT		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181755		1786 NICOLENO CT		(VIC) SOUTH LAKE	P	1983	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181804		1787 NICOLENO CT		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181779		930 NICOLENO RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181693		931 NICOLENO RD		(VIC) SOUTH LAKE	P	1958	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181780		936 NICOLENO RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181781		944 NICOLENO RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181790		956 NICOLENO RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181758		975 NICOLENO RD		(VIC) SOUTH LAKE	P	1959	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181759		980 NICOLENO RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181760		998 NICOLENO RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181761		1010 NICOLENO RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181801		993 PALWIN RD		(VIC) SOUTH LAKE	P	1959	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181800		999 PALWIN RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181799		1007 PALWIN RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181785		1698 POMO CT		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181784		1699 POMO CT		(VIC) SOUTH LAKE	P	1959	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181777		891 POMO RD		(VIC) SOUTH LAKE	P	1960	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181776		899 POMO RD		(VIC) SOUTH LAKE	P	1954	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181775		907 POMO RD		(VIC) SOUTH LAKE	P	1961	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181782		914 POMO RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181774		915 POMO RD		(VIC) SOUTH LAKE	P	1958	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181773		925 POMO RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181783		926 POMO RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181772		937 POMO RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181786		942 POMO RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181771		945 POMO RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181770		955 POMO RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181769		961 POMO RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181768		977 POMO RD		(VIC) SOUTH LAKE	P	1958	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181787		986 POMO RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181766		987 POMO RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC

PROPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
181765		999 POMO RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181788		1000 POMO RD		(VIC) SOUTH LAKE	P	1707	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181764		1007 POMO RD		(VIC) SOUTH LAKE	P	1954	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181672		-1970 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	
181671		SPRING CREEK RD	SPRING CREEK TRACT	(VIC) SOUTH LAKE	F	1953	PROJ.REVW.	USFS110114A	02/01/11	2S2	AC
181805		1594 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181802		1595 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181798		1601 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181797		1609 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1961	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181796		1621 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1961	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181795		1623 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181794		1637 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1959	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181793		1641 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1959	PROJ.REVW.	USFS110114A	02/01/11	2D2	
181792		1653 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1955	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181791		1671 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181789		1707 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181691		1726 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1954	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181763		1741 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181690		1742 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181689		1750 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1961	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181762		1751 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1954	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181688		1762 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1959	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181687		1774 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1954	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181753		1781 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181686		1784 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1959	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181752		1793 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1958	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181685		1796 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181684		1804 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181751		1807 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181750		1819 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1959	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181715		1855 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181711		1879 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181679		1898 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181678		1910 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	6Y	
181676		1934 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1958	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181675		1942 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181674		1952 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1959	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181673		1960 SPRING CREEK RD		(VIC) SOUTH LAKE	P	1960	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
047495	09-005423	SR 50	BR.25-13	(VIC) SOUTH LAKE	S	1929	HIST.SURV.	5705-0004-0000		7R	
090650		SR 50	YANK'S STATION-CALIFORNIA OVERLAND	(VIC) SOUTH LAKE	P	1851	HIST.RES.	SHL-0708-0000	09/11/59	7L	
047496	09-005424	SR 50	BR. 25-10	(VIC) SOUTH LAKE	S	1929	HIST.SURV.	5705-0005-0000		7R	
047494		SR 89	BR. 25-45	(VIC) SOUTH LAKE	S	1929	HIST.SURV.	5705-0003-0000		7N	
047493		SR 89	BR. 25-19	(VIC) SOUTH LAKE	S	1929	HIST.SURV.	5705-0002-0000		7N	
069320		SR 89	SR 89 MASONRY FEATURES / FMA-PO-89	(VIC) SOUTH LAKE	U		PROJ.REVW.	65007776	04/10/87	2S	
047492	09-005051	SR 89	BR. 25-16	(VIC) SOUTH LAKE	S	1929	HIST.SURV.	5705-0001-0000		7R	
088489		SR 89	NEWHALL ESTATE ENTRANCE PILLARS	(VIC) SOUTH LAKE	U	1915	HIST.RES.	SPHI-ELD-009	05/19/94	7L	
							ST.PT.INT.	09-0010	03/17/94	7L	
100814		10001 SR 89	VIKINGSHOLM AT EMERALD BAY STATE P	(VIC) SOUTH LAKE	S	1928	HIST.RES.	NPS-96001078-9999	02/23/96	1S	C
							NAT.REG.	09-0012	02/23/96	3S	C
181808		1620 WIYOT RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181810		1636 WIYOT RD		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181806		1593 YUROK		(VIC) SOUTH LAKE	P	1956	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
181807		1600 YUROK		(VIC) SOUTH LAKE	P	1957	PROJ.REVW.	USFS110114A	02/01/11	2D2	AC
172888		3051 JAMESON RD		(VIC) STATELINE	P	1931	PROJ.REVW.	TRPA080603A	08/29/08	6Y	

PROPERTY-NUMBER	PRIMARY-#	STREET.ADDRESS.....	NAMES.....	CITY.NAME.....	OWN	YR-C	OHP-PROG..	PRG-REFERENCE-NUMBER	STAT-DAT	NRS	CRIT
155314		SR 50	OLD MURPHY'S SUMMER HEADQUARTERS R	(VIC) STRAWBERRY	PF	1903	NAT.REG.	09-0015	10/06/05	7W	
180035	7309	3RD AVE		TAHOMA	P	1960	PROJ.REVW.	TRPA091001A	11/18/09	6Y	
169506	8235	MEEKS BAY AVE		TAHOMA	P	1925	PROJ.REVW.	TRPA071010A	10/23/07	6Y	
174072	7137	W LAKE BLVD		TAHOMA	P	1956	PROJ.REVW.	TRPA080825A	10/10/08	6Y	
047688		SR 50	BR. 25-09	TWIN BRIDGES	S	1928	HIST.SURV.	5735-0001-0000		7R	
068499		SR 50	TAMARACK LODGE VIC CAMP SACRAMENTO	(VIC) TWIN BRIDGE	U		PROJ.REVW.	FHWA880805B	09/08/88	6Y	
068498		SR 50	CABIN PM 60.6/62.4 VIC CAMP SACRAM	(VIC) TWIN BRIDGE	U		PROJ.REVW.	HUD900809C	09/18/90	6Y	
090649		SR 50	STRAWBERRY VALLEY HOUSE-CA OVERLAN	(VIC) TWIN BRIDGE	U	1856	HIST.RES.	SHL-0707-0000	09/11/59	7L	
074261	0	SR 50	PHILLIPS STATION	(VIC) TWIN BRIDGE	P	0	ST.PT.INT.	09-0008	01/02/92	7J	
068504	0	SR 50	REC CABIN VIC CAMP SACRAMENTO	(VIC) TWIN BRIDGE	U		PROJ.REVW.	FHWA880805B	09/08/88	6Y	
068505	0	SR 50	STATE RT 11 SEGMENT VIC CAMP SACRA	(VIC) TWIN BRIDGE	U		PROJ.REVW.	FHWA880805B	09/08/88	6Y	

1077 records listed.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Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
006633		2004	Shapiro, Lisa A, Robert Jackson, Trish Fernandez, Susan Lindstrom, William Bloomer, and Penny Rucks	Cultural Resources Survey, Inventory, and Site Evaluations: Washoe Meadows State Park, El Dorado County, California	Pacific Legacy, Inc	09-000618, 09-000619, 09-000620, 09-000627, 09-000641, 09-000642, 09-000643, 09-000644, 09-000645, 09-002838, 09-002839, 09-003262, 09-003263, 09-003264, 09-003265, 09-003266, 09-003267, 09-003268, 09-003269, 09-003270, 09-003271, 09-003272, 09-003273, 09-003274, 09-003275, 09-003276, 09-003277, 09-003278, 09-003279, 09-003280, 09-003281, 09-003282, 09-003283, 09-003284, 09-003285, 09-003286
007213		1990	Davis, Herschel D.	Cultural Reconnassiance Report For Re-Location of CA-ELD-24 & CA-ELD-25. (CRR #05-19-244)		09-000112, 09-000113
007216		1995	Dexter, Sean David	Lake Tahoe Basin Management Unit Hertiage Resource Report ------URBAN FRINGE MANAGEMENTPROJECT------- (California Portion)	Lake Tahoe Basin Management Unit	
007578		1997	Davis, Herschel	Lands Department Urban Lot Management Project	Lake Tahoe Basin Management Unit	
008627		1991	Gay L. Berrien	Cultural Resource Report, Angora Management Area	Archaeology Technician, Lake Tahoe Basin Management Unit	09-003885, 09-003909, 09-003926, 09-003927, 09-003928
009378		1994	Herschel Davis	Hersh's Projects; Cherry's Orchard	Lake Tahoe Basin Management Unit	09-004506
009406		1993	Herschel Davis	Cultural Resources Report for Individual Parcels Aquired Under Public Law 96-586 Lake Tahoe Basin Management Unit		
009424		1986	Kathy Hardy	Upper Truckee Erosion Control Project	Forest Archaeologist	
009429		2003	Susan Lindstrom	Upper Truckee River Reclamation Project Upper Reach, Planning and Design Heritage Resource Study Phase 1	Consulting Archaeologist	
010277		2009	Susie Kaiser	Archaeological Survey Report for Magnet Elementary School Fuels Reduction	Lake Valley Fire Protection District	
011878		2015	Susan Lindstrom	South Tahoe Public Utility District Fire Hydrant Service Expansion Project Cultural Resource Inventory		

Report List

Report No.	Other IDs	Year	Author(s)	Title	Affiliation	Resources
012188		2016	Susan Lindstrom	South Tahoe Public Utility District Water Meter Installations Project Cultural Resource Inventory	Consulting Archaeologist, Truckee, CA	
012424		2015	Jason Drew, Dave Rios, and Jeremy Hall	Heritage Resource Inventory Report, Meyers Erosion Control Project-Expanded Area, El Dorado County, California (JN 95179)	NCE	09-003805, 09-003898
012553		2017	Susan Lindstrom	South Tahoe Public Utility District Fire Hydrant Service Expansion Project Cultural Resource Inventory Addendum 3		
012561		2016	Susan Lindstrom	South Tahoe Public Utility District Fire Hydrant Service Expansion Project Cultural Resource Inventory Addendum	RPA	

Report Detail: 006633

Identifiers

Report No.: 006633
Other IDs:
Cross-refs:

Citation information

Author(s): Shapiro, Lisa A, Robert Jackson, Trish Fernandez, Susan Lindstrom, William Bloomer, and Penny Rucks
Year: 2004 (Nov)
Title: Cultural Resources Survey, Inventory, and Site Evaluations: Washoe Meadows State Park, El Dorado County, California
Affliliation: Pacific Legacy, Inc
No. pages: 112
No. maps:
Attributes: Archaeological, Evaluation, Field study
Inventory size: 625 acres
Disclosure: Not for publication
Collections: Yes

General notes

Associated resources

Primary No.	*Trinomial*	*Name*
P-09-000618	CA-ELD-000530H	
P-09-000619	CA-ELD-000531	
P-09-000620	CA-ELD-000532	
P-09-000627	CA-ELD-000539/H	
P-09-000641	CA-ELD-000553	
P-09-000642	CA-ELD-000554	
P-09-000643	CA-ELD-000555	
P-09-000644	CA-ELD-000556H	
P-09-000645	CA-ELD-000557H	Forni Cabin site
P-09-002838	CA-ELD-001841H	Celio Spring House
P-09-002839	CA-ELD-002151H	Celio Barn
P-09-003262	CA-ELD-002152	
P-09-003263	CA-ELD-002153H	
P-09-003264	CA-ELD-002154H	
P-09-003265	CA-ELD-002155	
P-09-003266	CA-ELD-002156	
P-09-003267	CA-ELD-002157	
P-09-003268	CA-ELD-002158	
P-09-003269	CA-ELD-002159	
P-09-003270	CA-ELD-002160	
P-09-003271		
P-09-003272		
P-09-003273		
P-09-003274		
P-09-003275		
P-09-003276		
P-09-003277		
P-09-003278		
P-09-003279		
P-09-003280		
P-09-003281		
P-09-003282		
P-09-003283		
P-09-003284		
P-09-003285	CA-ELD-002161	
P-09-003286	CA-ELD-002162	

Report Detail: 006633

No. resources: 36
Has informals: No

Location information

County(ies): El Dorado
USGS quad(s): ECHO LAKE, EMERALD BAY
Address:
PLSS:

Database record metadata

	Date	*User*	
Entered:	12/14/200	J. Bowden	
Last modified:	11/29/201	paulrendes	
IC actions:	*Date*	*User*	*Action taken*
	11/8/2006	jay	Added records from old Library database
	8/19/2010	kate	GIS
	11/29/201	paulrendes	verified gis

Record status: Verified

Report Detail: 007213

Identifiers

Report No.: 007213
Other IDs:
Cross-refs:

Citation information

Author(s): Davis, Herschel D.
Year: 1990 (Dec)
Title: Cultural Reconnassiance Report For Re-Location of CA-ELD-24 & CA-ELD-25. (CRR #05-19-244)
Affliliation:
No. pages: 19
No. maps:
Attributes: Archaeological, Field study
Inventory size: 207.8 acres
Disclosure: Not for publication
Collections: Unknown

General notes

Associated resources

Primary No.	*Trinomial*	*Name*
P-09-000112	CA-ELD-000024/H	Cathedral Rock Site
P-09-000113	CA-ELD-000025	

No. resources: 2
Has informals: No

Location information

County(ies): El Dorado
USGS quad(s): ECHO LAKE, EMERALD BAY
Address:
PLSS:

Database record metadata

	Date	*User*
Entered:	7/12/2006	Hibma
Last modified:	4/23/2018	nicoleallison

IC actions:	*Date*	*User*	*Action taken*
	11/8/2006	jay	Added records from old Library database
	8/19/2010	kate	GIS
	4/23/2018	nicolealliso	Verified GIS

Record status: Verified

Report Detail: 007216

Identifiers

Report No.: 007216
Other IDs:
Cross-refs:

Citation information

Author(s): Dexter, Sean David
Year: 1995 (Jun)
Title: Lake Tahoe Basin Management Unit Hertiage Resource Report ------URBAN FRINGE MANAGEMENTPROJECT-------(California Portion)
Affliliation: Lake Tahoe Basin Management Unit
No. pages: 42
No. maps:
Attributes: Archaeological, Field study
Inventory size: 445 Acres
Disclosure: Not for publication
Collections: Unknown

General notes

Associated resources

No. resources: 0
Has informals: No

Location information

County(ies): El Dorado, Placer
USGS quad(s): ECHO LAKE, EMERALD BAY, FREEL PEAK, HOMEWOOD, KINGS BEACH, MARTIS PEAK, SOUTH LAKE TAHOE, TAHOE CITY
Address:
PLSS: T11N R18E Sec. 6, 7 MDBM
T12N R18E Sec. 2, 8, 10, 11, 15, 21, 28, 31, 32, 33 MDBM
T15N R16E Sec. 13, 14, 25 MDBM
T16N R17E Sec. 12, 21 MDBM
T16N R18E Sec. 18 MDBM

Database record metadata

	Date	*User*	
Entered:	7/12/2006	Hibma	
Last modified:	3/28/2018	paulrendes	
IC actions:	*Date*	*User*	*Action taken*
	11/8/2006	jay	Added records from old Library database
	1/5/2009	kate	Freel Peak portion plotted in GIS
	11/17/200	Ian	Report survey plotted in GIS, map topos do not match up to background file
	3/28/2018	paulrendes	added additional database info

Record status:

Report Detail: 007578

Identifiers

Report No.: 007578
Other IDs:
Cross-refs:

Citation information

Author(s): Davis, Herschel
Year: 1997 (Jul)
Title: Lands Department Urban Lot Management Project
Affliliation: Lake Tahoe Basin Management Unit
No. pages: 25
No. maps:
Attributes: Archaeological, Field study
Inventory size: 133.75 acres
Disclosure: Not for publication
Collections: Unknown

General notes

Associated resources

No. resources: 0
Has informals: No

Location information

County(ies): El Dorado, Placer
USGS quad(s): ECHO LAKE, EMERALD BAY, FREEL PEAK, HOMEWOOD, MEEKS BAY, SOUTH LAKE TAHOE, TAHOE CITY
Address:
PLSS:

Database record metadata

	Date	*User*
Entered:	9/11/2006	Maya Beneli
Last modified:	5/16/2018	nicoleallison

IC actions:	*Date*	*User*	*Action taken*
	12/15/200	jay	Added records from old Library database
	1/5/2009	kate	Freel Peak Portion plotted in GIS
	11/24/200	Ian	Plotted Acquisition overviews, see report for detailed maps for each acquisition area
	3/29/2018	paulrendes	added additional database info
	5/16/2018	nicolealliso	Verified GIS

Record status: Verified

Report Detail: 008627

Identifiers

Report No.: 008627
Other IDs:
Cross-refs:

Citation information

Author(s): Gay L. Berrien
Year: 1991
Title: Cultural Resource Report, Angora Management Area
Affliliation: Archaeology Technician, Lake Tahoe Basin Management Unit
No. pages: 20
No. maps:
Attributes: Archaeological, Field study
Inventory size: 1550 acres
Disclosure: Not for publication
Collections: Unknown

General notes

Note the cursory level survey.

Associated resources

Primary No.	*Trinomial*	*Name*
P-09-003885		Hildinger Road
P-09-003909		Boulder Mountain Log Chute
P-09-003926	CA-ELD-002537H	
P-09-003927		Angora Logging Complex
P-09-003928	CA-ELD-002538H	Motor Work Camp

No. resources: 5
Has informals: No

Location information

County(ies): El Dorado
USGS quad(s): ECHO LAKE, EMERALD BAY
Address:
PLSS:

Database record metadata

	Date	*User*
Entered:	5/25/2007	nathan
Last modified:	1/10/2018	wagner

IC actions:	*Date*	*User*	*Action taken*
	8/23/2010	kate	GIS
	1/10/2018	wagner	Verified

Record status: Verified

Report Detail: 009378

Identifiers

Report No.: 009378
Other IDs:
Cross-refs:

Citation information

Author(s): Herschel Davis
Year: 1994 (May)
Title: Hersh's Projects; Cherry's Orchard
Affliliation: Lake Tahoe Basin Management Unit
No. pages: 20
No. maps:
Attributes: Archaeological, Field study
Inventory size: 1 acre
Disclosure: Not for publication
Collections: Unknown

General notes

Associated resources

	Primary No.	*Trinomial*	*Name*
	P-09-004506	CA-ELD-002773	Cherry's Orchard

No. resources: 1
Has informals: No

Location information

County(ies): El Dorado
USGS quad(s): ECHO LAKE
Address:
PLSS: T12N R18E Sec. 30 MDBM

Database record metadata

	Date	*User*
Entered:	6/24/2008	melodi
Last modified:	11/29/201	paulrendes

IC actions:	*Date*	*User*	*Action taken*
	1/17/2018	wagner	Verified
	11/29/201	paulrendes	added additional database info

Record status: Verified

Report Detail: 009406

Identifiers

Report No.: 009406
Other IDs:
Cross-refs:

Citation information

Author(s): Herschel Davis
Year: 1993
Title: Cultural Resources Report for Individual Parcels Aquired Under Public Law 96-586 Lake Tahoe Basin Management Unit
Affliliation:
No. pages: 5
No. maps:
Attributes: Archaeological, Field study
Inventory size:
Disclosure: Not for publication
Collections: Unknown

General notes

Associated resources

No. resources: 0
Has informals:

Location information

County(ies): El Dorado
USGS quad(s): ECHO LAKE
Address:
PLSS:

Database record metadata

	Date	*User*
Entered:	7/8/2008	kate
Last modified:	1/17/2018	wagner

IC actions:	*Date*	*User*	*Action taken*
	1/17/2018	wagner	Verified

Record status: Verified

Report Detail: 009424

Identifiers

Report No.: 009424
Other IDs:
Cross-refs:

Citation information

Author(s): Kathy Hardy
Year: 1986 (Jul)
Title: Upper Truckee Erosion Control Project
Affliliation: Forest Archaeologist
No. pages: 9
No. maps:
Attributes: Archaeological, Field study
Inventory size: 115 acres
Disclosure: Not for publication
Collections: Unknown

General notes

Associated resources

No. resources: 0
Has informals: No

Location information

County(ies): El Dorado
USGS quad(s): ECHO LAKE
Address:
PLSS: T12N R18E Sec. 30, 31 MDBM

Database record metadata

	Date	*User*	
Entered:	7/14/2008	kate	
Last modified:	11/29/201	paulrendes	
IC actions:	*Date*	*User*	*Action taken*
	1/17/2018	wagner	Verified
	11/29/201	paulrendes	added additional database info

Record status: Verified

Report Detail: 009429

Identifiers

Report No.: 009429
Other IDs:
Cross-refs:

Citation information

Author(s): Susan Lindstrom
Year: 2003 (Nov)
Title: Upper Truckee River Reclamation Project Upper Reach, Planning and Design Heritage Resource Study Phase 1
Affliliation: Consulting Archaeologist
No. pages: 171
No. maps:
Attributes: Archaeological, Field study
Inventory size: 480 acres
Disclosure: Not for publication
Collections: Unknown

General notes

Associated resources

No. resources: 0
Has informals: No

Location information

County(ies): El Dorado
USGS quad(s): ECHO LAKE
Address:
PLSS:

Database record metadata

	Date	*User*
Entered:	7/15/2008	kate
Last modified:	1/23/2018	wagner

IC actions:	*Date*	*User*	*Action taken*
	1/23/2018	wagner	Verified

Record status: Verified

Report Detail: 010277

Identifiers

Report No.: 010277
Other IDs:
Cross-refs:

Citation information

Author(s): Susie Kaiser
Year: 2009 (Aug)
Title: Archaeological Survey Report for Magnet Elementary School Fuels Reduction
Affliliation: Lake Valley Fire Protection District
No. pages: 13
No. maps:
Attributes: Archaeological, Field study
Inventory size: 10 Acres
Disclosure: Unrestricted
Collections: Unknown

General notes

Associated resources

No. resources: 0
Has informals: No

Location information

County(ies): El Dorado
USGS quad(s): ECHO LAKE
Address:
PLSS: T12N R18E Sec. 30 MDBM

Database record metadata

	Date	*User*
Entered:	8/19/2009	aisha
Last modified:	11/29/201	paulrendes

IC actions:	*Date*	*User*	*Action taken*
	9/7/2017	paulrendes	verified gis
	2/21/2018	nicolealliso	Verfied GIS
	11/29/201	paulrendes	added additional database info

Record status: Verified

Report Detail: 011878

Identifiers

Report No.: 011878
Other IDs:
Cross-refs: See also 012186

Citation information

Author(s): Susan Lindstrom
Year: 2015 (Aug)
Title: South Tahoe Public Utility District Fire Hydrant Service Expansion Project Cultural Resource Inventory
Affliliation:
No. pages: 51
No. maps:
Attributes: Archaeological, Field study
Inventory size:
Disclosure: Not for publication
Collections: No

General notes

Associated resources

No. resources: 0
Has informals: No

Location information

County(ies): El Dorado
USGS quad(s): ECHO LAKE, EMERALD BAY, SOUTH LAKE TAHOE
Address:
PLSS: T12N R18E Sec. 1-5, 9-11, 29-32 MDBM
T13N R18E Sec. 27, 33-34 MDBM

Database record metadata

	Date	*User*
Entered:	10/29/201	sydneyhinton
Last modified:	5/16/2018	paulrendes

IC actions:	*Date*	*User*	*Action taken*
	3/13/2017	paulrendes	gis. Incorporated report 12186 with 11878

Record status: Verified

Report Detail: 012188

Identifiers

Report No.: 012188
Other IDs:
Cross-refs:

Citation information

Author(s): Susan Lindstrom
Year: 2016 (Jun)
Title: South Tahoe Public Utility District Water Meter Installations Project Cultural Resource Inventory
Affliliation: Consulting Archaeologist, Truckee, CA
No. pages: 100
No. maps: 1
Attributes: Archaeological, Field study
Inventory size:
Disclosure: Not for publication
Collections: No

General notes

Associated resources

No. resources: 0
Has informals: No

Location information

County(ies): El Dorado
USGS quad(s): ECHO LAKE, EMERALD BAY, SOUTH LAKE TAHOE
Address:
PLSS: T11N R18E Sec. 5, 6, 8, 17 MDBM
T12N R18E Sec. 1, 2, 3, 4, 5, 9, 10, 11, 15, 16, 19, 20, 21, 28, 30, 31, 32 MDB
T13N R18E Sec. 27, 32, 33, 34 MDBM

Database record metadata

	Date	*User*
Entered:	9/29/2016	paulrendes
Last modified:	3/12/2018	wilson2

IC actions:	*Date*	*User*	*Action taken*
	9/29/2016	paulrendes	scanned and GIS

Record status: Verified

Report Detail: 012424

Identifiers

Report No.: 012424
Other IDs:
Cross-refs:

Citation information

Author(s): Jason Drew, Dave Rios, and Jeremy Hall
Year: 2015 (Aug)
Title: Heritage Resource Inventory Report, Meyers Erosion Control Project-Expanded Area, El Dorado County, California (JN 95179)
Affliliation: NCE
No. pages: 70
No. maps: 1
Attributes: Archaeological, Field study
Inventory size:
Disclosure: Not for publication
Collections: No

General notes

Associated resources

Primary No.	*Trinomial*	*Name*
P-09-003805	CA-ELD-003076H	Lake Valley Utility Line
P-09-003898		Old State Highway 89

No. resources: 2
Has informals: No

Location information

County(ies): El Dorado
USGS quad(s): ECHO LAKE
Address:
PLSS: T12N R18E Sec. 20, 29, 30 MDBM

Database record metadata

	Date	*User*
Entered:	12/11/201	paulrendes
Last modified:	10/1/2018	paulrendes

IC actions:	*Date*	*User*	*Action taken*
	12/11/201	paulrendes	gis
	10/1/2018	paulrendes	verified gis

Record status: Verified

Report Detail: 012553

Identifiers

Report No.: 012553
Other IDs:
Cross-refs:

Citation information

Author(s): Susan Lindstrom
Year: 2017 (Jun)
Title: South Tahoe Public Utility District Fire Hydrant Service Expansion Project Cultural Resource Inventory Addendum 3
Affliliation:
No. pages:
No. maps:
Attributes: Archaeological, Field study
Inventory size:
Disclosure: Not for publication
Collections: No

General notes

Associated resources

No. resources: 0
Has informals: No

Location information

County(ies): El Dorado
USGS quad(s): ECHO LAKE
Address:
PLSS: T12N R18E Sec. 29 MDBM

Database record metadata

	Date	*User*
Entered:	10/9/2018	skylarensbury
Last modified:	10/9/2018	skylarensbury

IC actions:	*Date*	*User*	*Action taken*
	10/9/2018	skylarensb	Plotted in GIS

Record status:

Report Detail: 012561

Identifiers

Report No.: 012561
Other IDs:
Cross-refs:

Citation information

Author(s): Susan Lindstrom
Year: 2016 (Jun)
Title: South Tahoe Public Utility District Fire Hydrant Service Expansion Project Cultural Resource Inventory Addendum
Affliliation: RPA
No. pages:
No. maps:
Attributes: Archaeological, Field study
Inventory size:
Disclosure: Not for publication
Collections: No

General notes

Associated resources

No. resources: 0
Has informals: No

Location information

County(ies): El Dorado
USGS quad(s): ECHO LAKE, EMERALD BAY, SOUTH LAKE TAHOE
Address:
PLSS: T12N R18E Sec. 1,2,5,11,29 MDBM
T13N R18E Sec. 33 and 34 MDBM

Database record metadata

	Date	*User*
Entered:	10/10/201	skylarensbury
Last modified:	10/10/201	skylarensbury

IC actions:	*Date*	*User*	*Action taken*
	10/10/201	skylarensb	

Record status:

Resource List

Primary No.	Trinomial	Other IDs	Type	Age	Attribute codes	Recorded by	Reports
P-09-000644	CA-ELD-000556H	Other - LCE-22; USFS - 05-19-327H	Site	Historic	AH06 (Water conveyance system)	1987 (N. Evans, J. Hood, J. McAleer, P. Nesbitt, DPR); 1991 (H. Davis, Lake Tahoe Basin Management Unit, USFS); 2003 (L. Shapiro, W. Bloomer, J. Burns, Pacific Legacy, Inc.)	006633
P-09-003285	CA-ELD-002161	Other - WM 10	Site	Prehistoric	AP02 (Lithic scatter)	2003 (W. Bloomer, J. Burns, L. Shapiro, Pacific Legacy, Inc.)	006633
P-09-003286	CA-ELD-002162	Other - WM 11	Site	Prehistoric	AP02 (Lithic scatter)	2003 (W. Bloomer, J. Burns, L. Shapiro, Pacific Legacy, Inc.)	006633
P-09-004506	CA-ELD-002773	Resource Name - Cherry's Orchard; USFS - 05-19-613	Site	Prehistoric	AP02 (Lithic scatter); AP04 (Bedrock milling feature)	1994 (Herschel Davis, Pacific Southwest Region, USFS)	009378

Appendix C

NATIVE AMERICAN CORRESPONDENCE

Summary of Tribal Consultation and Correspondence

A Tribal Consultation Letter was sent on January 3, 2019 to these individuals as identified by the NAHC.

Name	Title	Affiliation
Pamela Cubbler	Treasurer	Colfax-Todds Valley Consolidated Tribe
Clyde Prout	Chairman	Colfax-Todds Valley Consolidated Tribe
Sara Dutschke Setchwaelo	Chairperson	Ione Band of Miwok Indians
Cosme A. Valdez	Chairperson	Nashville Enterprise Miwok-Maidu-Nishinam Tribe
Regina Cuellar	Chairperson	Shingle Springs Band of Miwok Indians
Grayson Coney	Cultural Director	Tsi Akim Maidu
Don Ryberg	Chairperson	Tsi Akim Maidu
Gene Whitehouse	Chairperson	United Auburn Indian Community of the Auburn Rancheria
Darrel Cruz	Cult Res Dept. THPO	Washoe Tribe of Nevada and California

Seven of the tribes identified by the NAHC claimed the letter. Follow-up phone calls were made to all tribes listed on April 3, 2019. The table below provides a summary of correspondence.

Representative	Affiliation	Letter Result	Phone Call Result
Pamela Cubbler	Colfax-Todds Valley Consolidated Tribe	Letter claimed 1/7/2019 – no written reply to date	Left message 4/3/2019
Clyde Prout	Colfax-Todds Valley Consolidated Tribe	Letter claimed 1/7/2019 – no written reply to date	Left message 4/3/2019
Sara Dutschke Setchwaelo	Ione Band of Miwok Indians	Letter claimed 1/7/2019 – no written reply to date	Left message 4/3/2019 for Debbie William – no reply to date
Cosme A. Valdez	Nashville Enterprise Miwok-Maidu-Nishinam Tribe	Letter claimed 1/14/2019 – no written reply to date	Left message 4/3/2019
Regina Cuellar	Shingle Springs Band of Miwok Indians	Letter claimed 1/8/2019 – no written reply to date	Left message 4/3/2019 for Jennifer Barker – no reply to date
Grayson Coney	Tsi Akim Maidu	Letter unclaimed	Spoke to Grayson Coney 4/4/019 – Mr. Coney has deferred consultation for the project to Darrel Cruz
Don Ryberg	Tsi Akim Maidu	Letter unclaimed	Number is disconnected
Gene Whitehouse	United Auburn Indian Community of the Auburn Rancheria	Letter claimed 1/7/2019 – written response from Mr. Whitehouse requesting to consult on the project received 2/4/2019. The letter identified Melodi McAdams as UAIC's Cultural Resources Supervisor and point of contact for further consultation.	Email received from Cherilyn Neider 2/5/2019 requesting to consult on the project. Ms. Neider sent a follow up email on 2/14/2019 requesting additional information on the project. El Dorado County Senior Civil Engineer, Donaldo Palaroan, replied to Ms. Neider's email on 2/14/2019 with a link to the project's webpage. Ms. Neider responded with thanks. NCE emailed Ms. Neider the records search information requested in her consultation email and Mr. Palaroan's contact information for further consultation on 4/8/2019. Ms. Neider replied on 4/16/2019 with thanks and intent to review the records.

Representative	Affiliation	Letter Result	Phone Call Result
			Mr. Palaroan left a voicemail for Ms. McAdams and sent an email on 8/22/2019 containing an electronic copy of the draft ASR. Mr. Palaroan request Ms. McAdams to review and provide comments. On 8/26/2019, Ms. McAdams identified Anna Starkey as the person to review and comment on the ASR. Ms. Starkey provided comments on 8/27/2019 expressing concern regarding the extent of the inventory that took place, impacts of the project to a nearby site, and requested that their correspondence be made a part of the administrative record. Mr. Palaroan sent a letter response to Ms. Starkey on 9/16/2019 to address UAIC's project concerns. Ms. Starkey offered suggested changes to the report and requested that clarifying language provided in the letter from 9/16/2019, be incorporated into the ASR. Ms. Starkey's recommendations were addressed in the ASR and the updated report was sent to her on 10/31/2019. Ms. Starkey replied on 10/31/2019 having reviewed the report and acknowledged the effort to identify site P-09-004506 and if the site extended into the APE. The UAIC stated that their concerns and comments were addressed in the updated ASR and that they have no further issues or concerns that the Project may impact site P-09-004506 or known cultural resources.
Darrel Cruz	Washoe Tribe of Nevada and California	Letter claimed 1/7/2019 – no written reply to date	Left message for Darrel Cruz on 4/3/2019. Mr. Cruz returned the call on 4/4/2019. Mr. Cruz stated that there is concern for adverse impacts to archaeological resources in the project area. On 4/8/2019, NCE emailed Mr. Cruz the tribe letter with maps, the records search results, and preliminary bike alignment measurements. The email also contained Mr. Palaroan's contact information for further consultation. Mr. Palaroan spoke to Mr. Cruz via phone and email on 8/22/2019. Mr. Palaroan provided an electronic copy of the draft ASR requesting Mr. Cruz to review and provide comments. Mr. Cruz provided comments on the report on 8/22/2019 stating that they are not aware of cultural resources within the project area that may be affected by the proposed project. The tribe did not have concerns about the Project affecting site P-09-004506. Mr. Cruz requested color copies of selected figures and site forms and requested to be notified should inadvertent discoveries be made during construction efforts. Mr. Palaroan responded to Mr. Cruz's comments on September 20, 2019.

Date:	November 20, 2018
To:	California Native American Heritage Commission
From:	NCE
Subject:	San Bernardino Class 1 Bike Trail Project, South Lake Tahoe, El Dorado County

Ms. Cynthia Gomez, Executive Secretary
California Native American Heritage Commission
1550 Harbor Boulevard, Suite 100
West Sacramento, California 95691

Dear Ms. Gomez:

El Dorado County proposes to implement the San Bernardino Class 1 Bike Trail Project (Project), located in South Lake Tahoe, El Dorado County, California. This Project is part of a series of erosion control/water quality, environmental restoration and shared-use path projects implemented by the El Dorado County Department of Transportation. It is identified within Tahoe Regional Planning Agency's (TRPA) Environmental Improvement Program (EIP) as Project #03.01.02.0040. The Project supports the *Linking Tahoe: Active Transportation Plan*, approved by the Tahoe Metropolitan Planning Organization in March 2016, and the more recently approved *Meyers Area Plan*, from March 2018. NCE has been retained to conduct technical studies, including a cultural resources assessment of the project area in support of California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) environmental documents.

The approximately 0.37 miles of Class 1 shared-use bike path will be constructed along West San Bernardino Avenue at North Upper Truckee Road to East San Bernardino Avenue at Apache Avenue connecting to the already established Meyers Bikeway. Extending across the Upper Truckee River, it will establish access to Washoe Meadows State Park, Tahoe Paradise Park, and the Lake Tahoe Environmental Science Magnet School (LTESMS) in Meyers. Two maps are enclosed for your review. Figure 1 is an overview map of the project area at a 1:24,000 scale with a USGS 7.5' quadrangle background (Echo Lake). Figure 2 provides more detail of the project area using an aerial basemap.

A records search request using a quarter mile buffer has been submitted to the North Central Information Center (NCIC) to gather information pertaining to previous cultural resource inventories and previously recorded archaeological and/or architectural resources within and adjacent to the project area. After receipt of the records search results and in consultation with the County, a field visit will be conducted to perform a pedestrian survey and photo document the project area. At this time, it is anticipated that results of the preliminary cultural resources assessment will be drafted in a cultural resources inventory report in support of the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) environmental documents.

Please provide a Native American contact list for the portion of El Dorado County in the vicinity of the project area. We also request that you conduct a search of your Sacred Lands database for any places of concern that may be located within or adjacent to the proposed project area.

If you have any questions, please feel free to contact me via email at mlaitinen@ncenet.com or by telephone (775-588-2505). I appreciate your assistance and look forward to hearing from you soon.

Sincerely,

Molly Laitinen
NCE | Staff Scientist
PO Box 1760
Zephyr Cove, NV 89448
(775) 588-2505
mlaitinen@ncenet.com

Enclosed: Tribal Consultation List Request Form; Figure 1 – Overview Map; Figure 2 – Detail Map

Local Government Tribal Consultation List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Type of List Requested

☑ **CEQA Tribal Consultation List (AB 52)** – ***Per Public Resources Code § 21080.3.1, subs. (b), (d), (e) and 21080.3.2***

☑ **General Plan (SB 18)** - ***Per Government Code § 65352.3.***

Local Action Type:

___ General Plan ___ General Plan Element ___ General Plan Amendment

___ Specific Plan ___ Specific Plan Amendment ☑ Pre-planning Outreach Activity

Required Information

Project Title: San Bernardino Class 1 Bike Trail Project

Local Government/Lead Agency: El Dorado County

Contact Person: Molly Laitinen, Cultural Resources Specialist, NCE

Street Address: P.O. Box 1760

City: Zephyr Cove, NV **Zip:** 94804

Phone: 755-885-2305 **Fax:**

Email: mlaitinen@ncenet.com

Specific Area Subject to Proposed Action

County: El Dorado **City/Community:** South Lake Tahoe

Project Description:

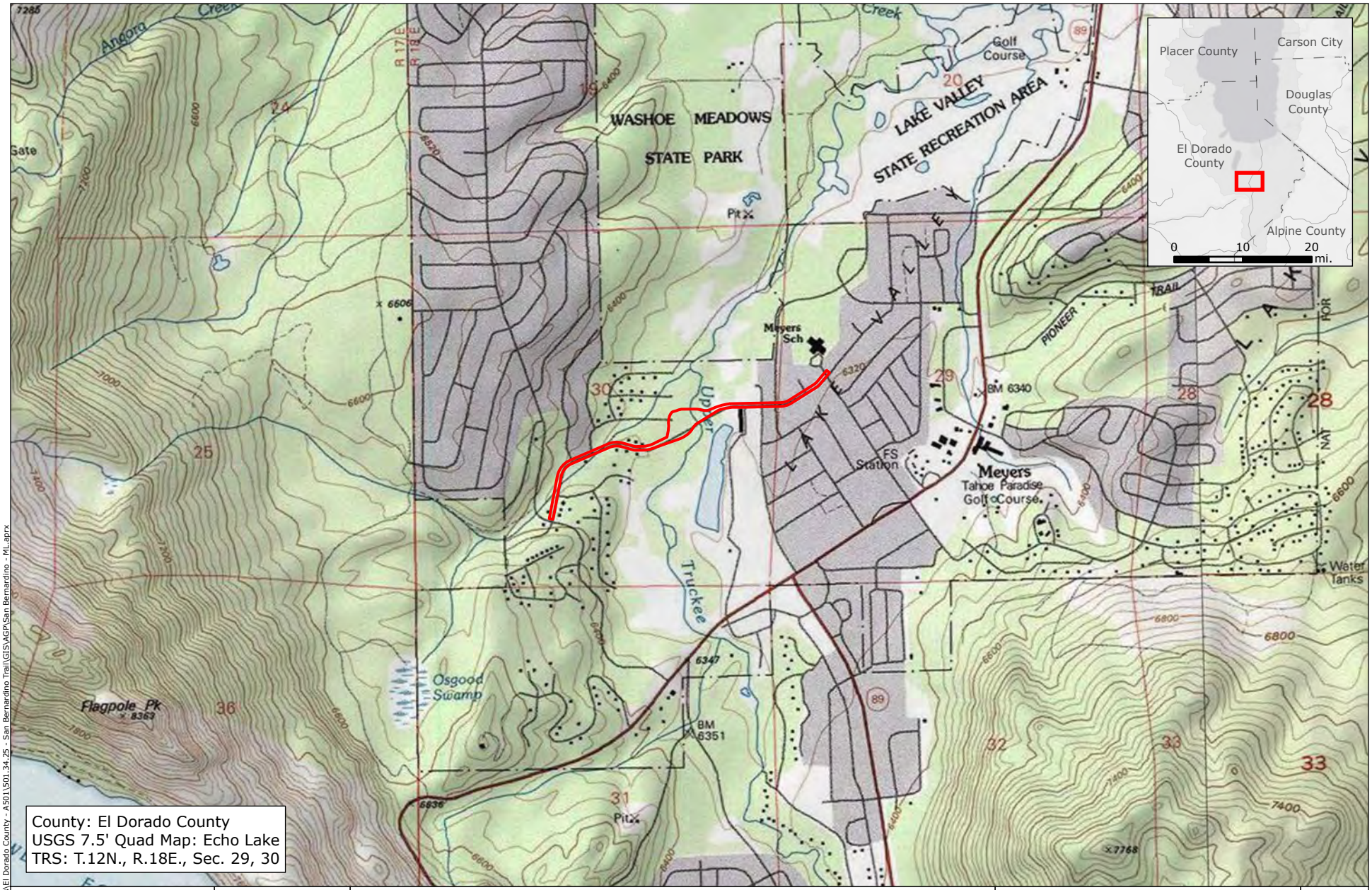
See attached letter.

Additional Request

☑ **Sacred Lands File Search** - ***Required Information:***

USGS Quadrangle Name(s): Echo Lake 7.5'

Township: 12.N **Range:** 18.E **Section(s):** 29, 30



Legend

Project Area

NCE

San Bernardino Class 1 Bike Trail Project

Project Area Location Map

N

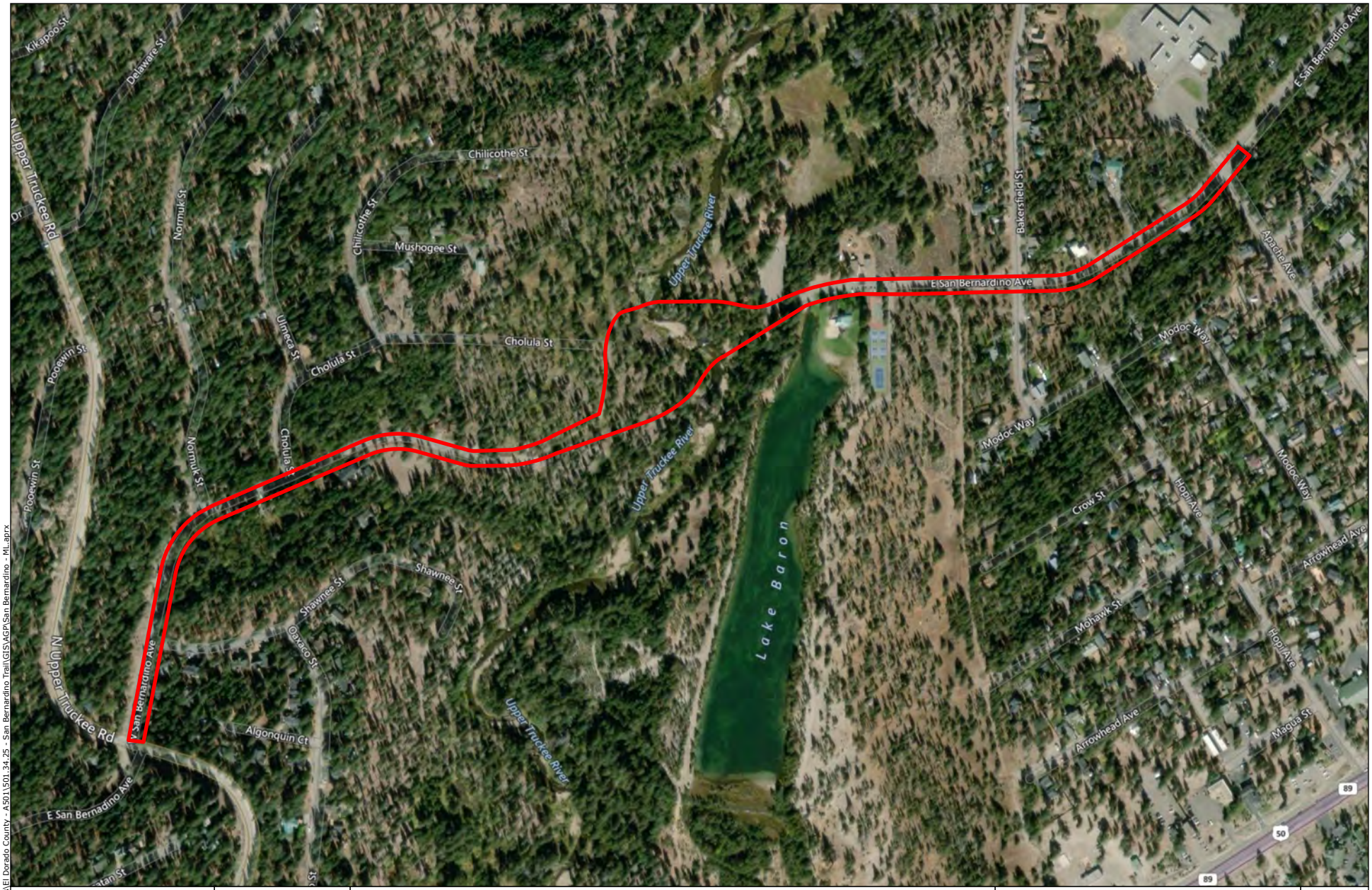
1 : 24,000

0 1,000 2,000 ft.

FIGURE 1

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
ESRI USA Topo Maps	501.34.25	mlaitinen	11/16/2018	11/20/2018	jhall

Document Path: P:\Active Projects\El Dorado County - A501\501.34.25 - San Bernardino Trail\GIS\AGP\San Bernardino - ML.aprx



Legend

Project Area

NCE

San Bernardino Class 1 Bike Trail Project

Project Area Detail Map

N

1 in. = 500 ft.

0 500 ft.

FIGURE 2

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Map Hybrid	501.34.25	mlaitinen	11/16/2018	11/20/2018	jhall

Document Path: P:\Active Projects\El Dorado County - A501\501.34.25 - San Bernardino Trail\GIS\AGP\San Bernardino - ML.aprx

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710

December 4, 2018

Molly Laitinen
NCE

Sent by Email: mlaitinen@ncenet.com
Number of Pages: 2

RE: San Bernardino Class 1 Bike Trail Project, Echo Lake, El Dorado County

Dear Ms. Laitenen:

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed for the area of potential project effect (APE) referenced above with negative results**. Please note that the absence of specific site information in the *Sacred Lands File* does not indicate the absence of Native American cultural resources in any APE.**

I suggest you contact all of those listed, if they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. **By contacting all those on the list, your organization will be better able to respond to claims of failure to consult**. If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact via email: Sharaya.Souza@nahc.ca.gov.

Sincerely,

Sharaya Souza
Staff Services Analyst
(916) 573-0168

Native American Heritage Commission
Native American Contacts List
12/4//2018

Colfax-Todds Valley Consolidated Tribe
Pamela Cubbler, Treasurer
P.O. Box 4884 Miwok
Auburn ,CA 95604 Maidu
PCubbler@colfaxrancheria.com
(530) 320-3943

Colfax-Todds Valley Consolidated Tribe
Clyde Prout, Chairman
P.O. Box 4884 Miwok
Auburn ,CA 95604 Maidu
miwokmaidu@yahoo.com
(916) 577-3558

Ione Band of Miwok Indians
Sara Dutschke Setchwaelo, Chairperson
P.O. Box 699 Miwok
Plymouth ,CA 95669
sara@ionemiwok.net
(209) 245-5800 Office
(209) 245-6377 Fax

Nashville Enterprise Miwok-Maidu-Nishinam Tribe
Cosme A. Valdez, Chairperson
P.O. Box 580986 Miwok
Elk Grove ,CA 95758-001
valdezcome@comcast.net
(916) 429-8047 Voice/Fax
(916) 396-1173 Cell

Shingle Springs Band of Miwok Indians
Regina Cuellar, Chairperson
P.O. Box 1340 Miwok
Shingle Springs ,CA 95682 Maidu
rcuellar@ssband.org
(530) 387-4970
(530) 387-8067 Fax

Tsi Akim Maidu
Grayson Coney, Cultural Director
P.O. Box 510 Maidu
Browns Valley ,CA 95918
tsi-akim-maidu@att.net
(530) 274-7497

Tsi Akim Maidu
Don Ryberg, Chairperson
P.O. Box 510 Maidu
Browns Valley ,CA 95918
tsi-akim-maidu@att.net
(530) 274-7497
(530) 559-8595

United Auburn Indian Community of the Auburn Rancheria
Gene Whitehouse, Chairperson
10720 Indian Hill Road Maidu
Auburn ,CA 95603 Miwok
(530) 883-2390 Office
(530) 883-2380 Fax

Washoe Tribe of Nevada and California
Darrel Cruz, Cult Res Dept. THPO
919 Highway 395 North Washoe
Gardnerville ,NV 89410
Darrel.Cruz@washoetribe.us
(775) 265-8600 x10714
(775) 546-3421 Cell

This list is current as of the date of this document and is based on the information available to the Commission on the date it was produced.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code,Section 5097.94 of the Public Resources Code, or Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American Tribes for the proposed:
San Bernardino Class 1 Bike Trail Project, Echo Lake, El Dorado County.

COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION
http://www.edcgov.us/Government/DOT/

PLACERVILLE OFFICES:
MAIN OFFICE:
2850 Fairlane Court, Placerville, CA 95667
(530) 621-5900 / (530) 626-0387 Fax

CONSTRUCTION & MAINTENANCE:
2441 Headington Road, Placerville, CA 95667
(530) 642-4909 / (530) 642-0508 Fax

LAKE TAHOE OFFICES:
ENGINEERING:
924 B Emerald Bay Road, South Lake Tahoe, CA 96150
(530) 573-7900 / (530) 541-7049 Fax

MAINTENANCE:
1121 Shakori Drive, South Lake Tahoe, CA 96150
(530) 573-3180 / (530) 577-8402 Fax

January 3, 2019

Grayson Coney
Cultural Director
Tsi Akim Maidu
P.O. Box 510
Browns Valley, CA 95918

Dear Mr. Coney:

Re: Invitation to Provide Consultation for the San Bernardino Class 1 Bike Trail Project, South Lake Tahoe, El Dorado County

El Dorado County proposes to implement the San Bernardino Class 1 Bike Trail Project, located in South Lake Tahoe, El Dorado County, California. This Project is part of a series of erosion control/water quality, environmental restoration and shared-use path projects implemented by the El Dorado County Department of Transportation. It is identified within Tahoe Regional Planning Agency's (TRPA) Environmental Improvement Program (EIP) as Project #03.01.02.0040. The Project supports the *Linking Tahoe: Active Transportation Plan*, approved by the Tahoe Metropolitan Planning Organization in March 2016, and the more recently approved *Meyers Area Plan*, from March 2018. NCE has been retained to conduct technical studies, including a cultural resources assessment of the project area in support of California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) environmental documents.

The approximately 0.37 miles of Class 1 shared-use bike path will be constructed along West San Bernardino Avenue at North Upper Truckee Road to East San Bernardino Avenue at Apache Avenue connecting to the already-established Meyers Bikeway. Extending across the Upper Truckee River, it will establish access to Washoe Meadows State Park, Tahoe Paradise Park, and the Lake Tahoe Environmental Science Magnet School (LTESMS) in Meyers. The legal description of the project area is T.12N., R.18E., Sections 29 and 30. Two maps are enclosed for your review. Figure 1 is an overview map of the project area at a 1:24,000 scale with a USGS 7.5' quadrangle background (Echo Lake). Figure 2 provides more detail of the project area using an aerial basemap.

A records search request using a quarter mile buffer has been submitted to the North Central Information Center (NCIC) to gather information pertaining to previous cultural resource inventories and previously recorded archaeological and/or architectural resources within and adjacent to the project area. After receipt of the records search results and in consultation with the County, a field visit will be conducted

to perform a pedestrian survey and photo document the project area. It is anticipated that results of the preliminary cultural resources assessment will be drafted in a cultural resources inventory report in support of the California Environmental Quality Act (CEQA) and National Environmental Policy Act (NEPA) environmental documents.

Please consider this letter and preliminary project information as the formal notification of a proposed undertaking as required under CEQA, specifically Public Resources Code (PRC) 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52). Please respond within 30 days of receipt of this letter, pursuant to PRC 21080.3.1(d) if you would like to consult on this project. Please provide a designated lead contact person if you have not provided that information to us already.

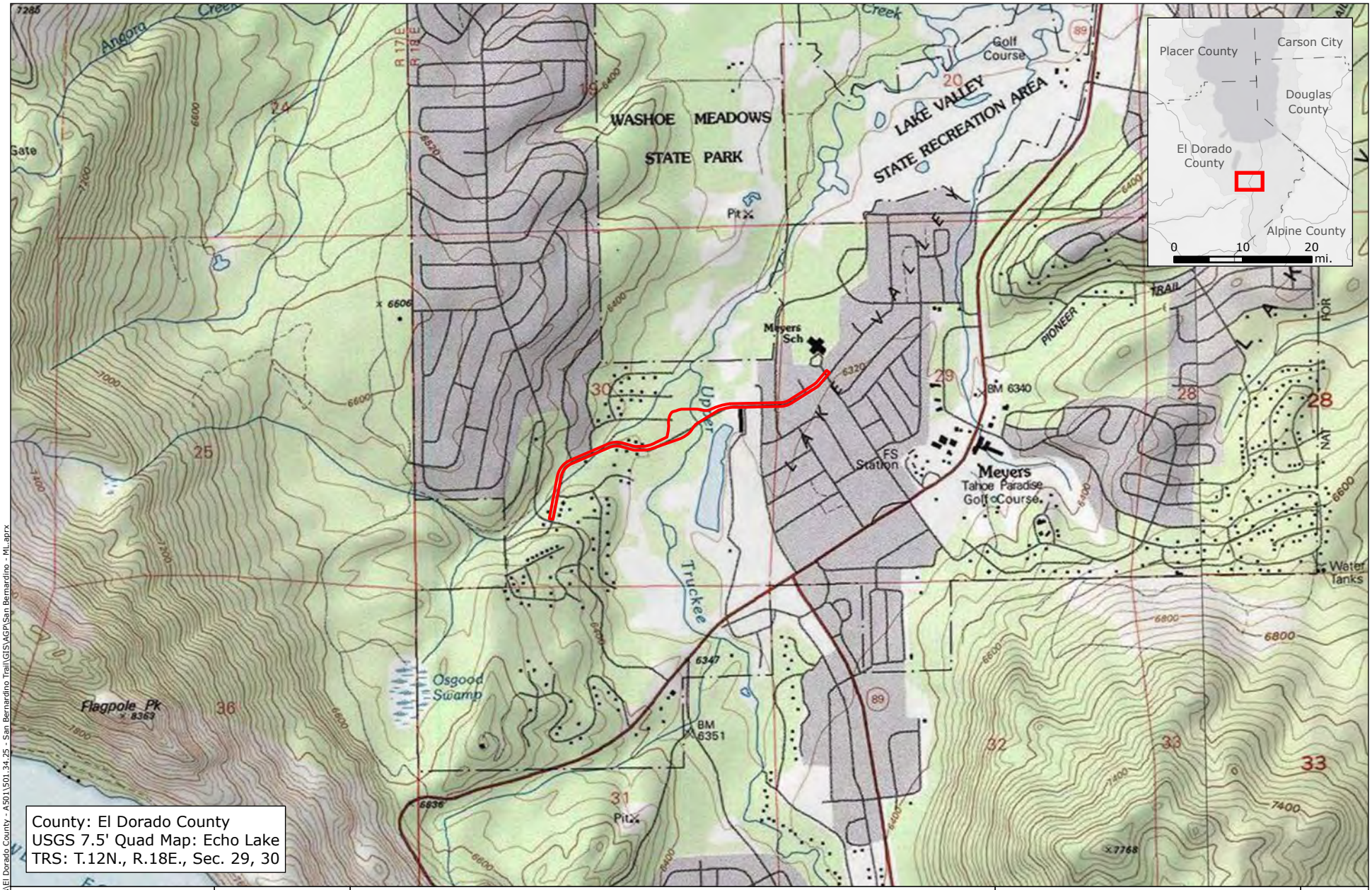
If you have any questions, please feel free to contact Molly Laitinen, NCE Cultural Resources Specialist, by mail at P.O. Box 1760 Zephyr Cove, NV 89448, via email at mlaitinen@ncenet.com, or by telephone at 775-588-2505. We appreciate your assistance and look forward to hearing from you soon.

Sincerely,

Donaldo Palaroan, P.E.
Senior Civil Engineer

County of El Dorado
Community Development Services
Department of Transportation
924 B Emerald Bay Road
So. Lake Tahoe, CA 96150
(530) 573-7920 / FAX (530) 541-7049
donaldo.palaroan@edcgov.us

Enclosed: Figure 1 – Overview Map; Figure 2 – Detail Map



Legend

Project Area

NCE

San Bernardino Class 1 Bike Trail Project

Project Area Location Map

N

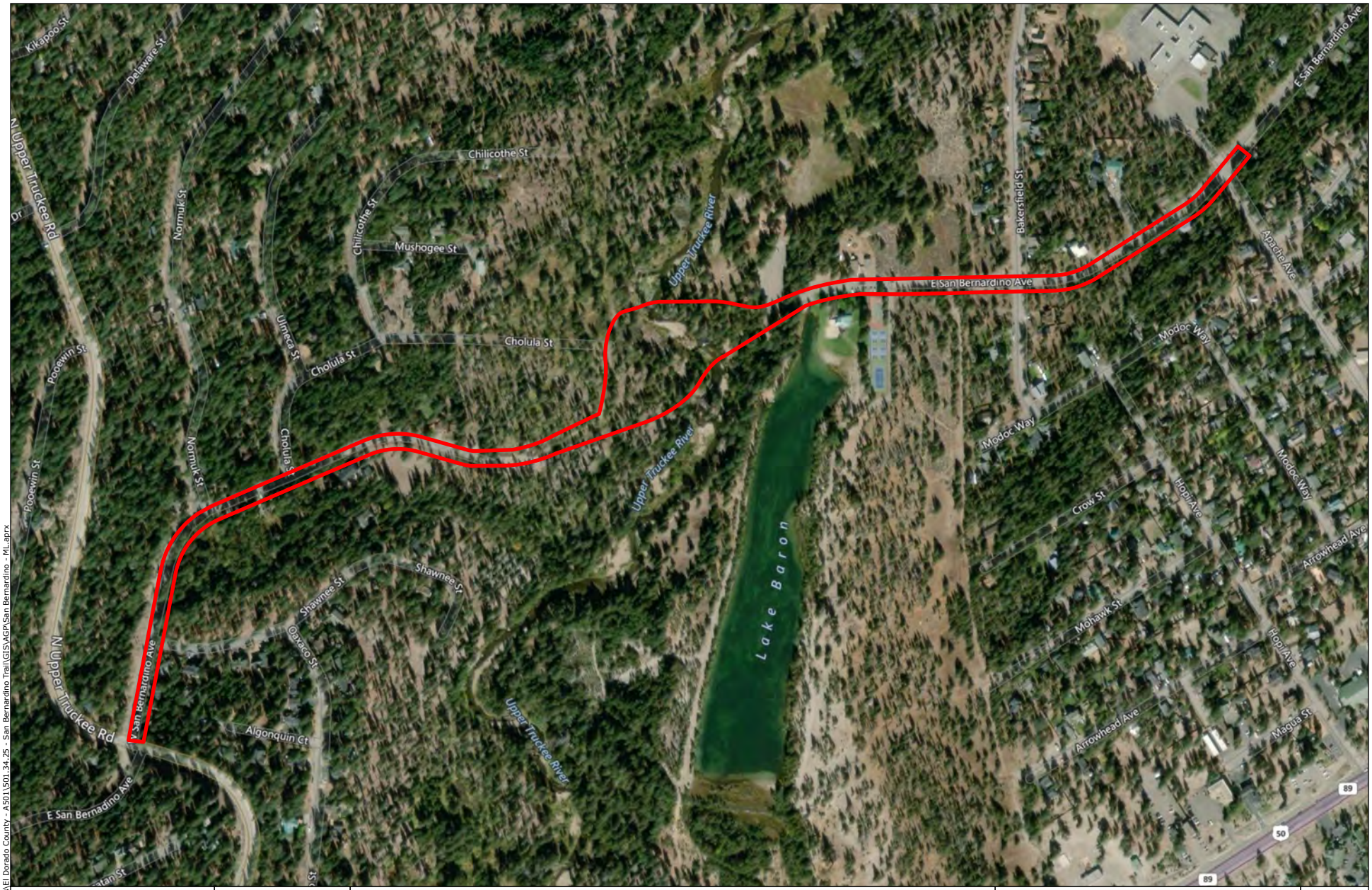
1 : 24,000

0 1,000 2,000 ft.

FIGURE 1

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
ESRI USA Topo Maps	501.34.25	mlaitinen	11/16/2018	11/20/2018	jhall

Document Path: P:\Active Projects\El Dorado County - A501\501.34.25 - San Bernardino Trail\GIS\AGP\San Bernardino - ML.aprx



Legend

Project Area

NCE

San Bernardino Class 1 Bike Trail Project

Project Area Detail Map

N

1 in. = 500 ft.

0 500 ft.

FIGURE 2

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Map Hybrid	501.34.25	mlaitinen	11/16/2018	11/20/2018	jhall

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- ☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
$

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City, State, ZIP+4® Browns Valley, CA 95918

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PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF THE RETURN ADDRESS, FOLD AT DOTTED LINE

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RENO NV 895
04 JAN 2019 PM 3 L

UNITED STATES POSTAGE
PITNEY BOWES
02 1P $006.70⁰
0000659942 JAN 04 2019
MAILED FROM ZIP CODE 89449

ICE
1760
Cove, NV 89448

Grayson Coney
Cultural Director
Tsi Akim Mai
P.O. Box
Browns V

NIXIE 957 DE 1 0001/30/19
RETURN TO SENDER
NOT DELIVERABLE AS ADDRESSED
UNABLE TO FORWARD

BC: 89448176060 *2556-03378-04-44

2/2-2/19/19

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Your item could not be delivered on January 22, 2019 at 7:34 pm in GRASS VALLEY, CA 95945. It was held for the required number of days and is being returned to the sender.

Alert

January 22, 2019 at 7:34 pm
Unclaimed/Being Returned to Sender
GRASS VALLEY, CA 95945

Get Updates ⌄

Text & Email Updates ⌄

Tracking History ⌃

January 22, 2019, 7:34 pm
Unclaimed/Being Returned to Sender
GRASS VALLEY, CA 95945
Your item could not be delivered on January 22, 2019 at 7:34 pm in GRASS VALLEY, CA 95945. It was held for the required number of days and is being returned to the sender.

Reminder to Schedule Redelivery of your item

January 8, 2019, 1:40 pm
Notice Left (No Authorized Recipient Available)
GRASS VALLEY, CA 95945

January 8, 2019

In Transit to Next Facility

January 7, 2019, 5:28 pm
Departed USPS Regional Facility
SACRAMENTO CA DISTRIBUTION CENTER

January 7, 2019, 6:08 am
Arrived at USPS Regional Facility
SACRAMENTO CA DISTRIBUTION CENTER

January 5, 2019, 1:25 pm
Departed USPS Regional Origin Facility
RENO NV DISTRIBUTION CENTER

January 5, 2019, 12:29 am
Arrived at USPS Regional Origin Facility
RENO NV DISTRIBUTION CENTER

January 4, 2019, 5:02 pm
Departed Post Office
ZEPHYR COVE, NV 89448

January 4, 2019, 2:51 pm
USPS in possession of item
ZEPHYR COVE, NV 89448

Feedback

Product Information

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- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
$

Postmark Here

Sent To DARRell CRUZ
Street and Apt. No., or PO Box No. 919 HIGHWAY 395 South
City, State, ZIP+4® GARDNERVILLE, NV 89410

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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- ■ Complete items 1, 2, and 3.
- ■ Print your name and address on the reverse so that we can return the card to you.
- ■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
DARRell CRUZ
WashoeTRIBE of NV+CA
(SAN BERNARDINO CLASS I BIKE TRAIL)
919 Highway 395 South
GARDNERVILLE, NV 89410

9590 9402 1885 6104 8063 24

2. Article Number *(Transfer from service label)*
7016 1970 0001 0496 3932

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Valerie Albi ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- Mail
- Mail Restricted Delivery
- 00)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☑ Signature Confirmation Restricted Delivery

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Tracking Number: 70161970000104963932

Remove X

Expected Delivery on

MONDAY

7 JANUARY 2019 by **8:00pm**

Delivered

January 7, 2019 at 12:15 pm
Delivered, Front Desk/Reception/Mail Room
GARDNERVILLE, NV 89410

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Tracking History

Product Information

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- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
$

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Sent To: Pamela Cubbler
Street and Apt. No., or PO Box No.: P.O. Box 4884
City, State, ZIP+4®: Auburn, CA 95604

PS Form 3800, April 2015 PSN 7530-02-000-9047 — See Reverse for Instructions

---

SENDER: *COMPLETE THIS SECTION*

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- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
Pamela Cubbler
Colfax-Todds Valley Consolidated Tribe
(San Bernardino Class I Bike Trail)
P.O. Box 4884
Auburn, CA 95604

9590 9402 1885 6104 8230 93

2. Article Number *(Transfer from service label)*
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COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Pamela Cubbler
☐ Agent
☐ Addressee

B. Received by *(Printed Name)*: PAMELA CUBBLER
C. Date of Delivery: 1-7-19

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Mail
- ☐ Mail Restricted Delivery 00)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

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Tracking Number: 70161970000104963949

Remove X

Expected Delivery on

MONDAY

7 JANUARY 2019 ⓘ by **8:00pm** ⓘ

Delivered

January 7, 2019 at 12:38 pm
Delivered, Individual Picked Up at Postal Facility
AUBURN, CA 95603

Get Updates ∨

Text & Email Updates ∨

Tracking History ∨

Product Information ∨

See Less ∧

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- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
$

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Sent To Regina Cuellar
Street and Apt. No., or PO Box No. P.O. Box 1340
City, State, ZIP+4® Shingle Springs, CA 95682

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

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SENDER: *COMPLETE THIS SECTION*

- ■ Complete items 1, 2, and 3.
- ■ Print your name and address on the reverse so that we can return the card to you.
- ■ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
Regina Cuellar
Shingle Springs Band of Miwok Indians
(San Bernardino Class I Bike Trail)
P.O. Box 1340
Shingle Springs, CA 95682

9590 9402 1885 6104 8230 79

2. Article Number *(Transfer from service label)*
7016 1970 0001 0496 3956

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X
☐ Agent
☐ Addressee

B. Received by *(Printed Name)* Chase Cafford
C. Date of Delivery 1/8/19

D. Is delivery address different from Item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Mail Restricted Delivery 00)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

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FAQs > (https://www.usps.com/faqs/uspstracking-faqs.htm)

Track Another Package +

Remove X

Tracking Number: 70161970000104963956

Your item was picked up at a postal facility at 8:23 am on January 8, 2019 in SHINGLE SPRINGS, CA 95682.

Delivered

January 8, 2019 at 8:23 am
Delivered, Individual Picked Up at Postal Facility
SHINGLE SPRINGS, CA 95682

Get Updates

Text & Email Updates

Tracking History

Product Information

See Less

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7016 1970 0001 0496 3987

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Domestic Mail Only

For delivery information, visit our website at www.usps.com®.

OFFICIAL USE

Certified Mail Fee
$

Extra Services & Fees (check box, add fee as appropriate)
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
$

Postmark Here

Sent To: Sara Outschke Setchwaelo
Street and Apt. No., or PO Box No.: P.O. Box 699
City, State, ZIP+4®: Plymouth, CA 95669

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

---

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
Sara Outschke Setchwaelo
Ione Band of Miwok Indians
(San Bernardino Class I Bike Trail)
P.O. Box 699
Plymouth, CA 95669

9590 9402 4221 8121 1956 57

2. Article Number (Transfer from service label)
7016 1970 0001 0496 3987

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X [signature] ☑ Agent ☐ Addressee

B. Received by (Printed Name): Debbie Williams
C. Date of Delivery: 6-7-19

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☑ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Mail
- ☐ Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

USPS Tracking®

FAQs > (https://www.usps.com/faqs/uspstracking-faqs.htm)

Track Another Package +

Tracking Number: 70161970000104963987 Remove X

Expected Delivery on

MONDAY

7 JANUARY 2019 ⓘ **See Product Information**

Delivered

January 7, 2019 at 10:34 am
Delivered
PLYMOUTH, CA 95669

Tracking History

January 7, 2019, 10:34 am
Delivered
PLYMOUTH, CA 95669
Your item was delivered at 10:34 am on January 7, 2019 in PLYMOUTH, CA 95669.

January 7, 2019, 9:20 am
Available for Pickup
PLYMOUTH, CA 95669

January 7, 2019, 8:36 am
Sorting Complete
PLYMOUTH, CA 95669

January 7, 2019, 8:21 am
Arrived at Unit

7016 1970 0001 0496 3963

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For delivery information, visit our website at *www.usps.com®*.

OFFICIAL USE

Certified Mail Fee
$

Extra Services & Fees *(check box, add fee as appropriate)*
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
$

Postmark Here

Sent To CLYDE PROUT
Street and Apt. No., or PO Box No. P.O. BOX 4884
City, State, ZIP+4® AUBURN CA 95604

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

---

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
Clyde Prout
Colfax-Todds Valley Consolidated
San Bernardino Class I Bike
P.O. Box 4884
AUBURN, CA 95604

9590 9402 1885 6104 8230 86

2. Article Number *(Transfer from service label)*
7016 1970 0001 0496 3963

COMPLETE THIS SECTION ON DELIVERY

A. Signature
x [signature] ☐ Agent ☐ Addressee

B. Received by *(Printed Name)* PAMELA CUBBLER C. Date of Delivery 1-7-16

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Insured Mail Restricted Delivery (over $500)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

USPS Tracking®

FAQs > (https://www.usps.com/faqs/uspstracking-faqs.htm)

Track Another Package +

Tracking Number: 70161970000104963963

Remove ×

Expected Delivery on

MONDAY

7 JANUARY 2019 ⓘ by **8:00pm** ⓘ

Delivered

January 7, 2019 at 12:38 pm
Delivered, Individual Picked Up at Postal Facility
AUBURN, CA 95603

Get Updates ⌄

Text & Email Updates ⌄

Tracking History ⌄

Product Information ⌄

See Less ⌃

Can't find what you're looking for?

Go to our FAQs section to find answers to your tracking questions.

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OFFICIAL USE

Certified Mail Fee
$

Extra Services & Fees *(check box, add fee as appropriate)*
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
$

Postmark Here

Sent To Don Ryberg
Street and Apt. No., or PO Box No. P.O. Box 570
City, State, ZIP+4® Browns Valley, CA 95918

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

7016 1970 0001 0496 3970

CERTIFIED MAIL®

7016 1970 0001 0496 3970

RENO NV 895

04 JAN 2019 PM 3 L

UNITED STATES POSTAGE PITNEY BOWES
02 1P $006.70⁰
0000659942 JAN 04 2019
MAILED FROM ZIP CODE 89449

CE

760
ove, NV 89448

VNC

NC
1-8

Don Ryberg
Chairperson
Tsi Akim Ma
P.O. Box 51
Browns Vall

NIXIE 957 DE 1 0001/30/19
RETURN TO SENDER
UNCLAIMED
UNABLE TO FORWARD
BC: 89448176060 *2556-02545-04-44

UNC 89448 760

2/2 - 2/17/19

Environmental Services

USPS Tracking®

FAQs > (https://www.usps.com/faqs/uspstracking-faqs.htm)

Track Another Package +

Tracking Number: 70161970000104963970 Remove X

Your item could not be delivered on January 22, 2019 at 7:34 pm in GRASS VALLEY, CA 95945. It was held for the required number of days and is being returned to the sender.

Alert

January 22, 2019 at 7:34 pm
Unclaimed/Being Returned to Sender
GRASS VALLEY, CA 95945

Get Updates

Text & Email Updates

Tracking History

January 22, 2019, 7:34 pm
Unclaimed/Being Returned to Sender
GRASS VALLEY, CA 95945
Your item could not be delivered on January 22, 2019 at 7:34 pm in GRASS VALLEY, CA 95945. It was held for the required number of days and is being returned to the sender.

Reminder to Schedule Redelivery of your item

January 8, 2019, 1:40 pm
Notice Left (No Authorized Recipient Available)
GRASS VALLEY, CA 95945

January 8, 2019

In Transit to Next Facility

January 7, 2019, 5:28 pm
Departed USPS Regional Facility
SACRAMENTO CA DISTRIBUTION CENTER

January 7, 2019, 6:08 am
Arrived at USPS Regional Facility
SACRAMENTO CA DISTRIBUTION CENTER

January 5, 2019, 1:25 pm
Departed USPS Regional Origin Facility
RENO NV DISTRIBUTION CENTER

January 5, 2019, 12:35 am
Arrived at USPS Regional Origin Facility
RENO NV DISTRIBUTION CENTER

January 4, 2019, 5:02 pm
Departed Post Office
ZEPHYR COVE, NV 89448

January 4, 2019, 2:51 pm
USPS in possession of item
ZEPHYR COVE, NV 89448

Feedback

Product Information

See Less

Can't find what you're looking for?

Go to our FAQs section to find answers to your tracking questions.

FAQs (https://www.usps.com/faqs/uspstracking-faqs.htm)

7016 1970 0001 0496 3666

U.S. Postal Service™
CERTIFIED MAIL® RECEIPT
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For delivery information, visit our website at *www.usps.com®*.

OFFICIAL USE

Certified Mail Fee
$

Extra Services & Fees *(check box, add fee as appropriate)*
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

Postage
$

Total Postage and Fees
$

Postmark Here

Sent To Cosme Valdez
Street and Apt. No., or PO Box No. P.O. Box 580986
City, State, ZIP+4® EIK Grove CA 95758

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

---

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:
Cosme Valdez
Nashville-El Dorado Miwok
(San Bernardino Class I Bike Trail)
P.O. Box 580986
EIK Grove, NV 95758

9590 9402 4221 8121 1956 40

2. Article Number *(Transfer from service label)*
7016 1970 0001 0496 3666

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

COMPLETE THIS SECTION ON DELIVERY

A. Signature
x
☐ Agent
☐ Addressee

B. Received by *(Printed Name)*
C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

95758

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- ☐ Insured Mail
- ☐ Mail Restricted Delivery
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

USPS Tracking®

FAQs > (https://www.usps.com/faqs/uspstracking-faqs.htm)

Track Another Package +

Tracking Number: 70161970000104963666 Remove X

Your item was picked up at a postal facility at 9:13 am on January 14, 2019 in ELK GROVE, CA 95758.

Delivered

January 14, 2019 at 9:13 am
Delivered, Individual Picked Up at Postal Facility
ELK GROVE, CA 95758

Get Updates

Text & Email Updates

Tracking History

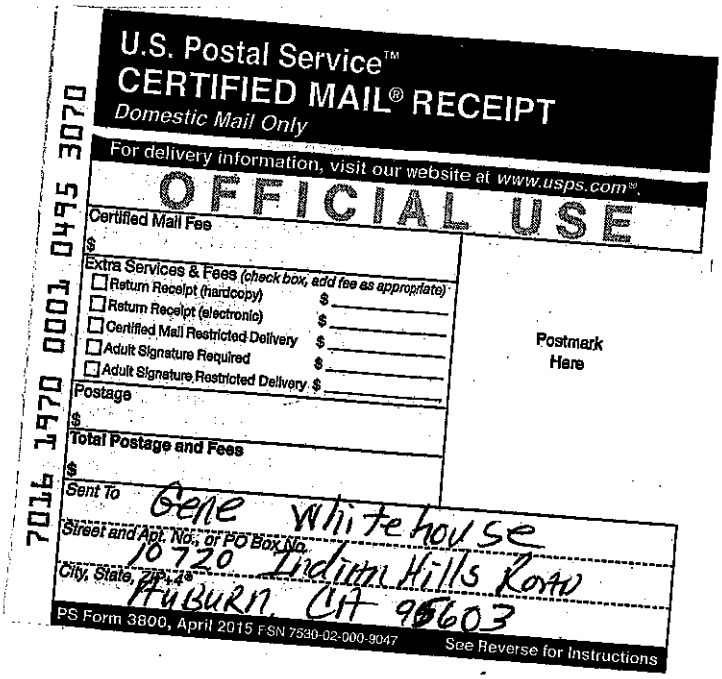
Product Information

See Less

Can't find what you're looking for?

Go to our FAQs section to find answers to your tracking questions.

FAQs (https://www.usps.com/faqs/uspstracking-faqs.htm)



U.S. Postal Service™
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OFFICIAL USE

7016 1970 0001 0495 3070

Certified Mail Fee
$

Extra Services & Fees (check box, add fee as appropriate)
- ☐ Return Receipt (hardcopy) $
- ☐ Return Receipt (electronic) $
- ☐ Certified Mail Restricted Delivery $
- ☐ Adult Signature Required $
- ☐ Adult Signature Restricted Delivery $

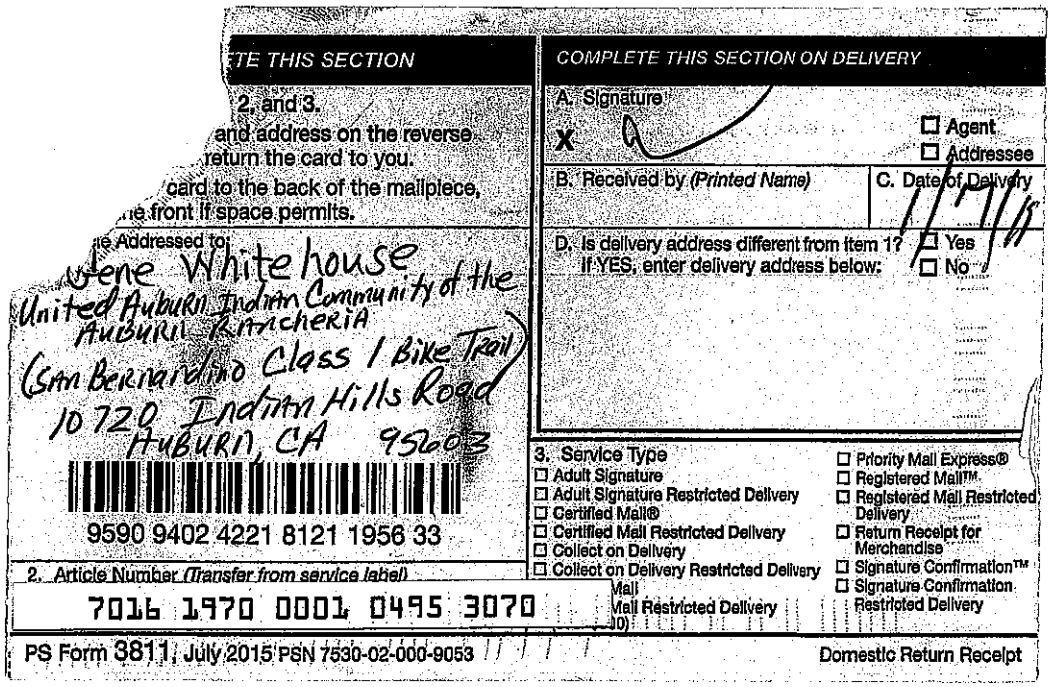
Postage
$

Total Postage and Fees
$

Postmark Here

Sent To Gene Whitehouse
Street and Apt. No., or PO Box No. 10720 Indian Hills Road
City, State, ZIP+4® Auburn CA 95603

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions



TE THIS SECTION

2. and 3.
and address on the reverse.
return the card to you.
card to the back of the mailpiece,
e front if space permits.

e Addressed to:
Gene Whitehouse
United Auburn Indian Community of the
Auburn Rancheria
(San Bernardino Class I Bike Trail)
10720 Indian Hills Road
Auburn, CA 95603

9590 9402 4221 8121 1956 33

2. Article Number (Transfer from service label)
7016 1970 0001 0495 3070

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X
☐ Agent
☐ Addressee

B. Received by (Printed Name) C. Date of Delivery 11/7/18

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

3. Service Type
- ☐ Adult Signature
- ☐ Adult Signature Restricted Delivery
- ☐ Certified Mail®
- ☐ Certified Mail Restricted Delivery
- ☐ Collect on Delivery
- ☐ Collect on Delivery Restricted Delivery
- Mail
- Mail Restricted Delivery
- 0)
- ☐ Priority Mail Express®
- ☐ Registered Mail™
- ☐ Registered Mail Restricted Delivery
- ☐ Return Receipt for Merchandise
- ☐ Signature Confirmation™
- ☐ Signature Confirmation Restricted Delivery

PS Form 3811, July 2015 PSN 7530-02-000-9053 Domestic Return Receipt

USPS Tracking®

FAQs > (https://www.usps.com/faqs/uspstracking-faqs.htm)

Track Another Package +

Tracking Number: 70161970000104953070

Remove X

Expected Delivery on

MONDAY

7 JANUARY 2019 by **8:00pm**

Delivered

January 7, 2019 at 12:34 pm
Delivered, Left with Individual
AUBURN, CA 95603

Get Updates

Text & Email Updates

Tracking History

Product Information

See Less

Can't find what you're looking for?

Go to our FAQs section to find answers to your tracking questions.

MIWOK MAIDU United Auburn Indian Community of the Auburn Rancheria

Gene Whitehouse, Chairman | John L. Williams, Vice Chairman | Calvin Moman, Secretary | Jason Camp, Treasurer | Gabe Cayton, Council Member

February 4, 2019

Donaldo Palaroan
Senior Civil Engineer
County of El Dorado - South Lake Tahoe
924 B Emerald Bay Road
S. Lake Tahoe, CA 96150

RE: AB 52 Consultation Request for the Proposed San Bernardino Bike Trail Project, South Lake Tahoe, CA

Dear Senior Civil Engineer Donaldo Palaroan,

The United Auburn Indian Community (UAIC) received a letter from the County of El Dorado dated 1/7/2019, formally notifying us of a proposed project, the San Bernardino Bike Trail Project in South Lake Tahoe, and an opportunity to consult under AB 52. This letter is notice that UAIC would like to initiate consultation under AB 52.

We would like to discuss the topics listed in Cal. Public Resources Code section 21080.3.2(a), including the type of environmental review to be conducted for the project; project alternatives; the project's significant effects; and mitigation measures for any direct, indirect, or cumulative impacts the project may cause to tribal cultural resources. As consultation progresses, we may also wish to discuss design options that would avoid impacts to tribal cultural resources; the scope of any environmental document that is prepared for the project; pre-project surveys; and tribal cultural resource identification, significance evaluations and culturally-appropriate treatment.

This letter is also a formal request to allow UAIC tribal representatives to observe and participate in all cultural resource surveys, including initial pedestrian surveys for the project. Please send us all existing cultural resource assessments, as well as requests for, and the results of, any records searches that may have been conducted prior to our first consultation meeting. If tribal cultural resources are identified within the project area, it is UAIC's policy that tribal monitors must be present for all ground disturbing activities. Finally, please be advised that UAIC's strong preference is to preserve tribal cultural resources in place and avoid them whenever possible. Subsurface testing and data recovery must not occur without first consulting with UAIC and receiving UAIC's written consent.

In the letter, Senior Civil Engineer Donaldo Palaroan is identified as the lead contact person for consultation on the proposed project. Melodi McAdams, our Cultural Resources Supervisor, will be UAIC's point of contact for this consultation. Please contact Ms. McAdams, Cultural Resources Supervisor, at (530) 328-1109 or email at mmcadams@auburnrancheria.com if you have any questions.

Thank you for involving UAIC in the planning process at an early stage. We ask that you make this letter a part of the project record and we look forward to working with you to ensure that tribal cultural resources are protected.

Sincerely,

Gene Whitehouse
Chairman

CC: Matthew Moore, UAIC Tribal Historic Preservation Officer
Molly Laitinen, NCE Cultural Resources Specialist

From:	Cherilyn Neider
To:	Molly Laitinen
Subject:	RE: AB 52 Consultation for the San Bernardino Class 1 Bike Trail Project, South Lake Tahoe
Date:	Tuesday, April 16, 2019 4:20:29 PM

Hi Molly,

Thank you very much for sending these over. I have downloaded the files and will continue the review process.

Many thanks,
Cherilyn

Cherilyn Neider
Tribal Historic Preservation
United Auburn Indian Community
530.883.2394

From: Molly Laitinen [mailto:MLaitinen@ncenet.com]
Sent: Monday, April 8, 2019 12:13 PM
To: Cherilyn Neider <cneider@auburnrancheria.com>
Subject: RE: AB 52 Consultation for the San Bernardino Class 1 Bike Trail Project, South Lake Tahoe

Hi Cherilyn,

I am following up on your request for the NCIC records search information and project area shapefile. I have attached the most recent project area shapefile, however it is still in its preliminary stages and is subject to further change. Here is a sharefile link containing the NCIC records search information: https://nce.sharefile.com/d-s875a4cb59664e42a

For further consultation and information please continue working with the lead contact for El Dorado County, Donaldo Palaroan.

Thank you,

Molly Laitinen

Cultural Resources Specialist

p (775) 588-2505 c (408) 823-4570
f (775) 588-2607 e mlaitinen@ncenet.com

NCE
P.O. Box 1760, Zephyr Cove, NV 89448
www.ncenet.com

Collaboration. Commitment. Confidence.SM

From: Cherilyn Neider <cneider@auburnrancheria.com>
Sent: Thursday, February 14, 2019 1:29 PM
To: Donaldo Palaroan <donaldo.palaroan@edcgov.us>
Cc: Molly Laitinen <MLaitinen@ncenet.com>; Matthew Moore <mmoore@auburnrancheria.com>; Melodi McAdams <mmcadams@auburnrancheria.com>
Subject: RE: AB 52 Consultation for the San Bernardino Class 1 Bike Trail Project, South Lake Tahoe

Hi Donaldo,

Thank you for the information. We look forward to working with you on this project to ensure that tribal cultural resources are protected.

Many thanks,
Cherilyn

Cherilyn Neider
Tribal Historic Preservation
United Auburn Indian Community
530.883.2394

From: Donaldo Palaroan [mailto:donaldo.palaroan@edcgov.us]
Sent: Thursday, February 14, 2019 1:26 PM
To: Cherilyn Neider <cneider@auburnrancheria.com>
Cc: mlaitinen@ncenet.com; Matthew Moore <mmoore@auburnrancheria.com>; Melodi McAdams <mmcadams@auburnrancheria.com>
Subject: Re: AB 52 Consultation for the San Bernardino Class 1 Bike Trail Project, South Lake Tahoe

Hi Cherilyn,

You can find more information on the project's webpage here.

As of the date of this email, no other tribes have requested consultation. The project is still in the preliminary stages and a cultural resources report is not yet available.

Please let me know if you have any questions. Thank you.

Donaldo Palaroan, P.E.
Senior Civil Engineer

County of El Dorado
Community Development Services
Department of Transportation
924 B Emerald Bay Road
So. Lake Tahoe, CA 96150
(530) 573-7920 / FAX (530) 541-7049
donaldo.palaroan@edcgov.us

On Thu, Feb 14, 2019 at 1:00 PM Cherilyn Neider <cneider@auburnrancheria.com> wrote:

> Good afternoon Donaldo and Molly,
>
> I am following up on my earlier email requesting additional information for the San Bernardino Class 1 Bike Trail. We are still hoping you can provide additional information on the project. Have other tribes initiated consultation for this project? Is there a cultural resources report available for the project?
>
> Many thanks,
> Cherilyn
>
> **Cherilyn Neider**
> Tribal Historic Preservation
> United Auburn Indian Community
> 530.883.2394
>
> ---
>
> **From:** Cherilyn Neider
> **Sent:** Tuesday, February 5, 2019 2:16 PM
> **To:** 'mlaitinen@ncenet.com' <mlaitinen@ncenet.com>; 'donaldo.palaroan@edcgov.us' <donaldo.palaroan@edcgov.us>
> **Cc:** Matthew Moore (mmoore@auburnrancheria.com) <mmoore@auburnrancheria.com>; Melodi McAdams (mmcadams@auburnrancheria.com) <mmcadams@auburnrancheria.com>
> **Subject:** AB 52 Consultation for the San Bernardino Class 1 Bike Trail Project, South Lake Tahoe
>
> Dear Donaldo Palaroan and Molly Laitinen,
>
> Thank you for your letter received on 1/7/2019 notifying us of the San Bernardino Class 1 Bike Trail Project. I am contacting you in order to request:
>
> • Consultation for this project;
> • All existing cultural resource assessments;
> • Requests for and results of records searches;
> • GIS SHP files for the proposed project's APE.
>
> Please be advised that there are tribal cultural resources within your project area. Can you

inform us if other Tribes are consulting with the County on this project?

Thank you for involving UAIC in the planning process at an early stage. We ask that you make this correspondence a part of the project record and we look forward to working with you to ensure that tribal cultural resources are protected. Melodi McAdams, UAIC Cultural Resources Supervisor, will be UAIC's point of contact for this consultation. Please contact Ms. McAdams by phone at (530) 328-1109 or email at mmcadams@auburnrancheria.com to begin the consultation process.

Thank you,
Cherilyn

Cherilyn Neider
Tribal Historic Preservation
United Auburn Indian Community
530.883.2394

Nothing in this e-mail is intended to constitute an electronic signature for purposes of the Electronic Signatures in Global and National Commerce Act (E-Sign Act), 15, U.S.C. §§ 7001 to 7006 or the Uniform Electronic Transactions Act of any state or the federal government unless a specific statement to the contrary is included in this e-mail.

Nothing in this e-mail is intended to constitute an electronic signature for purposes of the Electronic Signatures in Global and National Commerce Act (E-Sign Act), 15, U.S.C. §§ 7001 to 7006 or the Uniform Electronic Transactions Act of any state or the federal government unless a specific statement to the contrary is included in this e-mail.

From:	Cherilyn Neider
To:	Molly Laitinen
Subject:	RE: AB 52 Consultation for the San Bernardino Class 1 Bike Trail Project, South Lake Tahoe
Date:	Tuesday, April 16, 2019 4:20:29 PM

Hi Molly,

Thank you very much for sending these over. I have downloaded the files and will continue the review process.

Many thanks,
Cherilyn

Cherilyn Neider
Tribal Historic Preservation
United Auburn Indian Community
530.883.2394

From: Molly Laitinen [mailto:MLaitinen@ncenet.com]
Sent: Monday, April 8, 2019 12:13 PM
To: Cherilyn Neider <cneider@auburnrancheria.com>
Subject: RE: AB 52 Consultation for the San Bernardino Class 1 Bike Trail Project, South Lake Tahoe

Hi Cherilyn,

I am following up on your request for the NCIC records search information and project area shapefile. I have attached the most recent project area shapefile, however it is still in its preliminary stages and is subject to further change. Here is a sharefile link containing the NCIC records search information: https://nce.sharefile.com/[redacted]

For further consultation and information please continue working with the lead contact for El Dorado County, Donaldo Palaroan.

Thank you,

Molly Laitinen

Cultural Resources Specialist

p (775) 588-2505 c (408) 823-4570
f (775) 588-2607 e mlaitinen@ncenet.com

NCE
P.O. Box 1760, Zephyr Cove, NV 89448
www.ncenet.com

Collaboration. Commitment. Confidence.SM

From: Cherilyn Neider <cneider@auburnrancheria.com>
Sent: Thursday, February 14, 2019 1:29 PM
To: Donaldo Palaroan <donaldo.palaroan@edcgov.us>
Cc: Molly Laitinen <MLaitinen@ncenet.com>; Matthew Moore <mmoore@auburnrancheria.com>; Melodi McAdams <mmcadams@auburnrancheria.com>
Subject: RE: AB 52 Consultation for the San Bernardino Class 1 Bike Trail Project, South Lake Tahoe

Hi Donaldo,

Thank you for the information. We look forward to working with you on this project to ensure that tribal cultural resources are protected.

Many thanks,
Cherilyn

Cherilyn Neider
Tribal Historic Preservation
United Auburn Indian Community
530.883.2394

From: Donaldo Palaroan [mailto:donaldo.palaroan@edcgov.us]
Sent: Thursday, February 14, 2019 1:26 PM
To: Cherilyn Neider <cneider@auburnrancheria.com>
Cc: mlaitinen@ncenet.com; Matthew Moore <mmoore@auburnrancheria.com>; Melodi McAdams <mmcadams@auburnrancheria.com>
Subject: Re: AB 52 Consultation for the San Bernardino Class 1 Bike Trail Project, South Lake Tahoe

Hi Cherilyn,

You can find more information on the project's webpage here.

As of the date of this email, no other tribes have requested consultation. The project is still in the preliminary stages and a cultural resources report is not yet available.

Please let me know if you have any questions. Thank you.

Donaldo Palaroan, P.E.
Senior Civil Engineer

County of El Dorado
Community Development Services
Department of Transportation
924 B Emerald Bay Road
So. Lake Tahoe, CA 96150
(530) 573-7920 / FAX (530) 541-7049
donaldo.palaroan@edcgov.us

On Thu, Feb 14, 2019 at 1:00 PM Cherilyn Neider <cneider@auburnrancheria.com> wrote:

> Good afternoon Donaldo and Molly,
>
> I am following up on my earlier email requesting additional information for the San Bernardino Class 1 Bike Trail. We are still hoping you can provide additional information on the project. Have other tribes initiated consultation for this project? Is there a cultural resources report available for the project?
>
> Many thanks,
> Cherilyn
>
> **Cherilyn Neider**
> Tribal Historic Preservation
> United Auburn Indian Community
> 530.883.2394
>
> ---
>
> **From:** Cherilyn Neider
> **Sent:** Tuesday, February 5, 2019 2:16 PM
> **To:** 'mlaitinen@ncenet.com' <mlaitinen@ncenet.com>; 'donaldo.palaroan@edcgov.us' <donaldo.palaroan@edcgov.us>
> **Cc:** Matthew Moore (mmoore@auburnrancheria.com) <mmoore@auburnrancheria.com>; Melodi McAdams (mmcadams@auburnrancheria.com) <mmcadams@auburnrancheria.com>
> **Subject:** AB 52 Consultation for the San Bernardino Class 1 Bike Trail Project, South Lake Tahoe
>
> Dear Donaldo Palaroan and Molly Laitinen,
>
> Thank you for your letter received on 1/7/2019 notifying us of the San Bernardino Class 1 Bike Trail Project. I am contacting you in order to request:
>
> • Consultation for this project;
> • All existing cultural resource assessments;
> • Requests for and results of records searches;
> • GIS SHP files for the proposed project's APE.
>
> Please be advised that there are tribal cultural resources within your project area. Can you

inform us if other Tribes are consulting with the County on this project?

Thank you for involving UAIC in the planning process at an early stage. We ask that you make this correspondence a part of the project record and we look forward to working with you to ensure that tribal cultural resources are protected. Melodi McAdams, UAIC Cultural Resources Supervisor, will be UAIC's point of contact for this consultation. Please contact Ms. McAdams by phone at (530) 328-1109 or email at mmcadams@auburnrancheria.com to begin the consultation process.

Thank you,
Cherilyn

Cherilyn Neider
Tribal Historic Preservation
United Auburn Indian Community
530.883.2394

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Molly Laitinen

From: Molly Laitinen
Sent: Monday, April 8, 2019 12:01 PM
To: 'darrel.cruz@washoetribe.us'
Subject: San Bernardino Class I Trail Project
Attachments: NAHC_Detail map_v04.pdf; NAHC_Location map_v04.pdf; San Bernardino Bike Trail Tribe Letter.pdf

Hi Darrel,

I am following up on our phone conversation from 4/4/2019 regarding El Dorado County's San Bernardino Class I Bike Trail Project. Attached are two maps containing the updated project area, however it is still in its preliminary stages and is subject to further change. I have also attached the original tribe letter sent in early January for your records. Preliminary width of the bike path will be contained within a 25-foot wide corridor and is also subject to change.

Here is a sharefile link containing the NCIC records search information: https://nce.sharefile.com/d-s875a4cb59664e42a

For further consultation and information please reach out the lead contact for El Dorado County, Donaldo Palaroan.

Thank you,

Molly Laitinen
Cultural Resources Specialist
NCE
p (775) 588-2505 c (408) 823-4570
f (775) 588-2607 e mlaitinen@ncenet.com
NCE
P.O. Box 1760, Zephyr Cove, NV 89448
www.ncenet.com

Collaboration. Commitment. Confidence.SM

From:	Donaldo Palaroan
To:	Darrel Cruz
Cc:	Dave Rios; Molly Laitinen; Charles Zeier; Jeremy Hall
Subject:	Re: Review of the Archaeological Survey Report of El Dorado County"s San Bernardino Class 1 Bike Trail Project
Date:	Friday, September 20, 2019 3:55:22 PM
Attachments:	19-09-20 resp ltr to Washoe.pdf

Hi Darrel,

Please see attached letter.

Have a wonderful weekend.

Donaldo Palaroan, P.E.
Senior Civil Engineer

County of El Dorado
Department of Transportation
924 B Emerald Bay Road
So. Lake Tahoe, CA 96150
(530) 573-7920 / FAX (530) 541-7049
donaldo.palaroan@edcgov.us

On Thu, Aug 22, 2019 at 3:57 PM Darrel Cruz <Darrel.Cruz@washoetribe.us> wrote:

> Donaldo,
>
> Please see attached comments and call me if you have questions. I am off on Fridays.
>
> Thank you
>
> *Darrel*
>
> Darrel Cruz, Director
>
> Tribal Historic Preservation Office/CRO
>
> Washoe Tribe of Nevada and California
>
> 919 Highway 395
>
> Gardnerville, NV. 89410
>
> Phone: 775-265-8600 Ext. 10714
>
> Cell: 775-546-3421

darrel.cruz@washoetribe.us

"the more you know the more there is to know" Mike Dick, Washo Medicine Man

From: Donaldo Palaroan [mailto:donaldo.palaroan@edcgov.us]
Sent: Thursday, August 22, 2019 12:23 PM
To: Darrel Cruz <Darrel.Cruz@washoetribe.us>
Cc: Dave Rios, CPESC,CPSWQ <DRios@ncenet.com>; Molly Laitinen <MLaitinen@ncenet.com>; Charles Zeier <CZeier@ncenet.com>; Jeremy Hall <JHall@ncenet.com>
Subject: Review of the Archaeological Survey Report of El Dorado County's San Bernardino Class 1 Bike Trail Project

Hi Darrel,

Thank you again for your time to speak with me today.

Per our conversation and a follow-up to the attached letter from January 3, 2019, you can download the draft Archaeological Survey Report at this link. The file is 191 MB.

Please take the time to review the information. After your review, provide any comments via a letter attachment response to this email. If you don't have any comments, please provide a formal letter of support of the proposed project and associated improvements. Respectfully, please provide the correspondence by September 6, 2019.

Please don't hesitate to contact me if you have any questions. Thank you.

Donaldo Palaroan, P.E.
Senior Civil Engineer

County of El Dorado

Department of Transportation

924 B Emerald Bay Road

So. Lake Tahoe, CA 96150

(530) 573-7920 / FAX (530) 541-7049
donaldo.palaroan@edcgov.us

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Washoe Tribe of Nevada and California
Tribal Historic Preservation Office/Cultural Resources Office
Protect, Preserve and Promote Washoe Heritage and Culture

Donaldo Palaroan, P.E., Senior Civil Engineer
County of EI Dorado
Department of Transportation
924 B Emerald Bay Road
So. Lake Tahoe. CA 961 50

August 22, 2019

RE: San Bernardino Class 1 Bike Trail Project, South Lake Tahoe, California

Dear Mr. Palaron,

Thank you for consulting with the Washoe Tribe of Nevada and California on the proposed project and providing supporting documentation. This project is within the Aboriginal Lands of the Washoe Tribe as validated by the Federal Indian Claims Commission which affirmed the Washoe as the legitimate tribal entity with cultural affiliation to the project area.

I am not aware of cultural resources within the project area that may be affected by the proposed project. However, I am familiar with other archaeological resources within a mile of the project.

I will convey our comments, concerns and questions.

1. The maps on page 46 and 181 are inconsistent

2. The map on page 120 is unclear and we wish to receive a color copy of the map

3. We request color copies of the site records for clarity

4. Page 31, the sentence reads: "*Although improbable, it is possible that prehistoric burials might be found within the APE. Should human remains be encountered, work must cease in the immediate area and the contractor must immediately report the finding to Caltrans, the County Coroner, California OHP, and other designated officials.*"
   a. The statement improbable is assuming and does not need to be stated
   b. The sentence does not mention notification to the Washoe tribe

5. Page 13, the United Auburn Indian Community requests all documents. We are concerned having sensitive information released to entities without direct cultural affiliation to the project. We have concerns what they are doing with the information. We understand your organization is required to consult with anyone claiming to be a tribe but how is the rightful and legitimate tribe with cultural affiliation determined and is the outside entity entitled to sensitive information? Please answer

6. The report is well written and we have no other comments

In the event of inadvertent discoveries as a result of project activities, we ask to be informed of the findings and continued consultation

Thank you and please call me if you have any questions at (775) 265-8600.

Respectfully,

Darrel Cruz, Director
Tribal Historic Preservation Office

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION
http://www.edcgov.us/DOT/

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LAKE TAHOE OFFICES:
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(530) 573-7900 / (530) 541-7049 Fax

MAINTENANCE:
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(530) 573-3180 / (530) 577-8402 Fax

September 20, 2019

Darrel Cruz
Director
Tribal Historic Preservation Office
Washoe Tribe of Nevada and California
919 Highway 395
Gardnerville, NV 89410

email transmittal only

Subject: San Bernardino Class 1 Bike Trail Project

Dear Mr. Cruz:

Thank you for your prompt review of the County of El Dorado (County) and its consultant's, NCE, archaeological survey report (ASR) for the above listed project and submitting your comments via email on August 22, 2019.

Provided below are the responses to the comments listed in your letter.

- Comment: *The maps on page 46 and 181 are inconsistent*.

  Response: The map on page 46 is the up-to-date project area and the map on page 181 is the preliminary boundary sent to Native American Heritage Commission (NAHC). The preliminary boundary has a bump in the middle where the two alternative bridge locations were being analyzed. The County has since determined Alternative 1 as the preferred alternative. The exhibit on page 46 is reflective of the final preferred project boundary.

- Comment: *The map on page 120 is unclear and we wish to receive a color copy of the map.*

  Response: The map on page 120 is from site form P-09-000644. Unfortunately, all of the site forms received from the Cultural and Historical Resources Information Systems (CHRIS) are in black and white.

- Comment: *We request color copies of the site records for clarity.*

Response: Same answer as above regarding obtaining information from CHRIS.

- Comment: *Page 31, the sentence reads:* "Although improbable, it is possible that prehistoric burials be found within the APE. Should human remains be encountered, work must cease in the immediate area and the contractor must immediately report the finding to Caltrans, the County Coroner, California OHP, and other designated officials."
    - *The statement improbable is assuming and does not need to be stated.*
    - *The sentence does not mention notification to the Washoe tribe.*

  Response: The final report will contain the appropriate revisions. Additionally, the appropriate language will be included in the construction contract specifications related to discovery and notification requirements.

- Comment: *Page 13, the United Auburn Indian Community requests all documents. We are concerned having sensitive information released to entities without direct cultural affiliation to the project. We have concerns what they are doing with the information. We understand your organization is required to consult with anyone claiming to be a tribe but how is the rightful and legitimate tribe with cultural affiliation determined and is the outside entity entitled to sensitive information? Please answer.*

  Response: The County respects your concern. This comment is best directed to the NAHC as they develop the list of tribes to be notified and consulted. Assembly Bill (AB) 52 (Chapter 532 of the California Public Resources Code) establishes a formal process for California Native American tribes as part of the California Environmental Quality Act (CEQA) and equated significant impacts on "tribal cultural resources" (TCRs) with significant environmental impacts. AB 52 recognizes tribes may have expertise in tribal history and "tribal knowledge about land and tribal cultural resources at issue should be included in environmental assessments for projects that may have a significant impact on those resources." CEQA analyses must consider tribal cultural resources, including "the tribal cultural values in addition to the scientific and archaeological values when determining impacts and mitigation."

We hope that the information above addresses concerns you expressed in your recent correspondence. If you have any further questions, please feel free to call me at (530) 573-7920.

Sincerely,

Donaldo Palaroan, P.E.
Senior Civil Engineer

From:	Anna Starkey
To:	Donaldo Palaroan
Cc:	Dave Rios; Molly Laitinen; Charles Zeier; Jeremy Hall
Subject:	RE: Review of the Archaeological Survey Report of El Dorado County"s San Bernardino Class 1 Bike Trail Project
Date:	Thursday, October 31, 2019 1:00:09 PM
Attachments:	image001.png

Good morning,
Thank you very much for providing the updated ASR. I reviewed the report and appreciate the effort to identify P-09-004506 and if the site extended into the APE. It appears that my concerns and comments were addressed. Thank you very much for your consideration and providing UAIC the opportunity to comment. I have no further issues or concerns that the project may impact known cultural resources.
Thank you again.

Best,
Anna

From: Donaldo Palaroan <donaldo.palaroan@edcgov.us>
Sent: Thursday, October 31, 2019 9:30 AM
To: Anna Starkey <astarkey@auburnrancheria.com>
Cc: Cherilyn Neider <cneider@auburnrancheria.com>; Dave Rios, CPESC,CPSWQ <DRios@ncenet.com>; Molly Laitinen <MLaitinen@ncenet.com>; Charles Zeier <CZeier@ncenet.com>; Jeremy Hall <JHall@ncenet.com>; Melodi McAdams <mmcadams@auburnrancheria.com>
Subject: Re: Review of the Archaeological Survey Report of El Dorado County's San Bernardino Class 1 Bike Trail Project

Hi Anna,

The non-redacted revised version of the ASR to address your comments can be found by downloading the document here.

The specific updated sections are:

Chapter Title	Section/Pages	Paragraph(s)
Summary Findings	Constraints to the Survey Effort	2
1.0 Introduction	 1.2 Area of Potential Effect	2, 5 3, 4
2.0 Literature Review	2.2 Previously Recorded Resources 2.3.2 Personal Communication	1 1
3.0 Native American Consultation		6-11
7.0 Inventory Methods	7.2 Inventoried Areas and Field Methods	1-4
8.0 Inventory Results	8.1 Project Area Observations	1

	8.2 Summary of Results	2-6
9.0 Study Findings and Conclusions	9.2 Archaeological Sensitivity and Unidentified Cultural Materials	2, 3
Appendix A Report Figures	Figures 3-5, PDF pages 46-48	
Appendix B Records Search	PDF pages 181-195	
Appendix E Project Photos	PDF pages 266-276	
Appendix F DPR Site Forms	PDF pages 278-291	

Please reply to this email if you have any difficulties downloading the document or questions.

Regards.

Donaldo Palaroan, P.E.
Senior Civil Engineer

County of El Dorado
Department of Transportation
924 B Emerald Bay Road
So. Lake Tahoe, CA 96150
(530) 573-7920 / FAX (530) 541-7049
donaldo.palaroan@edcgov.us

On Thu, Sep 19, 2019 at 10:24 AM Anna Starkey <astarkey@auburnrancheria.com> wrote:

> Hello Donaldo,
> Thank you for the letter that clarified the identification efforts of site P-09-4506 that may extend into your project's APE. May I suggest that this information be included in the ASR, as there is no mention in the report that the archaeologists made any attempt to ascertain if the site extended into the APE. There are no photographs of the area where the site may extend into the APE, nor was there any indication that an intensive survey was conducted in that area. The maps provided in the ASR clearly show that the area was only cursory surveyed. Additionally, disturbance of a site does not necessarily reduce its potential as a historic property.
>
> If the archaeologists made two site visits, then the survey coverage maps and results of the survey, with details you provided in your letter, should be reflected in the report. This information is critical in determining if the site extends into the APE and was not reflected in the ASR. Based on the ASR provided, the identification efforts for the location of P-09-4506 are incomplete and the ASR should accurately depict the efforts made in resource identification.
>
> Thank you for your time and consideration.
> Best,
> Anna Starkey

AS_Signature

From: Donaldo Palaroan [mailto:donaldo.palaroan@edcgov.us]
Sent: Monday, September 16, 2019 3:25 PM
To: Anna Starkey <astarkey@auburnrancheria.com>
Cc: Cherilyn Neider <cneider@auburnrancheria.com>; Dave Rios, CPESC,CPSWQ <DRios@ncenet.com>; Molly Laitinen <MLaitinen@ncenet.com>; Charles Zeier <CZeier@ncenet.com>; Jeremy Hall <JHall@ncenet.com>; Melodi McAdams <mmcadams@auburnrancheria.com>
Subject: Re: Review of the Archaeological Survey Report of El Dorado County's San Bernardino Class 1 Bike Trail Project

Please see attached letter in response to your email dated August 27, 2019, after your review of the subject project's archaeological study report.

Regards.

Donaldo Palaroan, P.E.
Senior Civil Engineer

County of El Dorado
Department of Transportation
924 B Emerald Bay Road
So. Lake Tahoe, CA 96150
(530) 573-7920 / FAX (530) 541-7049
donaldo.palaroan@edcgov.us

On Tue, Aug 27, 2019 at 4:38 PM Anna Starkey <astarkey@auburnrancheria.com> wrote:

> Good afternoon,
> Thank you for sending the ASR report for the above referenced project for our review. I was able to read the report yesterday and have a concern regarding property identification and effects to historic properties.
>
> Both UAIC's database and the NCIC record search show that site CA-ELD-2773/P-09-4506 is mapped out of the APE, just to the south. The site was originally recorded in 1994 and is described as an extensive midden with bedrock mortars, grinding stones, and a wide-spread, but sparse lithic scatter.

The site records states that San Bernardino Road may have cut through the site and that it may extend to the north across the street, which would place the site within the APE.

The survey map show that the area was not intensely surveyed in this location. Based off the sensitivity for cultural resources and the previously recorded site in the vicinity, this area should have been intensively surveyed. If CA-ELD-2773/P-09-4506 extends to the north, then it is possible that a portion of the site is located in the APE. The survey results do not provide adequate information on if the site extends into the APE, if any constituents or midden soils were noted, and the possibility for buried cultural deposits to exist in the APE. Because this information was not provided, we are unable to determine if site CA-ELD-2773/P-09-4506 may be impacted by the project and that the historic property identification is incomplete.

Thank you for your time and consulting with UAIC. We ask that you make this correspondence a part of the project record and we look forward to working with you to ensure that Native American historic properties are protected. You should receive a hardcopy letter as well. Please treat this e-mail as confidential, since we are discussing sensitive general information about the location of historic properties.

Respectfully,
Anna Starkey

ANNA M. STARKEY, M.A., RPA | CULTURAL REGULATORY SPECIALIST
Tribal Historic Preservation Department | United Auburn Indian Community
Office (916) 251-1565 | Cell (530) 863-6503
astarkey@auburnrancheria.com | www. auburnrancheria.com

From: Melodi McAdams
Sent: Monday, August 26, 2019 1:30 PM
To: Donaldo Palaroan <donaldo.palaroan@edcgov.us>
Cc: Cherilyn Neider <cneider@auburnrancheria.com>; Dave Rios, CPESC,CPSWQ <DRios@ncenet.com>; Molly Laitinen <MLaitinen@ncenet.com>; Charles Zeier <CZeier@ncenet.com>; Jeremy Hall <JHall@ncenet.com>; Anna Starkey <astarkey@auburnrancheria.com>
Subject: RE: Review of the Archaeological Survey Report of El Dorado County's San Bernardino Class 1 Bike Trail Project

Hi Donaldo,

Thank you for sending the link over. Anna Starkey (copied) will review the document and send over any comments.

Sincerely,
Melodi McAdams
Cultural Resources Supervisor
Tribal Historic Preservation Department
United Auburn Indian Community of the Auburn Rancheria
10720 Indian Hill Road
Auburn, CA 95603
(530) 328-1109 - office
(530) 401-7470 - cell

From: Donaldo Palaroan [mailto:donaldo.palaroan@edcgov.us]
Sent: Thursday, August 22, 2019 1:39 PM
To: Melodi McAdams <mmcadams@auburnrancheria.com>
Cc: Cherilyn Neider <cneider@auburnrancheria.com>; Dave Rios, CPESC,CPSWQ <DRios@ncenet.com>; Molly Laitinen <MLaitinen@ncenet.com>; Charles Zeier <CZeier@ncenet.com>; Jeremy Hall <JHall@ncenet.com>
Subject: Review of the Archaeological Survey Report of El Dorado County's San Bernardino Class 1 Bike Trail Project

Hi Melodi,

Following up on the voicemail I left you today and the request for AB52 consultation from the UAIC.

Provided for you at this link, is the draft Archaeological Survey Report for the subject project in El Dorado County in South Lake Tahoe. The file is 191 MB.

Please take the time to review the information. After your review, provide any comments via a letter attachment response to this email. If you don't have any comments, please provide a formal letter of support of the proposed project and associated improvements. Respectfully, please provide the correspondence by September 6, 2019.

Please don't hesitate to contact me if you have any questions. Thank you.

Donaldo Palaroan, P.E.
Senior Civil Engineer

County of El Dorado
Department of Transportation
924 B Emerald Bay Road
So. Lake Tahoe, CA 96150
(530) 573-7920 / FAX (530) 541-7049
donaldo.palaroan@edcgov.us

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EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION
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(530) 573-3180 / (530) 577-8402 Fax

September 16, 2019

Anna M. Starkey, M.A., RPA
Cultural Regulatory Specialist
Tribal Historic Preservation Department
United Auburn Indian Community
10720 Indian Hill Road
Auburn, CA 95603

email transmittal only

Subject: San Bernardino Class 1 Bike Trail Project

Dear Ms. Starkey:

Thank you for your prompt review of the archaeological survey report (ASR) for the above listed project. In your review you make reference to prehistoric resource CA-ELD-2773/P-09-4506. Specifically, you stated that you were unable to determine if site CA-ELD-2773/P-09-4506 may be impacted by the proposed project because you perceived the survey to be incomplete. I would like to offer additional information that may assist you in your review.

As you noted, prehistoric resource CA-ELD-2773/P-09-4506 is located just south of West San Bernardino Avenue, atop a low glacial moraine. The site record suggests that this resource, a lithic scatter with associated bedrock mortars, could extend north to and beyond West San Bernardino Avenue. The site form also makes note of extensive damage done to the site due to artifact hunting and extensive pot-hunting (informal excavations). The depth of the cultural fill was estimated at 14 cm.

As part of the fieldwork conducted on behalf of the proposed project, El Dorado County's (County) consultant, NCE, and its archaeologists made two visits to site CA-ELD-2773/P-09-4506. They did so with the goal of familiarizing themselves with the resource, its surface manifestation, and its proximity to the proposed project corridor.

The right-of-way along West San Bernardino Avenue, located downslope from the moraine on which the site sits, is largely clear of vegetation, although layers of pine duff were present in some locations. Other portions of the proposed Class 1 shared-use path extend along an existing unimproved dirt road. This roadway is clear of vegetation or debris and offered clear surface visibility. Inventory activities conducted in these areas as a part of draft ASR did not result in

the identification of artifacts or features associated with P-09-4506. As noted on the site form, construction of West San Bernardino Avenue and nearby residential development likely removed any evidence of the site that may have existed within the road right-of-way.

Proposed project elements along West San Bernardino Avenue will be limited to the placement of roadside signs in the previously disturbed right-of-way, painting bike route pavement markings called sharrows on the existing roadway surface. No excavation or ground disturbance will occur along West San Bernardino Avenue as a part of the proposed project.

As a result, El Dorado County concluded that the ASR was adequate and that the proposed project would not have the potential to impact any portion of prehistoric resource CA-ELD-2773/P-09-4506 that may exist under or near the present roadway. The location of the site with regard to the proposed project was discussed with US Forest Service representatives, who agreed that no additional identification or evaluation activities were warranted.

As defined, the APE covers the area where ground disturbances will occur. Documenting a broader cultural district or cultural landscape is beyond the scope of the project and is not required by CEQA or NEPA. As a result, the County cannot justify performing work outside the APE as a part of this project.

We hope that this additional information addresses concerns you expressed in your recent correspondence. If you have any further questions, please feel free to call me at (530) 573-7920.

Sincerely,

Donaldo Palaroan, P.E.
Senior Civil Engineer

Appendix D

PUBLIC OUTREACH FLYER

COMMUNITY DEVELOPMENT SERVICES

DEPARTMENT OF TRANSPORTATION

http://www.edcgov.us/Government/DOT/

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(530) 642-4909 / (530) 642-0508 Fax

LAKE TAHOE OFFICES:
ENGINEERING:
924 B Emerald Bay Road, South Lake Tahoe, CA 96150
(530) 573-7900 / (530) 541-7049 Fax

MAINTENANCE:
1121 Shakori Drive, South Lake Tahoe, CA 96150
(530) 573-3180 / (530) 577-8402 Fax

November 7, 2018

To Whom It May Concern:

The Tahoe Engineering Unit of the County of El Dorado Community Development Services, Department of Transportation invites you to attend a public meeting for the Evaluating Alternatives Phase of the San Bernardino Class 1 Bike Path Project (Project). The Tahoe Engineering Unit has gathered and analyzed existing conditions information and developed and compared alternatives for the Project. The results of this study have been combined into a Draft Feasibility Report. The purpose of this meeting is to present this information for public comment. Following this meeting, the analysis will be further refined.

SAN BERNARDINO CLASS 1 BIKE PATH PROJECT Public Meeting	
Location:	Tahoe Paradise Park, Club House Facility 1011 E San Bernardino Ave, S Lake Tahoe, CA 96150
Date:	Wednesday, December 5, 2018
Time:	6:00 pm

The public meeting will begin with a brief informational presentation followed by a question and answer period. Attendees will have an opportunity to share opinions and concerns regarding the Project (orally and/or in writing).

A map of the Project Area, comment form and a meeting agenda are enclosed.

A copy of the draft report is available on the Project's webpage under the Documents dropdown at:

https://goo.gl/CFRgt3

Please use the comment sheet provided and bring it to the meeting or submit it to the following address: County of El Dorado Community Development Services, Department of Transportation, 924 B Emerald Bay Road, South Lake Tahoe, CA 96150, Attn: Donaldo Palaroan, **no later than December 12, 2018**. For more information, you may contact me at (530) 573-7920 or via email at donaldo.palaroan@edcgov.us.

Sincerely,

Donaldo Palaroan, P.E.
Senior Civil Engineer

COMMUNITY DEVELOPMENT SERVICES

DEPARTMENT OF TRANSPORTATION

http://www.edcgov.us/Government/DOT/

PLACERVILLE OFFICES:
MAIN OFFICE:
2850 Fairlane Court, Placerville, CA 95667
(530) 621-5900 / (530) 626-0387 Fax

MAINTENANCE:
2441 Headington Road, Placerville, CA 95667
(530) 642-4909 / (530) 642-0508 Fax

LAKE TAHOE OFFICES:
ENGINEERING:
924 B Emerald Bay Road, South Lake Tahoe, CA 96150
(530) 573-7900 / (530) 541-7049 Fax

MAINTENANCE:
1121 Shakori Drive, South Lake Tahoe, CA 96150
(530) 573-3180 / (530) 577-8402 Fax

SAN BERNARDINO CLASS 1 BIKE PATH PROJECT
PUBLIC COMMENT FORM

The County of El Dorado, Department of Transportation - Tahoe Engineering Unit is currently in the planning process related to the development of shared use path and water quality improvements for the San Bernardino Class 1 Bike Path Project (Project). This Project is funded in part by the Congestion Mitigation and Air Quality Program and the Tahoe Regional Planning Agency.

We invite you to participate in the planning process by providing feedback on project-related issues in your neighborhood that will assist in the development of a preferred alternative for the Project. Please provide your comments or suggestions in the space provided below. **All public comments must be received by December 12, 2018 to be considered for this phase of the Project**. Thank you for your time in assisting our office with the planning of this important Project.

Name:	**Phone #:**
Tahoe Residence Street Address:	
Mailing Address:	
Email Address:	
Comments:	

COMMUNITY DEVELOPMENT SERVICES

DEPARTMENT OF TRANSPORTATION

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MAINTENANCE:
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(530) 573-3180 / (530) 577-8402 Fax

PUBLIC MEETING AGENDA

For

San Bernardino Class 1 Bike Path Project CIP 95117
Draft Feasibility Report

at

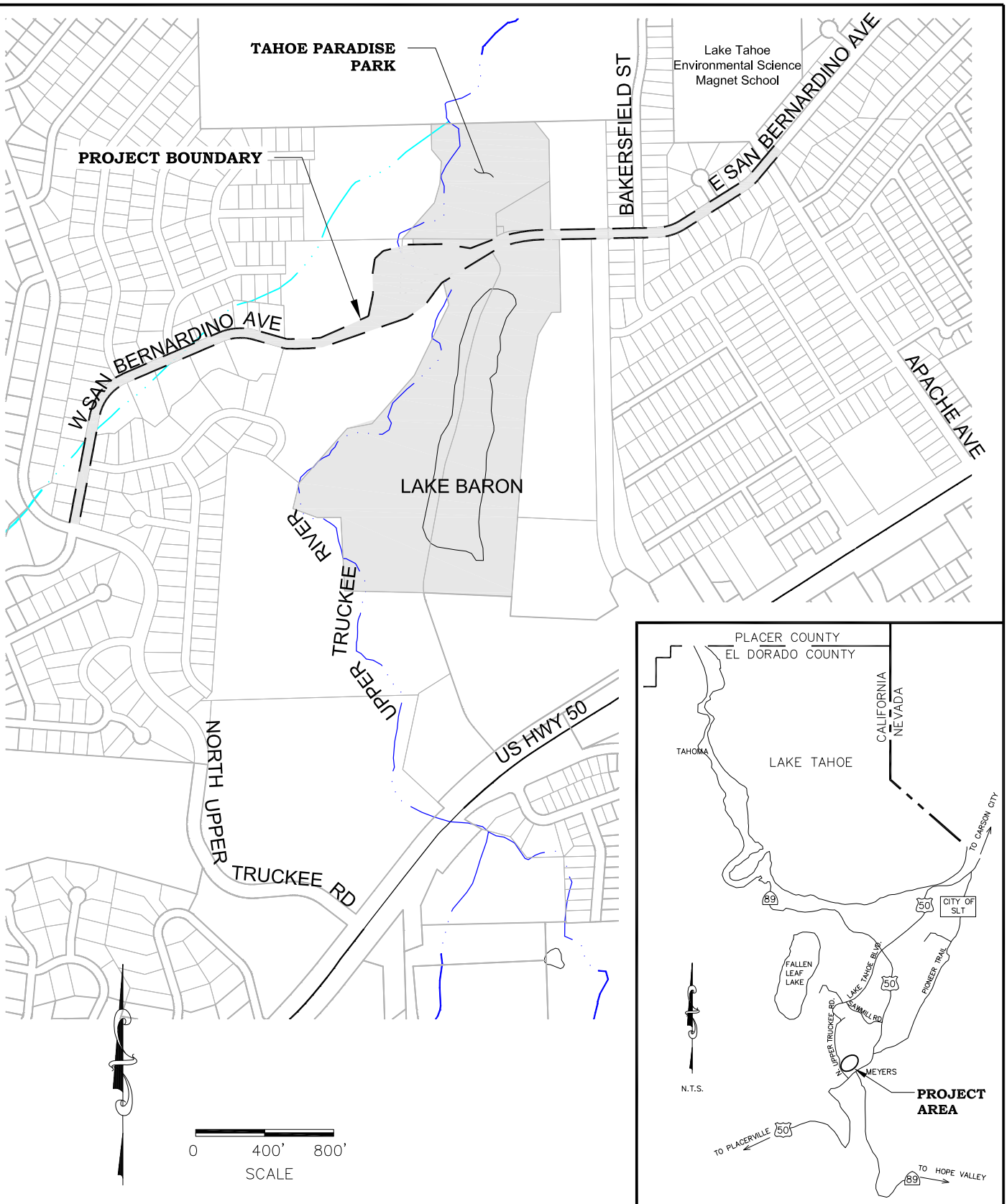
Tahoe Paradise Park, Club House Facility

1011 E San Bernardino Ave
South Lake Tahoe, CA 96150

Wednesday, December 5, 2018
6:00 pm

Item #		Description	Time
1.	Introduction	Introduction of meeting attendees	6:00 – 6:05 PM
2.	Agenda Overview	Review “Ground Rules” and agenda	6:05 – 6:10 PM
3.	Background and Mission	Discuss the Tahoe Engineering Unit’s goals & objectives for Tahoe projects	6:10 – 6:20 PM
4.	Discussion of the Project and Feasibility Report	Discuss existing conditions and project alternatives	6:20 – 6:50 PM
5.	Public Comments	Public comment period from comment cards	6:50 – 7:05 PM
6.	Meeting Conclusion	Conclude meeting	7:05 – 7:10 PM

End Meeting



COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE PATH PROJECT

FIGURE 1

DATE:	CIP NO.:	BY:
10/2017	95117	DSP

Appendix E

PROJECT PHOTOS

(sensitive material redacted for public distribution)

CULTURAL RESOURCES PHOTOGRAPH RECORD

Project Name: Environmental and Geotechnical Support Services for San Bernardino Class 1 Bike Trail
Project Number: 501.34.25

Date	Frame Number	Site / Iso Number	Feature Number	Description	View
5/30/2019	190530_SanBernardinoTrail_01	-	-	APE overview from easternmost boundary on East San Bernardino Avenue looking towards Apache Avenue	SW
5/30/2019	190530_SanBernardinoTrail_02	-	-	APE overview of proposed Class 3 bike route sign locations to either side of East San Bernardino Avenue near Apache Avenue	NE
5/30/2019	190530_SanBernardinoTrail_03	-	-	APE overview of proposed Class 3 bike route sign locations to either side of East San Bernardino Avenue near Apache Avenue	SW
5/30/2019	190530_SanBernardinoTrail_04	-	-	APE overview of proposed Class 3 bike route sign location on south side of East San Bernardino Avenue near Apache Avenue	SW
5/30/2019	190530_SanBernardinoTrail_05	-	-	APE overview of proposed Class 3 bike route sign location on south side of East San Bernardino Avenue near Bakersfield Street	W
5/30/2019	190530_SanBernardinoTrail_06	-	-	APE overview of proposed Class 3 bike route sign location on south side of East San Bernardino Avenue near Bakersfield Street	E
5/30/2019	190530_SanBernardinoTrail_07	-	-	APE overview at Tahoe Paradise Park entrance	W
5/30/2019	190530_SanBernardinoTrail_08	-	-	APE overview of proposed Class 3 bike route sign location on south side of East San Bernardino Avenue near Baron Lake	W
5/30/2019	190530_SanBernardinoTrail_09	-	-	APE overview of proposed Class 3 bike route sign location on south side of East San Bernardino Avenue near Baron Lake	E
5/30/2019	190530_SanBernardinoTrail_10	-	-	APE overview at compact dirt road entrance in Tahoe Paradise Park looking towards Upper Truckee River	SW
6/13/2019	190613_SanBernardinoTrail_01	-	-	APE overview of proposed Class 1 shared use path location along compact dirt road trail looking towards Upper Truckee River	SW
6/13/2019	190613_SanBernardinoTrail_02	-	-	APE overview overview of proposed Class 1 shared use path location along compact dirt road trail looking towards Upper Truckee River	SW
6/13/2019	190613_SanBernardinoTrail_03	-	-	APE overview of proposed bridge footing location on east side of Upper Truckee River	N
6/13/2019	190613_SanBernardinoTrail_04	-	-	APE overview on abandoned portion of compact dirt road trail looking towards Tahoe Paradise Park	NE
6/13/2019	190613_SanBernardinoTrail_05	-	-	APE overview on abandoned portion of compact dirt road trail looking towards Tahoe Paradise Park	NE
6/13/2019	190613_SanBernardinoTrail_06	-	-	APE overview proposed Class 3 bike route sign location on north side of East San Bernardino Avenue near Bakersfield Street	E
6/13/2019	190613_SanBernardinoTrail_07	-	-	APE overview proposed Class 3 bike route sign location on north side of East San Bernardino Avenue near Bakersfield Street	W
6/13/2019	190613_SanBernardinoTrail_08	-	-	APE proposed Class 3 bike route sign location on north side of East San Bernardino Avenue near Apache Avenue	NE
6/13/2019	190613_SanBernardinoTrail_09	-	-	APE proposed Class 3 bike route sign location on south side of West San Bernardino Avenue near Cholula Street	NE
6/13/2019	190613_SanBernardinoTrail_10	-	-	APE proposed Class 3 bike route sign location on south side of West San Bernardino Avenue near Normuck Street	NE
6/13/2019	190613_SanBernardinoTrail_11	-	-	APE proposed Class 3 bike route sign location on south side of West San Bernardino Avenue near Shawnee Street	N
6/13/2019	190613_SanBernardinoTrail_12	-	-	APE overview from westernmost boundary on West San Bernardino Avenue at North Upper Truckee Road	NE
6/13/2019	190613_SanBernardinoTrail_13	-	-	APE proposed Class 3 bike route sign location on north side of West San Bernardino Avenue near North Upper Truckee Road	S
6/13/2019	190613_SanBernardinoTrail_14	-	-	APE proposed Class 3 bike route sign location on north side of West San Bernardino Avenue near Shawnee Street	S
6/13/2019	190613_SanBernardinoTrail_15	-	-	APE proposed Class 3 bike route sign location on north side of West San Bernardino Avenue near Normuck Street	SW
6/13/2019	190613_SanBernardinoTrail_16	-	-	APE proposed Class 3 bike route sign location on north side of West San Bernardino Avenue near Cholula Street	SW
6/13/2019	190613_SanBernardinoTrail_17	-	-	APE overview at compact dirt road entrance from West San Bernardino Avenue towards Upper Truckee River; proposed Class 3 bike route sign locations to either side of the road	E
6/13/2019	190613_SanBernardinoTrail_18	-	-	APE proposed Class 3 bike route sign locations to either side of West San Bernardino Avenue near compact dirt road entrance	NW
6/13/2019	190613_SanBernardinoTrail_19	-	-	APE overview of proposed Class 1 shared use path location along compact dirt road looking towards Upper Truckee River	NE
6/13/2019	190613_SanBernardinoTrail_20	-	-	APE overview of proposed Class 1 shared use path location along compact dirt road looking towards Upper Truckee River	NE
6/13/2019	190613_SanBernardinoTrail_21	-	-	APE overview of proposed Class 1 shared use path location along compact dirt road looking towards West San Bernardino Avenue	SW
6/13/2019	190613_SanBernardinoTrail_22	-	-	APE overview of proposed Class 1 shared use path location along compact dirt road looking towards West San Bernardino Avenue	SW
6/13/2019	190613_SanBernardinoTrail_23	-	-	Vew and proposed bridge location across the Upper Truckee River from west side	NE
6/13/2019	190613_SanBernardinoTrail_24	-	-	APE overview of proposed bridge footings on west side of Upper Truckee River	SW

CULTURAL RESOURCES PHOTOGRAPH RECORD

Project Name: Environmental and Geotechnical Support Services for San Bernardino Class 1 Bike Trail
Project Number: 501.34.25

Date	Frame Number	Site/Iso Number	Feature Number	Description	View
6/13/2019	190613_SanBernardinoTrail_25	-	-	APE overview of proposed Class 1 shared use path location along compact dirt road looking towards West San Bernardino Avenue	SW
6/13/2019	190613_SanBernardinoTrail_26	-	-	APE overview of proposed bridge footings on west side of Upper Truckee River	NE
6/13/2019	190613_SanBernardinoTrail_27	-	-	APE overview of proposed bridge footings on west side of Upper Truckee River	NE

190530_SanBernardinoTrail_01

190530_SanBernardinoTrail_02

190530_SanBernardinoTrail_03

190530_SanBernardinoTrail_04

190530_SanBernardinoTrail_05

190530_SanBernardinoTrail_06

190530_SanBernardinoTrail_07

190530_SanBernardinoTrail_08

190530_SanBernardinoTrail_09

190530_SanBernardinoTrail_10

190613_SanBernardinoTrail_01

190613_SanBernardinoTrail_02

190613_SanBernardinoTrail_03

190613_SanBernardinoTrail_04

190613_SanBernardinoTrail_05

190613_SanBernardinoTrail_06

190613_SanBernardinoTrail_07

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190613_SanBernardinoTrail_15

190613_SanBernardinoTrail_16

190613_SanBernardinoTrail_17

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190613_SanBernardinoTrail_19

190613_SanBernardinoTrail_20

190613_SanBernardinoTrail_21

190613_SanBernardinoTrail_22

190613_SanBernardinoTrail_23

190613_SanBernardinoTrail_24

190613_SanBernardinoTrail_25

190613_SanBernardinoTrail_26

190613_SanBernardinoTrail_27

Appendix F

DPR SITE FORMS
(sensitive material redacted for public distribution)

APPENDIX H

FEASIBILITY REPORT

SAN BERNARDINO
CLASS 1 BIKE TRAIL PROJECT
CIP No. 95117

Feasibility Report

EIP #03.01.02.0040

County of El Dorado
Community Development Services
Department of Transportation

October 2018

San Bernardino Class 1 Bike Trail Project
Feasibility Report

Table of Contents

LIST OF TABLES

LIST OF FIGURES

LIST OF APPENDICES

San Bernardino Class 1 Bike Trail Project
Feasibility Report

EXECUTIVE SUMMARY

Background

The San Bernardino Class 1 Bike Trail Project (Project) is identified as Environmental Improvement Program Project #03.01.02.0040 and will construct approximately 0.37 miles of Class 1 shared use path along West San Bernardino Ave and East San Bernardino Ave, from North Upper Truckee Rd to Apache Ave. The path will cross the Upper Truckee River and include connections to Washoe Meadows State Park and Tahoe Paradise Park and the Lake Tahoe Environmental Science Magnet School (LTESMS) in the community of Meyers in the Tahoe Basin.

The Project builds upon the Meyers Bikeway and provides a critical link to the bicycle network between the neighborhood on North Upper Truckee Road and the community of Meyers. The Project supports the *Linking Tahoe: Active Transportation Plan*[1], approved by the Tahoe Metropolitan Planning Organization in March 2016 and the *Meyers Area Plan*, approved in March 2018. The Project proposes to install a shared use path bridge over the Upper Truckee River just west of Tahoe Paradise Park and link the bike lane facilities along North Upper Truckee Rd from the west and Apache Ave to the east.

Opportunities exist with this Project to address traffic and pedestrian safety operations at the intersection of Apache Ave at East San Bernardino Ave as identified in the *Lake Tahoe Unified School District Safe Routes to School Master Plan*[2] and improving the LTESMS frontage and driveway access. This Project will also connect to the future Apache Avenue Pedestrian Safety and Connectivity Project (#03.01.01.0004) which is an El Dorado County-led effort to improve overall pedestrian and bicycle safety for students, parents and the community accessing LTESMS, Apache Ave and Meyers.

This Project is part of a series of erosion control/water quality, environmental restoration and shared use path projects implemented by the El Dorado County Department of Transportation. This Feasibility Report (Report) is the first phase within the Project Delivery Process (PDP) for the Project and is intended to describe the background on existing information concerning the Project area. Additionally, this Report is also intended to further define the scope of work as it relates to potential alternative solutions that might be implemented to address problems identified in order to achieve the project's goals and objectives.

[1] *Linking Tahoe: Active Transportation Plan* (Tahoe Regional Planning Agency/ Tahoe Metropolitan Planning Organization, 2016), 4-45.
[2] Ibid. Appendix D.

This executive summary serves to summarize main points, constraints, and opportunities outlined in detail in the Report.

Project Goals and Objectives

The goals and objectives for each component of the Project are listed in the table below.

No.	Goal	Objective
1	Implementation of the Project should reduce vehicle miles traveled and other environmental impacts associated with automobile use by providing alternative means of travel and increasing intermodal connectivity.	❑ Providing a pathway link supporting TRPA's *Active Transportation Plan*.
2	Provide connectivity to recreational opportunities on a regional scale and maximize access to recreational resources throughout the Basin and to the *Meyers Area Plan* via a shared use path.	❑ Providing access to local businesses, schools, and employment for bicyclists and pedestrians to reduce vehicle miles traveled (VMT). ❑ Enhancing recreational opportunities within the Tahoe Basin.
3	Implementation of the Project shall be consistent with General Plans, Master Plans, Area Plans, and other applicable Tahoe Regional Planning Agency (TRPA) Plans.	
4	Implementation of the Project should minimize the impacts to the scenic quality of the area.	❑ Hardscape improvements shall blend into the scenic environment to the maximum extent practicable.
5	Provide drainage improvements resulting in a reduction in fine (less than 20 microns) and coarse sediment, and reduction in stormwater runoff volume and peak flows.	❑ Reduce fine and coarse sediment, stormwater runoff volume, and peak flows by 33%, to the maximum extent practicable. ❑ Stabilize eroding cut slopes, roadside ditches, and capture road abrasives utilizing source control Best Management Practices (BMPs).

General Site Description

The Project is located in the southern section of the Lake Tahoe Basin in Sections 30 and 31 of Township 12 North, Range 18 East, Mount Diablo Meridian. The Project is bordered by the

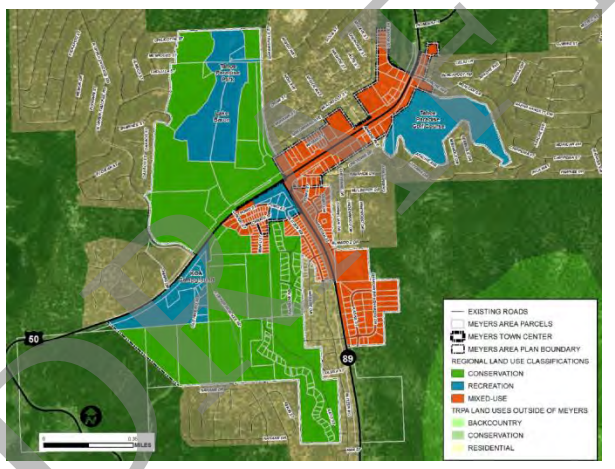
North Upper Truckee Road on the west, Washoe Meadows State Parks on the north, U.S. Highway 50 (US 50) on the south and Apache Avenue on the east. The total Project area is approximately 10.0 acres and encompasses County Right of Way (ROW), Tahoe Paradise Park, and United States Forest Service (USFS) parcels.

Site Topography

Glaciers are responsible for much of the area's current topography. The Project area is surrounded by steep mountainous terrain. The approximate elevation range of the Project site is from 6,315 to 6,385 feet above mean sea level, with the elevation of the watersheds conveying runoff into the area exceeding 7,600 feet above mean sea level. Project area topography mostly consists of flat terrain with isolated slopes exceeding 10%.

Land Use

Straddled between two residential areas, North Upper Truckee and Meyers, the other areas within the Project are designated as recreation and conservation[3], see below.



Land Capability

The Project corridor primarily includes land capability Class 1b and along West San Bernardino Ave Classes 3 and 5. The 1b classification corresponds to the stream environment zone (SEZ) associated with environmentally sensitive areas near and around the Upper Truckee River.

Utilities

There are various utilities presently located in and serving the Project corridor. These utilities include dry utilities: electrical power (above ground), natural gas, telephone, and wet utilities: potable water, storm drainage, and sanitary sewer. Any utility conflicts will be addressed with the appropriate utility owner.

[3] *Meyers Area Plan* (County of El Dorado, 2018), 2-3

Cultural Resources

In addition to a records search, the Project corridor was field surveyed in September 2018 to assess the condition of the cultural resources present along the corridor. Potential cultural resources sites were identified within the project limits which will require further consideration as part of PDP process.

Natural Environment Resources

In addition to records searches, the Project corridor was field surveyed in September 2018 to assess the condition of the vegetation, presence of threatened and endangered species, and the presence of noxious weeds. The field survey was done at a reconnaissance level and did not include protocol surveys. Among the vegetation communities identified in the Project corridor are forests, meadows, and riparian communities. Two noxious weeds, Tall White top and White sweetclover, were discovered within the Project corridor. While several special-status biological species are known to occupy the Lake Tahoe Basin, none of these species were identified in the California Natural Diversity Database query or in the field survey.

Hydrologic Conditions

The Rational Method was used for onsite hydrologic calculations following the guidelines outlined in the El Dorado County Drainage Manual.

Results for watersheds along the proposed alignments show that the highest peak flows for the existing conditions were associated with the 100-year 24-hour storm, and lowest peak flows were associated with the 10-year 6-hour storm. A similar trend follows for the proposed conditions.

Hydraulic Summary

The majority of the culverts in the three residential areas were found to be in fair to poor condition due to their age; most were constructed in the 1960s when the subdivisions were constructed. In general, the culverts are corrugated steel pipe and do not meet current design standards for size, depth of cover, inlet and outlet design, and slopes/velocities. Soil, pine needles, pinecones, and vegetation obstruct the flow through most of the culverts; thus culvert capabilities are significantly decreased which results in occasional flooding/ponding. Manning's equation will be used to calculate flows under normal flow conditions after a survey is conducted and more data is available.

Alternatives

In order to effectively develop and evaluate alternatives, a determination must be made as to what project elements are feasible that meet the goals and objectives. As a result, three primary alternatives have been defined for the Project; with variations for each the three primary

alternatives. In addition to the alternatives discussed below, the No-build Alternative will also be evaluated.

Alternative 1

Alternative 1 shown in Figure 15 and consists of the following components:

- Path alignment generally follows existing disturbed trail;
- Class 1 shared use path from the end of the subdivision limits at West San Bernardino Ave, bridge over the Upper Truckee River to the paved parking lot at Tahoe Paradise Park; and,
- Class 3 (Bike Route) and associated roadway signage within the residential areas along West San Bernardino Ave and East San Bernardino Ave.

Alternative 2

Alternative 2 shown in Figure 15 and consists of the following components:

- Similar to Alternative 1 with a differing alignment and crossing point over the Upper Truckee River downstream of the existing steel sheet pile, to the paved parking lot at Tahoe Paradise Park.

Alternative 3

Alternative 3 shown in Figure 15 and consists of the following components:

- A longer alignment veering to the north along the utility access road and crosses Tahoe Paradise Park just south of the existing picnic area.

1.0 Existing Conditions

This Feasibility Report (Report) has been developed pursuant to the Storm Water Quality Improvement Committee (SWQIC) guidelines for environmental improvement project[i] in the Lake Tahoe Basin (Basin) and has been prepared by the County of El Dorado (County) Community Development Services, Department of Transportation (County). This Report includes analysis of the existing conditions and an analysis of potential alternatives for the San Bernardino Class 1 Bike Trail Project (Project).

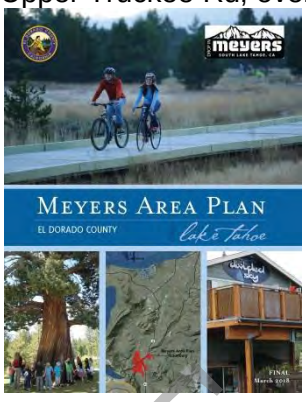
1.1 Introduction

The County is proposing to implement the Project funded by Tahoe Regional Planning Agency (TRPA) Air Quality Mitigation Funds and the Congestion Mitigation and Air Quality (CMAQ) Program. The Project's stakeholders include the general public and visitors of the Basin, County representatives, public agencies within the Basin, and other technical representatives which make up the Project Development Team (PDT).

1.1.1 Project Goals and Project Objectives

Project Goals

Currently there is a continuous shared used path from the community of Meyers to the City of South Lake Tahoe that includes the Pat Lowe Memorial Bike Trail (both sides of the highway through Meyers from State Route 89 to Pioneer Trail), the Sawmill Bike Trail (along the highway and Sawmill Rd from Santa Fe Rd to Lake Tahoe Blvd), and the bicycle trail contiguous with Lake Tahoe Blvd at Sawmill Pond towards Viking Rd/ D St (Figure 6). The primary goal for this Project is to provide a shared used path connection from the subdivisions off N Upper Truckee Rd, over the Upper Truckee River, to Tahoe Paradise Park(Park) and E San Bernardino Ave towards the community of Meyers. The Project is identified in the *Meyers Area Plan*[ii] (Area Plan) and encourages pedestrian and bicycle linkages between land uses and providing safe, functional pathways. Further the Project will be consistent with TRPA's *Linking Tahoe: Active Transportation Plan*[iii] to provide access to local businesses, schools, and offices for bicyclists and pedestrians, to reduce vehicular transportation, and to enhance recreational opportunities within the basin.



Project Objective

The Project objectives represent physical conditions that can be measured to assess the success of the Project in achieving the Project goal. The Project will conform to the Preferred Design Approach as detailed in the SWQIC process.

The objectives of the Project include:

- Providing a pathway link supporting TRPA's *Active Transportation Plan*;

- Providing access to local businesses, schools, and employment for bicyclists and pedestrians to reduce vehicle miles traveled (VMT);
- Enhancing recreational opportunities within the Basin;
- Hardscape improvements shall blend into the scenic environment to the maximum extent practicable;
- Reduce fine and coarse sediment, stormwater runoff volume, and peak flows by 33%, to the maximum extent practicable; and,
- Stabilize eroding cut slopes, roadside ditches, and capture road abrasives utilizing source control Best Management Practices (BMPs).

1.2 Project Area Information

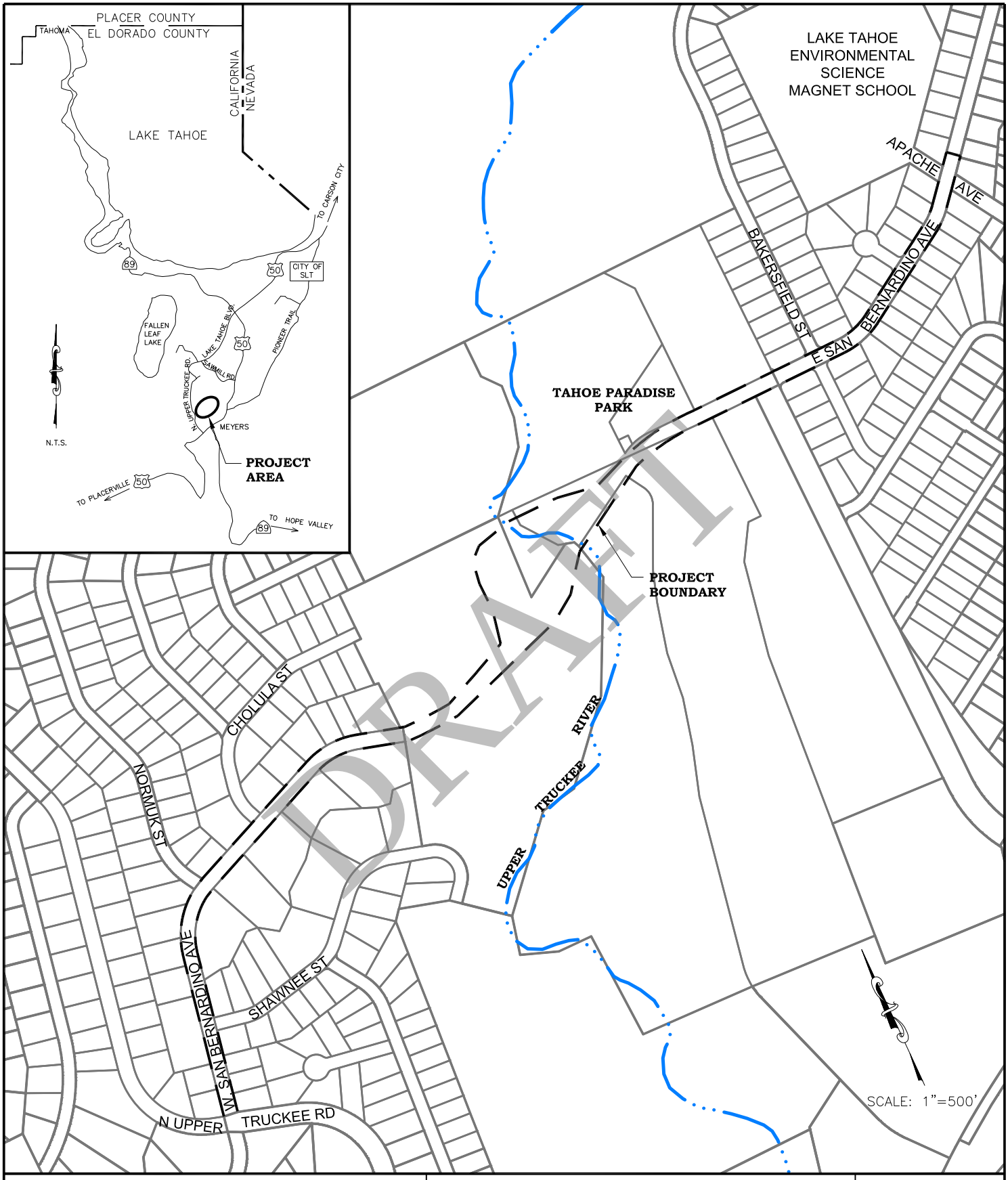
The Project is located in eastern El Dorado County, in the Basin, near the community of Meyers (see Figure 1). With a potential alignment roughly matching a compacted dirt access road that starts at the eastern terminus of W San Bernardino Ave through a United States Forest Service (USFS) property, over the Upper Truckee River and

through the Park to E San Bernardino Ave where it meets the entrance to the Park (approximately 2,000 feet or roughly 0.4 miles). The Project involves the installation of a Class 1 shared use path linking the subdivisions off of N Upper Truckee Rd to the existing County shared use path network in Meyers. In addition, the alignment alternatives will follow any existing paths/trails wherever possible, to minimize disturbance to vegetation and impact to current land use along the proposed alignment.

The alignment will likely be contained within a 25-foot wide corridor through an undeveloped USFS property through a special use permit, over the Upper Truckee River and through multiple parcels owned by the Park.

Existing land use includes residential neighborhoods at both ends of the proposed alignment and recreational use through the undeveloped USFS parcel and the Park. Mature vegetation is present along the alignment in clusters and wetland vegetation species are present along the corridor, particularly surrounding the alignment of the Upper Truckee River. Existing roadways and trails currently provide public access for dispersed recreational activities such as hiking and cycling in the Project area. Additionally, it will connect the subdivisions off of North Upper Truckee Rd to the Lake Valley State Recreation Area (Washoe Meadows) and the Lake Tahoe Golf Course which provide numerous recreational opportunities and located directly adjacent to the existing County pathway network.

The following sections provide further detail regarding the Project area's existing conditions with respect to topography, soils



COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION
SOUTH LAKE TAHOE OFFICE

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
LOCATION MAP

FIGURE 1

DATE:	PROJECT NO.:	BY:
02/18	95117	KIS

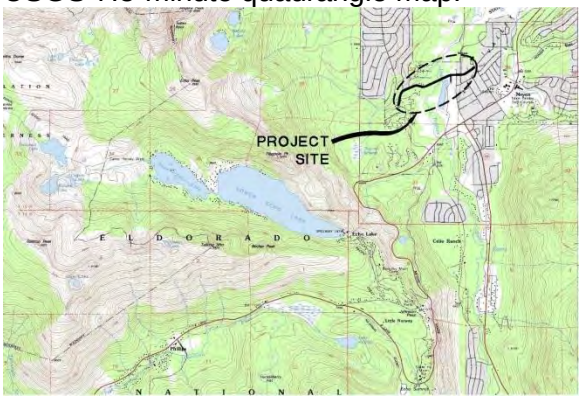
and geology, land use and land capabilities, land ownership, utilities, environmental resources, Federal Emergency Management Agency (FEMA) floodplain, and monitoring information.

1.2.1 Topography

The Basin straddles the border of California and Nevada with about one-third of the Basin in Nevada and two-thirds in California. The Basin is a north trending basin bounded by the Sierra Nevada to the west and the Carson Range to the east.

The Basin was formed by geologic block (normal) faulting about 5 to 10 million years ago. Resulting mountain peaks rise to more than 10,000 feet (3,048 m) above sea level. Volcanic activity about 2 million years ago blocked the northern end of the Basin and ultimately filled the lake. The original surface of the lake was over 600 feet higher than it is today. The Truckee River flowed through the lava dam, eventually lowering the surface of Lake Tahoe to an average elevation of about 6,225 feet (1,897 m) above mean sea level (US Geological Survey 1927 datum). Glaciers formed in the last Ice Age (10,000 years ago) are responsible for much of the area's current topography

The Project is located on the Echo Lake USGS 7.5-minute quadrangle map.

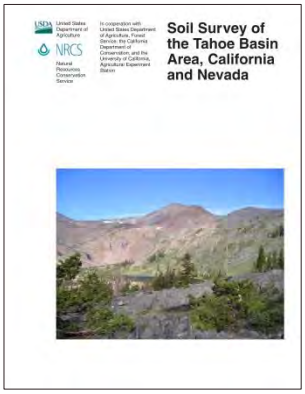


In general, the topography of the Project area is relatively flat/level with an average slope of approximately 2 percent. An existing dirt path/trail along with a utility access road is present in some areas of the proposed shared use alignment alternatives. The proposed bike path will cross the North Upper Truckee River just before entering into Park.

1.2.2 Soils and Geology

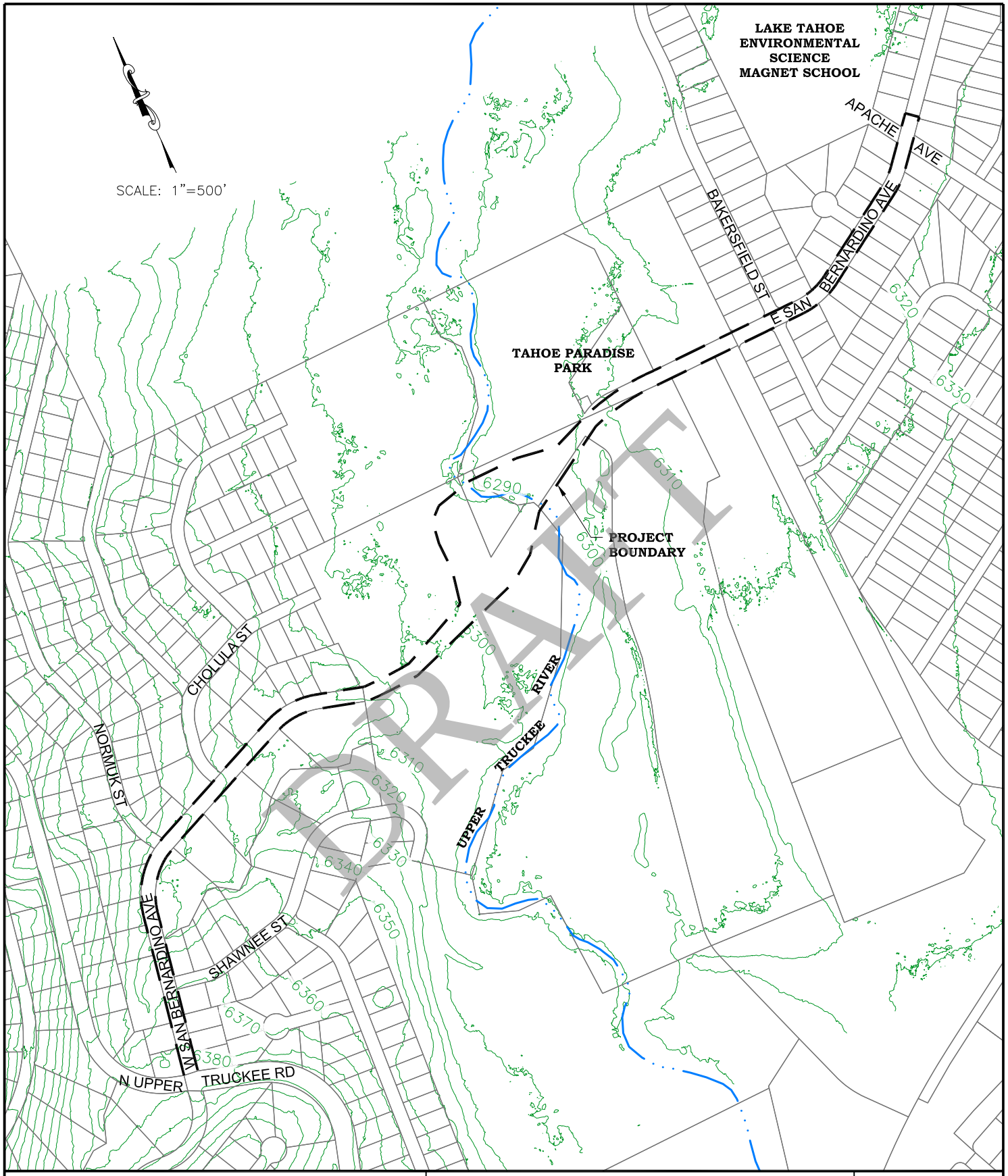
Soils

The 2007 National Resource Conservation Service (NRCS) soil survey data for the El Dorado County Tahoe Basin Area[iv] indicates the primary soils units within the Project area as described below. The soils found within the Project boundaries are presented on Figure 4 and are described as follows:



- Pits and dumps, (7031). Located in urban areas.

- Tahoe complex, 0 to 5 percent slopes (7042). This complex is typically along riparian corridors, floodplains and valley flats. The parental material consists of alluvium derived from granitic and volcanic rocks. The soil is poorly drained. Shrink-swell potential is low



COUNTY OF EL DORADO
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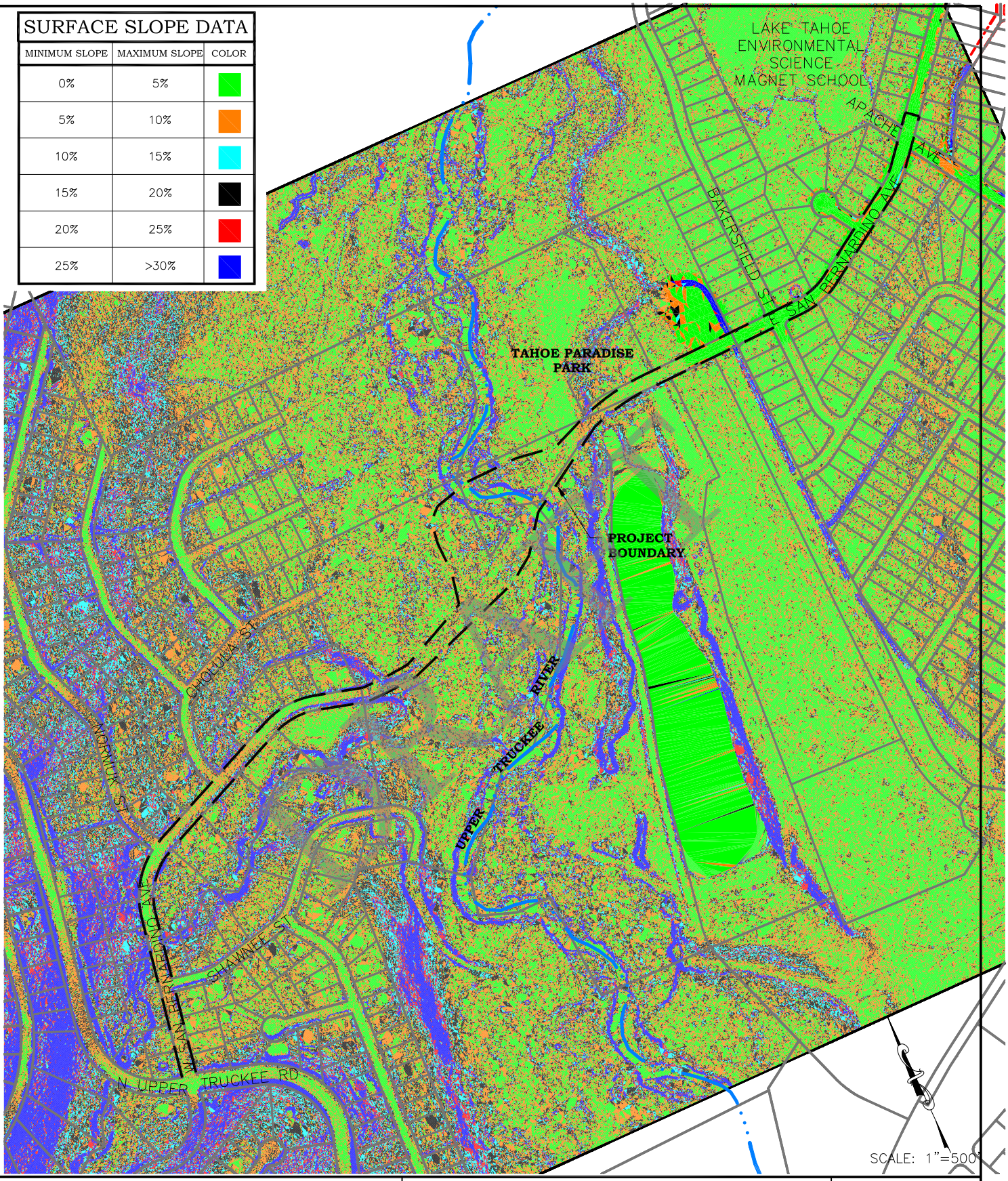
DEPARTMENT OF TRANSPORTATION
SOUTH LAKE TAHOE OFFICE

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT TOPOGRAPHIC MAP

FIGURE 2

DATE:	PROJECT NO.:	BY:
04/18	95117	KIS



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SOUTH LAKE TAHOE OFFICE

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
SLOPE MAP

FIGURE 3

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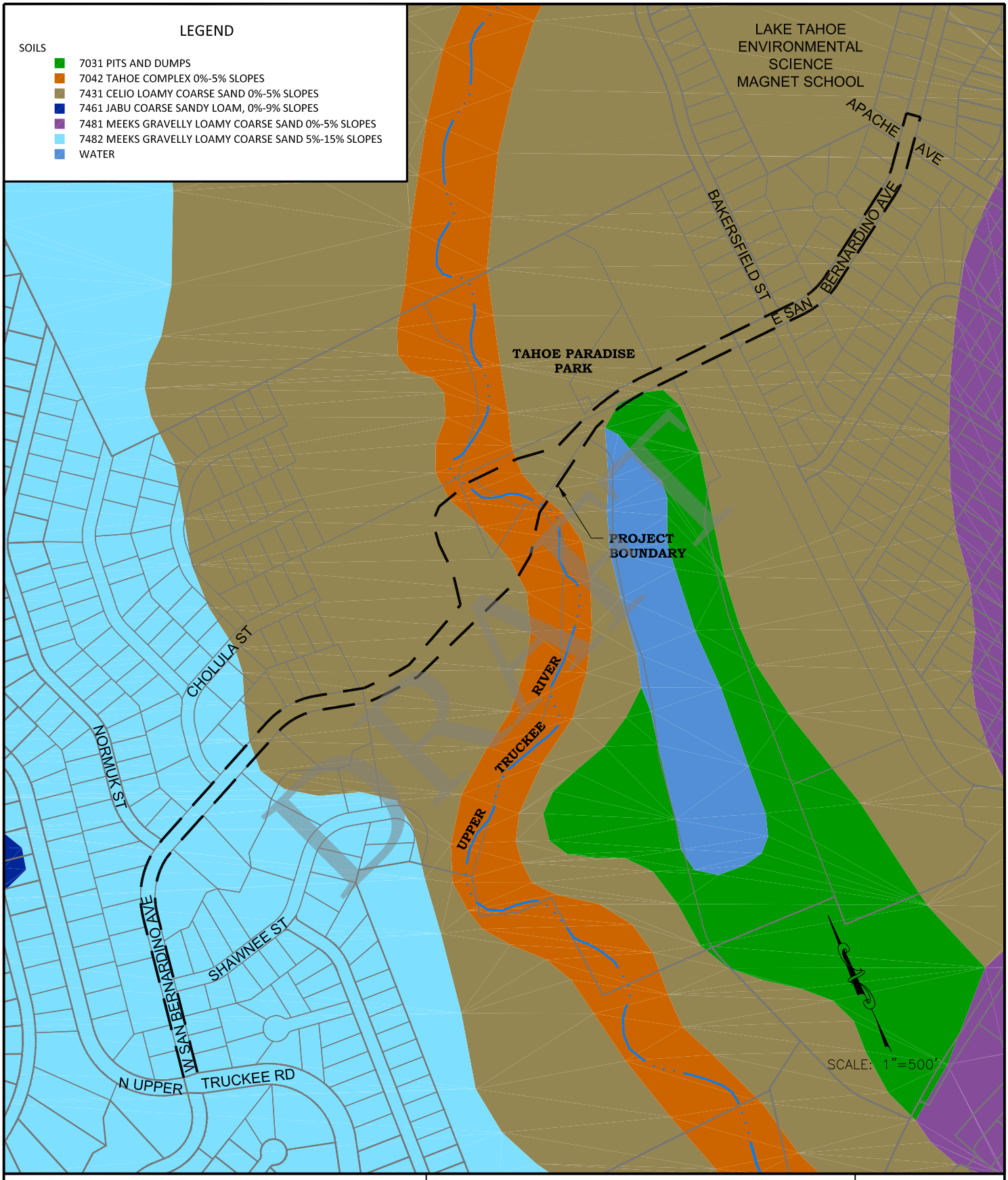

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SOUTH LAKE TAHOE OFFICE

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT SOILS MAP

FIGURE 4

DATE:	PROJECT NO.:	BY:
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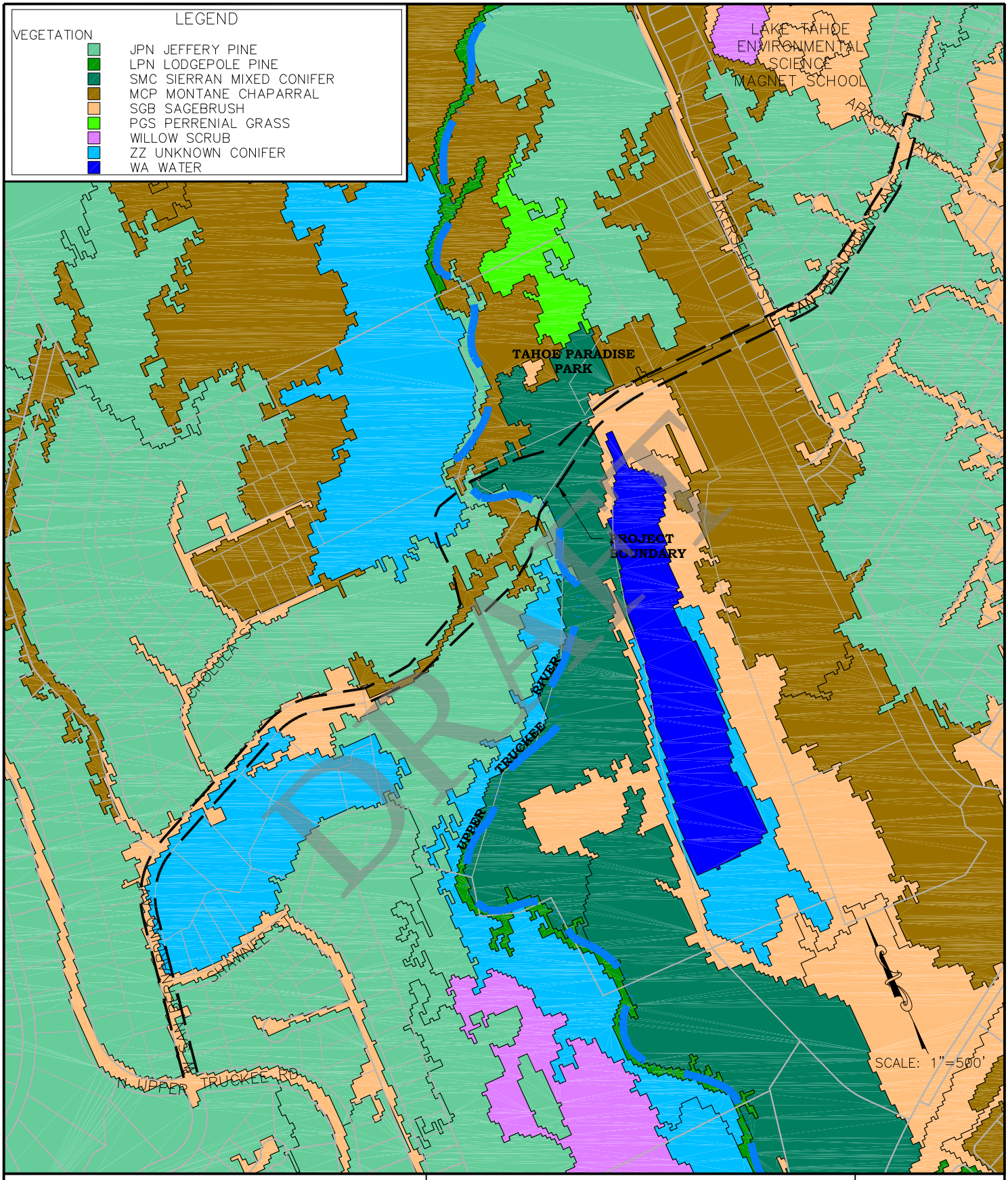

COUNTY OF EL DORADO
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DEPARTMENT OF TRANSPORTATION
SOUTH LAKE TAHOE OFFICE

SAN BERNARDINO CLASS 1
BIKE TRAIL PROJECT
VEGETATION MAP

FIGURE
5

DATE:	PROJECT NO.:	BY:
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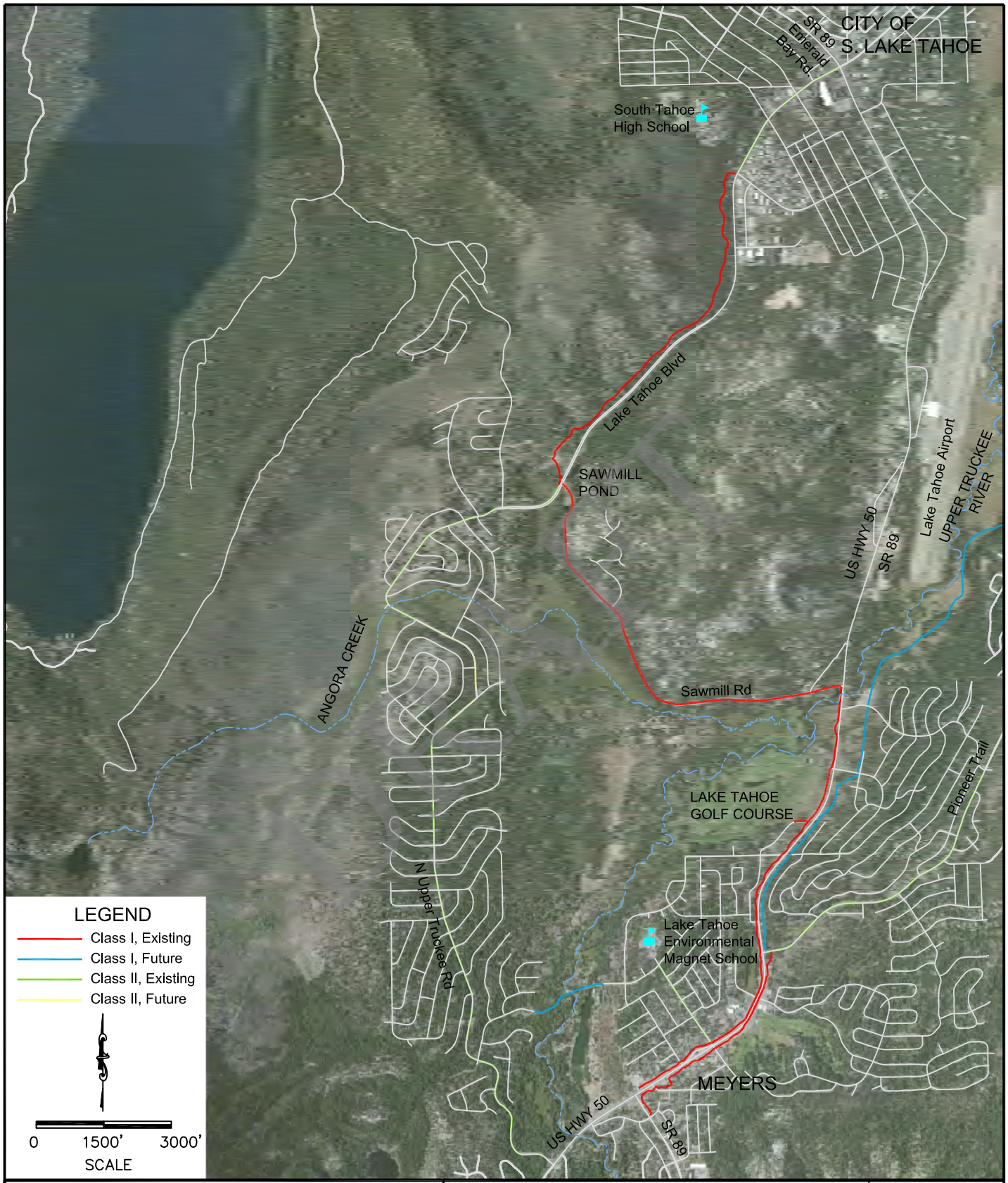

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION
SOUTH LAKE TAHOE OFFICE

SAN BERNARDINO CLASS 1
BIKE TRAIL PROJECT
BICYCLE NETWORK

FIGURE
6

DATE:	PROJECT NO.:	BY:
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- and the soil is frequently flooded. Surface runoff is very high. The hydrologic soil group is A/D.

- Celio series, 0 to 5 percent slopes (7431). This complex is typically found in the southern part of the Basin. The parental material consists of alluvium and/or outwash. The soil is somewhat poorly drained. Shrink-swell potential is low and the soil is rarely flooded. Surface runoff is high. The hydrologic soil group is A/D.

- Meeks gravelly loamy coarse sand, 5 to 15 percent slopes, stony (7482). This complex is typically found in the southwestern part of the Basin. The parental material consists of outwash and/or till derived from granodiorite. The soil is somewhat excessively drained. Shrink-swell potential is low and the soil has no potential for flooding. Surface runoff is very low. The hydrologic soil group is A.

Table 1 - Distribution by Hydrologic Soil Group and Erosion Hazard

NRCS Series	Hydrologic Group	Erosion Hazard	% of Area
7031	-	not rated	0.3
7042	A/D	slight	18.5
7431	A/D	slight	63.0
7482	A	moderate	18.2

The Geotechnical Investigation Report contains more specific information related to the soils and the proposed bridge foundation.

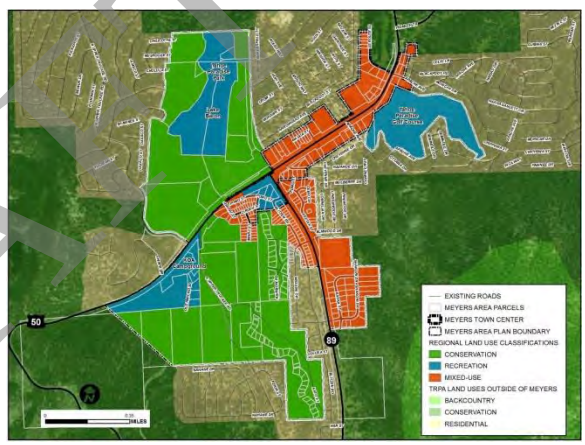
Geology

The geology of the Project area primarily consists of Pleistocene age Quaternary alluvial and fluvial deposits forming glacial moraines. The alluvium is composed of very poorly sorted, sandy small pebble gravel that has been deposited on an erosion surface cut on granodiorite. The runoff from the Project area flows into floodplain and lacustrine deposits that border the Upper Truckee River.

1.2.3 Land Use and Land Capability

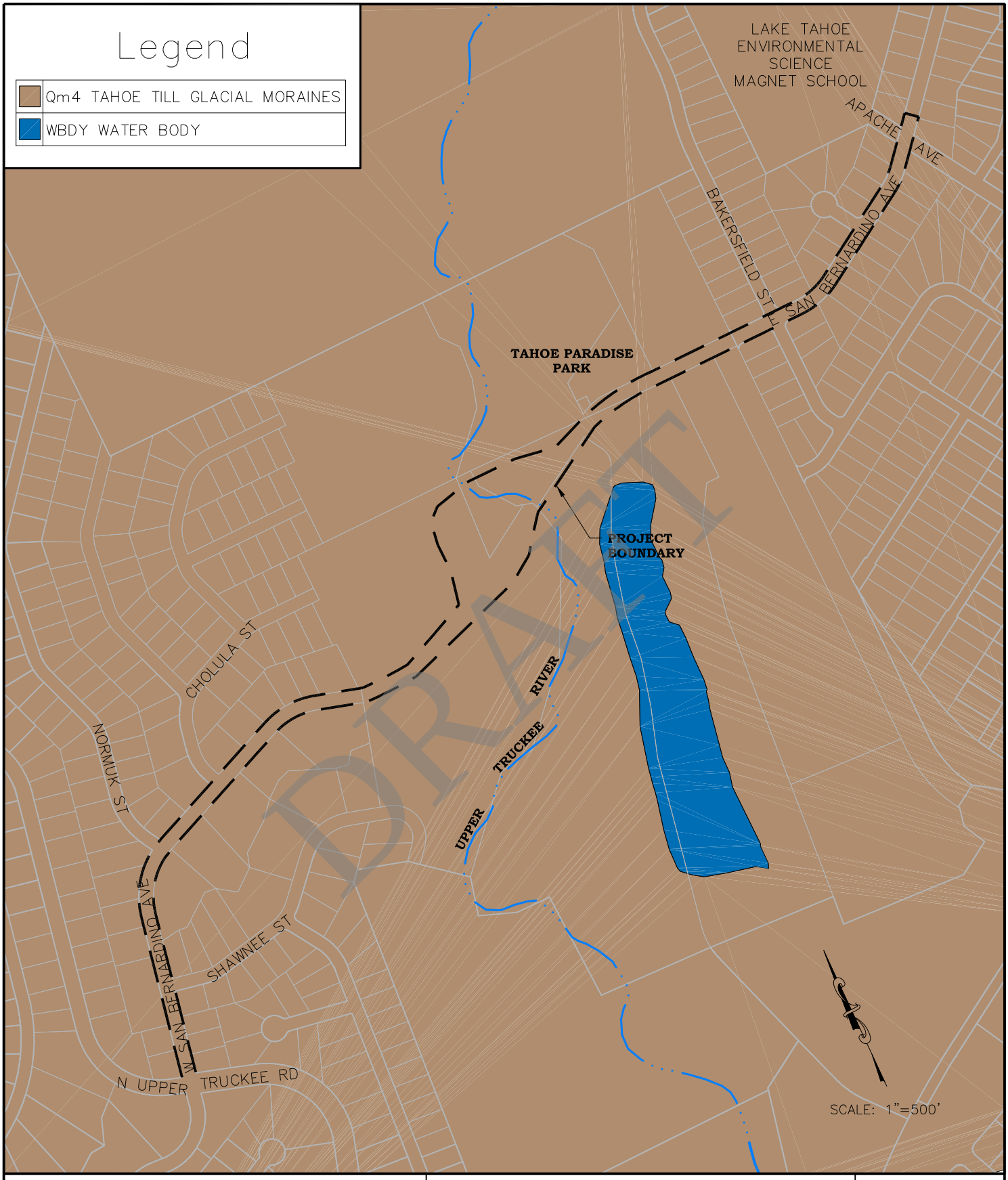
Land Use

"The Meyers Area Plan serves as the comprehensive land use and zoning plan for the community of Meyers, consistent with the Lake Tahoe Regional Plan (Regional Plan) and the El Dorado County General Plan (General Plan)."[v]



Land Capability

The USFS, in cooperation with TRPA, developed the land capability system currently used in the Basin. Lands within the Basin are divided into seven classes based on soil types, potential for erosion, and other related characteristics. Lands with a ranking of 1 have the highest potential for erosion and 7 have the lowest. Class 1 is also subdivided into 3 categories (1a, 1b, and 1c), all of which are high hazard. The land within this Project area fits into Classes 1b and 5 (see Table 2 and Figure 8). Class 5 has a lower potential for erosion than Class 1b. The



COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION
SOUTH LAKE TAHOE OFFICE

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT GEOLOGY MAP

FIGURE 7

DATE:	PROJECT NO.:	BY:
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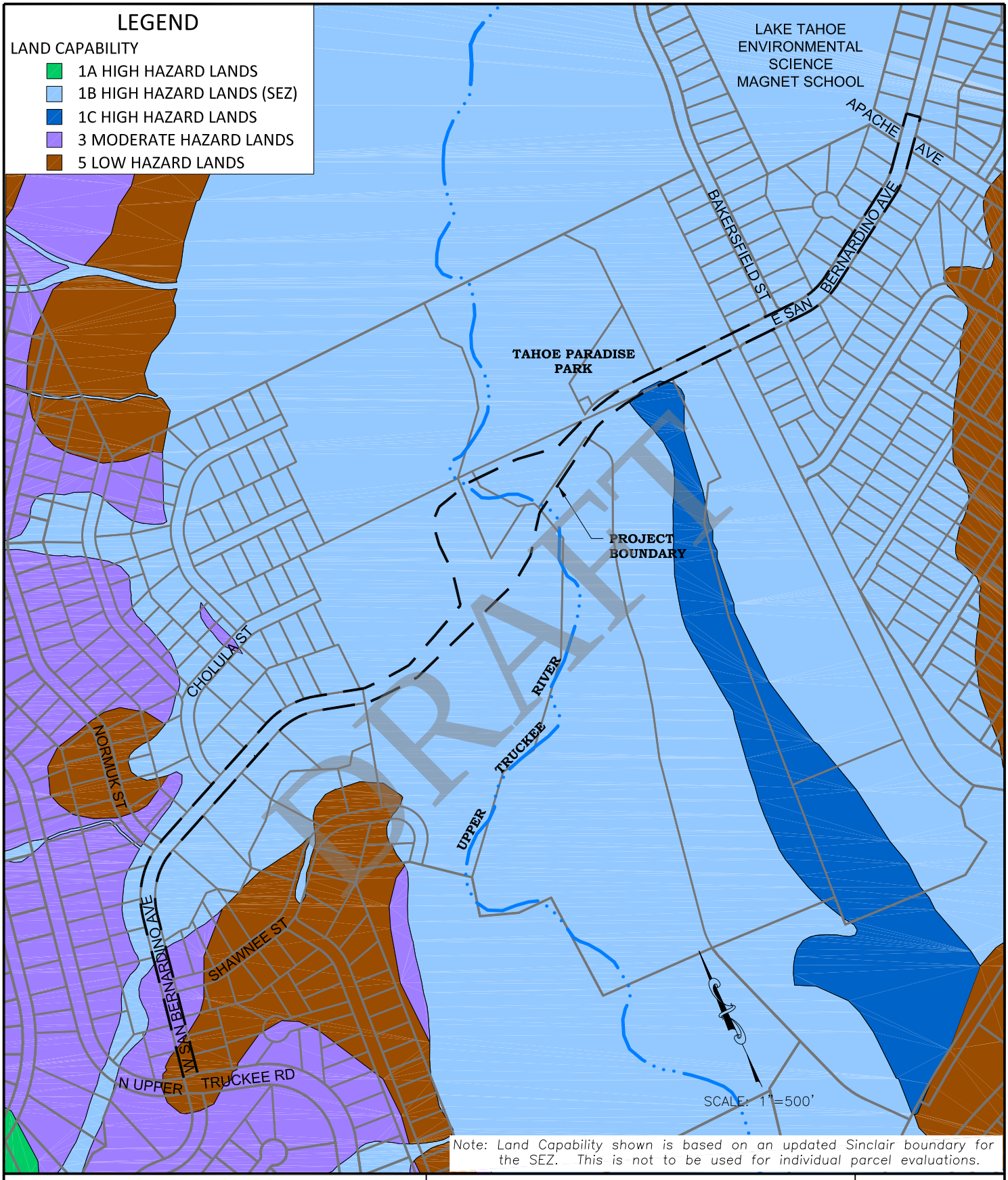

Note: Land Capability shown is based on an updated Sinclair boundary for the SEZ. This is not to be used for individual parcel evaluations.

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION
SOUTH LAKE TAHOE OFFICE

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
LAND CAPABILITY

FIGURE 8

DATE:	PROJECT NO.:	BY:
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land capability shown on Figure 8 is preliminary and still requires verification.

Table 2 - Area Distribution by Land Capability Class

Land Capability Class	NRCS Series			
	7031	7042	7431	7482
1a				☑
1b		☑	☑	☑
1c	☑			
3			☑	☑
5				☑

The TRPA land capability verification (LCV) application was submitted in May 2018. As of the date of this Report, no response has been received from TRPA. See Figure 8 for further preliminary land capability information.

1.2.4 Land Ownership

Land ownership is summarized in Table 3 and depicted in Figure 9, which was developed from record parcel maps, subdivision maps, deed information, and assessors documents and shows County right-of-way, property lines, and publicly owned properties. In addition the County road right-of-way, the Project is comprised of private and public parcels, with the public parcels owned by the County (3), Park (5), California Tahoe Conservancy (3), and the USFS (14). County will pursue the necessary easements, special use permits, and/or license agreements for any affected parcels during the development of the preferred project alignment.

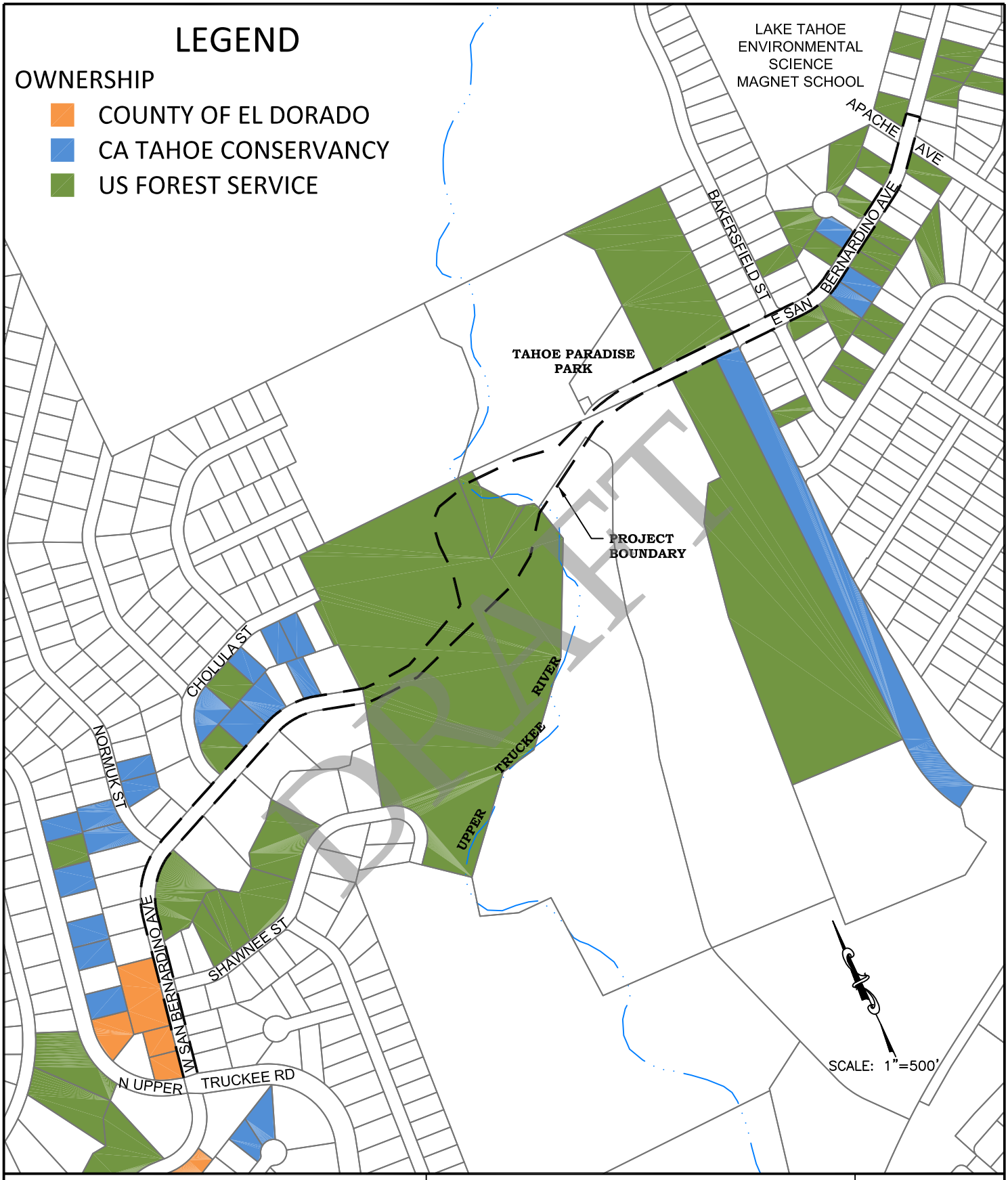
Table 3 - Land Ownership

APN	Owner
034-45-211	County of El Dorado
034-45-210	County of El Dorado
034-02-006	County of El Dorado
034-591-05	USFS
034-02-012	USFS
034-02-014	USFS
034-01-013	Tahoe Paradise Park
034-01-022	Tahoe Paradise Park
034-01-024	Tahoe Paradise Park
034-02-017	Tahoe Paradise Park
034-02-032	Tahoe Paradise Park
034-01-023	USFS
034-02-026	USFS
034-382-16	USFS
034-382-17	USFS
034-382-18	CA Tahoe Conservancy
034-382-19	CA Tahoe Conservancy
034-382-20	USFS
034-372-11	USFS
034-372-12	CA Tahoe Conservancy
034-382-21	USFS
034-382-22	USFS
034-372-17	USFS
034-372-17	USFS
034-382-26	USFS

- As of October 2018.

1.2.5 Utilities

Numerous utilities are situated underground and overhead within the Project. In order to better define these utilities, a utilities base map was obtained and coordinated with each company (see Figure 10). Utility owners are listed below in Table 4. Any conflicts will be addressed with the appropriate utility owner.



COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION
SOUTH LAKE TAHOE OFFICE

SAN BERNARDINO CLASS 1
BIKE TRAIL PROJECT
LAND OWNERSHIP MAP

FIGURE
9

DATE:	PROJECT NO.:	BY:
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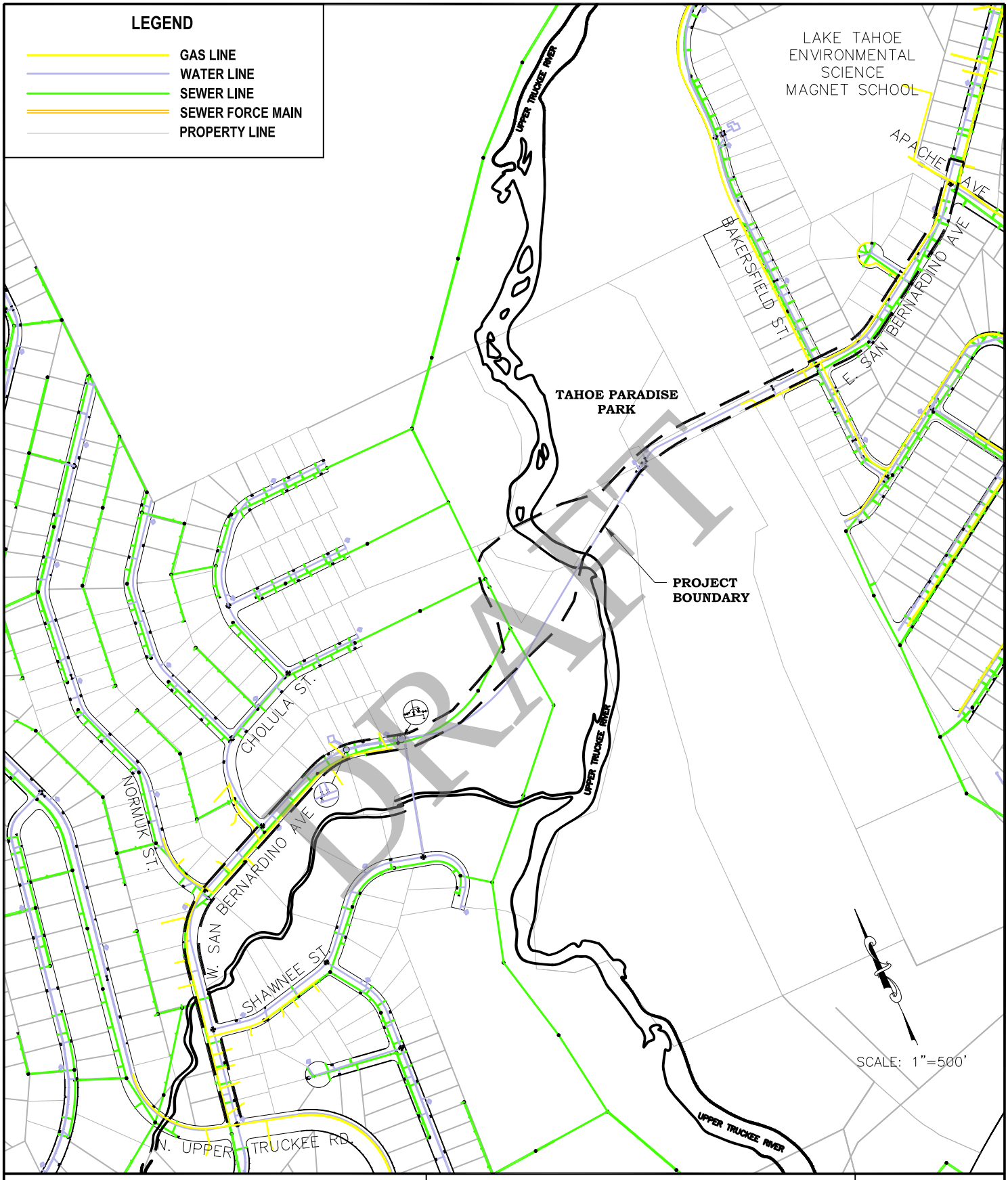

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION
SOUTH LAKE TAHOE OFFICE

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
UTILITY MAP

FIGURE 10

DATE:	PROJECT NO.:	BY:
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Table 4 - Utilities Representative List

Utility	Owner	Owner Address	Contact
Natural Gas	Southwest Gas	1740 D St, Unit No. 4 S Lake Tahoe, CA 96150	Chris Foster
Telephone	AT&T	12824 Earhart Ave Auburn, CA 95602	Astrid Willard
Electricity	Liberty Utilities	933 Eloise Avenue S Lake Tahoe, CA 96150	Andrew Gregorich
Water & Sewer	South Tahoe PUD	1275 Meadow Crest Drive S Lake Tahoe, CA 96150	Steve Caswell
Cable Television	Charter Communi-cations	9335 Prototype Dr Reno, NV 89521	Anthony Lefanto

1.2.6 Environmental Resources

The environmental resources investigated as part of this Project include cultural/archaeological, biological, vegetation, and wetlands. Each is described below.

Cultural/Archaeological Resources

A Cultural Resources Inventory Report was completed by NCE to document and evaluate the cultural resources present in the Project area (report available upon request). This investigation resulted in the identification of one prehistoric period resource and two historic period resources.

Biological Resources

The Lake Tahoe area provides suitable habitat for over 250 species of animals. In order to characterize the existing biological conditions present within the Project area, an inventory and evaluation of the Project area's vegetation and wildlife communities was conducted and a Biological Resources Inventory Report was completed in 2019 NCE (report available upon request). This report also identifies the potential occurrence of special status plant and animal species within the Project area, as summarized in Table 5.

Table 5 - Special Status Wildlife and Plant Species with Suitable Habitat Availability in the Project Area

Common Name	Scientific Name	Status	Suitable Habitat
Mammals			
Marten	*Martes americanus*	LTBMU (S)	Yes
Mule Deer	*Odocoileus hemionus*	TRPA (SI), LTBMU (MI)	Yes
Black Bear	*Ursus americanus*	LTBMU (MI)	Yes
Sierra Nevada Red Fox	*Vulpes vulpes necator*	LTBMU (S), CDFW (CST)	Yes
Birds			
Mallard	*Anas platyrhynchos*	TRPA (SI), LTBMU (MI)	Yes
Willow Flycatcher	*Empidonax traillii*	LTBMU (S, MI), CDFW (CSE)	Yes
Great Gray Owl	*Strix nebulosa*	LTBMU (S)	Yes
Waterfowl Species		TRPA (SI)	Yes
Fishes			
Lahontan Cutthroat Trout	*Oncorhynchus clarki henshawi*	FWS (T), TRPA (SI), LTBMU (MI)	Yes
Rainbow Trout	*Oncorhynchus mykiss*	LTBMU (MI)	Yes
Brook Trout	*Salvekins fontinalis*	LTBMU (MI)	Yes
Plants			
Upswept Moonwort	*Botrychium ascendens*	LTBMU (W)	Yes
Subalpine Fireweed	*Epilobium howellii*	LTBMU (S)	Yes
Marsh Skullcap	*Scutellaria galericulata*	LTBMU (W)	Yes

Agency Codes

CDFW	CA Dept of Fish and Wildlife
FWS	US Fish and Wildlife Service
LTBMU	US Forest Service, Lake Tahoe Basin Management Unit; Southwest Region
TRPA	Tahoe Regional Planning Agency

Status Codes

CSE	California State endangered
CST	California State threatened
E	FWS endangered
T	FWS threatened
S	Forest Service sensitive species
SI	TRPA special interest species
MI	LTBMU management indicator species
W	LTBMU watch species

Vegetation

Several vegetation types were identified within the Project area during a 2019 field survey for the Biological Resources Inventory Report (see Figure 5). These vegetation types include: Jeffrey pine, Lodegepole pine, willow, montane meadow, herbaceous wetland, and ruderale, as reported by NCE.

The Project area is primarily bordered by pine trees, with the immediate alignment containing plant species tolerant of disturbed areas. Willows and herbaceous wetland plant species were observed in the vicinity of the Upper Truckee River crossing as reported in the NCE Biological Resources Report (report available upon request).

- Jeffrey Pine. The Jeffrey pine series was observed from …
- Herbaceous Wetland. This vegetation type was prevalent at elevations equal to the normal low water mark in the Upper Truckee River, adjacent to the bank as a low bench and also as stabilized gravelbars. Willow species provided overstory vegetation, with additional cover represented by assorted rushes, sedges and graminoid species such as spreading bentgrass (*Agrostis stolonifera*).
- Ruderale. Road shoulders in particular were colonized by plant species that could tolerate disturbed conditions. In areas where seeding had occurred, density of these type of species was very low. Common species encountered in this vegetation type included white goosefoot (*Chenopodium album*) and prostrate knotweed (*Polygonum arenastrum*).

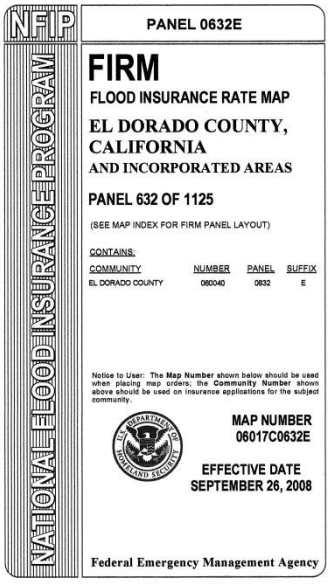
Wetlands

A Wetlands Delineation and Waters of the US Inventory was completed by NCE in 2019 to identify the potential presence of wetlands and other jurisdictional waters. Based on the required wetland parameters, potential wetland areas were identified within the Project area. In addition to wetlands, there are potential Waters of the US and Waters of the State in the Project area. The Wetlands Delineation Report addresses Waters of the US and Waters of the State.

The delineation and mapping of wetlands and Waters of the US identified the existence of approximately 4.06 acres of potential jurisdictional wetlands and 2.07 acres of Waters of the US (pre-US Corps of Engineers verification) within the Project area. A final wetland determination has not been issued by the Corps of Engineers.

Federal Emergency Management Agency Floodplain

The Federal Emergency Management Agency (FEMA) has designated a floodplain associated with the Upper Truckee River. The floodplain designation is identified on FEMA Flood Insurance Rate Maps:



- 06017C0362E effective September 26, 2008.

The floodplains designated include:

- Zone AE: Areas of 100-year flood, including base flood elevations
- Zone X: Areas between limits of the 100-year and 500-year flood

A Hydraulic Design Study Report prepared by the County in February 2019 identified the following flows and water surface elevations:

Return Period	Peak Flow	Water Surface Elevation
50-year	4565 cfs	6266.2 feet
100-year	5677 cfs	6267.0 feet

There are varying regulatory requirements for freeboard between the water surface elevation of the design flow and the bridge soffit elevation. The different requirements will be investigated as well as the freeboard during the preferred alternative phase of the Project. A goal of this Project is to minimize the impacts to the floodplain.

1.2.7 Monitoring Information

A pre-construction photo inventory was completed and is included as Appendix 1 to this Report. The photographs were utilized to identify potential physical and environmental constraints and evaluate Project alternatives as discussed in Section 2 of this Report. A more detailed photo inventory will be conducted once the final alignment is determined.

1.3 Hydrologic Conditions

The Basin has been divided into 63 Watersheds, all of which drain into Lake Tahoe. The Project area falls within the largest watershed (57 square miles) in the Basin, the Upper Truckee River (USGS Basin #73).

1.3.1 Watershed, Drainage Area and Sub-area Boundaries

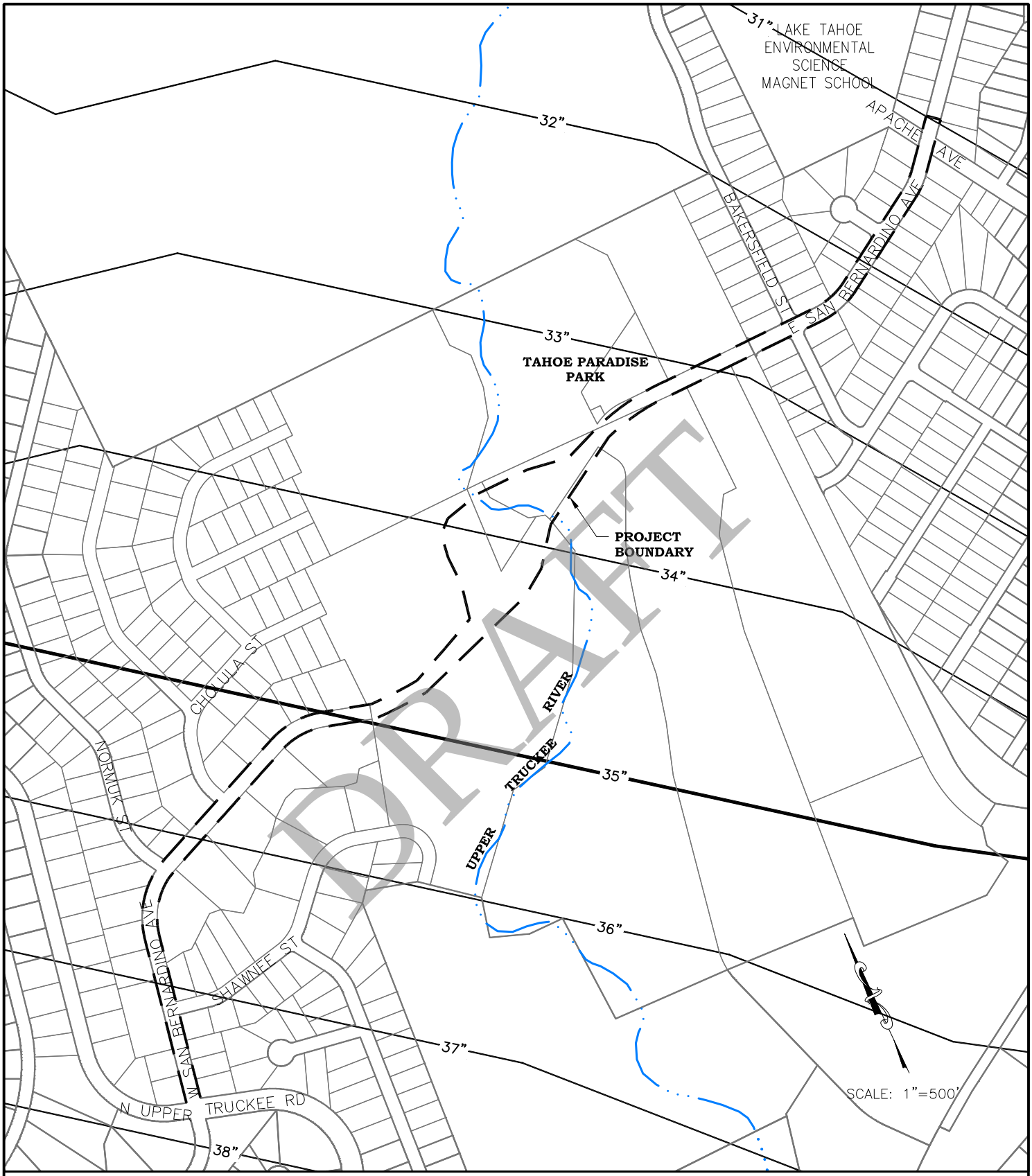
Caltrans has a water quality improvement project along Highway 50 in the vicinity of the proposed Sawmill bike path. The Drainage Study completed for the Caltrans water quality improvement project was used as the basis for identifying the locations where the offsite flows cross Highway 50.

There are 6 offsite areas to the east of Highway 50 for which cross drainage culverts are provided through Highway 50. These locations are shown in Figure 10. The proposed Sawmill bike path will maintain the same capacity for through drainage.

There is no existing drainage infrastructure other than the Highway 50 culverts in the immediate Project vicinity. The Drainage Report for the proposed Sawmill bike path will be completed during the next phase of the project, alternatives evaluation.

1.3.2 Storm Frequency

The County utilizes the 1995 County of El Dorado Drainage Manual[vi] (Drainage Manual) as a guidance document for hydrologic design within the Basin. The Drainage Manual requires utilizing the 100-year storm event, which has the probability of occurrence of 0.01 in any given year, for drainage areas greater than 100 acres, to design drainage facility conveyance structures. All drainage facilities for areas less than 100 acres need to be designed to safely convey the 10-year event, probability of 0.10 in any given year, without the headwater depth exceeding the culvert barrel height.



REFERENCE: REPORT ON EL DORADO COUNTY DESIGN RAINFALL BY JIM GOODRIDGE, 2008

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION
SOUTH LAKE TAHOE OFFICE

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
MEAN ANNUAL RAINFALL TAHOE BASIN

FIGURE 11

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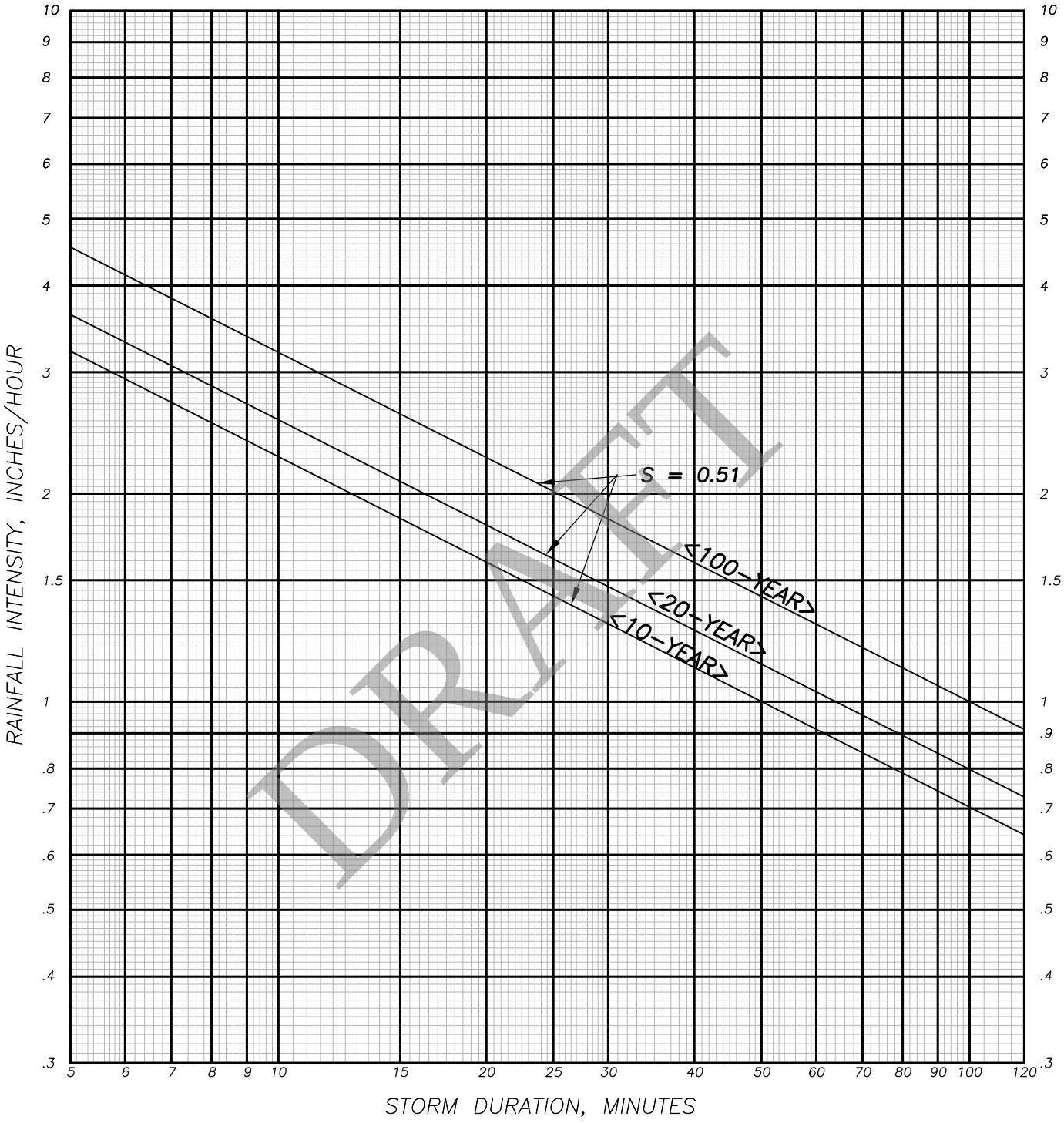
RAINFALL INTENSITY DURATION FREQUENCY CURVE



SOURCE: COUNTY OF EL DORADO DRAINAGE MANUAL, 1995
MEAN ANNUAL RAINFALL – ISOHYET 34 IN.

COUNTY OF EL DORADO
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DEPARTMENT OF TRANSPORTATION
SOUTH LAKE TAHOE OFFICE

SAN BERNARDINO CLASS 1
BIKE TRAIL PROJECT
RAINFALL INTENSITY-DURATION-FREQUENCY CURVES

FIGURE 12

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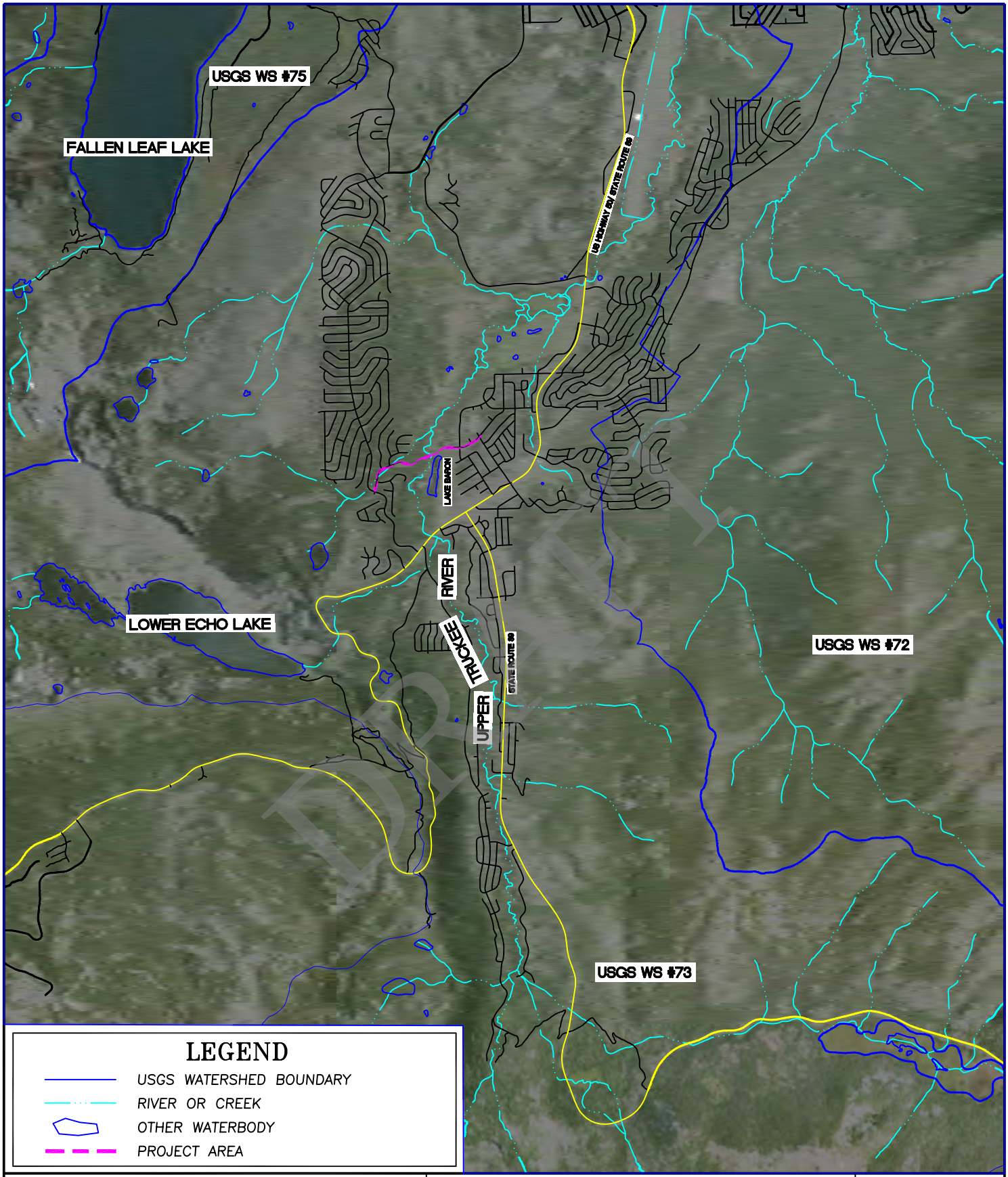

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION
SOUTH LAKE TAHOE OFFICE

SAN BERNARDINO CLASS 1
BIKE TRAIL PROJECT
USGS WATERSHED MAP

FIGURE
13

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The TRPA 208 Plan requires that the 10-yr, 24-hr storm event be used to design stormwater conveyance facilities and the 50-year storm event be used when designing the conveyance facility through a Stream Environment Zone (SEZ).

The Lahontan Regional Water Quality Control Board (Lahontan) Basin Plan requires that the minimum "design storm" for storm water treatment facilities in the Basin is the 20-year, 1-hour storm event. Based on several reports completed by Lahontan, this event equates to approximately 1 inch of rainfall within 1 hour.

Based on various areal historical precipitation data within the Basin, the Drainage Manual requirements, the regulatory requirements mentioned, and the observed events, the hydrologic storm frequencies utilized for this Project design are as follows:

10-year, 6 hour

Conveyance facilities for areas less than 100 acres and not in an SEZ. The 10-year, 6-hour storms tend to be associated with Fall/Spring frontal systems with resultant peak Spring snow melt.

20-year, 1 hour

Conveyance facilities discharging to storm water treatment facilities for County right-of-way drainage tributary areas; storm water treatment capacity for County right-of-way drainage tributary areas for all impound/detention facilities. Typically, this event occurs in summer as localized thundershowers, or convective storm systems.

100 –year, 24 hour

Conveyance within the County right-of-way; all outfall structures from impound/detention facilities which discharge through an SEZ, or directly to a tributary of Lake Tahoe, or Lake Tahoe; conveyance facilities for drainage areas greater than 100 acres within the County right-of-way; conveyance facilities downstream of the impound facilities for hydrologic wave control. Events in this category may be characterized as warm frontal systems producing a rain-on-snow event.

1.3.3 Precipitation

The precipitation depth for the design storm frequency was obtained from the Drainage Manual. Based on the mean annual precipitation depth isohyetal maps, and the value of 34 inches for the Project area, the following precipitation depths were selected from the Rainfall Depth tables.

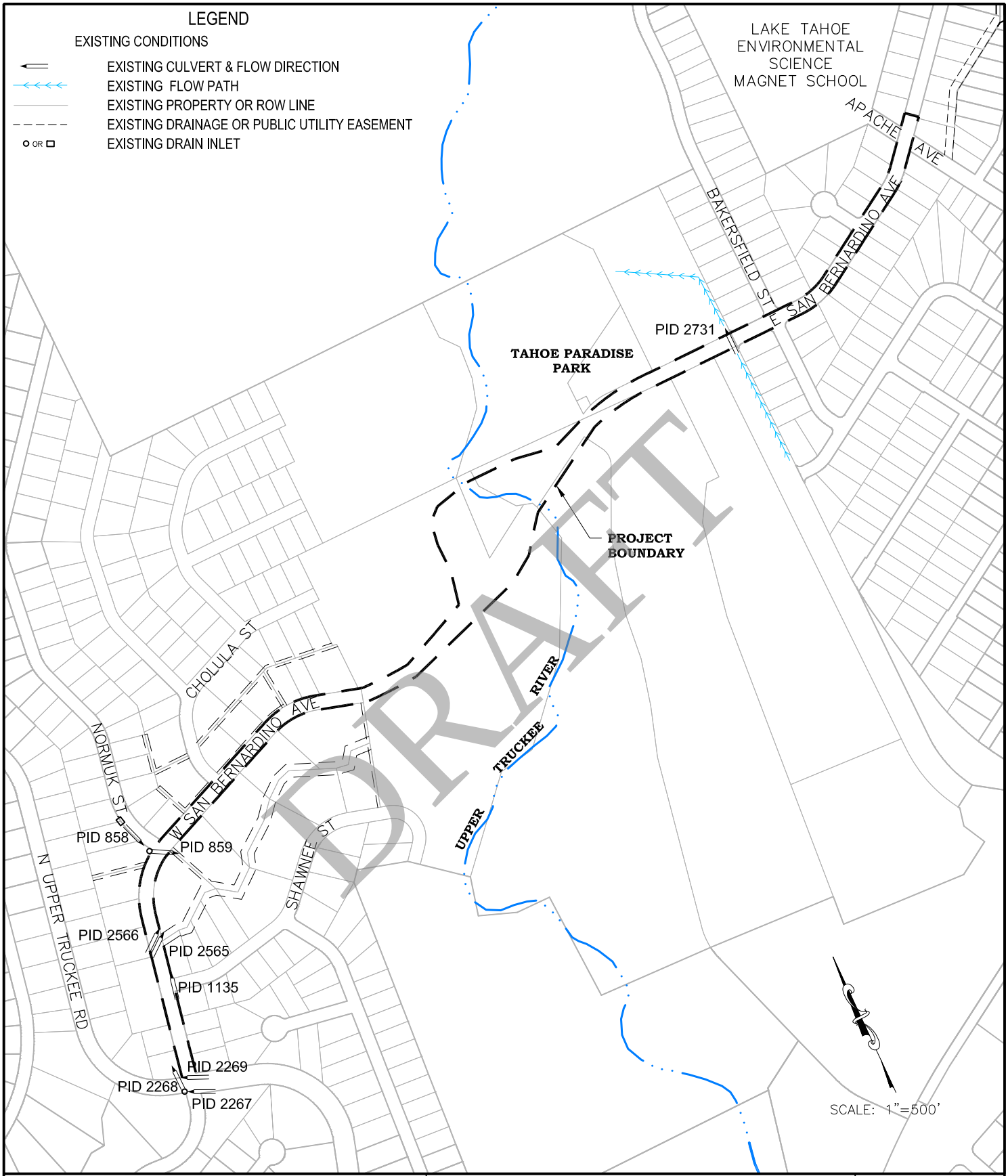
Design Storm	Rainfall Depth (inches)
10-year, 6-hour	2.2
20-year, 1-hour	1.0
100-year, 24-hour	6.4

1.3.4 Hydrologic Method

The Rational Method will be used to calculate estimated peak flows within the Project area. The Rational Method was selected because the subbasins within the Project area are less than one acre. This method is commonly used to determine peak flow when the watershed is small (less than 100 acres). Generally, the Rational Method is used when the watershed was less than one acre.

1.4 Hydraulics Summary

The hydraulic analysis consisted of two main portions, the cross drainage culverts and the proposed bridge structure hydraulics. Each is discussed below.



COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION
SOUTH LAKE TAHOE OFFICE

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
PIPE INDEX MAP

FIGURE 14

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1.4.1 Cross Drainage Hydraulics

There are no existing culverts within the proposed Project area other than the cross-drainage culverts under the existing roadways. The proposed shared use path will likely provide cross drainage culverts according to topographic features and vertical profile alignment of the path.

1.4.2 Bridge Hydraulics

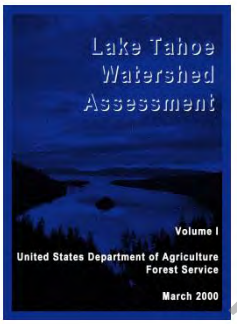
…

1.5 Stream Stability Assessment

…

1.6 Stormwater Quality

The Lake Tahoe Watershed Assessment[vii] provides a synthesis of water quality data and analysis with an emphasis on watershed sediment and nutrient loadings and their effects on Lake Tahoe. According to the report, research has shown the onset of cultural eutrophication of oligotrophic Lake Tahoe, and a corresponding decline in the lake's exceptional clarity at the rate of approximately one foot per year. Research has also shown a fundamental shift in the limiting nutrient for biostimulation in Lake Tahoe from nitrogen to phosphorous.



1.6.1 Priority Pollutants

It has been shown that a large portion of the total phosphorous load is transported with sediment; therefore, current research and management efforts in the Basin focus on the management of watershed sediment and erosion control. The long-term average nutrient flux from watersheds in the Basin has been significantly related to disturbance and land use, leading to sediment and the associated nutrients being the primary pollutants of concern.

1.6.2 Priority Pollutant Sources

Sediment Sources

In general, land disturbance is a primary cause of elevated sediment supply. However, the effects of land disturbance on sediment supply are manifested in different ways and may result in changes in sediment supply that vary by orders of magnitude. Because sediment transport is an exponential function of drainage discharge, identification of increased sediment supply is clearly linked to drainage or stream flows. In addition, changes in hydrologic characteristics may initiate geomorphic changes in a project area or watershed that have the potential to modify land surface or channel characteristics, thereby increasing historical sediment supply by one or more orders of magnitude.

Nutrient Sources

The primary nutrients of concern with respect to Lake Tahoe clarity are phosphorous and nitrogen. Research over the past few decades has shown that primary productivity in Lake Tahoe is predominately phosphorous-limited. However, co-limitation by nitrogen and phosphorous still occurs, especially in summer months, so control of both nutrients is important. A nutrient-loading budget for Lake Tahoe indicates that atmospheric deposition, stream loading, direct runoff, and groundwater are major contributors of nutrients to Lake Tahoe. Most water quality improvement projects have little opportunity

to affect atmospheric deposition. However, runoff from the Project area may contribute significantly to stream loading.

Total nutrient and sediment loads are related because a portion of the nutrient loads occur as particulates or adsorbed onto particulates. However, only a portion of the total nutrient loads may be in biologically available form. The biologically available fraction has the largest potential impact on water quality and is therefore of greatest concern in water quality projects. The atmosphere is the dominant global source of nitrogen as N_2, while rock weathering is the dominant source of phosphorous. Both nutrients are recycled and retained within the biosphere at rates that are much higher than contributions from original sources. Their uptake, retention, and recycling, in biomass is highly sensitive to landscape disturbance. Mobilization due to disturbance causes a loss of nutrients from the local biological or physical system, and transport downstream in particulate and dissolved forms.

1.6.3 Other Pollutant Sources

In addition to the priority pollutants described in Section 1.6.1 of this document, other potential pollutants have been identified based on Project area characteristics. These pollutants include typical materials used during construction such as oil and grease from equipment, vehicles, road base, concrete, and other construction materials. In order to mitigate the possibility of potential pollutants being discharged from the site, an aggressive Storm Water Pollution Prevention Plan (SWPPP) will be developed and implemented. The SWPPP will identify specific control measures to be implemented both during and after construction.

1.6.4 Pollutant Transport Processes

In addition to the identification of pollutant sources as described in Sections 1.6.2 and 1.6.3 of this document, key pollutant transport processes must be considered in order to formulate and evaluate potential control strategies in subsequent project phases. For this Project, it is anticipated that the pollutant transport process will be closely linked to the hydrology, thus increasing the necessity of good stormwater management.

1.7 Project Opportunities and Constraints

Opportunities

With the completion of this Project, greater opportunities exist for improvement by implementing a continuous transportation/ recreation trail for bicyclists and pedestrians alike. The corridor for the proposed shared use path is also part of TRPA's *Linking Tahoe: Active Transportation Plan*, with the goals of providing access to local businesses, schools, and offices for bicyclists and pedestrians, reducing vehicular transportation, and enhancing recreational opportunities within the Basin.

One of the main opportunities of this Project in addition to providing recreational links is to provide traffic mitigation and potential air quality improvement. However, the Project will also aid in general water quality improvement by providing alternative transportation opportunities, thereby reducing vehicle emissions, and providing additional permanent vegetation to filter stormwater runoff.

Constraints

The Project faces several challenges, primarily in regard to the alignment of the

proposed shared use path. Right-of-way issues, river crossing, and the presence of sensitive environmental resources each represent a consideration in determining the proposed alignment.

For much of the alignment, the shared use path will likely be contained within the existing disturbed, compacted trail. However east of the Upper Truckee River, the alignment enters the Park. Therefore, this would require the need to acquire property or new easements.

The existing SEZ/floodplain areas near the river will need to be avoided as much as possible during the design of the proposed alignment. Any impact may involve mitigation at a 1.5:1 ratio and the SEZ areas require a 25-foot setback.

Finally, sensitive environmental resources in the Project area would necessitate avoidance where possible. Specifically, the locations of wetlands, existing vegetation and mature trees, and Waters of the US should be considered and avoided to the maximum extent practicable.

As the alignment approaches from the west, it will have to cross over the Upper Truckee River requiring the need for a bridge. Crossing the river presents a constraint, as the construction of the foundations will have to take into account the sensitive environment, scour potential of the river, as well as the potential lateral migration of the channel. In addition, to avoid any disturbance to the river itself, the bridge will have to span the entire width of the river without any intermediate supports. Additionally, when the option exists, the proposed alignment should be located in areas with a land capability of Class 5, rather than the more sensitive lands designated in the Project area as Class 1b due to potential erosion.

2.0 Formulating Alternatives

2.1 Alignment Alternatives

The *Meyers Area Plan* and the *Linking Tahoe: Active Transportation Plan* identifies a Class 1 shared use path through this reach and a Class 3 (Bike Route) along W San Bernardino Ave and E San Bernardino Ave.

Three alignment alternatives were identified and evaluated for this Report. The alternatives discussed in this section only describe the Class 1 portion of the path. It is assumed the remaining portion of the Project will be a Class 3 along the existing roadway sections.

- Alternative 1 – Most direct alignment following the existing disturbed, compacted trail.
- Alternative 2 – Avoids the steel sheet pile, proposed alignment is downstream to avoid any conflicts.
- Alternative 3 – Utilizes the sewer access road in the northerly direction and potentially avoids any floodplain impacts.

ALT1 – Most direct alignment along the existing disturbed, compacted trail

Alignment 1 generally follows the existing disturbed trail beginning just east of W San Bernardino Ave.

Advantages

- Potentially less disturbance to mature vegetation and trees.
- Use of existing cleared trails.
- Connection to other recreation opportunities.

Disadvantages

- Elevations west of the river are much lower than the east side.
- Longer length of bridge.
- Impacts floodplain.

ALT2 – River crossing downstream of the steel sheet pile

Alignment 2 is similar to Alternative 1 with a differing alignment and crossing point over the Upper Truckee River downstream of the existing steel sheet pile, to the paved parking lot at the Park.

Advantages

- Shortest path to cross the river.
- Minimal grading (west of the river) as the alignment follows existing access road.
- Eliminates potential conflict with utilities and the steel sheet pile.

Disadvantages

- Elevations west of the river are much lower than the east side.
- Longer length of bridge.
- Impacts floodplain.

ALT3 – Follows the sewer line access road

Alignment 3 is longer alignment veering to the north along the utility access road and crosses the Park just south of the existing picnic area.

Advantages

- Relative elevations of the river banks are equal on both sides, potentially reducing the length of bridge required to span the river.

Disadvantages

- Requires bank stabilization and work in the active river to remove log jam and debris field.
- Longer path length.
- Potential greater disturbance in environmentally sensitive areas.

2.2 Roadway Alternatives

Due to funding constraints, a Class 3 (Bike Route) bicycle facility is proposed on County roadways of W San Bernardino Ave and E San Bernardino Ave. This also includes the parking lot area entering the Park from the west. Another alternative could be a Class 2 (Bike Lane); however, this alternative would most likely require a roadway widening, drainage improvements, and other roadway upgrades. Additionally, the Park parking lot, paved areas, and access road would require an extensive evaluation.

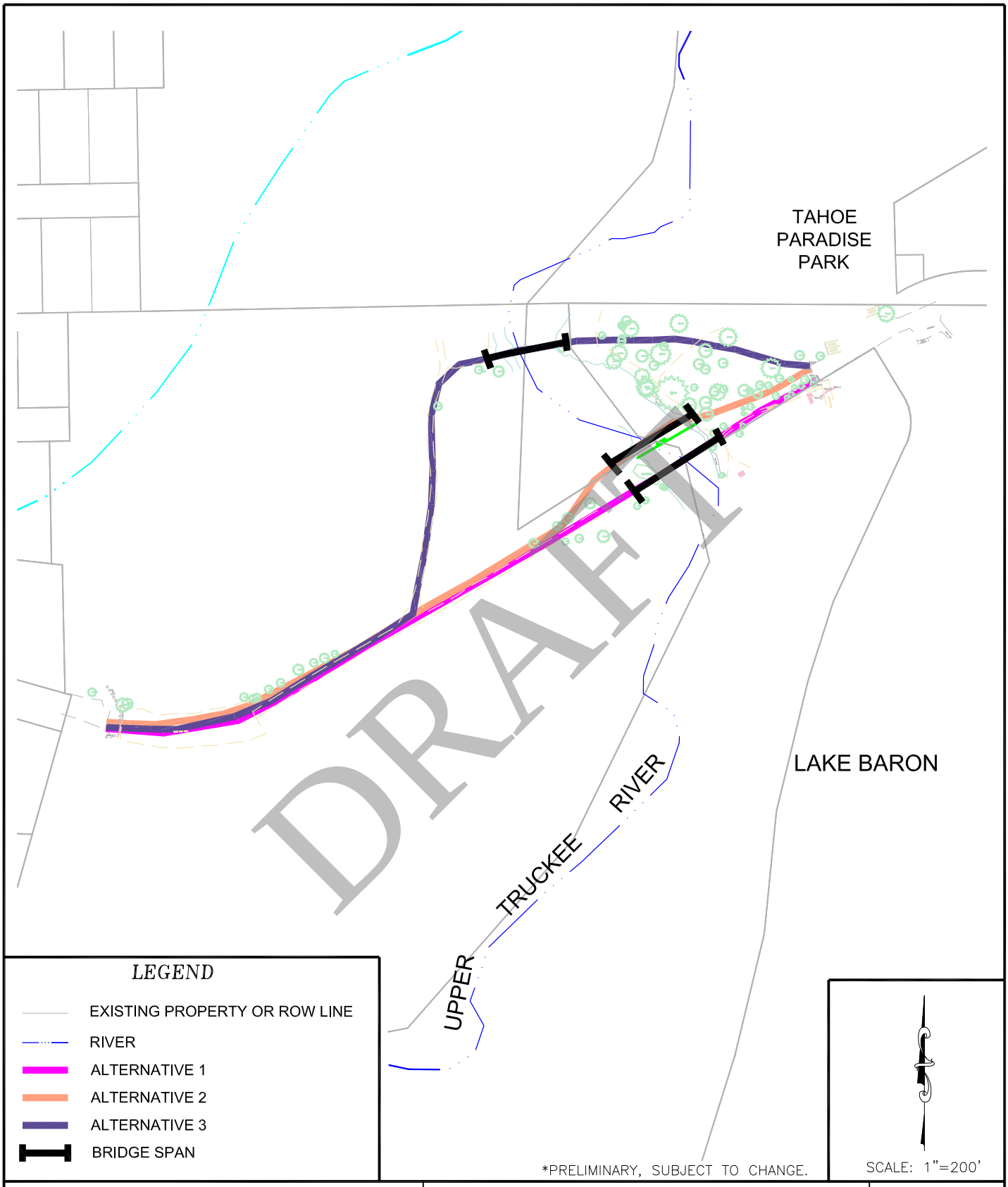
2.3 Bridge Alternatives

The proposed shared use path would cross the Upper Truckee River via a new bridge. The bridge alternatives will follow the Basin standards.

The proposed shared use path bridge will be chosen after reviewing various bridge type options. The structure type will take into account that the bridge will need to be one simple clear span between the abutments. The bridge will be designed for the capacity of carrying pedestrian, bicycle, and standard HS-20 truck loads. The various alternatives have spans ranging in length from 100 feet to 250 feet. Pre-fabricated steel bridges carrying HS-20 truckloads typically have a maximum clear span of 170 feet.

The location of the shared use path bridge abutments will need to consider the sensitive environmental areas to minimize disturbance of wetlands, vegetation, and trees. The abutment foundations will likely be standard, friction or end bearing, driven concrete piles or steel H-section piles similar to those recently designed and constructed in the Basin.

There are varying regulatory requirements for freeboard between the water surface elevation of the design flow and the bridge soffit elevation from agencies such as the Bureau of Reclamation. The different requirements will be investigated as the Project progresses. Typical bridges are designed to take into account the 50-year design flood requirement of a two-foot minimum freeboard while the 100-year base flood requirement allows for no freeboard.



EL DORADO COUNTY CALIFORNIA

COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION
SOUTH LAKE TAHOE OFFICE

SAN BERNARDINO CLASS 1 BIKE TRAIL

ALIGNMENT ALTERNATIVES

FIGURE 15

DATE:	PROJECT NO.:	BY:
10/2018	95117	dsp

3.0 Summary

3.1 Existing Conditions

This Report has sought to describe the existing conditions of the Project area in which a new bike path is proposed. These conditions include the following:

- **Topography**. In general, the topography of the Project area is relatively flat/level, with one area of the Project (just east of the subdivision limit at W San Bernardino Ave) having a slightly more pronounced grade relative to the proposed shared use path alignment.
- **User Trail**. An existing natural ground trail/path/access road is present along the sections west of the Upper Truckee River. The alternatives provided are proposed to follow this existing trail to minimize impact to existing land use.
- **Soils**. The Project area soils fall primarily within group A, signifying a moderate to low runoff potential.
- **Land Use**. It is expected that the proposed shared use path would be located within an existing disturbed, compacted area, and therefore the Project would likely not conflict with existing land uses in the area.
- **Land Capability**. The land within the Project area fits into land capability Classes 1b and 5, with the majority falling into Class 1b and therefore having a moderate to low potential for erosion. A land capability verification has not yet been completed by TRPA, however, preliminary research indicates SEZ areas in addition to the Upper Truckee River within the Project area require a 25-foot setback.
- **Land Ownership**. As discussed in the Report, the shared use path would likely require utilizing public lands; the County will pursue the needed easements and permits for any affected parcels during the development of the preferred project alignment.
- **Utilities**. A South Tahoe Public Utility District (STPUD) waterline is a Project consideration in terms of shared use path alignment. The County will consult with STPUD should any planned improvements conflict with this feature.
- **Environmental Resources**. Appropriate environmental inventories including, biological, wetland/Waters of the US and cultural, have been conducted and sensitive resources identified. For the most part, the proposed shared use path will avoid these resources. Where the resources cannot be avoided (e.g., possibly some vegetation and wetlands areas), potential impacts will be mitigated to the maximum extent feasible.
- **Hydrology**. Water quality improvements, utilizing low impact development principles, will be part of the Project.

3.2 Formulating Alternatives

Three alignment alternatives were described and evaluated in this Report. In general, there is one proposed alignment alternative, with two separate locations where the proposed shared use path can make use of existing disturbed trails. By remaining close to the existing disturbed area, the proposed shared use path could avoid landscaping on private property and

close proximity to residential land. However, disadvantages include the potential loss of dense groves of mature trees, grade issues, and potential disturbance to existing drainages. Following the proposed alignment alternative would be advantageous in that the alignment would remain within the existing disturbed trail, there would potentially be fewer disturbances to mature vegetation and trees, and the proposed shared use path could make use of existing cleared trails.

Currently, there are three possible alternatives for the proposed bridge over the Upper Truckee River, just west of Tahoe Paradise Park. The complexity of the design and constructability arises from the sensitive environment as well as various site constraints. In considering the alternatives, the design of the proposed bridge will need to account for overall bridge length for cost considerations, existing floodplain, vegetation, and trees.

4.0 References

4.1 References

[i] Storm Water Quality Improvement Committee, *Lake Tahoe Basin Storm Water Quality Improvement Committee (SWQIC), Formulating and Evaluating Alternatives for Water Quality Improvement Projects*, July 2004.

[ii] County of El Dorado, *Meyers Area Plan*, March 2018, page 3-5.

[iii] Tahoe Regional Planning Agency and Tahoe Metropolitan Planning Organization, *Linking Tahoe: Active Transportation Plan*, March 2016, page 4-45.

[iv] United States Department of Agriculture, Natural Resources Conservation Service. 2007. *Soil Survey of the Tahoe Basin Area, California and Nevada*. Accessible online at: http://soils.usda.gov/survey/printed_surveys/.

[v] *Meyers Area Plan*, page 1-1.

[vi] County of El Dorado, *Drainage Manual*, March 1995, Section 2.

[vii] United States Department of Agriculture, Forest Service. 2000. *Lake Tahoe Watershed Assessment*.

Appendix A

HYDROLOGY AND HYDRAULICS

NOT AVAILABLE

AT TIME OF PRINT

Appendix B

PHOTO INVENTORY

San Bernardino Class 1 Bike Path Project
CIP 95117
Project Area Photographs – west of the Upper Truckee River

Photo Pt #01

Photo Pt #02

Photo Pt #03

Photo Pt #04

Photo Pt #05

Photo Pt #06

San Bernardino Class 1 Bike Path Project
CIP 95117
Project Area Photographs – west of the Upper Truckee River

Photo Pt #07

Photo Pt #08

Photo Pt #09

Photo Pt #10

Photo Pt #11

Photo Pt #12

San Bernardino Class 1 Bike Path Project
CIP 95117
Project Area Photographs – west of the Upper Truckee River

Photo Pt #13

Photo Pt #14

Photo Pt #15

Photo Pt #16

Photo Pt #17

Photo Pt #18

San Bernardino Class 1 Bike Path Project
CIP 95117
Project Area Photographs – west of the Upper Truckee River

Photo Pt #19

Photo Pt #20

Photo Pt #21

Photo Pt #22

Photo Pt #23

Photo Pt #24

San Bernardino Class 1 Bike Path Project
CIP 95117
Project Area Photographs – west of the Upper Truckee River

Photo Pt #25

Photo Pt #26

Photo Pt #27

Photo Pt #28

Photo Pt #29

Photo Pt #30

San Bernardino Class 1 Bike Path Project
CIP 95117
Project Area Photographs – west of the Upper Truckee River

Photo Pt #31

Photo Pt #32

Photo Pt #33

Photo Pt #34

Photo Pt #35

Photo Pt #36

San Bernardino Class 1 Bike Path Project
CIP 95117
Project Area Photographs – west of the Upper Truckee River

Photo Pt #37

Photo Pt #38

Photo Pt #39

Photo Pt #40

Photo Pt #41

Photo Pt #42

San Bernardino Class 1 Bike Path Project
CIP 95117
Project Area Photographs – west of the Upper Truckee River

Photo Pt #43

Photo Pt #44

Photo Pt #45

Photo Pt #46

Photo Pt #47

Photo Pt #48

San Bernardino Class 1 Bike Path Project
CIP 95117
Project Area Photographs – west of the Upper Truckee River

Photo Pt #49

Photo Pt #50

Photo Pt #51

Photo Pt #52

Photo Pt #53

Photo Pt #54

San Bernardino Class 1 Bike Path Project
CIP 95117
Project Area Photographs – west of the Upper Truckee River

Photo Pt #55

Photo Pt #56

Photo Pt #57

Photo Pt #58

Photo Pt #59

Photo Pt #60

San Bernardino Class 1 Bike Path Project
CIP 95117
Project Area Photographs – west of the Upper Truckee River

Photo Pt #61

Photo Pt #62

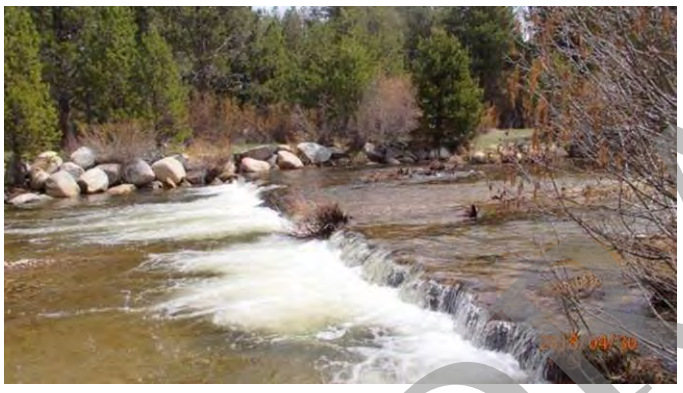


Photo Pt #63

Photo Pt #64

Photo Pt #65

Photo Pt #66

San Bernardino Class 1 Bike Path Project
CIP 95117
Project Area Photographs – west of the Upper Truckee River

Photo Pt #67

Photo Pt #68

Photo Pt #69

Photo Pt #70

San Bernardino Class 1 Bike Trail Project
CIP 95117
Project Area Photographs – east of the Upper Truckee River

Photo Pt #71

Photo Pt #72

Photo Pt #73

Photo Pt #74

Photo Pt #75

Photo Pt #76

San Bernardino Class 1 Bike Trail Project
CIP 95117
Project Area Photographs – east of the Upper Truckee River

Photo Pt #77

Photo Pt #78

Photo Pt #79

Photo Pt #80

Photo Pt #81

Photo Pt #82

San Bernardino Class 1 Bike Trail Project
CIP 95117
Project Area Photographs – east of the Upper Truckee River

Photo Pt #83

Photo Pt #84

Photo Pt #85

Photo Pt #86

Photo Pt #87

Photo Pt #88

San Bernardino Class 1 Bike Trail Project
CIP 95117
Project Area Photographs – east of the Upper Truckee River

Photo Pt #89

Photo Pt #90

Photo Pt #91

Photo Pt #92

Photo Pt #93

Appendix C

DRAFT FEASIBILITY REPORT COMMENTS AND RESPONSES

San Bernardino Class 1 Bike Path Project Comments During Development of Feasibility Report			
#	**Date**	**Communication**	**Comments/Concerns**
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			

APPENDIX I

PREFERRED ALTERNATIVE MEMORANDUM

SAN BERNARDINO
CLASS 1 BIKE TRAIL PROJECT
Federal Aid No. STPL 5925(162)

Preferred Alternative Memorandum



EIP #03.01.02.0040

County of El Dorado
Department of Transportation

October 2019

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

List of Appendices

1.0 Executive Summary

This Preferred Project Alternative Memorandum (PAM) summarizes the work that was done in developing the Project Alternatives for the San Bernardino Class 1 Bike Trail Project (Project) and presents the results of the analysis of those Alternatives. The PAM also includes the selection of the Preferred Alternative, which will be further studied and designed prior to being constructed.

2.0 Introduction

The Project is part of a series of active transportation projects to be constructed within the Lake Tahoe Basin by the County of El Dorado, Department of Transportation (Transportation). In October 2018, Transportation held a Project Development Team (PDT) meeting and in December 2018, a public meeting, to discuss the Feasibility Report for the Project. That report identified alignment alternatives, compiled Best Management Practices (BMP) alternatives for mitigating specific problem areas, and presented the evaluation of the alternatives. This PAM presents the preferred alternative based on input from those meetings, correspondence received, and the results of the analyses contained in the Feasibility Report.[1]

The Project is located in the south section of the Lake Tahoe Basin within portions of Sections 30 and 31, Township 12 North, Range 18 East, Mount Diablo Meridian. The Project is bordered by North Upper Truckee Road on the west, Washoe Meadows State Parks on the north, U.S. Highway 50 (US 50) on the south and Apache Avenue on the east. The total Project area is approximately 10.0 acres and encompasses County Right of Way (ROW), Tahoe Paradise Park, and United States Forest Service (USFS) parcels (Figure 1).

3.0 Existing Conditions

For a description of the Project area, goals and objectives of the Project, past projects, site topography, soils, hydrologic and hydraulic conditions, land use, storm water quality, soil erosion problems, alternatives, BMPs, and an evaluation of the alternatives, refer to the Feasibility Report.[2]

4.0 Preferred Project Alternative

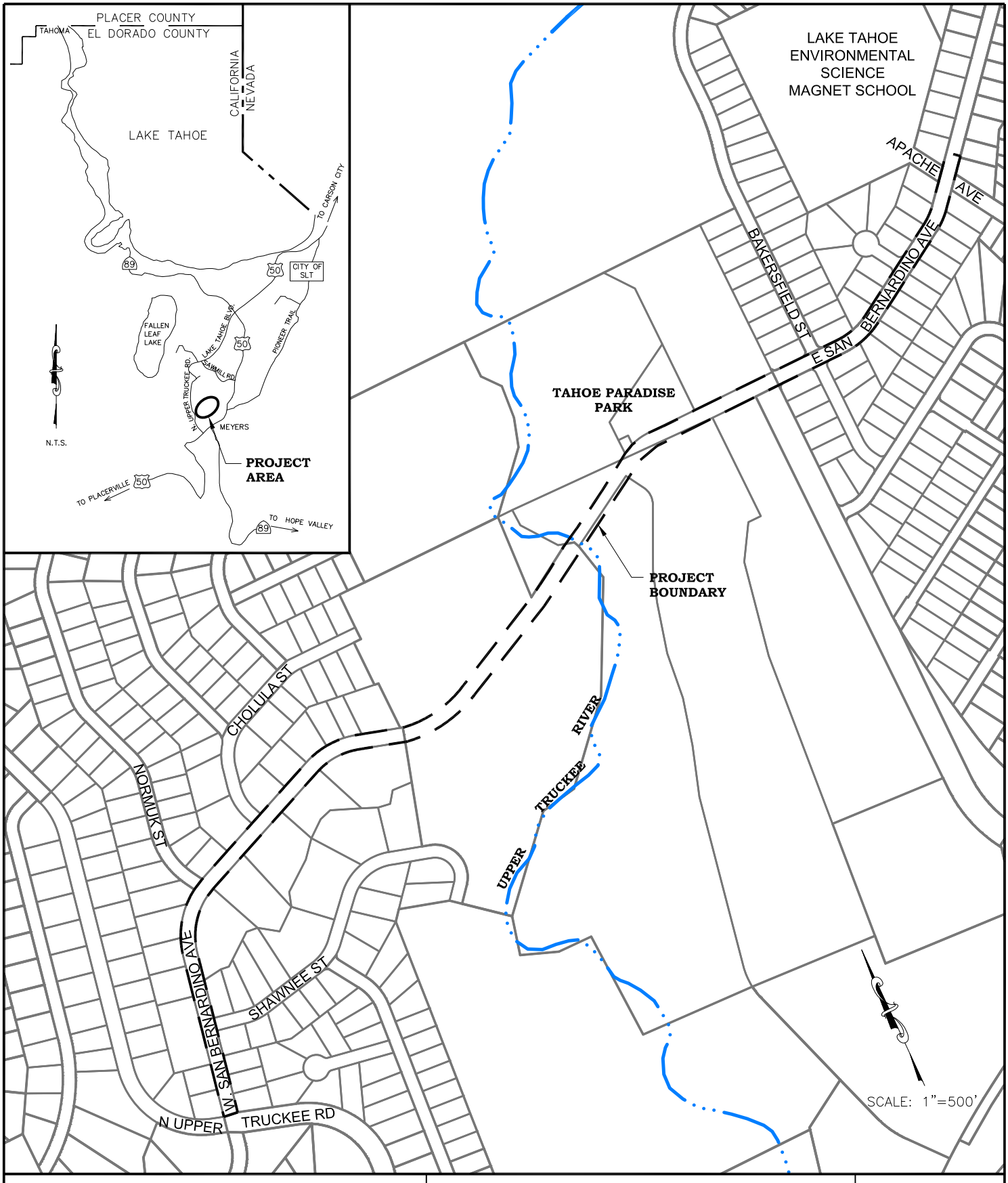
In order to meet the goals and objectives of the Project, the Feasibility Report outlined three alternatives for consideration by the public and the PDT. Based on the comments received, the professional judgment of Transportation personnel, and the analyses outlined in the Feasibility Report, Alternative 1 was selected as the preferred alternative and presented in Figure 2.

Alternative 1 is the least impact to its surrounding environment. The preferred pathway alignment generally follows the existing utility access road and the most direct alignment outside of the subdivision limits. Along the existing road right-of-way of West and East San Bernardino Avenues, the pathway will be designated as a Class 3 Bike Route by installing appropriate signage and pavement markings, as applicable. The Class 3 bike route designation will begin at the intersection of North Upper Truckee Road and West San Bernardino Avenue and continue to the end of the subdivision limits, approximately 0.4 miles. From the westerly end of the parking lot of Tahoe Paradise Park, the Class 3 designation will resume by installing signage to direct users toward Bakersfield Street along East San Bernardino Avenue and terminate at the intersection at Apache Avenue.

The Class 1 pathway segment begins at the easterly limit of the subdivision at West San Bernardino Avenue conforming to the minimum standard section consisting of an eight-foot wide pavement with two-foot compacted aggregate base shoulders on each side. Pavement

thickness will be three inches of asphalt concrete over eight inches of compacted aggregate base. The pathway crosses over the Upper Truckee River via a weathered steel truss bridge towards Tahoe Paradise Park and tie-in at the westerly portion of the existing parking lot. The bridge elevation will clear the 100-year base flood elevation; details of the bridge to be determined during the design phase.

Drainage, water quality improvement features, and best management practices (BMPs) associated with the new pathway will also be constructed.

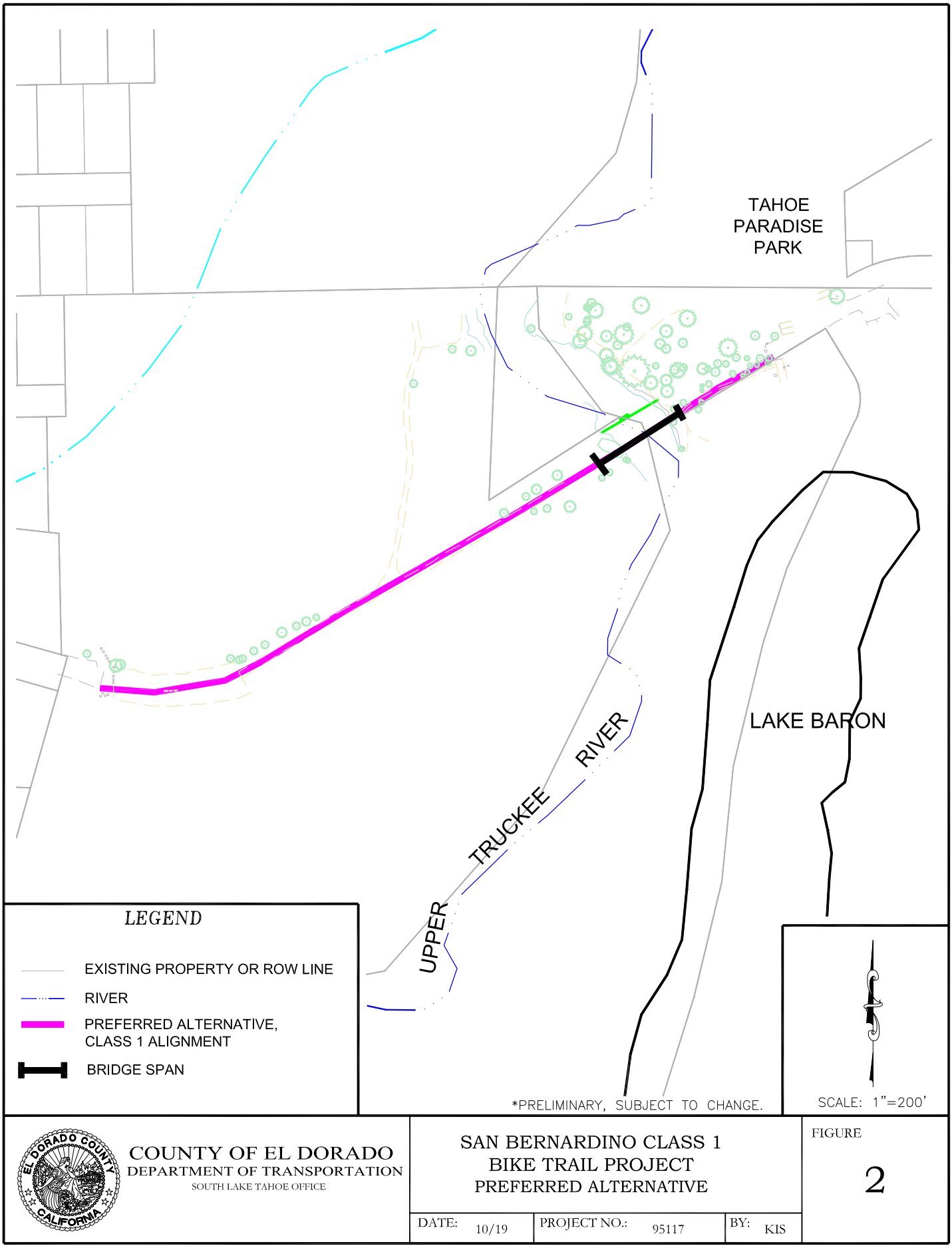


COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION
SOUTH LAKE TAHOE OFFICE

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
LOCATION MAP

FIGURE 1

DATE:	PROJECT NO.:	BY:
02/18	95117	KIS



COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION
SOUTH LAKE TAHOE OFFICE

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT PREFERRED ALTERNATIVE

FIGURE 2

DATE:	PROJECT NO.:	BY:
10/19	95117	KIS

5.0 Capital Cost

A Rough Order of Magnitude (ROM) construction cost estimate was prepared for the Preferred Alternative with the quantities based on the proposed improvements (Table 1). The unit costs for each facility were estimated using bid summaries from Transportation's capital improvement program projects within the Lake Tahoe Basin constructed between 2010 and 2018.

Table 1 - Construction Cost Estimate

Item No.	Description	Quantity	Unit	Unit Price	Cost
1	Mobilization	1	LS	$60,000	$60,000
2	Traffic Control	1	LS	$10,000	$10,000
3	Sweeping	100	DAY	$250	$25,000
4	Trench and Excavation Safety	1	LS	$10,000	$10,000
5	Install & Maintain Temporary BMPs	1	LS	$30,000	$30,000
6	Clearing & Grubbing	1	LS	$25,000	$25,000
7	Tree Removal	10	EA	$1,000	$10,000
8	Roadway Excavation	675	CY	$50	$33,733
9	Class 2 Aggregate Base	181	CY	$200	$36,200
10	Hot Mix Asphalt (Type A)	364	TON	$150	$54,648
11	Structure Excavation (Bridge)	100	CY	$200	$20,000
13	Structure Backfill (Bridge)	120	CY	$150	$18,000
12	Import Borrow	815	CY	$50	$40,750
14	Structural Concrete, Bridge Footing	50	CY	$1,200	$60,000
15	Structural Concrete, Bridge	100	CY	$1,500	$150,000
16	Bar Reinforcing Steel (Bridge)	9,500	LB	$3	$28,500
17	Prefabricated Steel Truss Bridge	1	LS	$500,000	$500,000
18	18" Plastic Pipe	80	LF	200	$16,000
19	18" Steel Flared End Section	4	EA	$1,000	$4,000
20	Rock Slope Protection	436	CY	$150	$65,400
21	Tubular Steel Railing	1	LS	$15,000	$15,000
22	Furnish Single Sheet Aluminum Sign	57	SQFT	$100	$5,650
23	Roadsign Sign - One Post	16	EA	$300	$4,800
24	Paint Traffic Stripe (1-Coat)	1,214	LF	$2	$2,429
25	Pavement Markings	230	SQFT	$2	$460
26	Revegetation	1	LS	$30,000	$30,000
				Subtotal	$1,255,570
				20% Contingency	$251,115
				Total	**$1,506,685**

6.0 Schedule

Table 2 shows the current proposed schedule for the Project. The Anticipated Completion Dates shown are subject to change.

Table 2 – Project Schedule

Project Stage Milestone/Task	**Anticipated Completion Date**
Alternatives Report Stage	
Draft Feasibility Report (Existing Conditions, Project Alternatives Selection and Evaluation)	October 2018
PDT Feasibility Report Meeting	December 2018
Public Feasibility Report Meeting	December 2018
Final Feasibility Report	September 2019
Complete Preferred Alternative Memorandum (PAM)	October 2019
Environmental Assessment Stage	
Environmental Field Surveys	Spring and Summer 2019
Draft California Environmental Quality Act (CEQA), Draft National Environmental Policy Act (NEPA) and TRPA Initial Environmental Checklist (IEC) Submittals	December 2019
CEQA Mitigated Negative Declaration (MND) and NEPA Categorical Exclusion Approval	April 2020
Pre-Final Plans, Specifications & Reports Stage	
Complete Pre-Final Project Design Plans and Contract Specifications	November 2020
PDT Permit Applications Submittal	December 2020
PDT Pre-Final Project Design Plans, Contract Specifications, and Design Report Meeting	December 2020
Construction	
Notice to Proceed ** (Funding Dependent)	May 2021

7.0 References

[1] County of El Dorado, *San Bernardino Class 1 Bike Trail Project Feasibility Report*, September 2019.

[2] Ibid.

Appendix A

PRELIMINARY PLANS
(30% level design)

INDEX OF SHEETS

SHEET NO.	SHEET NAME	TITLE
1	i	TITLE SHEET
2	ii	GENERAL NOTES, ABBREVIATIONS, AND LEGEND
X	L-1	LAYOUT STA 10+ 00 – 14+00
X	L-2	LAYOUT STA 14+00 – 18+00
X	L-3	LAYOUT STA 18+00 – XX+XX
X	C-1	CONSTRUCTION DETAILS
X	EC-1	TEMPORARY EROSION CONTROL PLAN
X	EC-2	TEMPORARY EROSION CONTROL DETAILS
X	PD-1	SIGNING AND PAVEMENT DELINEATION
X	PD-2	SIGNING AND PAVEMENT DELINEATION
X	PD-3	SIGNING AND PAVEMENT DELINEATION

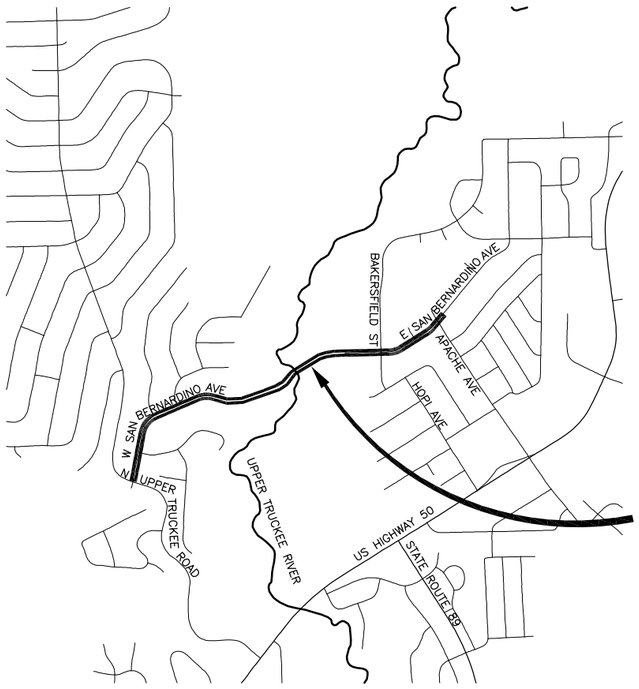
COUNTY OF EL DORADO, CA
DEPARTMENT OF TRANSPORTATION

PROJECT PLANS FOR THE CONSTRUCTION OF THE 2020

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT

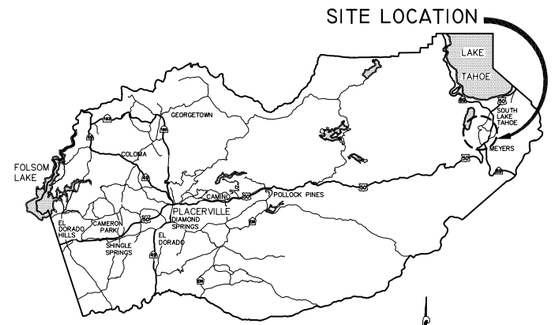
IN THE COUNTY OF EL DORADO, DISTRICT 5,
PORTION OF SEC 29, PORTION OF EAST 1/4 SEC 30, PORTION OF
SOUTH 1/4 SEC 20, T12N, R18E, MDM

To be supplemented with 2015 Standard Plans and Specifications of the California Department of Transportation, unless otherwise noted.



LOCATION MAP

SCALE: 1" = 1000'



VICINITY MAP

COUNTY OF EL DORADO

FUNDING AGENCY

CONGESTION MITIGATION AND AIR QUALITY PROGRAM
TAHOE REGIONAL PLANNING AGENCY

CONTRACTOR'S LICENSE CLASSIFICATION: Bidders shall be properly licensed to perform the Work pursuant to the State Contractor's License Law (Business and Professions Code section 7000 et seq.) and shall possess a CLASS A LICENSE or equivalent combination of Classes required by the categories and type of Work included in the Contract Documents and Plans, at the time the Contract is awarded, and shall maintain a valid license through completion and acceptance of the Work including guarantee and warranty period. If the Contractor possesses a Class A license instead of the equivalent combination of Classes required by the categories and type of work included in the Contract Documents and Plans, then the Contractor or a subcontractor must also possess a CLASS C27 "Landscaping Contractor" license. Failure of the successful Bidder to obtain proper and adequate licensing for an award of the Contract shall constitute a failure to execute the Contract, and shall result in forfeiture of the Bidders security.

REVISIONS

MARK	DATE	BY	

EL DORADO COUNTY CALIFORNIA

MONTH XX, 20XX

SUBMITTED BY: DONALDO S. PALAROAN P.E. DATE
SENIOR CIVIL ENGINEER
STATE OF CALIFORNIA NO. C66083

BOARD OF SUPERVISORS

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LORI PARLIN	IV
SUE NOVASEL	V

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION
(530) 573-7900 (530) 621-5900
924 B EMERALD BAY ROAD 2850 FAIRLANE CT
SOUTH LAKE TAHOE, CA PLACERVILLE, CA
96150 95667

ADOPTED AND APPROVED BY:

SUE NOVASEL
CHAIR, EL DORADO COUNTY BOARD OF SUPERVISORS

DATE

APPROVED BY:

RAFAEL MARTINEZ, DIRECTOR
DEPARTMENT OF TRANSPORTATION

DATE

JOHN H. KAHLING, P.E. NO. C52426
DEPUTY DIRECTOR, ENGINEERING

DATE

CONTRACT NO. ????, CIP NO. 95117

SAN BERNARDINO CLASS I
BIKE TRAIL PROJECT

TITLE SHEET

SHEET 1 OF ?

Drawing name: \\CDAData5\TD-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MPLAN\01_SB_ 1_Title.dwg

GENERAL NOTES

1. ALL IMPROVEMENTS WILL BE ACCOMPLISHED UNDER THE APPROVAL, INSPECTION, AND TO THE SATISFACTION OF THE COUNTY OF EL DORADO DEPARTMENT OF TRANSPORTATION (DOT). IMPROVEMENT CONSTRUCTION MUST COMPLY WITH THESE PLANS AND THE 2015 CALTRANS STANDARD PLANS, UNLESS NOTED OTHERWISE. ALL REFERENCES TO THE "STANDARD SPECIFICATIONS" MEAN THE STATE OF CALIFORNIA, DEPARTMENT OF TRANSPORTATION (CALTRANS) 2015 STANDARD SPECIFICATIONS. CONSTRUCTION NOT SPECIFIED ON THESE PLANS OR IN SPECIFIC COUNTY OF EL DORADO (COUNTY) ORDINANCES MUST CONFORM TO THE REQUIREMENTS OF THE STANDARD SPECIFICATIONS. YOU ARE OBLIGATED TO BE FAMILIAR WITH APPLICABLE SECTIONS OF THE STANDARD SPECIFICATIONS NOT DISCUSSED IN THE GENERAL NOTES. THE CONTRACT SPECIAL PROVISIONS SUPERSEDE THE STANDARD SPECIFICATIONS WHERE DISCREPANCIES OCCUR.

2. CONSTRUCTION HOURS WILL BE WEEKDAYS BETWEEN 8:00 A.M. AND 6:30 P.M. UNLESS PRIOR APPROVAL IS RECEIVED FROM DOT.

3. THE LOCATIONS AND EXTENT OF UNDERGROUND UTILITIES IN THE WORK AREA AS SHOWN ARE APPROXIMATE AND ARE NOT NECESSARILY COMPLETE. A REASONABLE EFFORT HAS BEEN MADE TO LOCATE AND DELINEATE UTILITIES BASED UPON AVAILABLE RECORDS. YOU MUST DETERMINE THE TYPE, LOCATION, SIZE, AND/OR DEPTH OF THE UTILITIES WITHIN THE WORK AREA BEFORE STARTING WORK. YOU OR ANY SUBCONTRACTOR FOR THIS CONTRACT ARE RESPONSIBLE FOR DAMAGES DUE TO THE FAILURE TO EXACTLY LOCATE AND PRESERVE UNDERGROUND UTILITIES. YOU MUST CONTACT UNDERGROUND SERVICE ALERT AT (800) 642–2444 AT LEAST 48 HOURS BEFORE ANY CONSTRUCTION. YOU ASSUME COMPLETE RESPONSIBILITY FOR DAMAGED UTILITIES.

4. UNLESS SHOWN OTHERWISE, YOU ARE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING SURVEY MONUMENTS AND OTHER SURVEY MARKERS, INCLUDING CONSTRUCTION STAKES DURING CONSTRUCTION AND YOU ARE RESPONSIBLE FOR THE COST TO REPLACE ANY SUCH SURVEY MONUMENTS, MARKERS, OR STAKES.

5. YOU WILL PROVIDE ALL LIGHTS, SIGNS, BARRICADES, FLAGGERS, PILOT CAR, OR OTHER DEVICES NECESSARY TO CONTROL TRAFFIC THROUGH THE JOB SITE AND FOR PUBLIC SAFETY UNDER THESE PLANS, THE STANDARD SPECIFICATIONS, AND CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).

6. YOU AGREE TO ASSUME SOLE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF THE WORK, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY, AND FURTHER AGREE THAT THIS REQUIREMENT APPLIES CONTINUOUSLY AND IS NOT LIMITED TO NORMAL WORKING HOURS UNDER THE CONTRACT AND STANDARD SPECIFICATIONS.

7. THERE WILL BE NO GRADING OR LAND DISTURBANCE BETWEEN OCTOBER 15 AND MAY 1 UNLESS APPROVALS ARE OBTAINED FROM THE TAHOE REGIONAL PLANNING AGENCY (TRPA), AS PROVIDED IN THE LIMITED EXEMPTION DESCRIBED IN CHAPTER 64, SUBSECTION 64.2.B. OF THE TRPA CODE OF ORDINANCES. APPROVALS FOR GRADING BETWEEN OCTOBER 15 AND MAY 1 MUST ALSO BE OBTAINED FROM THE LAHONTAN REGIONAL WATER QUALITY CONTROL BOARD. IF REQUIRED, DOT WILL OBTAIN THESE APPROVALS.

8. YOU WILL MAINTAIN A SET OF PLANS ON THE JOB SITE SHOWING "AS–CONSTRUCTED" CHANGES MADE TO DATE. UPON COMPLETION OF THE WORK, YOU WILL GIVE TO THE COUNTY A SET OF PLANS, MARKED UP TO THE SATISFACTION OF DOT, REFLECTING THE AS–CONSTRUCTED MODIFICATIONS.

9. ALL CONTROL STATIONING AND DATA DIMENSIONING REFERENCE THE CENTERLINE OF THE FACILITY SHOWN, UNLESS NOTED OTHERWISE.

10. YOU WILL NOT CLOSE OFF ANY UTILITY LINES OR OPEN VALVES OR TAKE ANY OTHER ACTION WHICH WOULD AFFECT THE OPERATION OF WATER OR SEWER SYSTEMS WITHOUT APPROVAL FROM THE SOUTH TAHOE PUBLIC UTILITY DISTRICT (STPUD). APPROVAL MUST BE REQUESTED AT LEAST 48 HOURS BEFORE INTERRUPTION OF THE UTILITY SERVICE IS REQUIRED. ANY INTERRUPTION TO ACTIVE WATER OR SEWER SERVICES, INCLUDING FIRE HYDRANTS, WHETHER INTENTIONAL OR NOT, MUST BE KEPT TO A MINIMUM TIME PERIOD. IF SERVICE TO BUILDINGS IS TO BE OFF FOR MORE THAN FOUR HOURS, YOU MUST ADVISE STPUD.

11. YOU ARE REQUIRED TO IMPLEMENT DUST CONTROL MEASURES TO ENSURE THAT DUST RESULTING FROM YOUR ACTIVITIES IS CONTROLLED AND COMPLIES WITH THE PROVISIONS OF SECTION 7, "LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC," AND SECTION 14, "ENVIRONMENTAL STEWARDSHIP," OF THE STANDARD SPECIFICATIONS, COUNTY, AND LOCAL ORDINANCES.

12. YOU ARE RESPONSIBLE FOR IMPLEMENTING ALL TEMPORARY EROSION CONTROL MEASURES. THE TEMPORARY EROSION CONTROL MEASURES MUST COMPLY WITH THE TRPA "HANDBOOK OF BEST MANAGEMENT PRACTICES" AND THE STORM WATER POLLUTION PREVENTION PLAN (SWPPP). DOT WILL CONTACT TRPA BEFORE THE START OF THE WORK FOR A PRE–GRADE INSPECTION OF THE INSTALLED TEMPORARY EROSION CONTROL FACILITIES. YOU ARE RESPONSIBLE FOR THE MAINTENANCE AND PERFORMANCE OF THE TEMPORARY EROSION CONTROL MEASURES THROUGHOUT THE DURATION OF THE WORK.

13. CONSTRUCTION LIMITS SHOWN DELINEATE THE BOUNDARIES FOR YOUR ACTIVITIES BEYOND THE COUNTY ROAD RIGHT–OF–WAY. TEMPORARY FENCE (TYPE ESA) MUST BE ERECTED ALONG THESE BOUNDARIES BEFORE WORK STARTS. VEGETATION WITHIN THESE LIMITS MUST BE PROTECTED TO THE EXTENT FEASIBLE. ALL TREES MUST BE PROTECTED UNLESS SHOWN TO BE REMOVED.

14. UNLESS NOTED OTHERWISE, ALL REVEGETATION IS TO BE COMPLETED BY OTHERS.

15. YOU WILL ONLY USE THE DESIGNATED SITES SHOWN FOR STORAGE OF EQUIPMENT AND MATERIALS. YOU ARE RESPONSIBLE FOR THE SECURITY OF EQUIPMENT AND MATERIALS.

16. IT IS YOUR AND YOUR SUBCONTRACTOR(S) RESPONSIBILITY TO EXAMINE THE JOB SITE BEFORE THE OPENING OF BID PROPOSALS. YOU MUST BECOME FAMILIAR WITH THE NATURE AND LOCATION OF THE WORK AND THE GENERAL AND LOCAL CONDITIONS, PARTICULARLY THOSE AFFECTING THE AVAILABILITY OF TRANSPORTATION, THE DISPOSAL, HANDLING, AND STORAGE OF MATERIALS, AVAILABILITY OF LABOR, WATER, ELECTRICITY, ROADS, THE UNCERTAINTIES OF WEATHER, THE CONDITIONS OF THE GROUND, SURFACE AND SUBSURFACE MATERIALS, THE EQUIPMENT AND FACILITIES NEEDED FOR AND DURING THE PERFORMANCE OF THE WORK. FAILURE BY YOU OR YOUR SUBCONTRACTOR(S) TO ACQUAINT YOURSELVES WITH THE INFORMATION AVAILABLE WILL NOT RELIEVE YOU OR YOUR SUBCONTRACTOR(S) FROM RESPONSIBILITY FOR PROPERLY ESTIMATING THE DIFFICULTY AND COST OF SUCCESSFULLY PERFORMING THE WORK.

17. ELEVATIONS FOR PIPE INVERTS, FLOWLINES, TOPS OF GRATES, RIMS, ETC., ARE BASED ON THE TOPOGRAPHIC INFORMATION SHOWN. YOU WILL VERIFY ALL NECESSARY SURFACE ELEVATIONS IN THE FIELD AND NOTIFY THE TD OF ANY DISCREPANCIES WHICH MIGHT AFFECT THE OPERATION OF THE NEW FACILITIES BEFORE BREAKING GROUND FOR THE INSTALLATION. DOT MUST BE CONTACTED IF ELEVATIONS ARE INCORRECT SO PROPER ADJUSTMENTS CAN BE MADE BEFORE THE INSTALLATION OF THE FACILITIES.

18. EXCEPT FOR THOSE OBTAINED BY DOT, YOU MUST OBTAIN, AT YOUR EXPENSE, ALL PERMITS, LICENSES, INSURANCE POLICIES, ETC., NECESSARY TO COMPLY WITH STATE AND LOCAL LAWS ASSOCIATED WITH THE PERFORMANCE OF THE WORK.

19. YOU ARE RESPONSIBLE TO REVIEW THE CONTRACT DOCUMENTS FOR SUBMITTALS REQUIRED FOR COUNTY REVIEW AND ACCEPTANCE.

20. THE COUNTY WILL PROVIDE CONSTRUCTION STAKING IN COMPLIANCE WITH SECTION 5–1.26 OF THE STANDARD SPECIFICATIONS.

21. THE PLANS SHOW SLOPE LENGTHS FOR PIPE ROUNDED TO THE NEAREST FOOT. ALL PIPE LENGTHS AND INVERT ELEVATIONS SHOWN ON THE PLANS ARE TO THE CENTERLINE OF THE STRUCTURES TO WHICH THE PIPES ARE ATTACHED. SEE THE STANDARD SPECIFICATIONS FOR THE MAXIMUM ALLOWABLE DEFLECTION ANGLE AT EACH PIPE JOINT.

22. YOU ARE RESPONSIBLE TO MAINTAIN THE GRADING LIMITS AS SHOWN ON THE PLANS, DETAILS, CROSS SECTIONS, AND AS DIRECTED BY THE ENGINEER.

ABBREVIATIONS

NOTE: LOWER CASE TEXT WITHIN PLAN SET INDICATES EXISTING

△	DELTA = DEFLECTION ANGLE	MAT'L	MATERIAL
A	ARCH OR ASPEN	MISC	MISCELLANEOUS
AB	AGGREGATE BASE	MOC	MID POINT ON CURVE
ABAND	ABANDONED	MOD	MODIFIED
ABC	ARTICULATED BLOCK CHANNEL	N	NORTH
AC	ASPHALT CONCRETE	NIC	NOT IN CONTRACT
AP	ANGLE POINT	NGVD	NATIONAL GEODETIC VERTICAL DATUM
APN	ASSESSOR'S PARCEL NUMBER	NTS	NOT TO SCALE
BC	BEGIN CURVE	OAE	OR APPROVED EQUAL
BCR	BEGIN CURB RETURN	OC	ON CENTER
BGN	BEGIN	OD	OUTSIDE DIAMETER
BLC	BLANKET–LINED CHANNEL	OG	ORIGINAL GROUND
BV	BAY VIEW	OH	OVERHEAD
BVCE	BEGIN VERTICAL CURVE ELEVATION	OVEREX OR O/X	OVEREXCAVATION
BVCS	BEGIN VERTICAL CURVE STATION	P	PINE
C	CEDAR	PC	POINT OF BEGINNING OF CURVE
CALCS	CALCULATIONS	PCC	PORTLAND CEMENT CONCRETE OR POINT OF COMPOUND CURVE
CATV	CABLE TELEVISION		
CC	CENTER TO CENTER	PERF	PERFORATED
CF	CUBIC FEET OR CURB FACE	PL	PROPERTY LINE
CHD	CHORD DIRECTION	PCVCE	POINT OF COMPOUND VERTICAL CURVE ELEVATION
CIR	CIRCLE	PCVCS	POINT OF COMPOUND VERTICAL CURVE STATION
℄	CENTERLINE	POR	PORTION
CL	CLASS OR CENTERLINE	PRVCE	POINT OF REVERSE VERTICAL CURVE ELEVATION
CLR	CLEAR	PRVCS	POINT OF REVERSE VERTICAL CURVE STATION
CO	CURB OPENING OR CLEANOUT	PP	POWER/UTILITY POLE
CO.	COUNTY	PRC	POINT OF REVERSE CURVE
CONC	CONCRETE	PROP	PROPOSED
CONST	CONSTRUCT	PT	POINT OR POINT OF TANGENCY
CMP	CORRUGATED METAL PIPE	PUE	PUBLIC UTILITY EASEMENT
CR	CEDAR RIDGE	PVC	POLYVINYL CHLORIDE
CSP	CORRUGATED STEEL PIPE	PVIE	POINT OF VERTICAL INTERSECTION ELEVATION
CT	CALTRANS OR COURT	PVIS	POINT OF VERTICAL INTERSECTION STATION
CTC	CALIFORNIA TAHOE CONSERVANCY	PVMT	PAVEMENT
CY	CUBIC YARD	R	RADIUS
C&G	CURB AND GUTTER	R&R	REMOVE & REPLACE
D	DEPTH	RC	RELATIVE COMPACTION
DBL	DOUBLE	RCP	REINFORCED CONCRETE PIPE
DET	DETAIL	RD	ROAD
DI	DRAINAGE INLET OR DUCTILE IRON	REF	REFERENCE
DIA OR ⌀	DIAMETER	REQ'D	REQUIRED
DISS	DISSIPATOR	RLC	ROCK–LINED CHANNEL
DR	DRIVE	ROW	RIGHT–OF–WAY
D/W	DRIVEWAY	RSP	ROCK SLOPE PROTECTION
E	EAST	RT	RIGHT
EA	EACH	RW	RETAINING WALL
EC	END OF CURVE	S	SOUTH OR SANITARY SEWER
ECR	END OF CURB RETURN	SCO	SEWER CLEAN OUT
ELEV	ELEVATION	SD	STORM DRAIN
ELEC	ELECTRIC	SDMH	STORM DRAIN MANHOLE
ENGR	ENGINEER	SED FB	SEDIMENT FOREBAY
EP	EDGE OF PAVEMENT	SEZ	STREAM ENVIRONMENT ZONE
ESA	ENVIRONMENTALLY SENSITIVE AREA	SF	SQUARE FEET
ESMT	EASEMENT	SHT	SHEET
EVCE	END VERTICAL CURVE ELEVATION	SL	SLOPE LENGTH
EVCS	END VERTICAL CURVE STATION	SMH	SEWER MANHOLE
EX OR EXIST	EXISTING	ST	SEDIMENT TRAP OR STREET
F	FIR	STA	STATION
FES	FLARED END SECTION	STD	STANDARD
FG	FINISHED GRADE	STL	STEEL
FH	FIRE HYDRANT	STPUD	SOUTH TAHOE PUBLIC UTILITY DISTRICT
FL	FLOWLINE	SWPPP	STORM WATER POLLUTION PREVENTION PLAN
FS	FINISH SURFACE	T	TELEPHONE
G	GAS	TBC	TOP BACK OF CURB
GA	GAUGE	TBD	TOP BACK OF DIKE
GB	GRADE BREAK	TD	TOP OF DIKE
GLS	GRASS–LINED SWALE	TBR	TO BE REMOVED
GW	GROUND WATER	TG	TOP OF GRATE
H	HORIZONTAL	TTL	TOTAL
HDPE	HIGH DENSITY POLYETHYLENE	TRANS	TRANSITION
HP	HIGH POINT	TRM	TURF REINFORCEMENT MAT
HWL	HIGH WATER LINE	TRPA	TAHOE REGIONAL PLANNING AGENCY
ID	INSIDE DIAMETER	TYP	TYPICAL
IE	INVERT ELEVATION	UG	UNDERGROUND
INCR	INCREASE	UKN	UNKNOWN
INST	INSTALL	USFS	UNITED STATES FOREST SERVICE
INTRXN	INTERSECTION	V	VERTICAL
L	LENGTH	W	WEST OR WATER
LC	LENGTH OF CHORD	W/	WITH
LF	LINEAR FEET	W/O	WITHOUT
LP	LOW POINT	WC	WILLOW CLUSTER
LT	LEFT	WV	WATER VALVE
LTD	LAKE TAHOE DATUM		

LEGEND

EXISTING

- (SCREENED AND/OR DASHED) — EXISTING (AS NOTED)
- RIGHT–OF–WAY OR PROPERTY LINE
- DRAINAGE OR SLOPE EASEMENT
- UTILITY (PUE) EASEMENT
- LAND CAPABILITY BOUNDARY
- 10' SEZ SETBACK
- OR — ROCK
- FOUND MONUMENT
- SURVEY CONTROL POINT
- XXXX.X — ELEVATION
- SEWER MANHOLE
- SCO — SEWER CLEAN OUT
- DRAINAGE INLET
- GM — GAS METER
- WV — WATER VALVE
- WM — WATER METER
- MONITORING WELL
- WATER LINE
- SEWER LINE
- GAS LINE
- STORM DRAIN
- OVERHEAD UTILITIES
- POWER/UTILITY POLE
- UTILITY POLE & GUY ANCHOR
- FIRE HYDRANT
- FENCE
- FLOWLINE
- 28"P — TREE, DIAMETER AND TYPE
- STUMP
- WC — WILLOW CLUSTER
- LANDSCAPE LIGHTING

PROPOSED

- CENTERLINE
- SAWCUT (AS NOTED)
- AC PAVEMENT
- AC REMOVAL
- XXXX.XX — ELEVATION
- ELEVATION, EG CL, PROPOSED (PROFILE ONLY)
- CSP INLET/RISER OR STORM DRAIN MANHOLE, DRAINAGE INLET
- CUT OR FILL SLOPE
- DETAIL REF NUMBER SHEET NUMBER
- ROCK
- SD PIPE (MATERIAL AS NOTED)
- –RSF — ESA– — REINFORCED SILT FENCE AND TYPE ESA FENCE
- FLARED END SECTION
- #:# — SLOPE RATIO, H:V
- ARTICULATED BLOCK CHANNEL
- BLANKET–LINED CHANNEL
- TREE REMOVAL
- FLOWLINE
- —c—c—c— CUT
- —f—f—f— FILL

UTILITIES

CABLE TELEVISION	CHARTER COMMUNICATIONS, (775) 233–8706
NATURAL GAS	SOUTHWEST GAS, (530) 543–3225
ELECTRIC	LIBERTY UTILITIES, (530) 541–6400
SEWER & WATER	SOUTH TAHOE PUD, (530) 544–6474
TELEPHONE	AT&T, (530) 888–2031
STORM DRAIN	CO. OF EL DORADO DOT, (530) 573–3180

PRELIMINARY

REVISION NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER — MONTH XX, 20XX

DATE:

DESIGNED:	DRAWN:
KIS	KIS
CHECKED:	DATE:
DSP	08/08/19
ROAD NUMBER:	

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
GENERAL NOTES, ABBREVIATIONS, AND LEGEND

SHEET ii
2 OF ?
CONTRACT NO. ????
CIP No. 95117

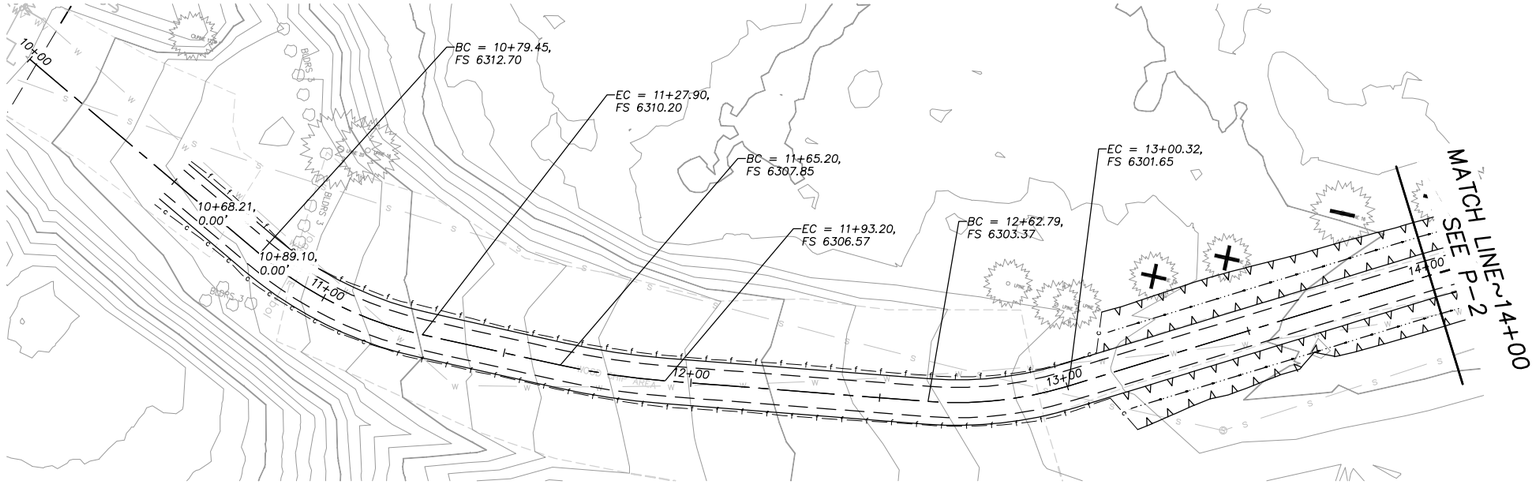
FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2

Drawing name: \\DATAdocs\TD-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MPLAN\V02_SB_ ILNOTES.dwg

NOTE:
THIS PROJECT IS LOCATED IN AN ENVIRONMENTALLY SENSITIVE AREA. YOU MUST EXERCISE UTMOST CARE TO PROTECT AND MAINTAIN EXISTING VEGETATION AND MINIMIZE SOIL COMPACTION WITHIN CONSTRUCTION AREAS.

!! WARNING !!

THE LOCATION AND/OR ELEVATION OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE ONLY APPROXIMATE. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF ALL EXISTING UNDERGROUND UTILITIES.

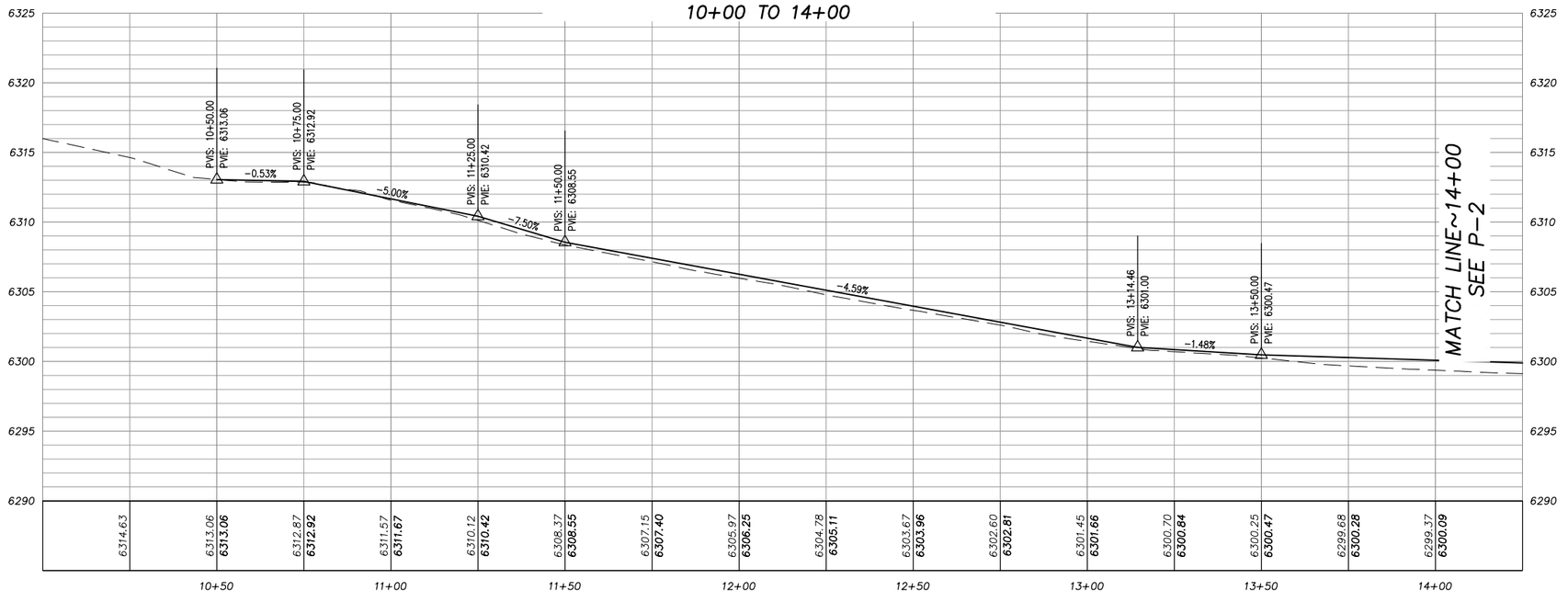


2 / PD-5

1 / D-1

PLAN & PROFILE

SCALE: HORIZ 1"= 20'
VERT 1"= 5'



PRELIMINARY

REVISION				
NUMBER	DATE	DESCRIPTION	BY	

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER

APRIL 23, 2019
DATE:

DESIGNED:	DRAWN:
KIS	KIS
CHECKED:	DATE:
DSP	04/19
ROAD NUMBER:	

EL DORADO COUNTY CALIFORNIA

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
LAYOUT STA 10+ 00 – 14+00

SHEET
L–1
X OF ?

CONTRACT NO.
????
CIP No.
95117

FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES

Drawing name: \\DMData\TP-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MP\LAYOUT\SBL_MP_LAY.dwg

NOTE:
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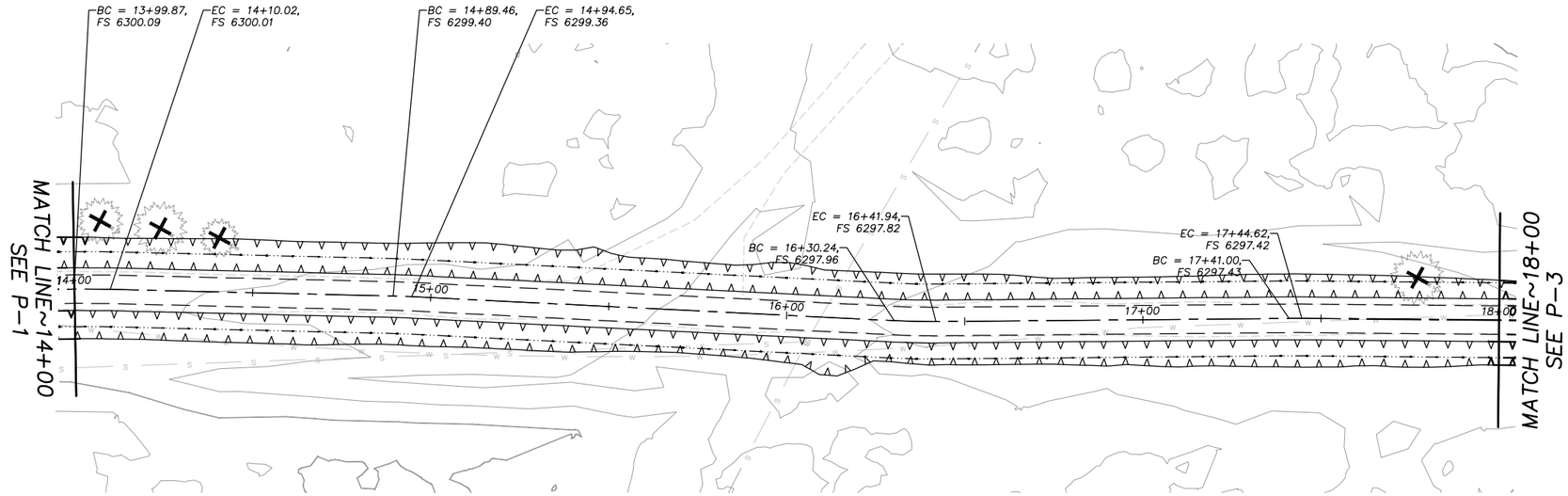
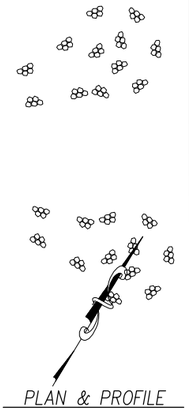


2 / PD-5

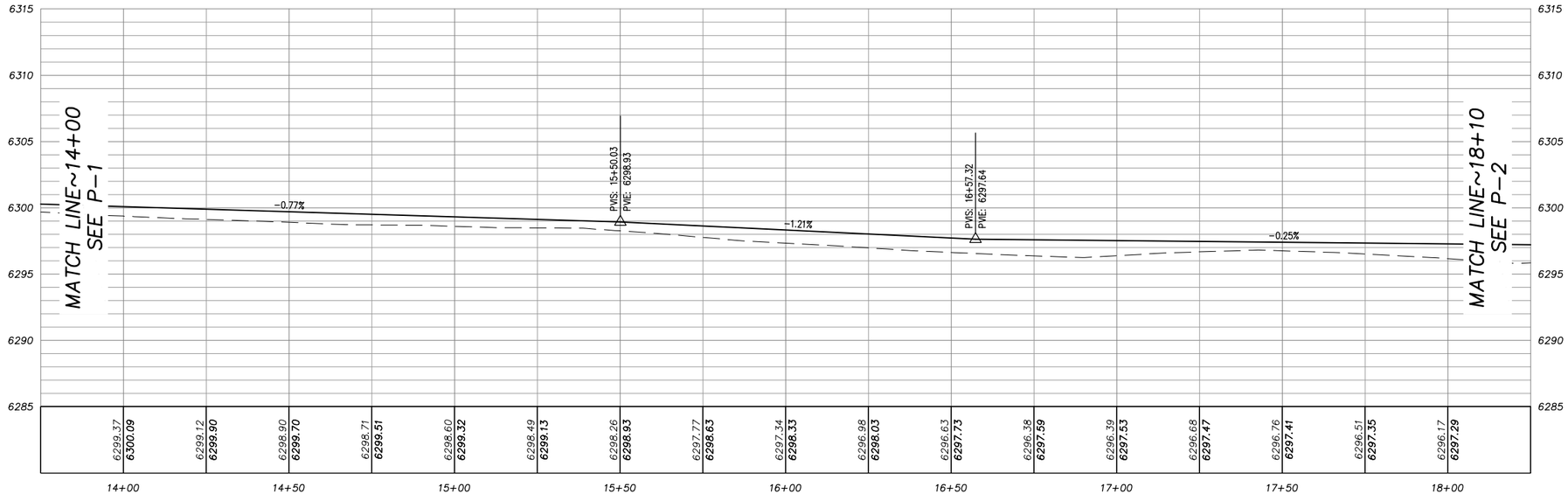
1 / D-1



PLAN & PROFILE

SCALE: HORIZ 1"= 20'
VERT 1"= 5'

14+00 TO 18+00



PRELIMINARY

REVISION NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER — APRIL 23, 2019
DATE:

DESIGNED:	DRAWN:
KIS	KIS
CHECKED:	DATE:
DSP	04/19
ROAD NUMBER:	

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
LAYOUT STA 14+00 – 18+00

SHEET L-2
X OF ?
CONTRACT NO. ????
CIP No. 95117

FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES

Drawing name: \\DADdata5\TD-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MP\AN\SM_MPLAN.dwg

NOTE:
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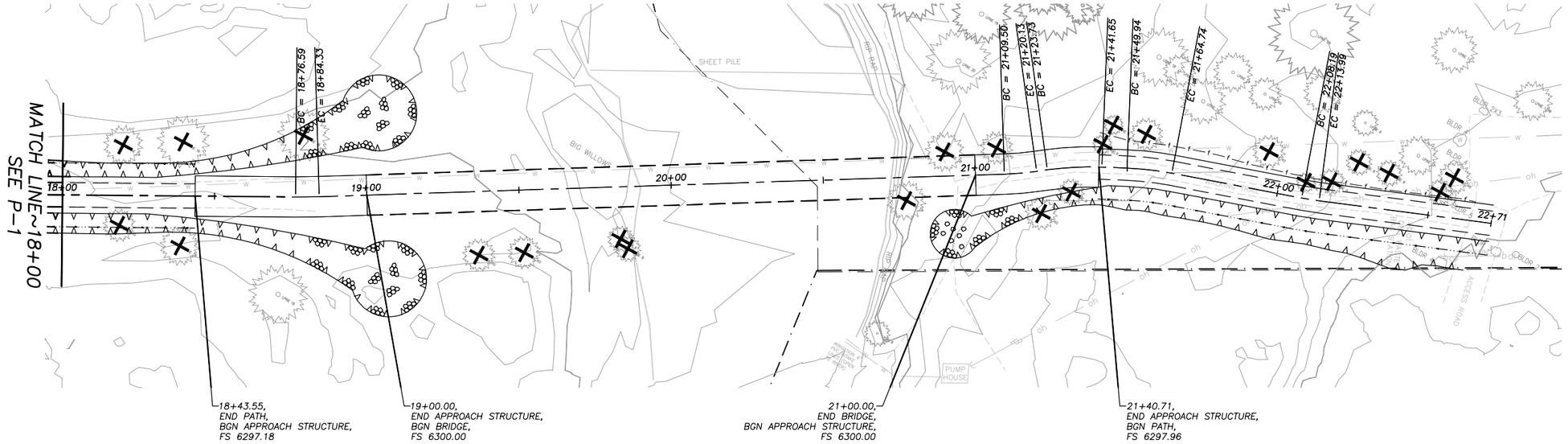
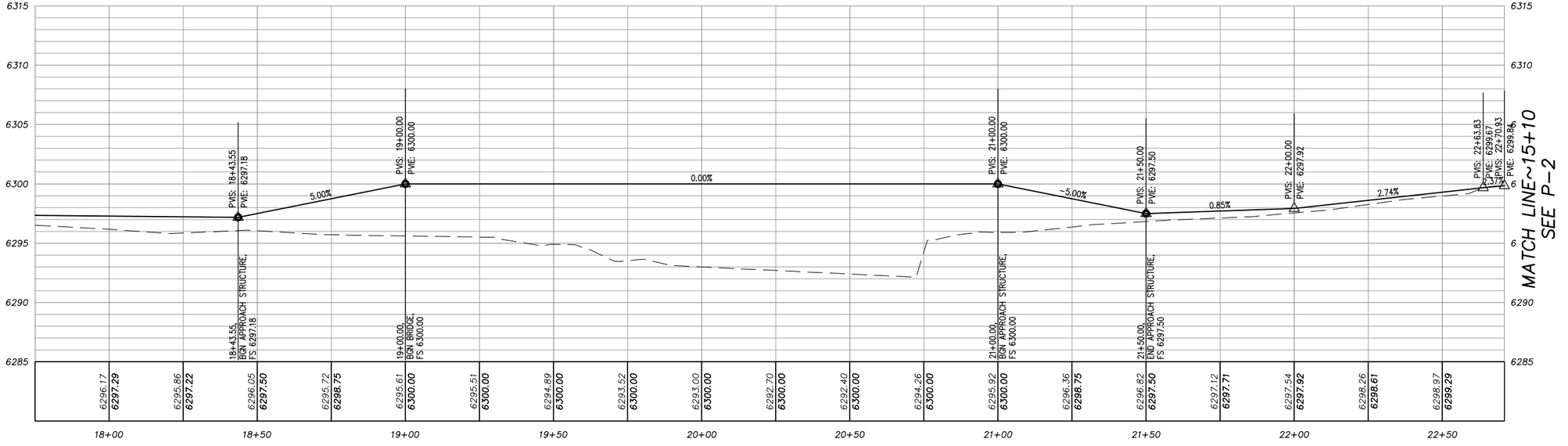


PLAN & PROFILE

SCALE: HORIZ 1"= 20'
VERT 1"= 5'

18+00 TO 22+70.93



PRELIMINARY

REVISION NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER — APRIL 23, 2019
DATE:

DESIGNED:	DRAWN:
KIS	KIS
CHECKED:	DATE:
DSP	04/19
ROAD NUMBER:	

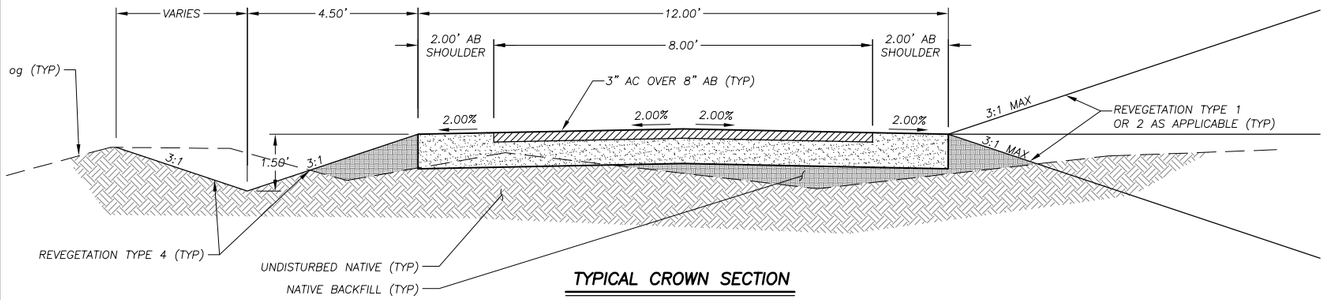
COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
LAYOUT STA 18+00 – XX+XX

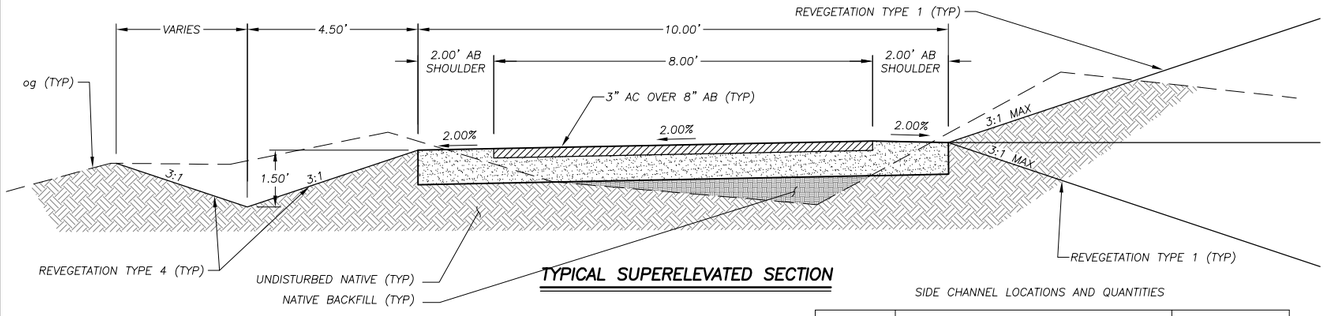
SHEET L-3
X OF ?
CONTRACT NO. ????
CIP No. 95117

FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES

Drawing name: \\DANdata\TD-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MPLAN\SBL_MPLAN.dwg



TYPICAL CROWN SECTION



TYPICAL SUPERELEVATED SECTION

NOTES:

1. ABOVE SHOWS A CROWNED SECTION, A SUPERELEVATED SECTION TO ONE SIDE AND A CHANNEL ON ONE SIDE. THE ACTUAL CONFIGURATION COULD HAVE A SUPERELEVATED TO EITHER SIDE, A CHANNEL EITHER SIDE, BOTH SIDES, OR NEITHER SIDE. THE ACTUAL CONFIGURATION IS PER PLAN. SEE TABLE FOR CHANNEL LOCATIONS AND QUANTITIES.
2. THE TIE-IN DISTANCE VARIES AND IS TYPICALLY 10' MAX. THE ACTUAL DISTANCES ARE SHOWN ON THE CROSS SECTIONS SHEETS AND WILL BE ADJUSTED IN THE FIELD TO MINIMIZE THE IMPACT TO THE EDGE OF SHOULDER.

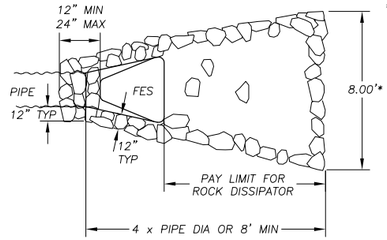
SIDE CHANNEL LOCATIONS AND QUANTITIES

PLAN SHEET	STATIONING	EXCAVATION (CY)
P-2	16+10 11.5' LT – 19+95.18 11.5' LT	84
P-2	18+65 11.5' RT – 20+16.06 11.5' RT	23
P-3	20+35.67 11.5' RT – 21+45.14 11.5' RT	17
P-3	23+20 11.5' LT – 23+70 11.5' RT	8

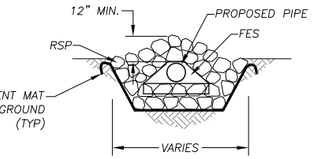
PATH

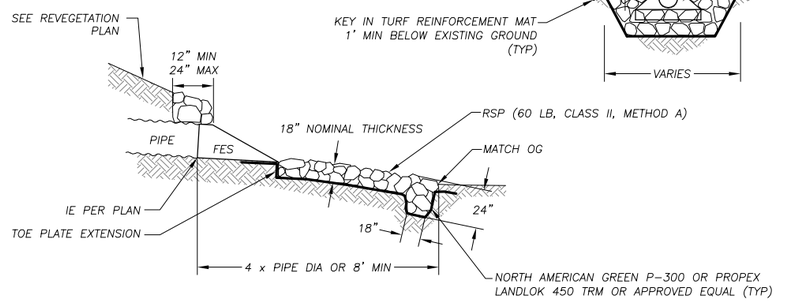
NTS

1 / D-1



* 8.00' DIMENSION APPLIES TO LOCATIONS WHERE SITE CONDITIONS CAN ACCOMMODATE THE 8.00' WIDTH. AT EXISTING OR PROPOSED CHANNEL LOCATIONS, THIS DIMENSION IS TO MATCH THE CHANNEL CONDITIONS AND CONFIGURATION.



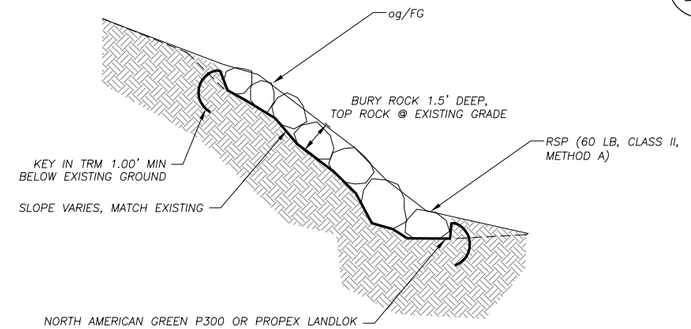


PLAN SHEET	STREET AND STATIONING	ROCK (CY)	EXCAVATION (CY)	AVERAGE LENGTH, L	AVERAGE WIDTH, W
P-2, P-12	19+95.18 11.5' LT	6	8	12'	8.5'
P-3, P-12	21+45.14 11.5' RT	4	5	12'	7.0'
P-3, P-12	23+70 11.5' LT	7	11	13'	9'

FLARED END SECTION AND ROCK DISSIPATOR

NTS

3 / D-1



PLAN SHEET	STATIONING	ROCK/EXCAVATION (CY)
P-6	NEAR 35+25 LT	61
P-12	NEAR 21+73 LT	2

ROCK SLOPE PROTECTION

NTS

4 / D-1

PRELIMINARY

REVISION NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER — DATE: AUGUST 9, 2019

DESIGNED:	DRAWN:
KIS	KIS
CHECKED:	DATE:
DSP	08/08/19
ROAD NUMBER:	

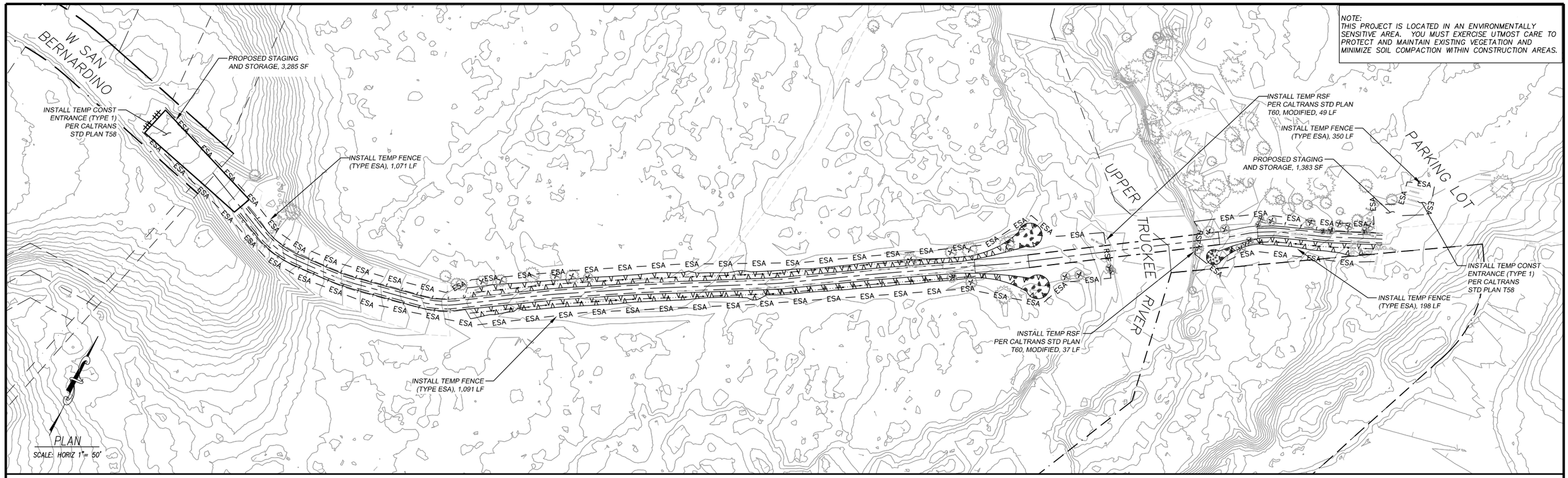
COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
CONSTRUCTION DETAILS

SHEET C-1 X OF ?
CONTRACT NO. ????
CIP No. 95117

FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES

Drawing name: \\CDADta5\TD-SLT-Engineering\C1TL 3D PROJECTS\95117\Engineering\MPLANS\SS_D1.dwg



PLAN
SCALE: HORIZ 1"= 50'

NOTE:
THIS PROJECT IS LOCATED IN AN ENVIRONMENTALLY SENSITIVE AREA. YOU MUST EXERCISE UTMOST CARE TO PROTECT AND MAINTAIN EXISTING VEGETATION AND MINIMIZE SOIL COMPACTION WITHIN CONSTRUCTION AREAS.

LEGEND

- SEDIMENT CONTROL
- TRAFFIC BARRICADE
- TREE TRUNK PROTECTION
- 7 LAND CAPABILITY DESIGNATION
- LAND CAPABILITY DESIGNATION
- LAND CAPABILITY 1B SETBACK
- RSF — RSF — RSF — REINFORCED SILT FENCE
- ESA — ESA — ESA — TEMPORARY FENCE (TYPE ESA)
- EDGE OF PAVEMENT
- RIGHT OF WAY/PROPERTY LINE
- PROPOSED ROCK
- PROPOSED CHANNEL
- PROPOSED STAGING, STORAGE, OR TIRE WASH AREAS

NOTES:

1. FOR ACCESS TO CONSTRUCTION AREA ADJACENT TO BARBARA AVE, THE ACCESS AT SIERRA BLVD AND MARTIN AVE ARE FOR ENTRANCE ONLY. TO LEAVE THE WORK AREA, USE THE ACCESS WITH THE TIRE WASH NEAR THE STA 19+50 LT.
2. FOR STAGING AND STORAGE AREAS ON PAVEMENT, PLACE TEMPORARY FENCE (TYPE ESA) IN SHOULDER AND PLACE FIBER ROLLS ON EP TO CONTAIN SEDIMENT WITH IN THE PAVED AREAS.
3. YOUR ATTENTION IS DIRECTED TO THE SWPPP, TEMPORARY EROSION CONTROL SHEETS, REVEGETATION PLAN SHEET, AND THE SPECIAL PROVISIONS REGARDING TEMPORARY EROSION CONTROL REQUIREMENTS FOR STAGING AREAS.
4. STAGING AREAS SHOWN ARE FOR THE TEMPORARY STORAGE OF CONSTRUCTION MATERIALS AND EQUIPMENT WHICH ARE TO BE USED ON THIS PROJECT.

TEMPORARY EROSION CONTROL SUMMARY OF QUANTITIES

	TEMPORARY CONSTRUCTION ENTRANCE	DRAIN INLET PROTECTION	TEMPORARY FIBER ROLL	REINFORCED SILT FENCE	TEMPORARY FENCE (TYPE ESA)	TEMPORARY FENCE (TYPE ESA) TREE TRUNK PROTECTION
	–	–	–	–	–	–

PRELIMINARY

REVISION NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :
REGISTERED CIVIL ENGINEER
DATE: AUGUST 9, 2019

DESIGNED:	DRAWN:
KIS	KIS
CHECKED:	DATE:
DSP	08/08/19
ROAD NUMBER:	

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
TEMPORARY EROSION CONTROL PLAN

SHEET EC–1 X OF ?
CONTRACT NO. ????
CIP No. 95117

FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES
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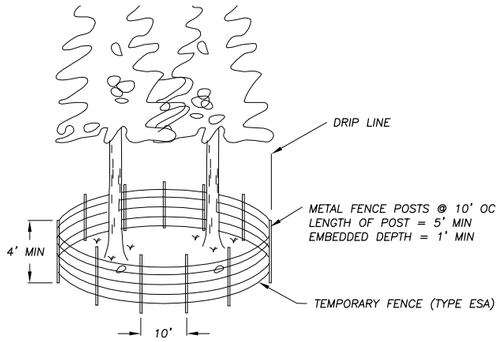
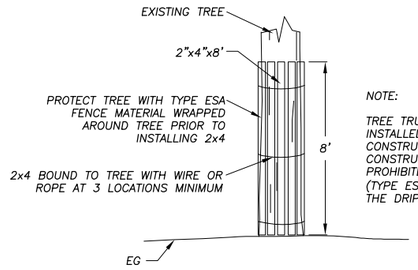


TEMPORARY FENCE (TYPE ESA) AT DRIPLINES

1 EC-2

NTS



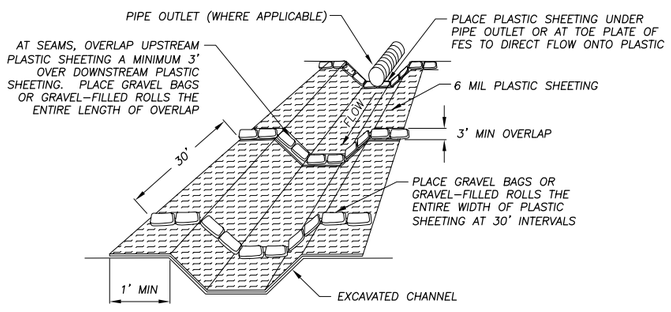
NOTE:

TREE TRUNK PROTECTION SHALL BE INSTALLED AT LOCATIONS WITHIN THE CONSTRUCTION AREA WHERE CONSTRUCTION ACCESS WOULD BE PROHIBITED IF TEMPORARY FENCE (TYPE ESA) WERE INSTALLED AROUND THE DRIPLINE OF TREES.

WOODEN TREE TRUNK PROTECTION

2 EC-2

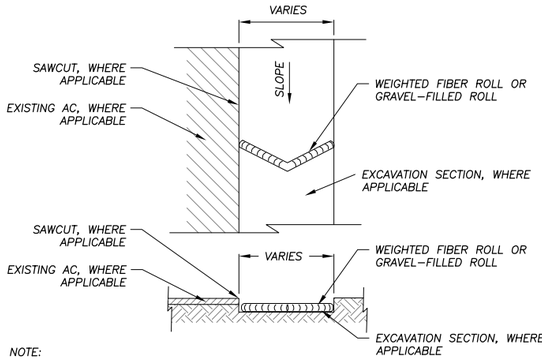
NTS



PLASTIC SHEETING WITH GRAVEL BAGS OR GRAVEL-FILLED ROLLS

3 EC-2

NTS



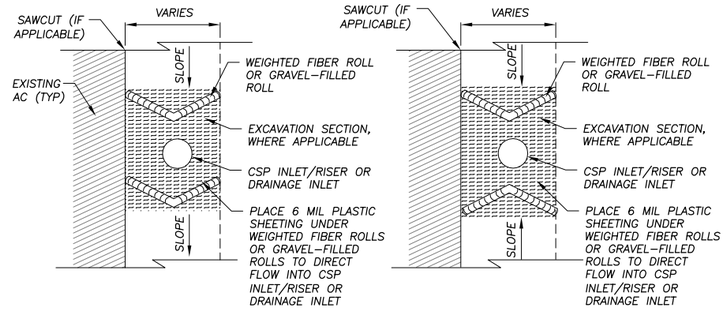
NOTE:

SPACING INTERVALS FOR WEIGHTED FIBER ROLL OR GRAVEL-FILLED ROLL TEMPORARY SEDIMENT CONTROL ON GRADE SHALL BE AT 50' OC FOR SLOPES GREATER THAN 5% AND AT 100' OC FOR SLOPES LESS THAN OR EQUAL TO 5%.

WEIGHTED FIBER ROLLS OR GRAVEL-FILLED ROLLS

4 EC-2

NTS



NOTE:

SEE ALSO TYPE 2 OR TYPE 3A, CALTRANS STD PLANS T61 AND T62.

DRAIN INLET PROTECTION

5 EC-2

NTS

NOT USED

6 EC-2

NTS

GENERAL NOTES:

1. LOCATIONS AND LF OF TEMPORARY REINFORCED SILT FENCE REQUIRED FOR THE STAGING AREAS ARE NOT SHOWN. YOU ARE TO INCLUDE THESE AREAS IN YOUR TEMPORARY EROSION CONTROL PLAN SUBMITTAL.
2. LENGTHS OF TEMPORARY REINFORCED SILT FENCE AND TEMPORARY FENCE (TYPE ESA) DOES NOT INCLUDE MINIMUM LIMITS FOR TREE PROTECTION. TREE PROTECTION FENCING IS TO BE AS SHOWN AND/OR AS DETERMINED IN THE FIELD.

PRELIMINARY

REVISION NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER

DATE: AUGUST 9, 2019

DESIGNED:	DRAWN:
KIS	KIS
CHECKED:	DATE:
DSP	08/08/19
ROAD NUMBER:	

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
TEMPORARY EROSION CONTROL DETAILS

SHEET EC-2 X OF ?

CONTRACT NO. ????

CIP No. 95117

FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES

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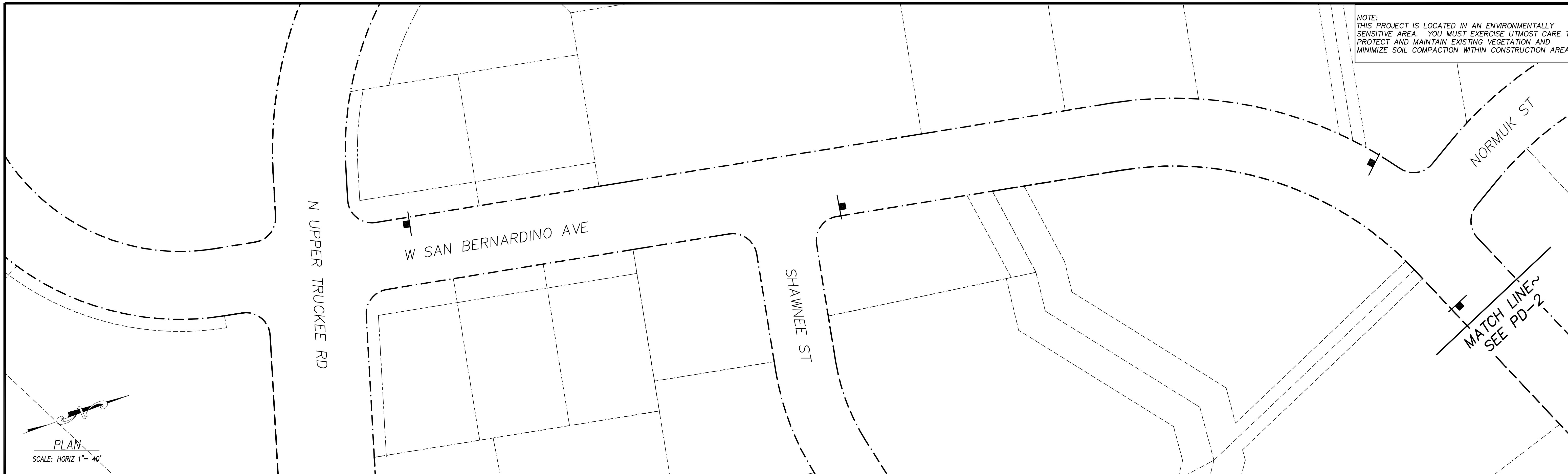

NOTE:
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SIGNING LEGEND

- XX – SIGN NUMBER, SEE TABLE DETAILS
- – EXIST SIGN
- – INSTALL SIGN
- – INSTALL DOUBLE SIDED SIGN
- ✳ – REMOVE AND REPLACE

CONSTRUCTION NOTES:

- (A) — 4" SOLID YELLOW STRIPE PAINTED PER DIMENSIONS SHOWN
- (B) — 1' WIDE X 5' WHITE PAINTED LIMIT LINE PER CALTRANS RSP A24E
- (C) — "STOP" PAVEMENT MARKING (H=48", W=38") PER CALTRANS RSP A24D (½ SIZE) PLACE 5' ℄ FROM LIMIT LINE
- (D) — DASHED CENTERLINE STRIPING PER CAMUTCD FIG 9C-2

NOTES:
1) FINISH ON BACK OF SIGN: MIDNIGHT GREEN ENDURA SHIELD IV, TNEMEC SEMIGLOSS HIGH BUILD ACRYLIC POLYURETHANE ENAMEL NO. 75-J7751

2) ALL TRAFFIC CONTROL DEVICES SHALL BE IN ACCORDANCE WITH THE LATEST APPROVED CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD).

3) ASTM DESIGNATION APPLIES TO ALL COLORS ON SIGN OR RAIL. BLACK SHALL BE NON-REFLECTIVE.

ROADWAY AND BIKE PATH SIGNS

SIGN DESIGNATION	SIGN MESSAGE AND DESCRIPTION	SIGN SIZE	QTY	SIGN COLORS	RETROREFLECTIVE ASTM TYPE
D11-1	"BIKE ROUTE" SIGN	24"x18"	–	WHITE ON GREEN	III
M4-11	"BEGIN" SIGN	12"x4"	–	WHITE ON GREEN	III
M4-12	"END" SIGN	12"x4"	–	WHITE ON GREEN	III
R1-1	"STOP" SIGN	18"x18"	–	WHITE ON RED	III
R1-5	"YIELD TO PEDESTRIAN" SIGN	36"x36"	–	RED/BLACK ON WHITE	III
R44A (CA)	"NO MOTOR VEHICLES" SIGN	12"x24"	–	BLACK ON WHITE	III
W7-5	"HILL" (BICYCLE) SIGN	18"x18"	–	BLACK ON YELLOW	III
W3-1	"STOP AHEAD" SYMBOL	18"x18"	–	RED/BLACK ON YELLOW	III
W11-15	BICYCLE/PEDESTRIAN WARNING	36"x36"	–	BLACK ON YELLOW	III
W16-7P	DIAGONAL DOWNWARD RIGHT ARROW	24"x12"	–	BLACK ON YELLOW	III
W16-7P	DIAGONAL DOWNWARD LEFT ARROW	24"x12"	–	BLACK ON YELLOW	III
W16-9P	"AHEAD" SIGN	24"x12"	–	BLACK ON YELLOW	III

PAVEMENT STRIPING

TYPE	SHEET	SPRAYABLE PAINT YELLOW FT
SOLID YELLOW STRIPING	PD-1	–
	PD-2	–
	PD-3	–
BROKEN YELLOW CENTERLINE STRIPING	PD-1	–
	PD-2	–
	PD-3	–
	TOTAL	–

PAVEMENT MARKINGS

SYMBOL DESCRIPTION	QUANTITY (EA)	AREA (SF)	TOTAL AREA (SF)
CROSSWALK	–	–	–
LIMIT LINE	–	–	–
YIELD LINE	–	–	–
STOP	–	–	–
TOTAL			–

APPROVED FOR PAVEMENT DELINEATION AND SIGN WORK ONLY

PRELIMINARY

REVISION NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER AUGUST 9, 2019
DATE:

DESIGNED: KIS | DRAWN: KIS
CHECKED: DSP | DATE: 08/08/19
ROAD NUMBER: ---

EL DORADO COUNTY CALIFORNIA

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
SIGNING AND PAVEMENT DELINEATION

SHEET PD-1 X OF ?
CONTRACT NO. ????
CIP No. 95117

FOR REDUCED PLANS ORIGINAL SCALE IS IN INCHES 0 1 2

Drawing name: \\CDAData5\TD-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MPLAN\SB_PD.dwg

NOTE:
THIS PROJECT IS LOCATED IN AN ENVIRONMENTALLY SENSITIVE AREA. YOU MUST EXERCISE UTMOST CARE TO PROTECT AND MAINTAIN EXISTING VEGETATION AND MINIMIZE SOIL COMPACTION WITHIN CONSTRUCTION AREAS.

CHOLULA ST

W SAN BERNARDINO AVE

MATCH LINE~ SEE PD-1

MATCH LINE~ SEE BELOW

PLAN
SCALE: HORIZ 1"= 40'

MATCH LINE~ SEE ABOVE

PARKING LOT

MATCH LINE~ SEE PD-3

SHEET PILE

N07° 45' 10.00"W
140.000'

LAKE BARON

PLAN
SCALE: HORIZ 1"= 40'

PRELIMINARY

REVISION NUMBER	DATE	DESCRIPTION	BY

PREPARED UNDER THE SUPERVISION OF :

REGISTERED CIVIL ENGINEER — DATE: AUGUST 9, 2019

DESIGNED:	DRAWN:
KIS	KIS
CHECKED:	DATE:
DSP	08/08/19
ROAD NUMBER:	

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
SIGNING AND PAVEMENT DELINEATION

SHEET PD-2 X OF ?

CONTRACT NO. ????
CIP No. 95117

FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES

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NOTE:
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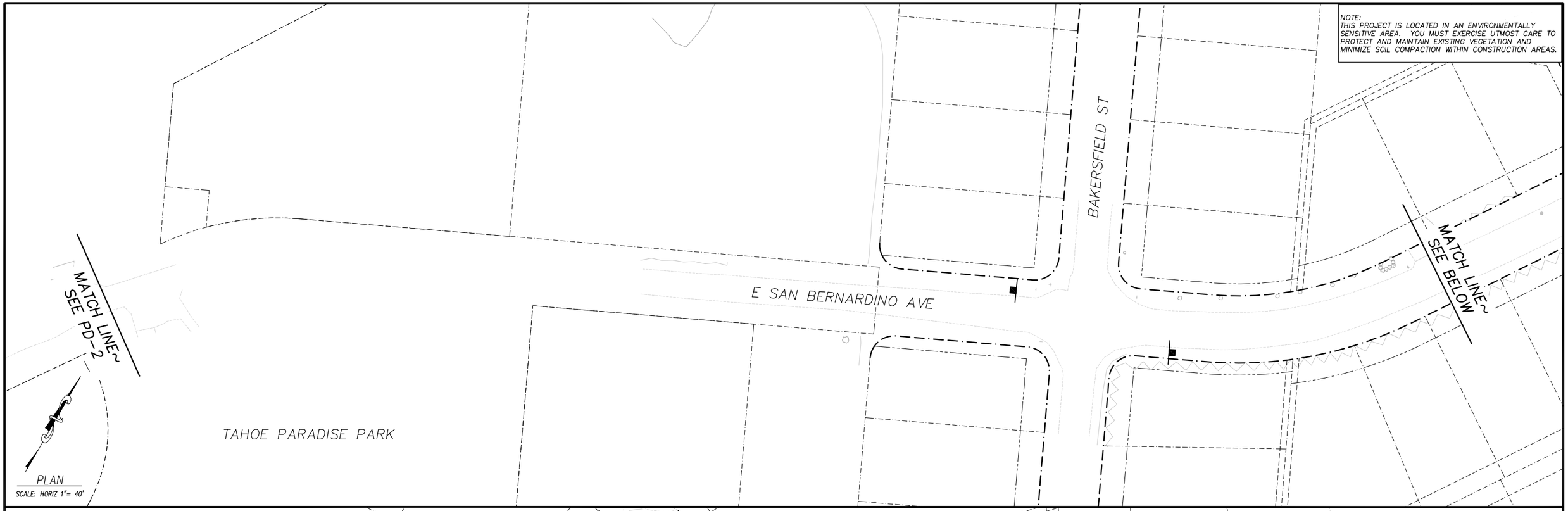
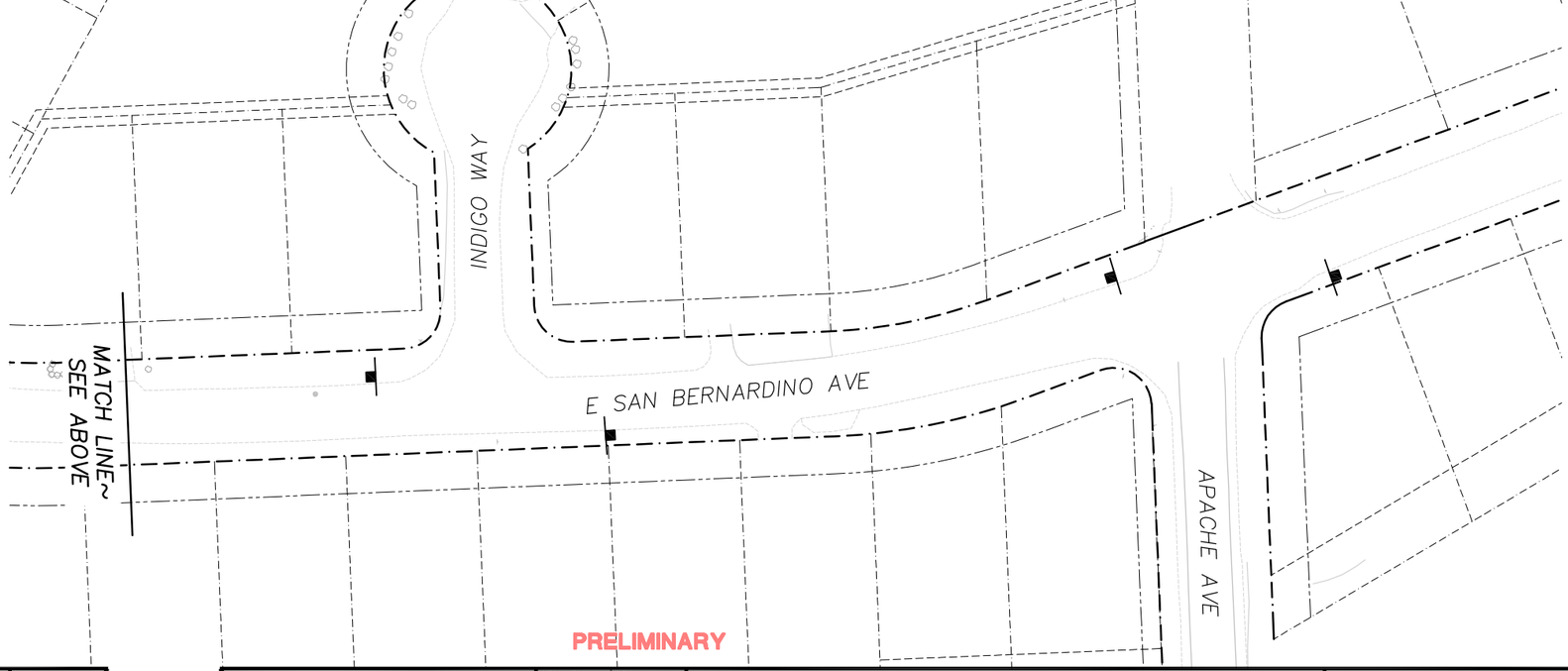


PLAN
SCALE: HORIZ 1"= 40'



PLAN
SCALE: HORIZ 1"= 40'

PRELIMINARY

REVISION			
NUMBER	DATE	DESCRIPTION	BY

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REGISTERED CIVIL ENGINEER — DATE: AUGUST 9, 2019

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ROAD NUMBER:	

COUNTY OF EL DORADO
DEPARTMENT OF TRANSPORTATION

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
SIGNING AND PAVEMENT DELINEATION

SHEET PD-3 X OF ?
CONTRACT NO. ????
CIP No. 95117

FOR REDUCED PLANS 0 1 2 ORIGINAL SCALE IS IN INCHES

Drawing name: \\GIS\Data\TD-SLT-Engineering\CIVIL 3D PROJECTS\95117\Engineering\MPLAN\SBL_PD.dwg

APPENDIX J

GEOTECHNICAL REPORT

Geotechnical Investigation

San Bernardino Class 1 Bike Trail Project

El Dorado County, California

July 26, 2019

Prepared for
NCE

Prepared By
Corestone Engineering, Inc.
1345 Capital Blvd, Suite B
Reno, Nevada 89502-7140
(775) 636-5916

CORESTONE ENGINEERING, INC.
Geotechnical Services & Construction Materials Testing

Mr. David Rios, CPESC, CPSWQ
NCE
P.O. Box 1760
Zephyr Cove, NV 89448

July 26, 2019
Project No.: 5012-02-1

L

RE: Geotechnical Investigation
San Bernardino Class 1 Bike Trail Project
El Dorado County, California

Dear Mr. Rios:

Corestone Engineering, Inc. is pleased to present the results of our geotechnical investigation for the above-referenced project. Our investigation consisted of research, field exploration, laboratory testing, and engineering analysis to allow formulation of geotechnical conclusions and recommendations for design and construction of the proposed shared-use path project.

The San Bernardino Class 1 Bike Trail Project will construct approximately 1,200 linear feet of new asphalt concrete paved shared-use path between West San Bernardino Avenue and East San Bernardino Avenue. The path will cross the Upper Truckee River on a new bridge.

Site subsurface soils are almost exclusively granular sandy soils which will provide excellent support for the proposed embankment to host the path as well as the proposed bridge. Relatively thin layers of potentially liquefiable, loose sand soils exist in the areas of the proposed bridge footings. We estimate about 1 inch of liquefaction-induced seismic settlement associated with these layers to the shallow, spread footings of the bridge. Geotechnical design and recommendations for bridge foundations included in this report should be finalized once final details on the proposed bridge become available.

We appreciate having the opportunity to work with you on this project. If you have any questions regarding the content of the attached report, please do not hesitate to contact us.

Sincerely,

Corestone Engineering, Inc.

REGISTERED PROFESSIONAL ENGINEER
PANCHALINGAM VIMALARAJ
No. GE 3050
Exp. 12/31/20
GEOTECHNICAL
STATE OF CALIFORNIA

Vimalaraj 7/26/19

Vimal P. Vimalaraj, P.E., G.E.
President

PROFESSIONAL GEOLOGIST
JONATHAN PAYNE
No. 9591
exp. 1/31/21
STATE OF CALIFORNIA

7/26/19

Jonathan Payne, P.G.
Project Geologist

Copies to: Addressee (PDF and 3 copies)
JP:PV:cjr

Table of Contents

Tables

Plates

Appendices

1.0 Introduction

Presented herein are the results of Corestone Engineering, Inc.'s (CEI's) geotechnical investigation, laboratory testing, and associated geotechnical design recommendations for the San Bernardino Class 1 Bike Trail Project to be located near the Meyers community area in El Dorado County, California. These recommendations are based on surface and subsurface conditions encountered in our explorations and on details of the proposed project as described in this report. The objectives of this study were to:

1. Determine general soil and groundwater conditions pertaining to design and construction of the proposed new shared-use path, including a bridge crossing at the Upper Truckee River.

2. Provide recommendations for design and construction of the project as related to these geotechnical conditions.

Our investigation included field exploration, laboratory testing, and engineering analysis to determine the physical and mechanical properties of the various on-site materials. Results of our field exploration and testing programs are included in this report and form the basis for all conclusions and recommendations.

The services described above were conducted in accordance with the Master Subconsultant Agreement No. SC211-17 between NCE and CEI dated March 1, 2017, and NCE's work authorization for the project dated November 14, 2018.

2.0 Project Description

2.1 Project Location and Existing Facilities

The proposed project alignment spans between the current terminations of West San Bernardino Avenue and East San Bernardino Avenue and is approximately 1,200 feet long. The site is entirely contained in Section 30, Township 12 North, Range 18 East, Mount Diablo Meridian in El Dorado County, California. The site is located within forested land, with residential properties on the west end and along West San Bernardino Avenue and Tahoe Paradise Park on the east end at the current terminus of East San Bernardino Avenue. The approximate latitude and longitude of the project site at the western end is 38.85621 and -120.02996, respectively, from Google Earth™. Access to the site is obtained by West San Bernardino Avenue or by East San Bernardino Avenue and then through the park.

2.1 Proposed Project Details

Only conceptual project details were available at the time of this report. The San Bernardino Class 1 Bike Trail Project will construct approximately 1,200 linear feet of new shared-use path for utilization by both bicyclists and pedestrians. The path will cross the Upper Truckee River, located west of Tahoe Paradise Park, on a new bridge. The shared-use path will include asphalt concrete surfacing. The path alignment is expected to be slightly raised throughout, and the bridge approach embankment is expected to include as much as 10 feet of embankment fill. The width of the path is expected to be 10 feet and may increase slightly at the bridge. The path will essentially connect West San Bernardino Avenue and East San Bernardino Avenue, providing a continuous access for bicyclists and pedestrians.

Final bridge alignment, bridge length, bridge type, structural loads, and substructure details were not available at the time of this report. At this time, 2 bridge alignment alternates are being considered; the first alignment alternate will provide a straight connection extension of the existing trail alignment on the west side of the Upper Truckee River, and the second alternate will place the bridge slightly to the north/northwest approximately 50 feet from the first alignment. It is our understanding El Dorado County will begin the design process later this year. Based on our discussion with El Dorado County, the bridge is expected to be 200 feet in length. We assume the bridge will be a 3-span structure supported on 2 end abutments and 2 intermediate piers. The middle span is expected to be longer than the 2 other spans and will cross over the normal water limits of the Upper Truckee River, with piers located on either side of the river.

The proposed bridge structure will be designed and constructed per the California Department of Transportation (Caltrans) standards utilizing the Load Resistance Factor Design (LRFD) method. In particular, the currently applicable American Association of State Highway and Transportation Officials (AASHTO) *LRFD Bridge Design Specifications*, 8th Edition (AASHTO, 2017) will be used in the design.

3.0 Site Conditions and Regional Settings

3.1 Site Conditions

The project site runs approximately west-southwest to east-northeast from the eastern end of West San Bernardino Avenue to the western end of East San Bernardino Avenue within the Tahoe Paradise Park. The site crosses the Upper Truckee River in a pine forest. Currently, a footpath is present east of the river and an unimproved road is present west of the river (utility easement). The topography across the eastern and central portions of the site has low vertical relief and slopes very gently towards the Upper Truckee River. The western edge of the site has a moderate slope approximately 12 feet high and includes embankment fill up to approximately 8 feet thick.

Underground utilities, including sanitary sewer, water, and communications, are present within the shared-use path alignment. Sewer is present within the western half of the site, while communications and water are present throughout the site. Communications and waterline cross the Upper Truckee River and are protected from upstream erosion by a sheet-pile wall located just north of the river crossing.

The overall site is located within a pine forest with mature pine trees.

3.2 Regional Geology and Seismicity

The project is located in the Tahoe Basin of the Sierra Nevada mountains. The Tahoe Basin is within the Sierra Nevada Batholith consisting of mainly massive, Cretaceous age granitic rock subsequently overlain by Tertiary age volcanic and volcaniclastic rock. Within late Tertiary and Quaternary time, Basin and Range style extensional regional faulting has extended into the Sierra Nevada, and the Tahoe Basin is a fault-bounded basin at the western edge of Basin and Range faulting. The current landscape has been shaped by an extensive Pleistocene age glacial history and continues to be shaped by fluvial and lacustrine processes and active faulting. Because of its geological settings, the Tahoe Basin has a high potential for strong seismic shaking.

4.0 Exploration

4.1 Drilling

The San Bernardino Class 1 Bike Trail Project site was explored on May 21 and 22, 2019, by drilling 8 test borings. The locations of the borings are shown on Plate 1 (Location of Borings Map). A well/drilling permit was obtained from El Dorado County Environmental Management Department to complete the exploration borings. The borings were drilled using 4-inch-outside-diameter (O.D.), solid-stem augers and a track-mounted CME 55 soils sampling drill rig. Where groundwater prevented solid-stem auger drilling or undisturbed blow counts were necessary, HQ coring or mud-rotary drilling techniques were used. The maximum depth of exploration was 41.5 feet below the existing ground surface.

The native soils were sampled in-place every 1.5 to 2.5 feet by use of a standard, 2-inch-O.D., split-spoon sampler driven by a 140-pound safety drive hammer with a 30-inch stroke operated with a rope and cathead. The number of blows to drive the sampler the final 12 inches of an 18-inch penetration (Standard Penetration Test [SPT] - American Society for Testing and Materials [ASTM] D 1586) into undisturbed soil is an indication of the density and consistency of the material.

A 3-½-inch-O.D., split-spoon sampler (ASTM D 3550) was also used to sample soils containing gravel or where approximate in-place densities of subsurface materials were required. Sampling methods used were similar to the SPT but also included the use of 2-½-inch-diameter, 6-inch-long, brass sampling tubes placed inside the split-spoon sampler. Because of the larger diameter of the sampler, blow counts are typically higher than those obtained with the SPT and should not be directly equated to SPT blow counts. The logs indicate the type of sampler used for each sample.

Groundwater levels were measured where encountered in the borings at the time of exploration.

4.2 Material Classification

A geologist examined and identified all soils in the field in accordance with ASTM D 2488 and the Caltrans (2010) Logging Manual. During drilling exploration, representative bulk samples were placed in sealed plastic bags and returned to Reno, Nevada, for testing. Additional soil classification was subsequently performed in accordance with ASTM 2487 (Unified Soil Classification System [USCS]) upon completion of laboratory testing, as described in the **Laboratory Testing** section. A soil classification chart is included in Appendix A-1 (USCS Soil Classification Chart). Logs of the test borings are presented as Appendix A-2 (Boring Logs).

5.0 Laboratory Testing

All soils testing performed was conducted in general accordance with the standards and methodologies described in Volume 4.08 of the ASTM Standards and the California Test Methods (CTM), as appropriate. Laboratory testing was performed by Black Eagle Consulting, Inc. of Reno, Nevada.

5.1 Index Tests

Samples of each significant soil type were analyzed to determine their in-situ moisture content (ASTM D 2216), grain size distribution (ASTM D 422), and plasticity index (ASTM D 4318). The results of these tests are shown on Appendix B-1 (Index Test Results). Test results were used to classify the soils according to ASTM D 2487 and to verify field logs, which were then updated as appropriate. Classification in this manner provides an indication of the soil's mechanical properties and can be correlated with standard penetration testing and published charts (Bowles, 1996; Naval Facilities Engineering Command [NAVFAC], 1986a and b) to evaluate bearing capacity, lateral earth pressures, and settlement potential.

5.2 Direct Shear Tests

Two direct shear tests (ASTM D 3080) were performed on representative samples of subsurface soils in the proposed bridge area. The tests were run on remolded, inundated samples under various normal loads in order to develop a Mohr's strength envelope. For remolded samples, the samples were screened to remove particles larger than the number 4 sieve prior to testing. Results of these tests are shown on Appendix B-2 (Direct Shear Test Results) and were used in calculation of bearing capacities, friction factors, and lateral earth pressures.

5.3 R-Value Tests

Two resistance value (R-value) tests (CTM 301) were performed on representative samples of subgrade soil that will be present along the pathway. Resistance value testing is a measure of subgrade strength and expansion potential and is used in design of flexible pavements. Results of the R-value tests are shown on Appendix B-3 (R-Value Test Results).

5.4 Chemical Tests

Chemical testing was performed on representative samples of site foundation soils to evaluate the site materials' potential to corrode steel and Portland cement concrete in contact with the ground. The samples were tested for pH, resistivity, redox potential, soluble sulfates, and sulfides. The results of the chemical tests are shown on Appendix B-4 (Chemical Test Results). Chemical testing was performed by Silver State Analytical Laboratories of Reno, Nevada.

6.0 Site Geology and Subsurface Conditions

6.1 Site Geology

Mapping by the California Geological Society (CGS) indicates the site is located within Pleistocene age *Tahoe glacial deposits - Till* (Saucedo, 2005). These materials are described by the CGS as *unsorted to very poorly sorted, boulder to clayey gravel; surface granitic boulders slightly to moderately weathered. Associated with undissected to moderately dissected moraines. Locally may include outwash deposits.* Due to the site's proximity to the Upper Truckee River, the majority of soils encountered include well-sorted sands and silty sand fluvial deposits, with remnant glacial deposits encountered at the eastern and western ends of the project.

6.2 Subsurface Soil Conditions

The soils profile throughout the site typically consists of surficial silty to poorly graded sand with some gravel through 5 feet depth below existing ground surface and through a slightly deeper horizon (12.5 feet) near the Upper Truckee River. Beneath the gravelly soils are silt or very fine silty sand soils from about 5 to 10 feet beneath the ground surface. The underlying soils consist of fine to medium silty sand through the maximum depth of exploration, 41.5 feet beneath the existing ground surface.

The surficial gravelly soils are brown, moist to wet, loose to medium dense, and contain about 5 to 20 percent non-plastic fines and 0 to 35 percent subrounded to rounded gravel. The intermediate depth fine silty sand to silt soils are gray to light gray, wet, stiff (loose to medium dense), and contain 30 to 90 percent non-plastic fines and 10 to 70 percent very fine to fine sand. The underlying soils are relatively uniform to 41.5 feet depth and are described as light gray, moist, loose to dense, and as containing approximately 10 to 30 percent non-plastic fines, 70 to 90 percent fine to coarse sand, and trace amounts of fine gravel.

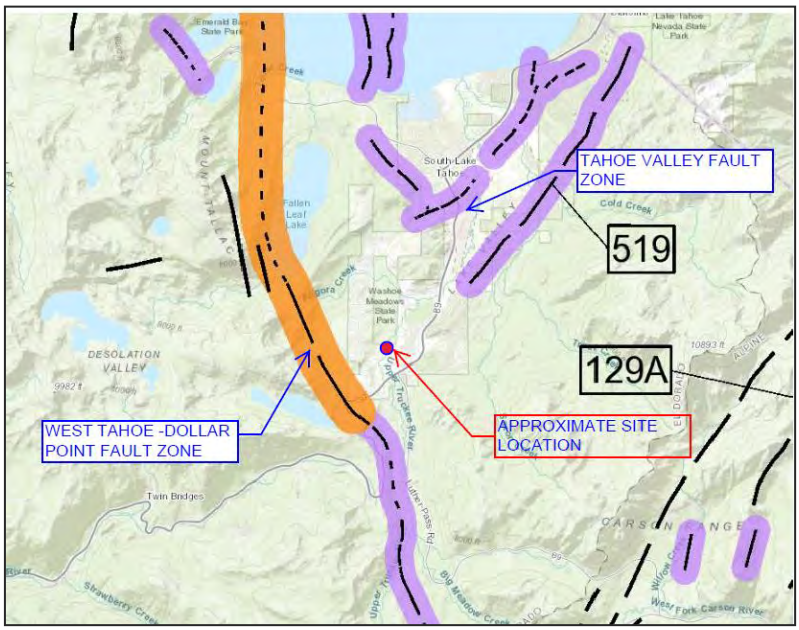
6.3 Groundwater

Groundwater was encountered in each boring advanced at the time of exploration at variable depths of approximately 1.5 to 7 feet below the existing ground surface. The depth to groundwater generally becomes shallower towards the Upper Truckee River, and near the river the groundwater matched the river water level. These groundwater depths correspond to approximate elevations of between 6,292 feet above mean sea level (msl) and 6,303 feet above msl. Fluctuations in the groundwater table will occur due to rainfall, temperature, seasonal runoff, Upper Truckee River water level, adjacent irrigation practices, and other factors. Groundwater near the Upper Truckee River will generally be controlled by the river water level.

7.0 Geologic Hazards

7.1 Seismicity and Faults

The Lake Tahoe basin lies within an area with a high potential for earthquake shaking. It is generally accepted that a maximum credible earthquake in this area would be in the range of magnitude 7 to 7.5 along the Genoa fault system of the eastern Sierra Nevada. The most active segment of this fault system in the Tahoe area is located at the base of the eastern side of the mountains, about 7 miles east of the project.



Fault Activity Map

No known faults are mapped through or in the immediate vicinity of the proposed shared-use path alignment (CGS, 2019a). The mapped faults in the general area of the project site are shown on the figure to the right. The nearest mapped fault is a Holocene age (less than 11,700 years old) fault segment associated with the West Tahoe – Dollar Point fault zone and is mapped about 1 mile west of the project site. This fault zone is also identified as an Alquist-Prioloa Earthquake Fault Zone (EFZ) by the CGS (2019b). Because the site does not lie within an AFZ and no unmapped faults were suggested within the site during our investigation, no additional fault investigation or mitigation is considered necessary for the proposed project.

7.2 Ground Rupture

There are no known ground rupture locations within or in the general area of the project site. The absence of ground faults passing through or in the immediate vicinity of the site suggests the potential for ground rupture within the project site is negligible.

7.3 Ground Motion

The Caltrans *ARS Online* web-based tool was utilized in determining the design response spectrum for the site considering both deterministic and probabilistic acceleration spectra (Caltrans, 2019a). Based on the analysis, the

peak ground acceleration (PGA) for the site is 0.42 g. Detailed discussion on the parameters utilized in determining the design response spectrum for the site are included later under the Seismic Design Criteria section.

7.4 Liquefaction

Based on our site exploration, the site is underlain by a shallow groundwater table and submerged, isolated, loose to medium dense sand layers. Therefore, a detailed liquefaction analysis is warranted to determine the liquefaction hazard at the site and to quantify liquefaction-induced settlement at the bridge footing grade.

Liquefaction analysis of the site area to host the proposed bridge was performed using subsurface information obtained from boring B-02 which was advanced using mud rotary drilling techniques. The analysis was performed using the methods and procedures recommended by ASTM D 6066 and the SPT-based liquefaction analysis method recommended by Idriss and Boulanger (2008); these procedures are generally consistent with liquefaction evaluation guidelines of the Caltrans Geotechnical Manual (Caltrans, 2016). The peak ground acceleration used in the liquefaction analysis is 0.42 g, as noted earlier. This value is equal to the design acceleration value at zero period from the design spectrum for the site. The earthquake deaggregation analysis (United States Geological Survey, 2008) resulted in a maximum earthquake magnitude of 6.48 for the site, which is the magnitude that was used in the liquefaction analysis. The groundwater level during earthquake loading was assumed to be at 2.5 feet below existing ground surface. Liquefaction analysis calculations are shown on Appendix C (Analysis Calculations).

Based on our liquefaction analysis, there are 2 approximately 2.5-foot-thick, potentially liquefiable sand soil layers present at depths of 5 and 15 feet below existing ground surface at boring B-02 which was advanced on the east side of the Upper Truckee River. These potentially liquefiable layers exhibit factor of safety values in the range of 0.5 to 0.7 with respect to liquefaction for the design earthquake. These layers have “clean sand” penetration resistance values of approximately 12 to 20 blows per foot. Boring B-03 on the west side of the river was advanced utilizing solid-stem auger drilling and coring techniques and, therefore, the data from this boring were not analyzed (considering some sample disturbance). However, boring B-03 also shows a loose sand layer at a shallow depth of 2.5 feet below the existing ground surface and confirms that the entire bridge site exhibits shallow layers of potentially liquefiable soils.

The liquefaction analysis further shows that liquefaction of the above-discussed 2 layers with the occurrence of a design earthquake on a nearby fault could cause a total liquefaction-induced settlement of approximately 2 inches at the horizons of these layers (volumetric change in the liquefiable soil layers). However, the surface manifestation and liquefaction-induced damage at the ground level will depend on the peak ground acceleration, the thicknesses of liquefiable soil layers, thicknesses of non-liquefiable soil layers in between liquefiable soil layers, and the thickness of non-liquefiable deposits above the top of the first liquefiable soil layer. Based on the criteria developed by Ishihara (1985), and using the locations and thicknesses of liquefiable soil layers within the site, we

expect minimal manifestation of liquefaction-induced settlement at the bridge footing level from the relatively thin potentially liquefiable layer at 15 feet depth below existing ground surface. However, the potentially liquefiable layer at the shallower depth is expected to result in up to 1 inch of liquefaction-induced seismic settlement to the bridge foundation, particularly pier footings that are to be founded below the existing ground surface.

7.5 Flood Plains and Scour Evaluation

The Federal Emergency Management Agency (FEMA) has identified the site as lying in Zone AE, or within the limits of a 100-year flood plain with a base flood elevation of 6,301 to 6,304 feet above msl within the vicinity of the Upper Truckee River crossing (FEMA, 2008).

Information with respect to scour associated with the Upper Truckee River was not available at the time of this report. It is our understanding hydraulic studies will be performed to determine the scour depth to establish bridge foundation depths near the Upper Truckee River. The shallow foundations to support bridge piers near the Upper Truckee River will be founded below the scour depth.

7.6 Other Geologic Hazards

A moderate to high potential for dust generation is present if the embankment construction is performed in dry weather.

The site is relatively flat; as such, no landslides should occur.

No other geologic hazards were identified.

8.0 Conclusions and Recommendations

The site is geotechnically suitable to host the San Bernardino Class 1 Bike Trail Project. The following summarizes our conclusions:

- The site is overlain by granular sand soils which will provide adequate support for the proposed shared-use path, including the bridge across the Upper Truckee River.
- The site is located in an area with high potential for strong earthquake shaking. The proposed bridge site exhibits relatively thin layers of loose sand soils which are potentially liquefiable for the design earthquake event. We estimate approximately 1 inch of liquefaction-induced seismic settlement to bridge footings and approach embankment due to liquefaction of the sandy soil layer that exists through about 7.5 feet below the existing ground surface.
- Shallow, spread footings are feasible for bridge support and will likely be the most economical foundation type. Depending on the footing depth, at least a portion of the loose sand soils at relatively shallow depths will be densified and this will further reduce the expected seismic settlement.
- Groundwater throughout the site is shallow and was encountered at depths of about 1.5 to 7 feet below the existing ground surface. The construction of bridge pier footings will likely require dewatering. Submerged sand soils will be saturated and impossible to compact; stabilization measures should be anticipated. Construction should consider seasonal groundwater variations.

Final bridge alignment, bridge length, bridge type, structural loads, and substructure details were not available at the time of this report. The geotechnical design and recommendations provided for the bridge foundations and other associated structural elements shall be considered preliminary. Once design information becomes available, CEI must be provided the opportunity to review the information and provide any needed update to the recommendations.

Any evaluation of the site for the presence of surface or subsurface hazardous substances is beyond the scope of this investigation. When suspected hazardous substances are encountered during routine geotechnical investigations, they are noted in the exploration logs and immediately reported to the client. No such substances were revealed during our exploration.

8.1 Seismic Design Criteria

As noted earlier under **Ground Motion** (Section 7.3), the Caltrans *ARS Online* web-based tool was utilized in determining the design response spectrum for the site (Caltrans, 2019a). The design response spectrum is developed considering both deterministic and probabilistic acceleration spectra. Based on our boring exploration for the bridge, the site soils are generally medium dense sand soils with SPT blow counts greater than 15. Based

on this information and the site geology, a Site class D soil profile is appropriate to develop seismic design criteria. The Site Class D soil profile is for stiff soils with a shear velocity between 600 and 1,200 feet per second (approximately 180 meters per second [m/s] to 360 m/s) , or with an N (SPT) value between 15 and 50, or an undrained shear strength between 1,000 and 2,000 pounds per square foot (psf). Table 1 (Seismic Design Criteria Site Parameters) provides the site and soil parameters utilized in developing seismic criteria using the Caltrans *ARS Online* tool, and the developed design response spectrum is included as Plate 2 (Seismic Design Data).

TABLE 1 – SEISMIC DESIGN CRITERIA SITE PARAMETERS

Parameters		Value
Site Location	Latitude	38.85728
	Longitude	-120.02702
Site Class		D
Shear Wave Velocity		270 m/s[1]

[1] Default value for Site Class D soil profile in the Caltrans *ARS Online* tool is selected and is appropriate based on the SPT blow counts.

The seismic design criteria for the site utilizing the above parameters are provided in Table 2 (Seismic Design Criteria). It is noted that the Caltrans Seismic Design Criteria (SDC) manual also recommends the consideration of statewide minimum spectrum defined as the medium spectrum generated by a magnitude 6.5 earthquake on a strike-slip fault located 12 kilometers from the bridge site (Caltrans, 2019b). The proposed shared-use path bridge site is located closer than 12 kilometers to a fault with larger than the statewide minimums provided by the SDC.

TABLE 2 - SEISMIC DESIGN CRITERIA

Parameters	Design Acceleration (g)
PGA	0.419
Design Spectral Response at 0.2 Second	0.953
Design Spectral Response at 1.0 Second	0.660

8.2 Foundation Design

8.2.1 Foundation Type Selection

At this stage, it is our opinion the most economical way to support the proposed bridge is via shallow, spread foundations bearing on properly prepared native soils or densified embankment fill. Depending on the structural loads, bridge alignment and other final design conditions, deep foundations such as driven piles may also be considered to support the bridge. Any retaining walls to support the bridge approach embankment may also be founded on conventional shallow foundations. As discussed earlier, a potential for soil liquefaction exists at the site. However, with proper design, shallow foundations will perform adequately with tolerable seismic settlement to improvements.

8.2.2 Shallow Foundations Design

The design of shallow foundations was performed using the methods provided in Section 10.6 of the AASHTO *LRFD Bridge Design Specifications* 8th Edition (AASHTO, 2017). The theoretical bearing resistance was computed per Section 10.6.3 of AASHTO for footings bearing on sand utilizing the SPT method, and a resistance factor of 0.45 was applied for Strength Limit State design. Bearing capacity factors for footings founded near a slope were utilized for bridge abutment footings; a 2H:1V (horizontal to vertical) embankment fill slope and a minimum setback of 5 feet from the slope face for footing edges were assumed in the analyses. Based on the laboratory direct shear test results, native sand soils were assigned a conservative angle of internal friction of 36 degrees. Embankment fill materials were also assigned an angle of internal friction of 36 degrees. The site soils are cohesionless granular soils, and the settlement analysis was performed using the Hough method. Cohesive soils subject to long-term consolidation settlement do not exist at the site. Table 3 (Bearing Resistance for Spread Footings) provides geotechnical recommendations for spread foundations bearing on properly prepared native sand soils or densified embankment fill. Analysis calculations for spread footings are included as Appendix C.

TABLE 3 – BEARING RESISTANCE FOR SPREAD FOOTINGS					
Design Location and Conditions	**Footing Width (feet)[1]**	**Minimum Embedment Depth (feet)**	**Factored Bearing Resistance (ksf*)**		**Service Limit State Bearing Resistance for 1 Inch Permissible Settlement (ksf*)**
			Extreme Event Limit State	**Strength or Construction Limit State**	
Pier Footings Bearing on Native Soils[2]	5.0	3.0	8.0	3.6	4.7
	10.0	3.0	13.9	6.3	2.6
Abutment Footings above 2H:1V Embankment Fill Slope	5.0	3.0	3.9	1.7	11.7
	10.0	3.0	7.4	3.3	4.1

* ksf – kips per square foot.
[1] Analyses consider square and rectangular foundations with maximum footing length to width ratio of 2. Values may be interpolated for other footing widths.
[2] Values may also be utilized for retaining wall foundations.

For spread footings designed per the Table 3 recommendations, total foundation settlement should be 1 inch or less for Service Limit State loads. Differential movement between footings with similar loads, dimensions, and base elevations should not exceed two-thirds of the total settlement. The majority of the anticipated movement will occur during the construction period as loads are applied. As discussed earlier under Section 7.4 (Liquefaction), liquefaction-induced seismic settlement of approximately 1 inch is anticipated.

We assume cast-in-place spread footings will be utilized. Factored sliding resistance factors of 0.72 and 0.58 are appropriate for cast-in-place spread footings for Extreme Event Limit State and Strength Limit State design conditions, respectively. Resistance factors of 1.0 and 0.8 are considered for sliding resistance for Extreme Event Limit State and Strength Limit State, respectively.

A passive lateral earth pressure value (equivalent fluid pressure [EFP]) of 480 pounds per cubic foot (pcf) is appropriate for design of footings to calculate the passive earth pressure component of sliding resistance against lateral loads. This value assumes footings are backfilled with densified structural fill that meets the structure backfill specifications of Caltrans *Standard Specifications* (Caltrans, 2018). Passive earth pressure shall be neglected within 2 feet from the adjacent lowest grade. A resistance factor of 0.50 shall be applied to the passive earth pressure value for Strength Limit State design.

8.3 Lateral Earth Pressures

It is our understanding cast-in-place retaining walls (Caltrans Type 1 or Type 5) or segmental block walls (Keystone or other proprietary manufacturer) as tall as 10 feet will be utilized at the approaches to the bridge. Table 4

(Lateral Earth Pressure Recommendations) provides EFP values for design of retaining walls and also abutment back walls. Table 4 values are for fully drained retaining walls with vertical back faces, horizontal backfill, and no surcharge loads next to the top of the wall. Lateral earth pressure values due to surcharge loads are discussed later. These parameters also assume backfill material against abutments and retaining walls will meet Caltrans *Standard Specifications* of structure backfill (Caltrans, 2018).

TABLE 4 – LATERAL EARTH PRESSURE RECOMMENDATIONS

Parameters		Values
At Rest EFP	Static	52 pcf
	Seismic[1]	81 pcf
Active EFP[2]	Static	30 pcf
	Seismic[1]	47 pcf
Passive EFP[3]		480 pcf

[1] Total value includes static and additional seismic EFP.
[2] Active EFP shall only be used for walls that can deflect or move sufficiently to mobilize active conditions. Wall deflection/movement of at least 0.002 times the height of the active section of the wall is required to fully mobilize active pressure conditions.
[2] Full value of passive EFP shall only be used for walls that can deflect or move sufficiently to mobilize passive pressure conditions. Wall deflection/movement of at least 0.02 times the height of the passive section of wall is required to fully mobilize passive pressure conditions. In order to limit the deflection/movement, the value may be reduced by a factor of 1.5.

The EFP values provided in Table 4 were calculated per the AASHTO *LRFD Bridge Design Specifications* 8th Edition (AASHTO, 2017). A soil unit weight of 125 pcf was used to calculate EFP values from lateral earth pressure coefficients. The Mononabe-Okabe (M-O) equation (AASHTO, 2017) was used to calculate active lateral earth pressure coefficient for seismic loading. The horizontal seismic acceleration coefficient (Kh) of 0.21 was utilized in the analysis and is equal to half the value of the PGA per AASHTO design procedures. The at-rest active lateral earth pressure value for seismic loading was calculated by applying a similar ratio/level of increase in additional active lateral earth pressure values from static to seismic loading. The resultant of the EFP for static loading shall be applied at an H/3 height above the base of the wall where H is equal to the height of the wall. Per current AASHTO recommendations, routine retaining wall design for seismic loading may use the resultant of the EFP for seismic loading applied at an H/3 height above the base of the wall. Because the walls on this project will be associated with the proposed bridge, we recommend the resultant of the EFP for seismic loading be applied at a 0.4H height above the base of the wall.

Where necessary, surcharge loads shall be considered in the design of retaining walls. Lateral earth pressure values due to uniform surcharge loads shall be estimated utilizing active and at-rest lateral earth pressure coefficients of 0.24 and 0.42, respectively. The lateral earth pressure value for the selected design case (active or at-rest) will be

calculated by multiplying the uniform surcharge load by the respective lateral earth pressure coefficient. In order to consider surcharge loads associated with maintenance vehicle loading, we recommend a uniform surcharge load equal to 240 psf be considered in the design of retaining walls; this value is based on the applied pressure from the weight of the 2-foot-high soil column with a unit weight of 120 pcf.

8.4 Structural Section Design for Class 1 Pathway

Based on our laboratory testing, the native sand and gravel soils are excellent subgrade materials exhibiting R-value in excess of 70. It is expected embankment fills will be placed to establish the design grades for the path in portions of the alignment, and the height of the embankment fills is expected to be as high as 10 feet at the approaches to the bridge. Therefore, subgrade of the pathway will consist of either densified native soils or embankment fills. A Traffic Index of 5.0 is appropriate for design of the proposed Class 1 pathway which will be subject to light loads from occasional maintenance vehicles. Based on the subgrade conditions and light load application, a minimum structural section consisting of 0.2 feet of asphalt concrete pavement underlain by 0.5 feet of Class 2 aggregate base is considered appropriate. The aggregate base shall be densified to at least 95 percent relative compaction, as determined per CTM 216.

8.5 Slope Stability and Erosion Control

Based on our investigation, new embankment fill side slopes constructed at 2H:1V or flatter will be globally stable at the site up to the expected maximum heights of 10 feet. Erosion protection via rip-rap or other methods should be considered for slopes steeper than 3H:1V.

8.6 Site/Subgrade Preparation

All vegetation and debris (including wood chips at the western end of the project alignment) shall be stripped and grubbed from structural areas and removed from the site. Trees and associated roots greater than ½ inch in diameter shall be removed, where necessary, to a minimum depth of 12 inches below finished grade. Large roots (greater than 6 inches in diameter) shall be removed to the maximum depth possible. Resulting excavations shall be backfilled with embankment fills compacted to 90 percent relative compaction per CTM 216.

Existing embankment fills are present at the western end of the project alignment. The thickness of these existing fills is as much as 8 feet, as encountered in our exploration, and includes relatively loose zones. We recommend existing fills be reworked through at least 2 feet depth to provide sufficient support for the proposed pathway. This reworking process will involve removal of existing fills through at least 12 inches depth below existing ground surface and then scarification of the exposed surface through an additional 12 inches depth, moisture conditioning, and compaction to at least 90 percent relative compaction per CTM 216. The removed embankment fills shall then be replaced and compacted per the requirements of embankment fill to establish design grades or to receive additional embankment fills.

All areas to receive embankment fills or structural loading shall be densified to at least 90 percent relative compaction per CTM 216.

If wet weather construction is anticipated or for excavations at and below the groundwater table, soils will be above optimum moisture and impossible to compact. In some situations, moisture conditioning may be possible by scarifying the top 12 inches of subgrade and allowing it to air-dry to near-optimum moisture prior to compaction. Where this procedure is ineffective or where construction schedules preclude delays, mechanical stabilization will be necessary. Mechanical stabilization can generally be achieved by removal of unstable soils through 12 inches depth, placing a geogrid layer, and then placement of Class 2 or Class 3 aggregate base (Caltrans, 2018). Aggregate base shall be placed in a single lift within 12 inches of over-excavation and densified to at least 90 percent relative compaction per CTM 216. Geogrid shall be Tensar® TX160 or an approved equivalent. In some cases where pumping of soils is significant, an intermediate, second geogrid layer may be necessary.

8.7 Grading and Embankment Construction

Site grading and earthwork shall follow Caltrans *Standard Specifications* (Caltrans, 2018).

The project will require minimum cuts, if any. Up to 10 feet of fills will be placed for embankment construction. Existing fills within the western limits of the project and excavated native sand soils will be suitable to reuse as embankment fills. Imported borrow will be required for the project. It is expected borrow will be imported from a nearby source. Imported borrow should meet the specifications for Class 3 Aggregate Subbase (Caltrans, 2018). Other granular, non-expansive materials approved by the geotechnical engineer may also be used as imported borrow. In no case shall expansive material (Expansion Index of 50 or greater and Sand Equivalent of 20 or less) be used as fills. Fill should be free of debris and organic material.

All embankment fills placed within 100 feet of the bridge shall be placed in maximum 8-inch-thick loose lifts each densified to at least 95 percent relative compaction per CTM 216. All other embankment fills shall be densified to a minimum 90 percent relative compaction per CTM 216.

8.8 Cuts and Excavation

No significant cuts are expected on the project. Temporary excavations and sloping will be necessary for footing construction and any utility installation. Temporary excavations with near-vertical sidewalls are not expected to be stable in the site materials and, as such, should be sloped or shored in accordance with Cal/OSHA requirements. All site soils are Type C and shall be sloped at 1.5H:1V or flatter in temporary excavations.

On-site materials excavated and compacted as embankment fills should experience quantity shrinkage of approximately 10 percent due to density increase.

8.9 Corrosion Evaluation

Corrosion testing was completed on a representative sample obtained from test borings advanced at the bridge site. Corrosion test results are summarized in Table 5 (Corrosion Test Results Summary), and detailed results are contained in Appendix B-4.

TABLE 5 – CORROSION TEST RESULTS SUMMARY

Sample Identification	Depth (feet)	pH	Minimum Resistivity (ohm-cm)	Chloride Content (ppm)	Sulfate Content (ppm)
B-04 A	2.5	5.8	16,000	<150	<60

Based on the test results and Caltrans Corrosion Guidelines, the soils are non-corrosive to structural steel and concrete foundation elements in contact with soils. It is noted that the test results are only an indicator of soil corrosivity, and a corrosion engineer may need to be consulted if the values in Table 5 signify such a need.

9.0 Construction Considerations

It is recommended that the geotechnical investigation report and subsequent addenda be included with project documents during the bidding process for reference purposes.

- Depending on the season of construction, soft, wet surface soils may make it difficult for construction equipment to travel and operate.
- Soils below groundwater level will be wet and unstable, and shallow footings that extend below groundwater level will likely require dewatering and stabilization measures to establish foundation grade. The contractor will be responsible for dewatering design and construction methods.
- Existing underground utilities are present within the project site. The project construction will require coordination of these existing utilities.
- All excavations required on this project should be achievable using typical construction equipment. On-site soils shall be sloped at 1.5H:1V or flatter in temporary excavations (Type C soils). Any excavations below groundwater will require shoring. The contractor will be responsible for design and construction of excavation sloping and shoring in accordance with Cal/OSHA requirements, including the protection of existing structures, utilities and other facilities during construction.

10.0 Quality Control

All plans and specifications should be reviewed by the geotechnical engineer for conformance with this geotechnical report.

The recommendations presented in this report are based on the assumption that sufficient field testing and construction review will be provided during all phases of construction. We should review the final plans and specifications to check for conformance with the intent of our recommendations. Prior to construction, a pre-job conference should be scheduled to include, but not be limited to, the owner, architect, civil engineer, general contractor, earthwork and materials subcontractors, building official, and engineer. The conference will allow parties to review the project plans, specifications, and recommendations presented in this report and discuss applicable material quality and mix design requirements. All quality control reports should be submitted to and reviewed by the engineer.

During construction, we should have the opportunity to provide sufficient on-site observation of preparation and grading, over-excavation, fill placement, foundation installation, and paving. These observations would allow us to verify that the geotechnical conditions are as anticipated and that the contractor's work is in conformance with the approved plans and specifications.

11.0 Standard Limitations Clause

This report has been prepared in accordance with generally accepted geotechnical practices. The analyses and recommendations submitted are based on field exploration performed at the locations shown on Plate 1. This report does not reflect soils variations that may become evident during the construction period, at which time re-evaluation of the recommendations may be necessary. We recommend our firm be retained to perform construction observation in all phases of the project related to geotechnical factors to ensure compliance with our recommendations.

Equilibrium water level readings were made on the date shown on the Boring Logs included as Appendix A-2. Fluctuations in the water table may occur due to rainfall, temperature, seasonal runoff, adjacent irrigation practices, and the water level of the Upper Truckee River. Construction planning should be based on assumptions of possible variations in the water table.

This report has been produced to provide information allowing the architect or engineer to design the project. The client is responsible for distributing this report to all designers and contractors whose work is affected by geotechnical aspects. In the event there are changes in the design, location, or ownership of the project from the time this report is issued, recommendations should be reviewed and possibly modified by the engineer. If the engineer is not granted the opportunity to make this recommended review, he or she can assume no responsibility for misinterpretation or misapplication of his or her recommendations or their validity in the event changes have been made in the original design concept without his or her prior review. The engineer makes no other warranties, either express or implied, as to the professional advice provided under the terms of this agreement and included in this report.

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PLATES

TAHOE PARADISE PARK

E. SAN BERNARDINO AVENUE

B-01

B-02

B-03

B-04

B-05

B-06

B-07

B-08

UPPER TRUCKEE RIVER

EXISTING WALKING TRAIL

EXISTING EMBANKMENT FILL AREA

6298

6302

6295

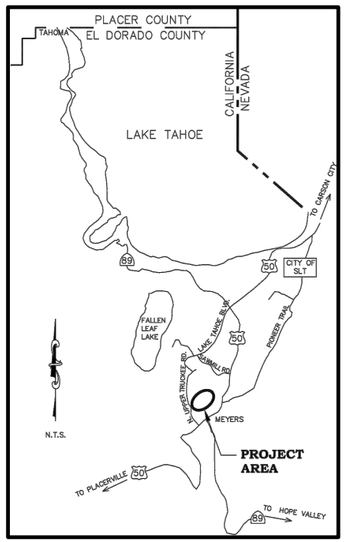
SCALE: 1"=100'
1' CONTOUR INTERVAL

LEGEND

B-01 APPROXIMATE BORING LOCATION

NOTES

1. BASE MAP PROVIDED BY EL DORADO COUNTY



VICINITY MAP
N.T.S.

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LOCATION OF BORINGS MAP

SAN BERNARDINO CLASS 1 BIKE TRAIL PROJECT
EL DORADO COUNTY, CALIFORNIA

Project No.
5012-02-1

Plate 1

SEISMIC DESIGN DATA

San Bernardino Class 1 Bike Trail Project, El Dorado County, California

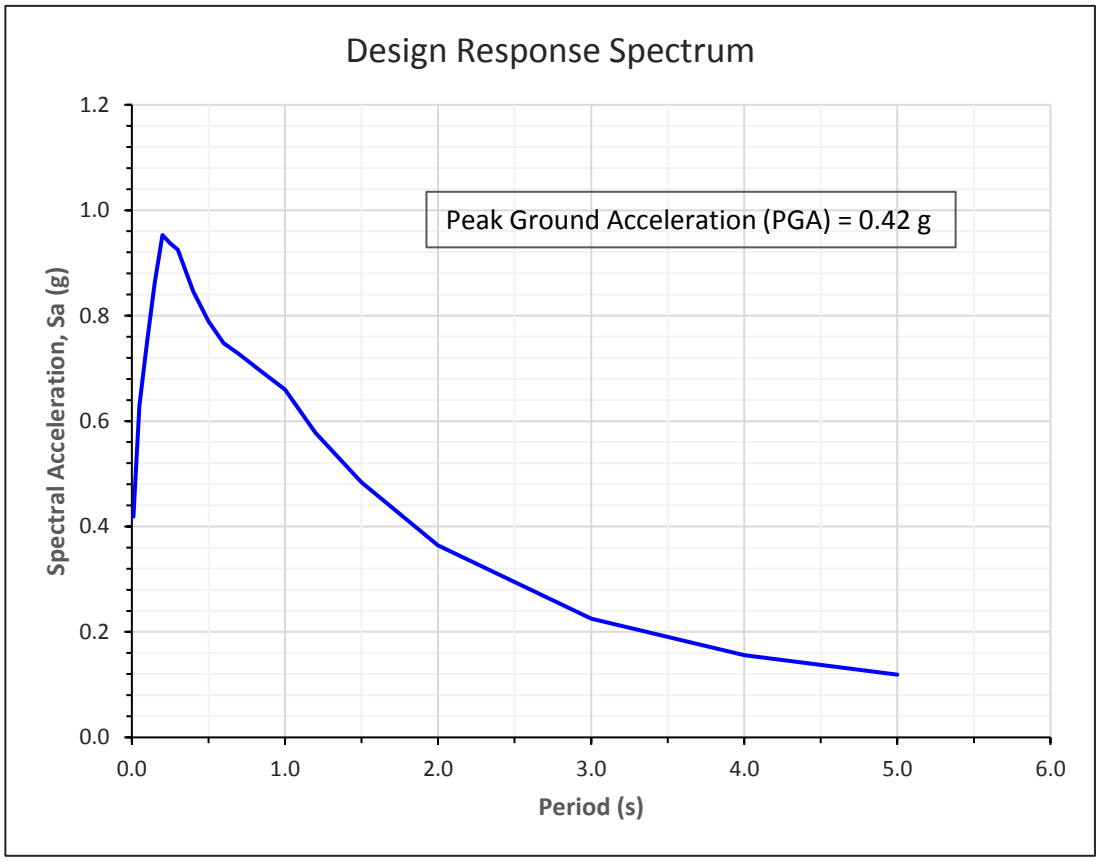
CEI Project No. 5012-02-1

Caltrans ARS Online Version V2.3.09
Accessed Date: June 2019

Site Lattitude:	38.85728
Site Longitude:	-120.02702

Soils Profile:	Class D
Vs30 =	270 m/s

Period (s)	Spectral Acceleration, Sa (g)
0.010	0.419
0.050	0.630
0.100	0.751
0.150	0.863
0.200	0.953
0.250	0.937
0.300	0.925
0.400	0.846
0.500	0.789
0.600	0.748
0.700	0.727
0.850	0.693
1.000	0.660
1.200	0.578
1.500	0.484
2.000	0.364
3.000	0.225
4.000	0.156
5.000	0.119



The Design Response Spectrum is the upper envelope of the deterministic and probablistic response spectrum, but not less than the Minimum Deterministic Spectrum for California.

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APPENDIX A

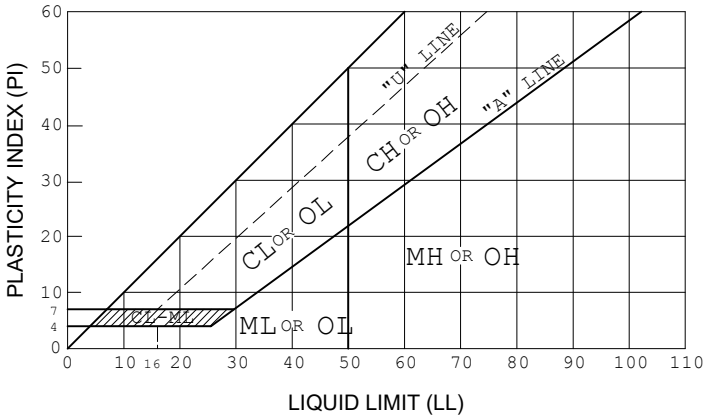
A-1 USCS SOIL CLASSIFICATION CHART
A-2 BORINGS LOGS

SOIL CLASSIFICATION CHART

MAJOR DIVISIONS			SYMBOLS GRAPH	SYMBOLS LETTER	TYPICAL DESCRIPTIONS
COARSE GRAINED SOILS (MORE THAN 50% OF MATERIAL IS LARGER THAN NO. 200 SIEVE SIZE)	GRAVEL AND GRAVELLY SOILS (MORE THAN 50% OF COARSE FRACTION RETAINED ON NO. 4 SIEVE)	CLEAN GRAVELS (LITTLE OR NO FINES)		GW	WELL-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
				GP	POORLY-GRADED GRAVELS, GRAVEL - SAND MIXTURES, LITTLE OR NO FINES
		GRAVELS WITH FINES (APPRECIABLE AMOUNT OF FINES)		GM	SILTY GRAVELS, GRAVEL - SAND - SILT MIXTURES
				GC	CLAYEY GRAVELS, GRAVEL - SAND - CLAY MIXTURES
	SAND AND SANDY SOILS (MORE THAN 50% OF COARSE FRACTION PASSING ON NO. 4 SIEVE)	CLEAN SANDS (LITTLE OR NO FINES)		SW	WELL-GRADED SANDS, GRAVELLY SANDS, LITTLE OR NO FINES
				SP	POORLY-GRADED SANDS, GRAVELLY SAND, LITTLE OR NO FINES
		SANDS WITH FINES (APPRECIABLE AMOUNT OF FINES)		SM	SILTY SANDS, SAND - SILT MIXTURES
				SC	CLAYEY SANDS, SAND - CLAY MIXTURES
FINE GRAINED SOILS (MORE THAN 50% OF MATERIAL IS SMALLER THAN NO. 200 SIEVE SIZE)	SILTS AND CLAYS (LIQUID LIMIT LESS THAN 50)			ML	INORGANIC SILTS AND VERY FINE SANDS, ROCK FLOUR, SILTY OR CLAYEY FINE SANDS OR CLAYEY SILTS WITH SLIGHT PLASTICITY
				CL	INORGANIC CLAYS OF LOW TO MEDIUM PLASTICITY, GRAVELLY CLAYS, SANDY CLAYS, SILTY CLAYS, LEAN CLAYS
				OL	ORGANIC SILTS AND ORGANIC SILTY CLAYS OF LOW PLASTICITY
	SILTS AND CLAYS (LIQUID LIMIT GREATER THAN 50)			MH	INORGANIC SILTS, MICACEOUS OR DIATOMACEOUS FINE SAND OR SILTY SOILS
				CH	INORGANIC CLAYS OF HIGH PLASTICITY
				OH	ORGANIC CLAYS OF MEDIUM TO HIGH PLASTICITY, ORGANIC SILTS
HIGHLY ORGANIC SOILS				PT	PEAT, HUMUS, SWAMP SOILS WITH HIGH ORGANIC CONTENTS
FILL MATERIAL				--	FILL MATERIAL, NON-NATIVE

NOTE: DUAL SYMBOLS ARE USED TO INDICATE BORDERLINE SOIL CLASSIFICATIONS.

PLASTICITY CHART



FOR CLASSIFICATION OF FINE-GRAINED SOILS AND FINE-GRAINED FRACTION OF COARSE-GRAINED SOILS

EXPLORATION SAMPLE TERMINOLOGY

Sample Type	Sample Symbol	Sample Code
Auger Cuttings		Auger
Bulk (Grab) Sample		Grab
Modified California Sampler		MC
Shelby Tube		SH or ST
Standard Penetration Test		SPT
Split Spoon		SS
No Sample		

GRAIN SIZE TERMINOLOGY

Component of Sample	Size Range
Boulders	Over 12 in. (300mm)
Cobbles	12 in. to 3 in. (300mm to 75mm)
Gravel	3 in. to #4 sieve (75mm to 2mm)
Sand	# 4 to #200 sieve (2mm to 0.074mm)
Silt or Clay	Passing #200 sieve (0.074mm)

RELATIVE DENSITY OF GRANULAR SOILS

N - Blows/ft	Relative Density
0 - 4	Very Loose
5 - 10	Loose
11 - 30	Medium Dense
31 - 50	Dense
greater than 50	Very Dense

CONSISTENCY OF COHESIVE SOILS

Unconfined Compressive Strength, psf	N - Blows/ft	Consistency
less than 500	0 - 1	Very Soft
500 - 1,000	2 - 4	Soft
1,000 - 2,000	5 - 8	Firm
2,000 - 4,000	9 - 15	Stiff
4,000 - 8,000	16 - 30	Very Stiff
8,000 - 16,000	31 - 60	Hard
greater than 16,000	greater than 60	Very Hard

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USCS Soil Classification Chart

Project: San Bernardino Class 1 Bike Trail Project

Location: El Dorado County, California

Project Number: 5012-02-1 Plate Number: A-1

BORING LOG

BORING NO.: B-01 | DATE: 5/22/2019

TYPE OF BORING: CME 55 | DEPTH TO GROUND WATER (ft): 3.7

LOGGED BY: JP | GROUND ELEVATION (ft): 6299±

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
	AUGER		12.5	NP		SM		**Silty Sand with Gravel** Brown, moist to wet, medium dense, with 13% non-plastic fines, 69% fine to coarse sand, and 18% subrounded to rounded gravel. Occasional rotten granitic cobbles. Topsoil approximately 4-6 inches thick at exploration location.
A	SPT	21						
					5			
B	SPT	29						
C	SPT	14				ML		**Silt** Gray, wet, stiff, with an estimated 90% non-plastic fines and 10% fine sand.
					10			
D	SPT	21				SP-SM		**Poorly Graded Sand with Silt and Gravel** Brown to gray, wet, medium dense, with an estimated 10% non-plastic fines, 70% fine to coarse sand, and 20% subrounded to rounded gravel.
								11.5 feet total depth, terminated at planned depth. Backfilled with neat cement grout.

Solid-flight auger drilling.

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San Bernardino Class 1 Bike Trail Project

El Dorado County, California

PROJECT NO.: 5012-02-1

PLATE: A-2

SHEET 1 OF 1

BORING LOG

BORING NO.: B-02 | DATE: 5/22/2019

TYPE OF BORING: CME 55 | DEPTH TO GROUND WATER (ft): 3.0

LOGGED BY: JP | GROUND ELEVATION (ft): 6296±

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
						SP		**Poorly Graded Sand with Gravel** Brown, moist to wet, medium dense, with an estimated 5% non-plastic fines, 55% fine to coarse sand, and 40% subrounded to rounded, fine to coarse gravel.
A	SPT	30						
					5			
B	SPT	7	13.3	NP		SP-SM		**Poorly Graded Sand with Silt and Gravel** Brown, wet, loose, with 6% non-plastic fines, 51% fine to coarse sand, and 43% subrounded, fine to coarse gravel.
C	SPT	23				SM		**Silty Sand** Light brown to light gray, wet, medium dense, with an estimated 15% non-plastic fines and 85% fine to coarse sand.
					10			
D	SPT	26				SM		**Silty Sand with Gravel** Light brown, wet, medium dense, with an estimated 20% non-plastic fines, 65% fine to coarse sand, and 15% subrounded, fine to coarse gravel.
E	SPT	18						**Silty Sand** Light gray, wet, loose to dense, with 19% non-plastic fines, 76% mostly fine to medium sand, and 5% subrounded fine gravel.
					15			
F	SPT	10	22.9	NP		SM		
G	SPT	24						
					20			
H	SPT	33						
I	SPT	35				SP-SM		**Poorly Graded Sand with Silt** Brown with orange staining, wet, dense, with an estimated 10% non-plastic fines, 85% fine to coarse sand, and 5% subrounded fine gravel.

Solid-flight auger to 5 feet. Mud-rotary drilling from 5-40 feet depth.

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San Bernardino Class 1 Bike Trail Project

El Dorado County, California

PROJECT NO.: 5012-02-1

PLATE: A-2

BORING LOG

BORING NO.: B-02 | DATE: 5/22/2019

TYPE OF BORING: CME 55 | DEPTH TO GROUND WATER (ft): 3.0

LOGGED BY: JP | GROUND ELEVATION (ft): 6296±

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
J	SPT	27				SM		**Silty Sand** Light gray, wet, medium dense, with an estimated 30% non-plastic fines and 70% fine sand.
K	SPT	31			30	SM		**Silty Sand** Light gray, wet, dense, with an estimated 20% non-plastic fines and 80% fine to medium sand.
L	SPT	28			35	SM		**Silty Sand** Light brown to light gray, wet, medium dense, with an estimated 15% non-plastic fines and 85% fine to coarse sand. Includes <1cm thick interbeds of silt (ML). About 2 to 3 per foot.
M	SPT	32			40	SP-SM		**Poorly Graded Sand with Silt** Brown with orange staining, wet, dense, with an estimated 10% non-plastic fines and 90% medium to coarse sand. 41.5 feet total depth, terminated at planned depth. Backfilled with neat cement grout.
					45			

Solid-flight auger to 5 feet. Mud-rotary drilling from 5-40 feet depth.

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San Bernardino Class 1 Bike Trail Project

El Dorado County, California

PROJECT NO.: 5012-02-1

PLATE: A-2

BORING LOG

BORING NO.: B-03 | DATE: 5/21/2019

TYPE OF BORING: CME 55 | DEPTH TO GROUND WATER (ft): 3.0

LOGGED BY: JP | GROUND ELEVATION (ft): 6295±

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
	AUGER		20.5	NP		SP-SM		**Poorly Graded Sand with Silt** Brown, very moist to wet, loose, with 12% non-plastic fines, 76% fine to coarse sand, and 12% subangular to subrounded, fine to coarse gravel.
A	SPT	4						
					5			
B	MC	32	11.7	NP		SP-SM		**Poorly Graded Sand with Silt and Gravel** Brown, wet, medium dense, with 6% non-plastic fines, 69% fine to coarse sand, and 25% subangular to subrounded, fine to coarse gravel.
C	SPT	19				SM		**Silty Sand with Gravel** Brown with orange mottling, wet, medium dense, with an estimated 15% non-plastic fines, 55% fine to coarse sand, and 30% subrounded to rounded gravel up to 1 inch in diameter.
					10			
D	MC	44	11.3	NP		SW-SM		**Well-Graded Sand with Silt and Gravel** Brown, wet, medium dense, with 8% non-plastic fines, 72% fine to coarse sand, and 20% subrounded gravel up to 1 inch in diameter.
E	SPT	39				SM		**Silty Sand** Light brown to light gray, wet, medium dense to dense, with an estimated 20% non-plastic fines, 75% fine to medium sand, and 5% subrounded gravle up to 1 inch in diameter.
					15			
F	SPT	24						15 feet below the ground surface (bgs): switch to HQ coring due to hole collapse.
G	SPT	32						**Silty Sand** Light gray, wet, medium dense to dense, with an estimated 15% non-plastic fines and 85% fine to coarse sand.
					20			
H	SPT	29						
I	SPT	34						

Solid-flight auger to 15 feet. HQ core drilling from 15-40 feet depth.

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San Bernardino Class 1 Bike Trail Project

El Dorado County, California

PROJECT NO.: 5012-02-1

PLATE: A-2

BORING LOG

BORING NO.: B-03 | DATE: 5/21/2019

TYPE OF BORING: CME 55 | DEPTH TO GROUND WATER (ft): 3.0

LOGGED BY: JP | GROUND ELEVATION (ft): 6295±

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
J	SPT	40				SM		
K	SPT	34						
L	SPT	26			30			
M	SPT	26						
N	SPT	24			35			**Silty Sand** Light gray, wet, medium dense, with an estimated 25% non-plastic fines and 75% fine to medium sand.
						SM		
O	SPT	34			40	SM		**Silty Sand** Light gray, wet, dense, with an estimated 15% non-plastic fines and 85% fine to coarse sand.
								41.5 feet total depth, terminated at planned depth. Backfilled with neat cement grout.
					45			

Solid-flight auger to 15 feet. HQ core drilling from 15-40 feet depth.

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San Bernardino Class 1 Bike Trail Project

El Dorado County, California

PROJECT NO.: 5012-02-1

PLATE: A-2a

BORING LOG

BORING NO.: B-04 | DATE: 5/21/2019

TYPE OF BORING: CME 55 | DEPTH TO GROUND WATER (ft): 2.9

LOGGED BY: JP | GROUND ELEVATION (ft): 6296±

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
						SM		**Silty Sand with Gravel** Brown, very moist to wet, medium dense, with an estimated 20% non-plastic fines, 65% fine to coarse sand, and 15% subrounded to rounded gravel up to 1 inch in diameter. Topsoil approximately 2-4 inches thick at exploration location.
A	SPT	17						
					5	SP-SM		**Poorly Graded Sand with Silt and Gravel** Brown to orange brown, moist to wet, medium dense, with an estimated 10% non-plastic fines, 60% fine to coarse sand, and 30% subrounded to rounded gravel up to 3/4 inch in diameter.
B	SPT	22						
						SM		**Silty Sand** Brown to light gray, wet, medium dense, with an estimated 20% non-plastic fines, 70% fine to medium sand, and 10% subrounded gravel up to 1/2 inch in diameter.
C	SPT	20						
					10	SP		**Poorly Graded Sand with Gravel** Orange brown, wet, medium dense, with an estimated 5% non-plastic fines, 60% fine to coarse sand, and 35% subrounded gravel up to 1 inch in diameter. Heavy soil staining.
D	SPT	19						
								11.5 feet total depth, terminated at planned depth. Backfilled with neat cement grout.

Solid-flight auger drilling.

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San Bernardino Class 1 Bike Trail Project

El Dorado County, California

PROJECT NO.: 5012-02-1

PLATE: A-2

SHEET 1 OF 1

BORING LOG

BORING NO.: B-05 | DATE: 5/21/2019

TYPE OF BORING: CME 55 | DEPTH TO GROUND WATER (ft): 1.5

LOGGED BY: JP | GROUND ELEVATION (ft): 6297±

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
						SP		**Poorly Graded Sand with Gravel** Brown to orange brown, moist to wet, medium dense, with an estimated 5% non-plastic fines, 60% fine to coarse sand, and 35% subrounded, fine to coarse gravel. Topsoil approximately 2-4 inches thick at exploration location. Hard drilling from 3-4 feet bgs.
A	SPT	20						
					5			
B	SPT	19				SM		**Silty Sand with Gravel** Brown, wet, medium dense, with an estimated 20% non-plastic fines, 60% fine to coarse sand, and 20% subangular to subrounded, fine to coarse gravel. Hard drilling from 3-4 feet bgs.
C	SPT	24				SP-SM		**Poorly Graded Sand with Silt and Gravel** Orange brown, wet, medium dense, with an estimated 10% non-plastic fines, 70% fine to coarse sand, and 20% subrounded gravel up to 1 inch in diameter. Heavy soil staining.
					10			
D	SPT	28				SM		**Silty Sand** Light gray, wet, medium dense, with an estimated 30% non-plastic fines and 70% fine sand.
								11.5 feet total depth, terminated at planned depth. Backfilled with neat cement grout.

Solid-flight auger drilling.

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San Bernardino Class 1 Bike Trail Project

El Dorado County, California

PROJECT NO.: 5012-02-1

PLATE: A-2

SHEET 1 OF 1

BORING LOG

BORING NO.: B-06 | DATE: 5/22/2019

TYPE OF BORING: CME 55 | DEPTH TO GROUND WATER (ft): 0.75

LOGGED BY: JP | GROUND ELEVATION (ft): 6298±

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
						SP		**Poorly Graded Sand with Gravel** Brown to orange brown, moist to wet, loose, with an estimated 5% non-plastic fines, 75% fine to coarse sand, and 20% subrounded gravel up to 1 inch in diameter. Topsoil approximately 2-4 inches thick at exploration location.
A	SPT	6						
					5			
B	SPT	21				SM		**Silty Sand with Gravel** Brown, wet, medium dense, with an estimated 15% non-plastic fines, 55% fine to coarse sand, and 30% subrounded gravel up to 1 inch in diameter.
C	SPT	11				SM		**Silty Sand** Light gray, wet, medium dense, with an estimated 25% non-plastic fines, 75% fine to medium sand, and trace amounts of subrounded, fine gravel.
					10			
D	SPT	10				SM		**Silty Sand** Light gray, wet, loose, with an estimated 20% non-plastic fines and 80% fine to coarse sand.
								11.5 feet total depth, terminated at planned depth. Backfilled with neat cement grout.

Solid-flight auger drilling.

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San Bernardino Class 1 Bike Trail Project

El Dorado County, California

PROJECT NO.: 5012-02-1

PLATE: A-2

SHEET 1 OF 1

BORING LOG

BORING NO.: B-07 | DATE: 5/22/2019

TYPE OF BORING: CME 55 | DEPTH TO GROUND WATER (ft): 1.0

LOGGED BY: JP | GROUND ELEVATION (ft): 6301±

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
	AUGER		22.3	NP		SM		**Silty Sand with Gravel** Brown, moist to wet, medium dense, with 20% non-plastic fines, 59% fine to coarse sand, and 21% subrounded to rounded, fine to coarse gravel. Trace amounts of cobbles up to 6 inches in diameter. Topsoil approximately 2-4 inches thick at exploration location.
A	SPT	23						
					5			
B	SPT	17				SM		**Silty Sand** Light gray, wet, medium dense, with an estimated 30% non-plastic fines and 70% fine sand.
								11.5 feet total depth, terminated at planned depth. Backfilled with neat cement grout.
					10			

Solid-flight auger drilling.

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San Bernardino Class 1 Bike Trail Project

El Dorado County, California

PROJECT NO.: 5012-02-1

PLATE: A-2

SHEET 1 OF 1

BORING LOG

BORING NO.: B-08 | DATE: 5/22/2019

TYPE OF BORING: CME 55 | DEPTH TO GROUND WATER (ft): 7.1

LOGGED BY: JP | GROUND ELEVATION (ft): 6311±

SAMPLE NO.	SAMPLE TYPE	BLOWS/12 inches	MOISTURE (%)	PLASTICITY INDEX	DEPTH (ft)	USCS SYMBOL	LITHOLOGY	DESCRIPTION
						SP-SM		**Poorly Graded Sand with Silt and Gravel (Fill)** Brown and gray, moist to wet, loose to medium dense, with 8% non-plastic fines, 55% fine to coarse sand, and 37% subangular to subrounded, fine to coarse gravel.
A	SPT	20	6.6	NP				
					5			
B	SPT	9						
					▼			
C	SPT	2				SM		**Silty Sand** Brown to gray, wet, very loose, with an estimated 35% non-plastic fines, 55% fine sand, and 10% subangular to subrounded, fine gravel.
					10			
D	SPT	37				SP-SM		**Poorly Graded Sand with Silt and Gravel** Orange brown, wet, dense, with an estimated 10% non-plastic fines, 55% fine to coarse sand, and 35% subrounded to rounded, fine to coarse gravel.
								11.5 feet total depth, terminated at planned depth.
								Backfilled with neat cement grout.

Solid-flight auger drilling.

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NCE

San Bernardino Class 1 Bike Trail Project

El Dorado County, California

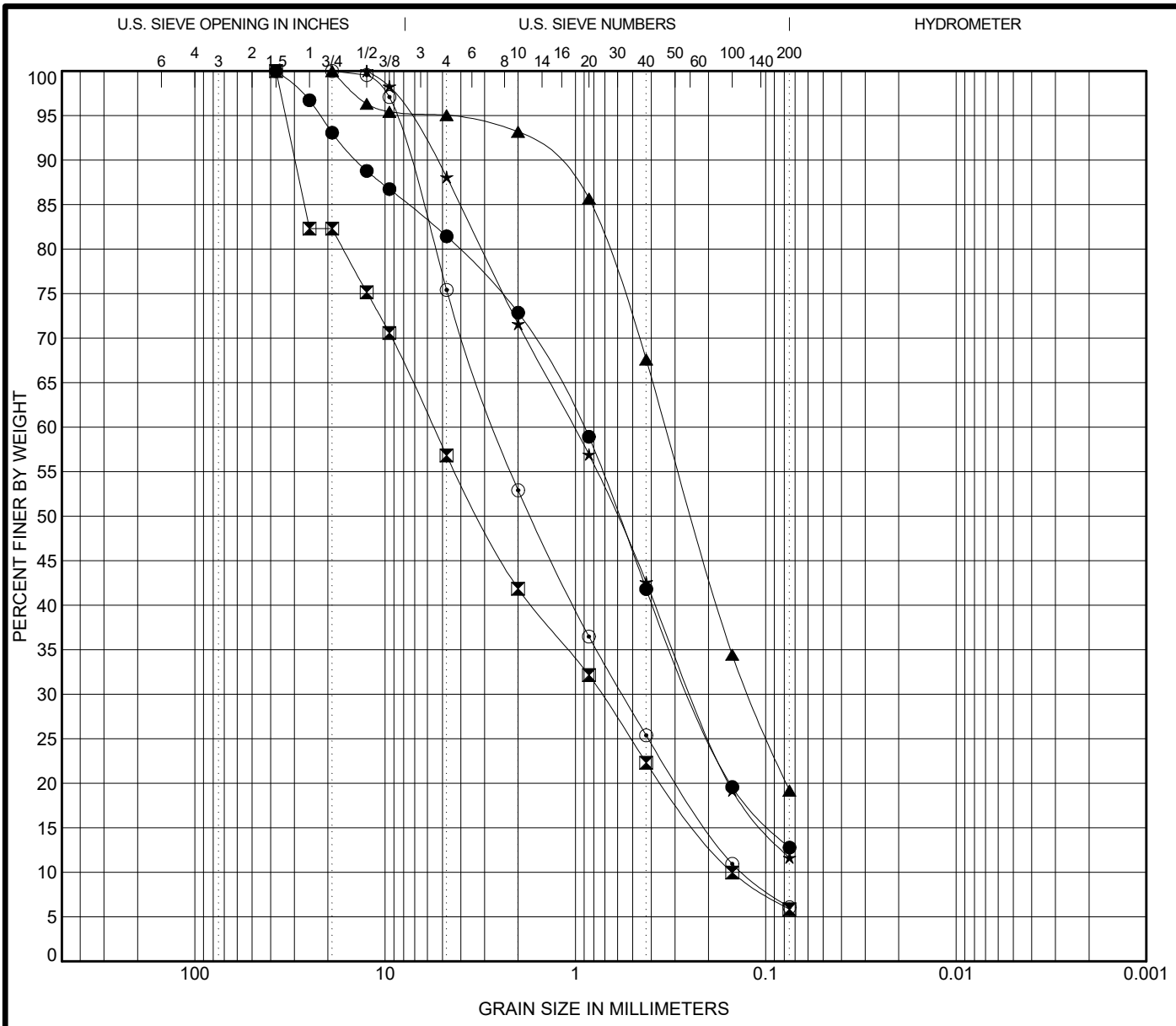
PROJECT NO.: 5012-02-1

PLATE: A-2

SHEET 1 OF 1

APPENDIX B

B-1 INDEX TEST RESULTS
B-2 DIRECT SHEAR TEST RESULTS
B-3 R-VALUE TEST RESULTS
B-4 CHEMICAL TEST RESULTS



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		USCS Classification	LL	PL	PI	Cc	Cu
●	B-01	0.0'	SILTY SAND with GRAVEL (SM)	NP	NP	NP		
⧓	B-02	5.0'	POORLY GRADED SAND with SILT and GRAVEL (SP-SM)	NP	NP	NP	0.64	37.10
▲	B-02	12.5'	SILTY SAND (SM)	NP	NP	NP		
★	B-03	0.0'	POORLY GRADED SAND with SILT (SP-SM)	NP	NP	NP	0.90	15.77
⊙	B-03	5.0'	POORLY GRADED SAND with SILT and GRAVEL (SP-SM)	NP	NP	NP	0.93	20.03

	Specimen Identification		D100	D60	D30	D10	MC %	%Gravel	%Sand	%Silt	%Clay
●	B-01	0.0'	37.5	0.908	0.244		12.5	18.6	68.7	12.8	
⧓	B-02	5.0'	37.5	5.578	0.731	0.15	13.3	43.2	51.0	5.8	
▲	B-02	12.5'	19	0.335	0.123		22.9	5.0	75.9	19.2	
★	B-03	0.0'	12.5	1.017	0.243		20.8	11.9	76.4	11.6	
⊙	B-03	5.0'	19	2.627	0.567	0.131	11.7	24.6	69.4	6.1	

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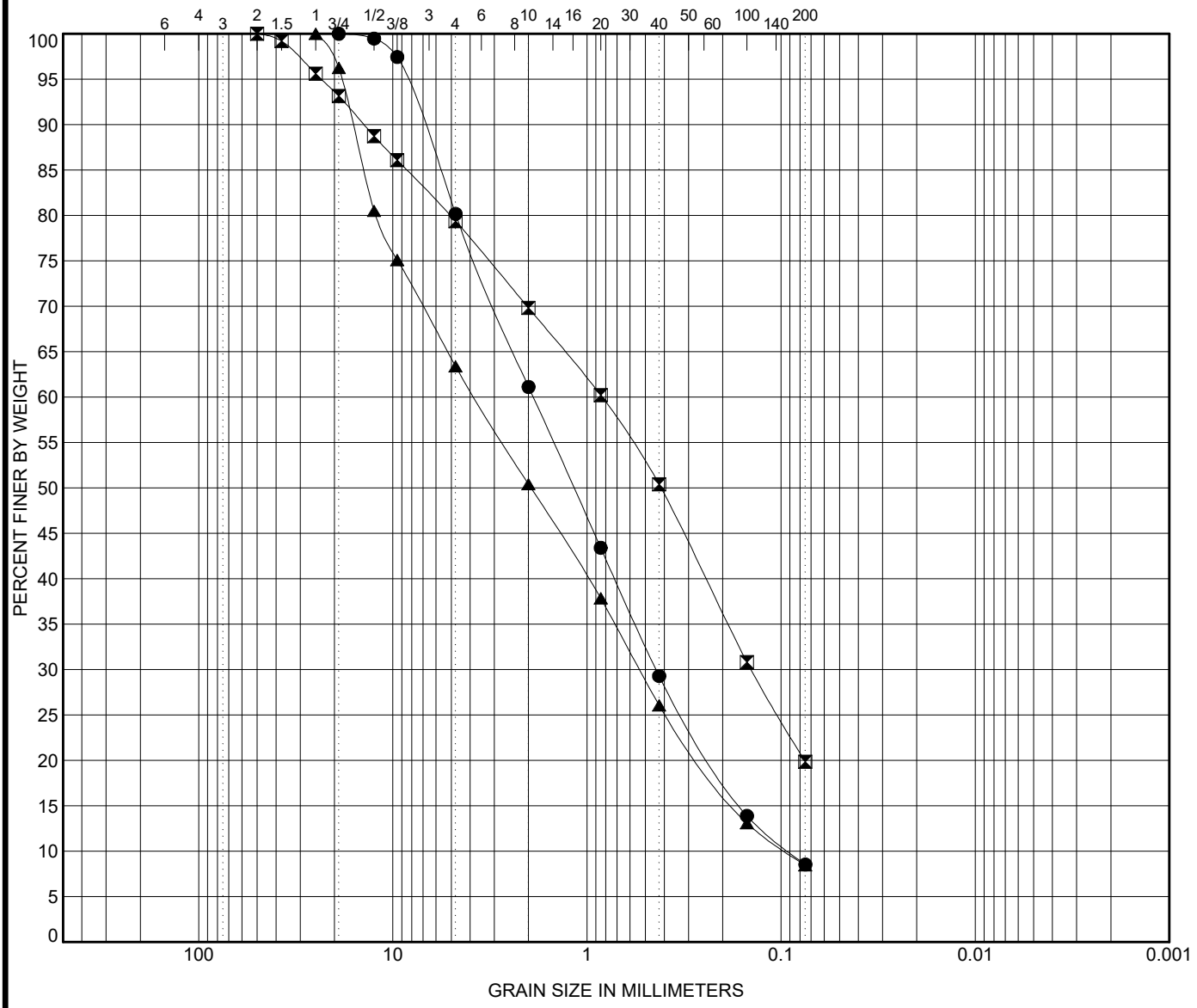
GRAIN SIZE DISTRIBUTION

Project: San Bernardino Class 1 Bike Trail Project

Location: El Dorado County, California

Project Number: 5012-02-1 Plate Number: B-1.a



COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

	Specimen Identification		USCS Classification	LL	PL	PI	Cc	Cu
●	B-03	10.0'	WELL-GRADED SAND with SILT and GRAVEL (SW-SM)	NP	NP	NP	1.13	20.89
⧓	B-07	0.0'	SILTY SAND with GRAVEL (SM)	NP	NP	NP		
▲	B-08	2.5'	POORLY GRADED SAND with SILT and GRAVEL (SP-SM)	NP	NP	NP	0.80	40.10

	Specimen Identification		D100	D60	D30	D10	MC %	%Gravel	%Sand	%Silt	%Clay
●	B-03	10.0'	19	1.895	0.44	0.091	11.3	19.8	71.6	8.5	
⧓	B-07	0.0'	50	0.837	0.142		22.3	20.6	59.5	19.8	
▲	B-08	2.5'	25	3.792	0.536	0.095	6.9	36.6	54.9	8.5	

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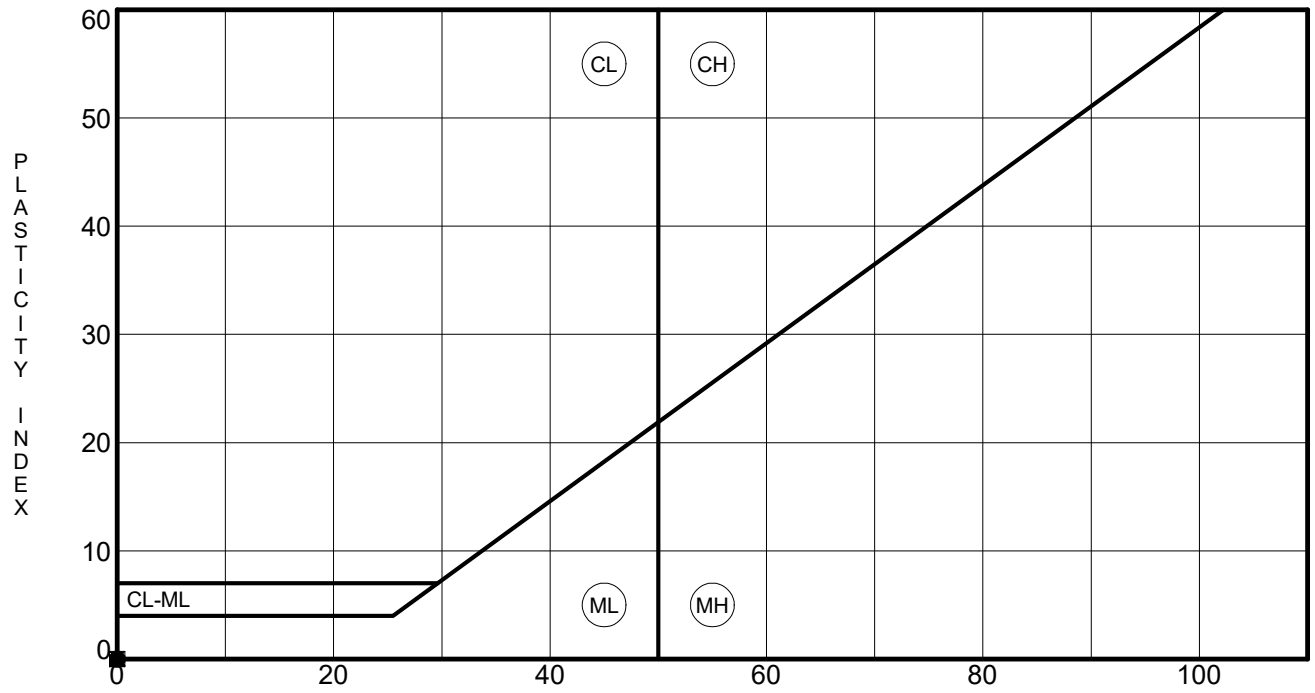
GRAIN SIZE DISTRIBUTION

Project: San Bernardino Class 1 Bike Trail Project

Location: El Dorado County, California

Project Number: 5012-02-1 Plate Number: B-1.b



Specimen Depth in Feet.

	Specimen Identification		LL	PL	PI	Fines	USCS Classification
●	**B-01**	**0.0'**	**NP**	**NP**	**NP**	**13**	**SILTY SAND with GRAVEL (SM)**
⧓	**B-02**	**5.0'**	**NP**	**NP**	**NP**	**6**	**POORLY GRADED SAND with SILT and GRAVEL (SP-SM)**
▲	**B-02**	**12.5'**	**NP**	**NP**	**NP**	**19**	**SILTY SAND (SM)**
★	**B-03**	**0.0'**	**NP**	**NP**	**NP**	**12**	**POORLY GRADED SAND with SILT (SP-SM)**
⊙	**B-03**	**5.0'**	**NP**	**NP**	**NP**	**6**	**POORLY GRADED SAND with SILT and GRAVEL (SP-SM)**
✿	**B-03**	**10.0'**	**NP**	**NP**	**NP**	**9**	**WELL-GRADED SAND with SILT and GRAVEL (SW-SM)**
○	**B-07**	**0.0'**	**NP**	**NP**	**NP**	**20**	**SILTY SAND with GRAVEL (SM)**
△	**B-08**	**2.5'**	**NP**	**NP**	**NP**	**8**	**POORLY GRADED SAND with SILT and GRAVEL (SP-SM)**

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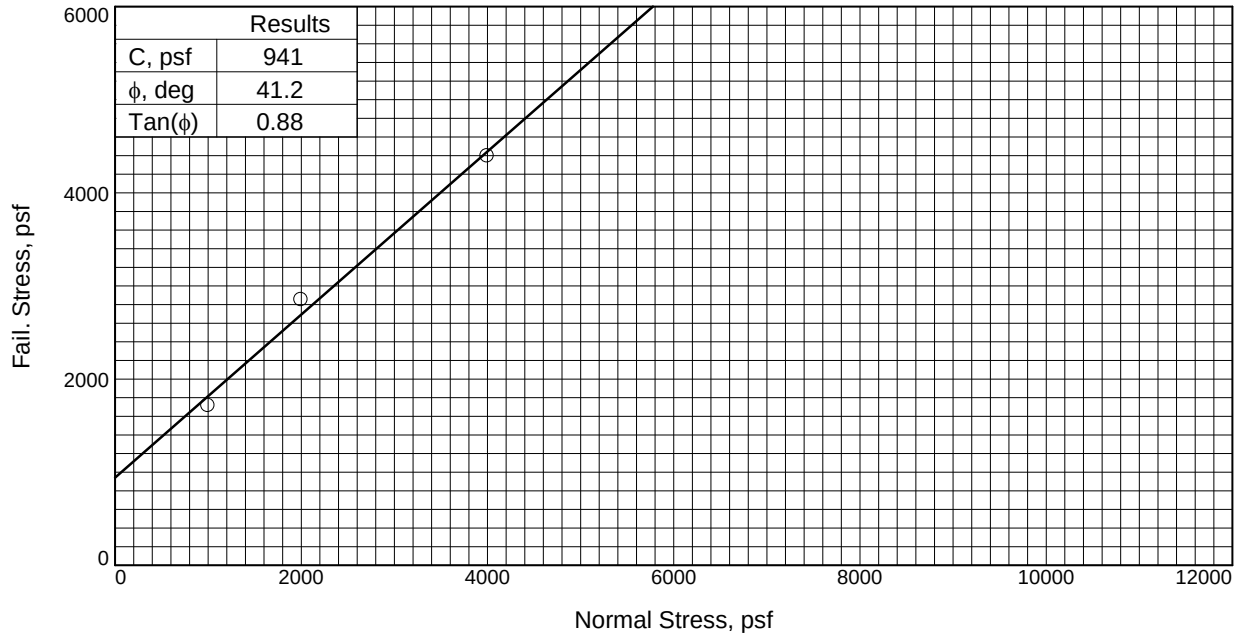
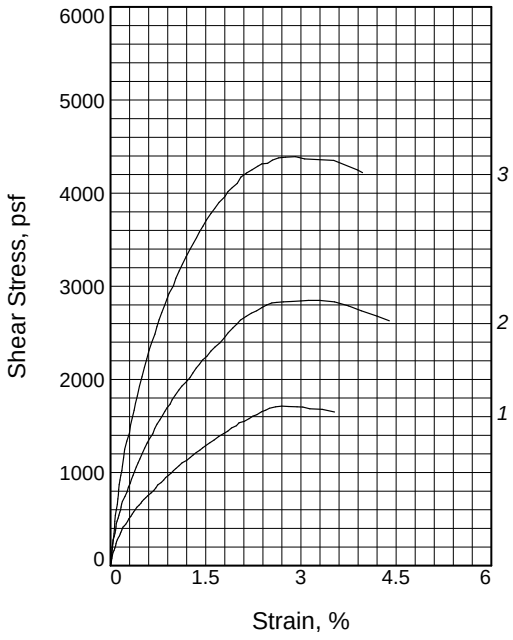
ATTERBERG LIMITS RESULTS

Project: San Bernardino Class 1 Bike Trail Project

Location: El Dorado County, California

Project Number: 5012-02-1 Plate Number: B-1.c





Sample No.		1	2	3
Initial	Water Content, %	11.8	11.8	11.8
	Dry Density, pcf	122.8	122.8	122.8
	Saturation, %	85.4	85.4	85.4
	Void Ratio	0.3721	0.3721	0.3721
	Diameter, in.	2.42	2.42	2.42
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	13.8	12.0	13.0
	Dry Density, pcf	122.9	127.3	124.9
	Saturation, %	100.0	100.0	100.0
	Void Ratio	0.3715	0.3243	0.3500
	Diameter, in.	2.42	2.42	2.42
	Height, in.	1.00	0.97	0.98
Normal Stress, psf		1000	2000	4000
Fail. Stress, psf		1712	2849	4392
Strain, %		2.7	3.1	2.9
Ult. Stress, psf				
Strain, %				
Strain rate, in./min.		0.002	0.002	0.002

Sample Type: Remolded to In-Situ Density
Description: Poorly Graded Sand with Silt and Gravel
LL= 0 **PI=** NP
Assumed Specific Gravity= 2.7
Remarks: Laboratory Log 7434

Client: Corestone Engineering, Inc.

Project: San Bernardino Class 1 Bike Trail Project

Source of Sample: B-03 **Depth:** 5
Sample Number: B
Proj. No.: 1702-01-1 **Date Sampled:** 05/21/19

DIRECT SHEAR TEST REPORT
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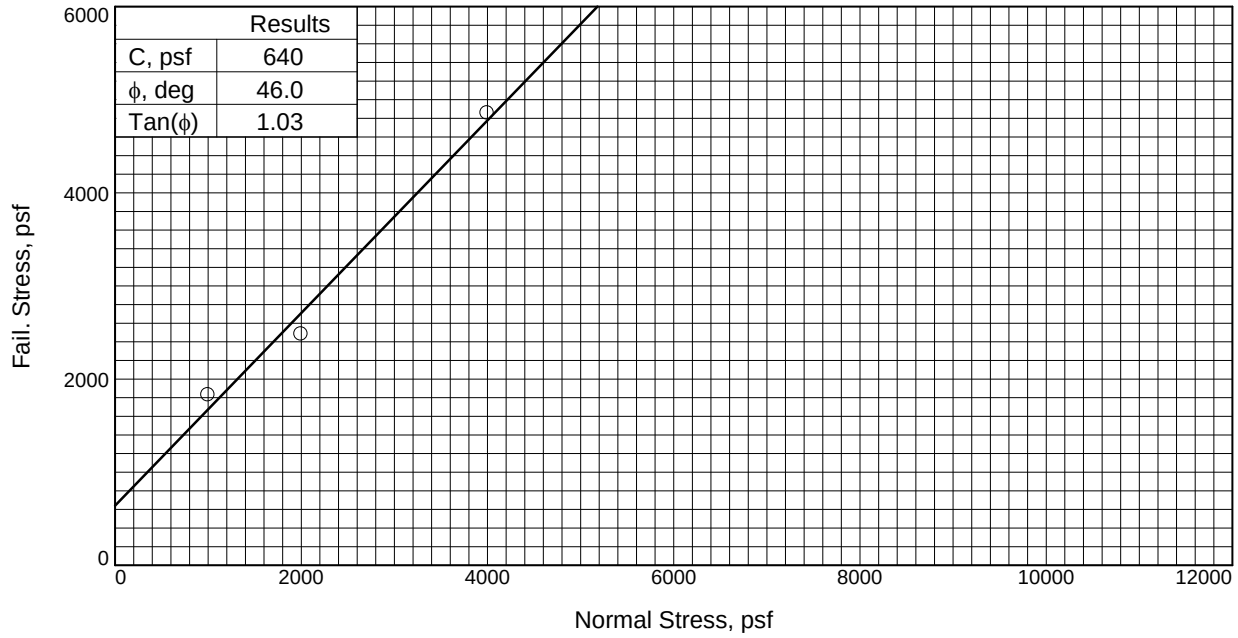
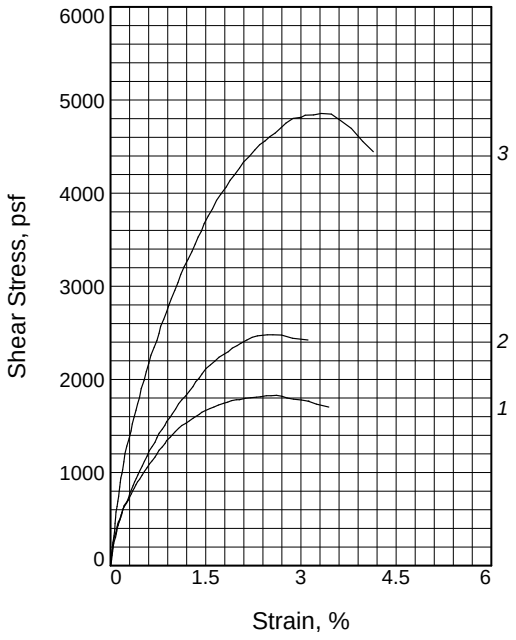
Reno, Nevada

Figure B-2.a

Tested By: GLO **Checked By:** LO





Sample No.		1	2	3
Initial	Water Content, %	11.3	11.3	11.3
	Dry Density, pcf	123.8	123.8	123.8
	Saturation, %	84.4	84.4	84.4
	Void Ratio	0.3614	0.3614	0.3614
	Diameter, in.	2.42	2.42	2.42
	Height, in.	1.00	1.00	1.00
At Test	Water Content, %	12.6	10.7	13.3
	Dry Density, pcf	125.6	130.7	124.0
	Saturation, %	100.0	100.0	100.0
	Void Ratio	0.3415	0.2899	0.3597
	Diameter, in.	2.42	2.42	2.42
	Height, in.	0.99	0.95	1.00
Normal Stress, psf		1000	2000	4000
Fail. Stress, psf		1828	2480	4856
Strain, %		2.6	2.5	3.3
Ult. Stress, psf				
Strain, %				
Strain rate, in./min.		0.002	0.002	0.002

Sample Type: Remolded to In-Situ Density
Description: Well-Graded Sand with Silt and Gravel

LL= 0 **PI=** NP
Assumed Specific Gravity= 2.7
Remarks: Laboratory Log 7434

Figure B-2.b

Client: Corestone Engineering, Inc.

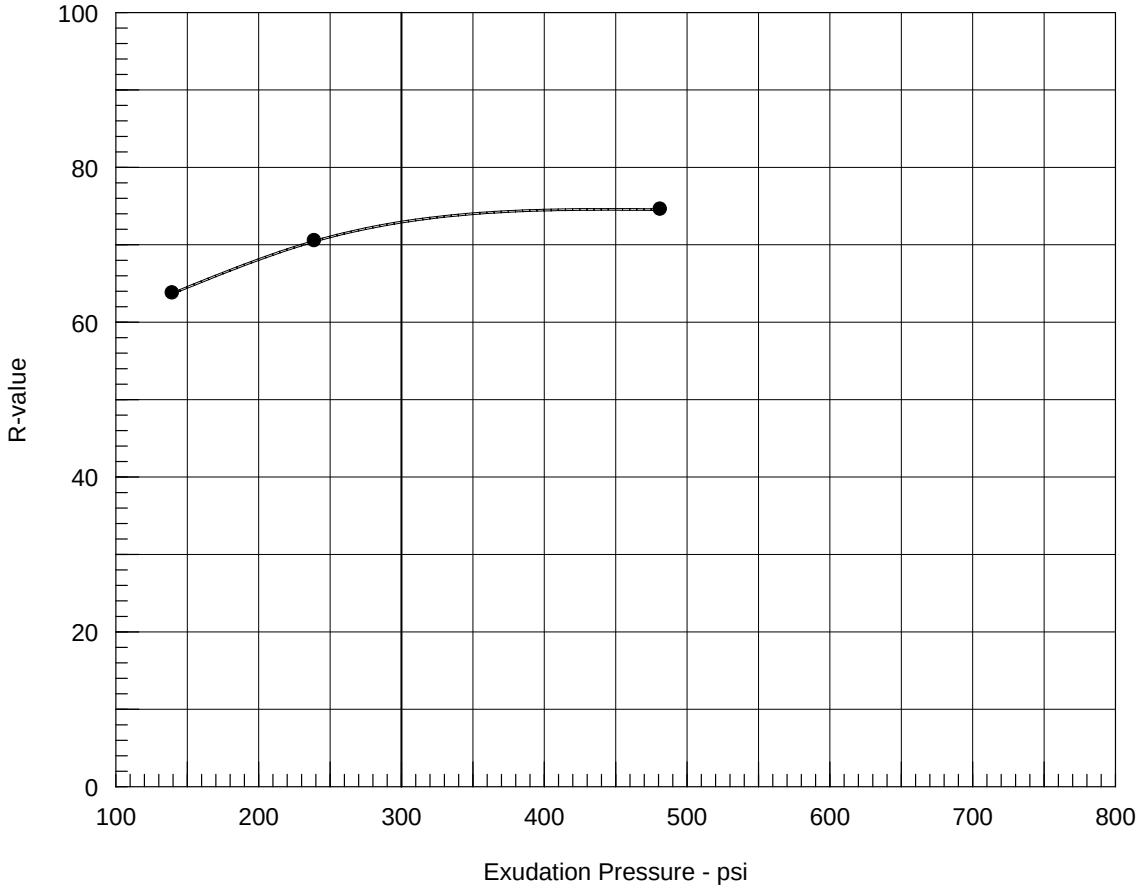
Project: San Bernardino Class 1 Bike Trail Project

Source of Sample: B-03 **Depth:** 10
Sample Number: D
Proj. No.: 1702-01-1 **Date Sampled:** 05/21/19

DIRECT SHEAR TEST REPORT
BLACK EAGLE CONSULTING, INC.
Reno, Nevada

Tested By: GLO **Checked By:** LO

R-VALUE TEST REPORT



Resistance R-Value and Expansion Pressure - ASTM D2844

No.	Compact. Pressure psi	Density pcf	Moist. %	Expansion Pressure psi	Horizontal Press. psi @ 160 psi	Sample Height in.	Exud. Pressure psi	R Value	R Value Corr.
1	250	104.8	17.5	0.06	47	2.63	140	61	64
2	300	105.1	16.7	0.58	35	2.52	239	70	70
3	350	106.1	15.1	0.82	30	2.52	482	75	75

Test Results	Material Description
R-value at 300 psi exudation pressure = 73	Silty Sand with Gravel

Project No.: 1702-01-1

Project: San Bernardino Class 1 Bike Trail Project

Source of Sample: B-01 **Depth:** 0

Sample Number: Bulk

Date: 7/26/2019

Tested by: GLO

Checked by: LO

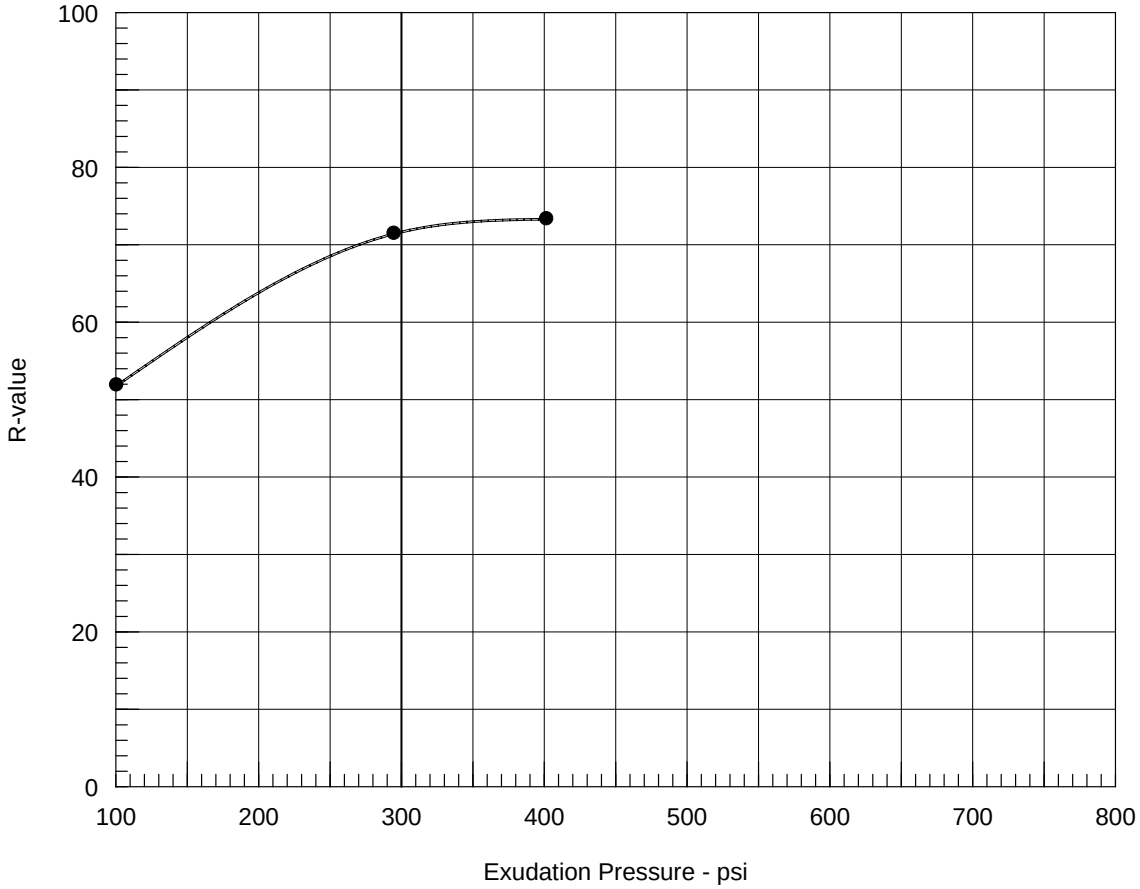
Remarks:
Laboratory Log 7434

R-VALUE TEST REPORT

BLACK EAGLE CONSULTING, INC.

Figure B-3.a

R-VALUE TEST REPORT



Resistance R-Value and Expansion Pressure - ASTM D2844

No.	Compact. Pressure psi	Density pcf	Moist. %	Expansion Pressure psi	Horizontal Press. psi @ 160 psi	Sample Height in.	Exud. Pressure psi	R Value	R Value Corr.
1	280	111.3	15.3	0.06	35	2.48	295	71	71
2	350	111.5	13.9	0.00	32	2.54	402	73	73
3	200	110.7	15.9	0.36	60	2.45	101	52	52

Test Results	Material Description
R-value at 300 psi exudation pressure = 72	Silty Sand with Gravel

Project No.: 1702-01-1

Project: San Bernardino Class 1 Bike Trail Project

Source of Sample: B-07 **Depth:** 0

Sample Number: Bulk

Date: 7/26/2019

Tested by: GLO

Checked by: LO

Remarks:
Laboratory Log 7434

R-VALUE TEST REPORT

BLACK EAGLE CONSULTING, INC.

Figure B-3.b

APPENDIX C

Project Name:	San Bernardino Class 1 Bike Trail Project	Developed By:	PV
Project No:	5012-02-1	Calculated By:	JP/PV
Boring No:	B-02 MR Boring	Checked By:	PV
Analyzed Case:	Bridge	Date:	6/26/2019
	Selected potential liquefiable layers	Version:	Jan-14

Liquefaction Potential of a Single Layer Using Idriss and Boulanger (2008) SPT Method

Input Parameters

Earthquake Input Parameters

Peak Ground Acceleration, a_{max} =	0.42	g	S_{DS}/2.5 or PGA
Earthquake Magnitude, M =	6.48		USGS Deaggregation Analysis
			(or known/active nearby fault's $M_{probable}$)

Layer and SPT Test Data

Depth to Layer Top =	17.5	feet	
Thickness of the Layer =	2.5	feet	
SPT Sample Depth =	17.5	feet	
Measured SPT N-Value =	24		
Depth to Ground Water Table =	2.5	feet	Design Value - Measured 3'
Hammer Energy Efficiency ER =	75	%	Auto hammer (Taber)
Borehole Diameter =	4	inch	101.6 mm
Standard SPT Sampler? (Yes/No)	Yes		(Yes: 1-3/8" inside dia - No room for liner)

Soil Parameters

USCS Soil Type =	SM		
% Fines =	19	%	Non-Liq if >35% & PI >7
Plasticity Index, PI =	NP		(Info only)
Average unit weight above GW =	120	pcf	
Average unit weight below GW =	120	pcf	

Void redistribution effect? (Yes/No)	No	(Only for shear strength calcs)

(Select yes only for thick liquefiable layer that is underlain by low pearmeable deposists)

Caculations

Total and Efeective Stress

Mid depth to SPT sample, z =	18.5	feet	5.6388 m
Total Stress at Mid Depth, σ_{vo} =	2220	psf	
Effective Strees at Mid Depth σ_{v0}' =	1222	psf	

SPT Corrections

C_E =	1.250	C_B =	1.00	C_S =	1.00	C_R =	0.95
C_N =	1.188	or	1.316	(alternative equation)			

$(N_1)_{60}$ =	33.9	37.5 corrected SPT blow count
ΔN =	4.3	correction for percent of fines (add)
$(N_1)_{60\,CS}$ =	38.2	Clean-sand equivalent corrected SPT blow count

Cyclic Stress Ratio

rd =	0.920	stress reduction coefficient
CSR =	0.456	Cyclic stress ratio for design EQ

Cyclic Resistance Ratio

$CRR_{M7.5, 1}$ =	2.000	Cyclic resistance ratio for M=7.5 & σ_{vc}' =1atm
MSF =	1.308	EQ magnitude scaling factor
K_σ =	1.100	Overburden correction factor
CRR =	2.877	Cyclic resistance ratio for M & σ_{v0}'

Factor of Safety

FS_{liq} =	**2.000**	Factor of Safety Against Soil Liquefaction

Limit maximum to 2.0 (for plotting purpose)

Lateral Spread

γ_{lim} =	1.3%	Limiting shear strain
F_α =	-0.666	Parameter F_α
γ_{max} =	0.0%	Maximum shear strain
LDI =	0.000 feet	Lateral displacement index (displacement in the subject layer)

1-D Reconsolidation Settlement (Liquefaction Induced Vertical Settlement)

εv =	0.00%	volumetric strain
S =	0.00 inches	Liquefaction vertical settlement (at the considered layer)

Residual Shear Strength

$\Delta(N_1)_{60\text{-}Sr}$ =	1.6	Fine correction for residual strength by Seed (1987)
$(N_1)_{60\ CS\text{-}Sr}$ =	35.4	Clean-sand equivalent SPT blow count for S_r
S_r/σ_{v0}' =	0.400	Residual Shear Strength Ratio
S_r =	490 psf	Residual Shear Strength

Results Summary:

Boring	Top Depth (feet)	Thickness (feet)	USCS Type	N	$(N_1)_{60\ CS}$	CSR	CRR	FS_{liq}	LDI (feet)	S (inches)	S_r (psf)
B-02	17.5	2.5	SM	24	38.2	0.456	2.877	2.000	0.000	0.00	490

Notes:

1. FS_{liq} - Factor of safety with respect to soil liquefaction; <1.0 potential exists, <1.1 marginal
2. LDI -Lateral spread index/displacement. If the liquefiable layer is at a depth deeper than twise the vertical height of the free-face, potential for lateral spread would be minimal (for free-face height of less than 10 feet).
3. S - Liquefaction induced vertical settlement at the layer. Surface manifestaion would be smaller and will depend on the thickness of the non-liquefiable cap above.
4. S_r - Estimated residual strength of the liquefied soils.

Saved Results:

Boring	Top Depth (feet)	Thickness (feet)	USCS Soil	N	$(N_1)_{60\ CS}$	CSR	CRR	FS_{liq}	LDI (feet)	S (inches)	S_r (psf)
B-02	5.0	2.5	SP-SM	7	11.9	0.386	0.190	0.492	0.958	1.01	70
B-02	12.5	2.5	SM	18	34.5	0.386	1.436	2.000			
B-02	15.0	2.5	SM	10	20.6	0.454	0.305	0.671	0.322	0.67	430
B-02	17.5	2.5	SM	24	38.2	0.456	2.877	2.000			
								Σ	1.280	1.68	

PW: liq

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Date: 6/25/2019
Revision Number: 0319
Developed By: JWP/PV
Calculated By: PV
Checked By:

Project Name: San Bernardino Class 1 Bike Trail Project
Project Number: 5012-02-1

CALCULATION OF LRFD 8TH EDITION (2017) BEARING CAPACITY

Location: Pier Footings on Native Ground
Foundation: 5 feet Wide Footing footing

References

1. AASHTO, 2017, AASHTO LRFD Bridge Design Specifications, 8th Edition, American Association of State Highway and Transportation Officials.

Assumptions

1. Bearing capacity calculations account for foundation shape, possibility of local or punching shear, inclined load, eccentric loading, sloping ground, and ground water.
2. Calculations assume one, homogeneous soil unit. Two-layer soil systems not supported.

Unit Conversions

Checked By:

$psf := \frac{lbf}{ft^2}$ $pcf := \frac{lbf}{ft^3}$ $kip := 1000 lbf$ $ksf := \frac{kip}{ft^2}$ $kPa := 1000 Pa$ $kN := 1000 N$ $kJ := 1000 J$

$g = 32.174 \frac{ft}{s^2}$

Input Data

Checked By:

Soil Cohesion:	$c := 0 psf$	$c = 0.0 \cdot kPa$
Soil Friction Angle:	$\phi := 36 deg$	
Total Soil Unit Weight:	$\gamma := 20 \frac{kN}{m^3}$	$\gamma = 127.3 pcf$
Depth of Foundation Base below Ground Surface:	$D_f := 0 m$	$D_f = 0.00 \cdot ft$
Foundation Width B (For Circular Footings B = L):	$B := 1.524 m$	$B = 5.00 \cdot ft$
Foundation Length L:	$L := 5.4864 m$	$L = 18.00 ft$
Depth of Ground Water from Ground Surface:	$D_w := 0 ft$	$D_w = 0.00$
Slope of Adjacent Ground (if j>0, the modified N_γ and Nc apply below, Nq=0):	$j := 0 deg$	
Calculate estimate reduction factor from Table 10.6.3.1.2c-1 or -2 and calculate teh reduced bearing capacity factors	$N_{\gamma slope} := 19$ $N_{cslope} := 0$	for β = 20.6 deg.
Is Local or Punching Shear Possible (Yes = "Y" and No = "N")?	$F_{ps} := "N"$	
Unfactored Vertical Load on Footing (Vertical):	$V := 1500 kN$	$V = 337.2 \cdot kip$
Unfactored Horiz Load on Footing (Enter 0 for vertical load only):	$H := 0 kip$	$H = 0.0 \cdot kN$
Orientation of Horizontal Load (Enter 0 for parallel to long axis L):	$\theta := 0 deg$	
Moment in x-Dimension (Footing Width):	$M_x := 0 kip \cdot ft$	$M_x = 0.0 \cdot kJ$
Moment in y-Dimension (Footing Length):	$M_y := 0 kip \cdot ft$	$M_y = 0.0 \cdot kJ$
Adhesion Between Footing and Foundation Soil for Sliding:	$c_a := 0 psf$	$c_a = 0.0 \cdot kPa$
Angle of Friction Between Footing and Foundation Soil for Sliding:	$\delta := 0.8 \cdot \phi$	$\delta = 28.8 \cdot deg$

Sliding Resistance Factor for the Strength Limit State: $\phi_\tau := 0.80$ CIP on sand

Bearing Resistance Factor for the Strenght Limit State: $\phi_b := 0.45$ This is a the Munfakh (2001) approach, ϕb varies from 0.45 to 0.5

Bearing Resistance Factor for Extreme State(scour, EQ, ice, impacts = 1.0)

Bearing Resistance Factor for Service State (Settlements and Servicability = 1.0)

An exception for service limit state 1 is that overall stability shall use resistance factors in Article 11.6.2.3

Calculations, Section 1: Bearing Pressures, Eccentricity Reduction **Checked By:**

Calculate Eccentricity in Footing "B" Direction:

$e_B := \frac{M_y}{V}$ $e_B = 0.0 \cdot ft$ $e_B = 0.00$

Calculate Eccentricity in Footing "L" Direction:

$e_L := \frac{M_x}{V}$ $e_L = 0.0 \cdot ft$ $e_L = 0.00$

Calculate Eccentric Loading Reduced Footing Dimensions:

$B' := B - 2 \cdot e_B$ $B' = 5.0 \cdot ft$ $B' = 1.52\,m$

$L' := L - 2 \cdot e_L$ $L' = 18.0 \cdot ft$ $L' = 5.49\,m$

Determine Effective Footing Dimensions based on any Eccentricity:

$B' := \begin{cases} B' & \text{if } e_B > 0ft \\ B & \text{otherwise} \end{cases}$ $B' = 5.0 \cdot ft$ $B' = 1.52\,m$

$L' := \begin{cases} L' & \text{if } e_L > 0ft \\ L' & \text{otherwise} \end{cases}$ $L' = 18.0 \cdot ft$ $L' = 5.49\,m$

Calculate the Eccentric Loading Effective Footing Area:

$A' := |B' \cdot L'|$ $A' = 90.0 \cdot ft^2$ $A' = 8.36\,m^{2.00}$

Calculations, Section 2: Bearing Capacity Coefficients **Checked By:**

Calculate Reduced Shear Strength Parameters if Local or Punching Shear is Possible:

$c := \begin{cases} 0.67 \cdot c & \text{if } F_{ps} = \text{"Y"} \\ c & \text{otherwise} \end{cases}$ $c = 0.0 \cdot psf$ $c = 0.0 \cdot kPa$

$\phi := \begin{cases} \operatorname{atan}(0.67 \cdot \tan(\phi)) & \text{if } F_{ps} = \text{"Y"} \\ \phi & \text{otherwise} \end{cases}$ $\phi = 36 \cdot deg$

Calculate Bearing Capacity Factors:

$N_q := \exp(\pi \cdot \tan(\phi)) \cdot \tan\left(45deg + \frac{\phi}{2}\right)^2$ $N_q = 37.752$

$N_c := \max\left[\left(N_q - 1\right) \cdot \cot(\max(\phi, 0.01deg)), 5.14\right]$ $\phi = 0.628$ $N_c = 50.585$

$N_\gamma := 2 \cdot \left(N_q + 1\right) \cdot \tan(\phi)$ $N_\gamma = 56.311$

Calculate the Ground Water Factors Cwy and Cwq:

$C_{wq} := \begin{cases} 0.5 & \text{if } D_w = 0 \\ 1 & \text{if } D_w > 1.5 \cdot B + D_f \\ 0.5 + 0.5 \cdot \frac{D_w}{1.5 \cdot B + D_f} & \text{otherwise} \end{cases}$ $C_{wq} = 0.5$

$$C_{w\gamma} := \begin{cases} 0.5 & \text{if } D_w \le D_f \\ 1 & \text{if } D_w > 1.5\cdot B + D_f \\ 0.5 + 0.5\cdot\dfrac{D_w - D_f}{1.5\cdot B} & \text{otherwise} \end{cases} \qquad C_{w\gamma} = 0.5$$

Calculate Depth Factors:

$$\phi = 36\cdot\text{deg} \qquad \min\left(\frac{D_f}{B}, 8\right) = 0$$

$$dq_{42} := \begin{pmatrix} 0 & 1 \\ 1 & 1.15 \\ 2 & 1.20 \\ 4 & 1.25 \\ 8 & 1.30 \end{pmatrix} \quad dq_{37} := \begin{pmatrix} 0 & 1 \\ 1 & 1.20 \\ 2 & 1.25 \\ 4 & 1.30 \\ 8 & 1.35 \end{pmatrix} \quad dq_{32} := \begin{pmatrix} 0 & 1 \\ 1 & 1.20 \\ 2 & 1.30 \\ 4 & 1.35 \\ 8 & 1.40 \end{pmatrix}$$

The first columns of vectors above is Df/B. Correlation only valid for friction angles of 32 to 42 degrees; above 42 degrees,value for 42 degrees is considered conservative.

$$d_q := \begin{cases} \text{linterp}\left(dq_{42}^{\langle 0\rangle}, dq_{42}^{\langle 1\rangle}, \min\left(\dfrac{D_f}{B}, 8\right)\right) & \text{if } \phi \ge 42\text{deg} \\ \text{linterp}\left(dq_{37}^{\langle 0\rangle}, dq_{37}^{\langle 1\rangle}, \min\left(\dfrac{D_f}{B}, 8\right)\right) & \text{if } 42\text{deg} > \phi \ge 37\text{deg} \\ \text{linterp}\left(dq_{32}^{\langle 0\rangle}, dq_{32}^{\langle 1\rangle}, \min\left(\dfrac{D_f}{B}, 8\right)\right) & \text{if } 37\text{deg} > \phi \ge 32\text{deg} \\ 1 & \text{otherwise} \end{cases} \qquad d_q = 1$$

Calculate Footing Shape Factors:

$$s_c := \begin{cases} 1 + \left(\dfrac{B'}{L'}\right)\cdot\left(\dfrac{N_q}{N_c}\right) & \text{if } \phi > 0 \\ 1 + \dfrac{B'}{5\cdot L'} & \text{otherwise} \end{cases}$$

(all terms to go 1.0 for strip footing)

$$s_c = 1.207$$

$$s_q := \begin{cases} 1 + \left(\dfrac{B'}{L'}\right)\cdot\tan(\phi) & \text{if } \phi > 0 \\ 1 & \text{otherwise} \end{cases} \qquad s_q = 1.202$$

$$s_\gamma := \begin{cases} 1 - 0.4\cdot\left(\dfrac{B'}{L'}\right) & \text{if } \phi > 0 \\ 1 & \text{otherwise} \end{cases} \qquad s_\gamma = 0.889$$

Calculate Inclined Loading Factors:

$$n := \left(\frac{2 + \frac{L'}{B'}}{1 + \frac{L'}{B'}}\right)\cdot\cos(\theta)^2 + \left(\frac{2 + \frac{B'}{L'}}{1 + \frac{B'}{L'}}\right)\cdot\sin(\theta)^2 \qquad n = 1.217$$

$$i_q := \left(1 - \frac{H}{V + c\cdot B'\cdot L'\cdot\cot(\phi)}\right)^n \qquad i_q = 1$$

$$i_c := \begin{cases} i_q - \left(\frac{1 - i_q}{N_q - 1}\right) & \text{if } \phi > 0\text{deg} \\ 1 - \left(\frac{n \cdot H}{c \cdot B' \cdot L' \cdot N_c}\right) & \text{otherwise} \end{cases} \qquad i_c = 1$$

$$i_\gamma := \left(1 - \frac{H}{V + B' \cdot L' \cdot c \cdot \cot(\phi)}\right)^{n+1} \qquad i_\gamma = 1$$

Calculate Modified Bearing Capacity Coefficients:

$j = 0 \cdot \text{deg}$

$$N_{cm} := \begin{cases} N_c \cdot s_c \cdot i_c & \text{if } j = 0\text{deg} \\ N_{cslope} \cdot s_c \cdot i_c & \text{otherwise} \end{cases} \qquad N_{cm} = 61.072$$

$$N_{qm} := \begin{cases} N_q \cdot s_q \cdot d_q \cdot i_q & \text{if } j = 0\text{deg} \\ 0 & \text{otherwise} \end{cases} \qquad N_{qm} = 45.372$$

$$N_{\gamma m} := \begin{cases} N_\gamma \cdot s_\gamma \cdot i_\gamma & \text{if } j = 0\text{deg} \\ N_{\gamma slope} \cdot s_\gamma \cdot i_\gamma & \text{otherwise} \end{cases} \qquad N_{\gamma m} = 50.054$$

Calculations, Section 3: Sliding Check **Checked By:**

Calculate the Maximum Resistance Force Between Footing and Foundation Soil for Sliding Failure:

$$P_{max} := V \cdot \tan(\delta) + B \cdot L \cdot c_a \qquad P_{max} = 185.4 \cdot \text{kip} \quad P_{max} = 824.6 \cdot \text{kN}$$

Calculate the Factored Resistance Against Sliding Failure:

$$P_{fres} := P_{max} \cdot \phi_\tau \qquad P_{fres} = 148.308 \cdot \text{kip} \quad P_{fres} = 659.706 \cdot \text{kN}$$

Check Sliding Factor of Safety:

$$Check_1 := \begin{cases} 1 & \text{if } H < P_{fres} \\ 0 & \text{otherwise} \end{cases} \qquad Check_1 = 1$$

If $Check_1 = 0$, sliding factor of safety below acceptable value.

Calculations, Section 4: Bearing Capacity **Checked By:**

Calculate Ultimate Bearing Capacity: Eq. 10.6.3.1.2a-1 Note that g term is included in unit weight

$$q_n := c \cdot N_{cm} + \gamma \cdot D_f \cdot N_{qm} \cdot C_{wq} + 0.5 \cdot \gamma \cdot B' \cdot N_{\gamma m} \cdot C_{w\gamma} \qquad q_n = 8.0 \cdot \text{ksf} \quad q_n = 381.4 \cdot \text{kPa}$$

Calculate Unfactored Bearing Capacity:

$$q_R := q_n \cdot \phi_b \qquad q_R = 3.6 \cdot \text{ksf} \quad q_R = 171.6 \cdot \text{kPa}$$

Bearing Pressure: $q_L := \frac{V}{A'}$ $q_L = 3.747 \cdot \text{ksf}$ $q_L = 179.4 \cdot \text{kPa}$

$$Check_2 := \begin{cases} 1 & \text{if } q_L < q_n \\ 0 & \text{otherwise} \end{cases} \qquad Check_2 = 1$$

Nominal (ultimate) bearing capacity:		**Ultimate slding resistance**		**Sliding OK (1) or not OK (0)?**
$q_n = 8 \cdot \text{ksf}$	$q_n = 381.411 \cdot \text{kPa}$	$P_{max} = 185 \cdot \text{kip}$	$P_{max} = 825 \cdot \text{kN}$	$Check_1 = 1$
Strength I factored bearing capacity		**Factored Sliding Resistance**		**Ultimate Bearing OK (1) or not OK (0)?**
$q_R = 3.6 \cdot \text{ksf}$	$q_R = 171.635 \cdot \text{kPa}$	$P_{fres} = 148 \cdot \text{kip}$	$P_{fres} = 660 \cdot \text{kN}$	$Check_2 = 1$

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Date: 6/25/2019
Revision Number: 0319
Developed By: JWP/PV
Calculated By: PV
Checked By:

Project Name: San Bernardino Class 1 Bike Trail Project
Project Number: 5012-02-1

CALCULATION OF LRFD 8TH EDITION (2017) BEARING CAPACITY

Location: Pier Footings on Native Ground
Foundation: 10 feet Wide Footing footing

References

1. AASHTO, 2017, AASHTO LRFD Bridge Design Specifications, 8th Edition, American Association of State Highway and Transportation Officials.

Assumptions

1. Bearing capacity calculations account for foundation shape, possibility of local or punching shear, inclined load, eccentric loading, sloping ground, and ground water.
2. Calculations assume one, homogeneous soil unit. Two-layer soil systems not supported.

Unit Conversions

Checked By:

$psf := \frac{lbf}{ft^2}$ $pcf := \frac{lbf}{ft^3}$ $kip := 1000lbf$ $ksf := \frac{kip}{ft^2}$ $kPa := 1000Pa$ $kN := 1000N$ $kJ := 1000J$

$g = 32.174 \cdot \frac{ft}{s^2}$

Input Data

Checked By:

Soil Cohesion:	$c := 0psf$	$c = 0.0 \cdot kPa$
Soil Friction Angle:	$\phi := 36deg$	
Total Soil Unit Weight:	$\gamma := 20 \frac{kN}{m^3}$	$\gamma = 127.3 \cdot pcf$
Depth of Foundation Base below Ground Surface:	$D_f := 0m$	$D_f = 0.00 \cdot ft$
Foundation Width B (For Circular Footings B = L):	$B := 3.048m$	$B = 10.00 \cdot ft$
Foundation Length L:	$L := 5.4864m$	$L = 18.00 \cdot ft$
Depth of Ground Water from Ground Surface:	$D_w := 0ft$	$D_w = 0.00$
Slope of Adjacent Ground (if j>0, the modified N_γ and Nc apply below, Nq=0):	$j := 0deg$	
Calculate estimate reduction factor from Table 10.6.3.1.2c-1 or -2 and calculate teh reduced bearing capacity factors	$N_{\gamma slope} := 19$ $N_{cslope} := 0$	for β = 20.6 deg.
Is Local or Punching Shear Possible (Yes = "Y" and No = "N")?	$F_{ps} := "N"$	
Unfactored Vertical Load on Footing (Vertical):	$V := 1500kN$	$V = 337.2 \cdot kip$
Unfactored Horiz Load on Footing (Enter 0 for vertical load only):	$H := 0kip$	$H = 0.0 \cdot kN$
Orientation of Horizontal Load (Enter 0 for parallel to long axis L):	$\theta := 0deg$	
Moment in x-Dimension (Footing Width):	$M_x := 0kip \cdot ft$	$M_x = 0.0 \cdot kJ$
Moment in y-Dimension (Footing Length):	$M_y := 0kip \cdot ft$	$M_y = 0.0 \cdot kJ$
Adhesion Between Footing and Foundation Soil for Sliding:	$c_a := 0psf$	$c_a = 0.0 \cdot kPa$
Angle of Friction Between Footing and Foundation Soil for Sliding:	$\delta := 0.8 \cdot \phi$	$\delta = 28.8 \cdot deg$

Sliding Resistance Factor for the Strength Limit State: $\phi_\tau := 0.80$ CIP on sand

Bearing Resistance Factor for the Strenght Limit State: $\phi_b := 0.45$ This is a the Munfakh (2001) approach, ϕb varies from 0.45 to 0.5

Bearing Resistance Factor for Extreme State(scour, EQ, ice, impacts = 1.0)

Bearing Resistance Factor for Service State (Settlements and Servicability = 1.0)

An exception for service limit state 1 is that overall stability shall use resistance factors in Article 11.6.2.3

Calculations, Section 1: Bearing Pressures, Eccentricity Reduction **Checked By:**

Calculate Eccentricity in Footing "B" Direction:

$e_B := \frac{M_y}{V}$ $e_B = 0.0 \cdot ft$ $e_B = 0.00$

Calculate Eccentricity in Footing "L" Direction:

$e_L := \frac{M_x}{V}$ $e_L = 0.0 \cdot ft$ $e_L = 0.00$

Calculate Eccentric Loading Reduced Footing Dimensions:

$B' := B - 2 \cdot e_B$ $B' = 10.0 \cdot ft$ $B' = 3.05\,m$

$L' := L - 2 \cdot e_L$ $L' = 18.0 \cdot ft$ $L' = 5.49\,m$

Determine Effective Footing Dimensions based on any Eccentricity:

$B' := \begin{cases} B' & \text{if } e_B > 0ft \\ B & \text{otherwise} \end{cases}$ $B' = 10.0 \cdot ft$ $B' = 3.05\,m$

$L' := \begin{cases} L' & \text{if } e_L > 0ft \\ L' & \text{otherwise} \end{cases}$ $L' = 18.0 \cdot ft$ $L' = 5.49\,m$

Calculate the Eccentric Loading Effective Footing Area:

$A' := |B' \cdot L'|$ $A' = 180.0 \cdot ft^2$ $A' = 16.72\,m^{2.00}$

Calculations, Section 2: Bearing Capacity Coefficients **Checked By:**

Calculate Reduced Shear Strength Parameters if Local or Punching Shear is Possible:

$c := \begin{cases} 0.67 \cdot c & \text{if } F_{ps} = \text{"Y"} \\ c & \text{otherwise} \end{cases}$ $c = 0.0 \cdot psf$ $c = 0.0 \cdot kPa$

$\phi := \begin{cases} \operatorname{atan}(0.67 \cdot \tan(\phi)) & \text{if } F_{ps} = \text{"Y"} \\ \phi & \text{otherwise} \end{cases}$ $\phi = 36 \cdot deg$

Calculate Bearing Capacity Factors:

$N_q := \exp(\pi \cdot \tan(\phi)) \cdot \tan\left(45deg + \frac{\phi}{2}\right)^2$ $N_q = 37.752$

$N_c := \max\left[\left(N_q - 1\right) \cdot \cot(\max(\phi, 0.01deg)), 5.14\right]$ $\phi = 0.628$ $N_c = 50.585$

$N_\gamma := 2 \cdot \left(N_q + 1\right) \cdot \tan(\phi)$ $N_\gamma = 56.311$

Calculate the Ground Water Factors Cwy and Cwq:

$C_{wq} := \begin{cases} 0.5 & \text{if } D_w = 0 \\ 1 & \text{if } D_w > 1.5 \cdot B + D_f \\ 0.5 + 0.5 \cdot \frac{D_w}{1.5 \cdot B + D_f} & \text{otherwise} \end{cases}$ $C_{wq} = 0.5$

$$C_{w\gamma} := \begin{cases} 0.5 & \text{if } D_w \le D_f \\ 1 & \text{if } D_w > 1.5\cdot B + D_f \\ 0.5 + 0.5\cdot\dfrac{D_w - D_f}{1.5\cdot B} & \text{otherwise} \end{cases} \qquad C_{w\gamma} = 0.5$$

Calculate Depth Factors:

$$\phi = 36\cdot\text{deg} \qquad \min\left(\frac{D_f}{B}, 8\right) = 0$$

$$dq_{42} := \begin{pmatrix} 0 & 1 \\ 1 & 1.15 \\ 2 & 1.20 \\ 4 & 1.25 \\ 8 & 1.30 \end{pmatrix} \quad dq_{37} := \begin{pmatrix} 0 & 1 \\ 1 & 1.20 \\ 2 & 1.25 \\ 4 & 1.30 \\ 8 & 1.35 \end{pmatrix} \quad dq_{32} := \begin{pmatrix} 0 & 1 \\ 1 & 1.20 \\ 2 & 1.30 \\ 4 & 1.35 \\ 8 & 1.40 \end{pmatrix}$$

The first columns of vectors above is Df/B. Correlation only valid for friction angles of 32 to 42 degrees; above 42 degrees,value for 42 degrees is considered conservative.

$$d_q := \begin{cases} \text{linterp}\left(dq_{42}^{\langle 0\rangle}, dq_{42}^{\langle 1\rangle}, \min\left(\dfrac{D_f}{B}, 8\right)\right) & \text{if } \phi \ge 42\text{deg} \\ \text{linterp}\left(dq_{37}^{\langle 0\rangle}, dq_{37}^{\langle 1\rangle}, \min\left(\dfrac{D_f}{B}, 8\right)\right) & \text{if } 42\text{deg} > \phi \ge 37\text{deg} \\ \text{linterp}\left(dq_{32}^{\langle 0\rangle}, dq_{32}^{\langle 1\rangle}, \min\left(\dfrac{D_f}{B}, 8\right)\right) & \text{if } 37\text{deg} > \phi \ge 32\text{deg} \\ 1 & \text{otherwise} \end{cases} \qquad d_q = 1$$

Calculate Footing Shape Factors:

$$s_c := \begin{cases} 1 + \left(\dfrac{B'}{L'}\right)\cdot\left(\dfrac{N_q}{N_c}\right) & \text{if } \phi > 0 \\ 1 + \dfrac{B'}{5\cdot L'} & \text{otherwise} \end{cases}$$

(all terms to go 1.0 for strip footing) $\qquad s_c = 1.415$

$$s_q := \begin{cases} 1 + \left(\dfrac{B'}{L'}\right)\cdot\tan(\phi) & \text{if } \phi > 0 \\ 1 & \text{otherwise} \end{cases} \qquad s_q = 1.404$$

$$s_\gamma := \begin{cases} 1 - 0.4\cdot\left(\dfrac{B'}{L'}\right) & \text{if } \phi > 0 \\ 1 & \text{otherwise} \end{cases} \qquad s_\gamma = 0.778$$

Calculate Inclined Loading Factors:

$$n := \left(\frac{2 + \frac{L'}{B'}}{1 + \frac{L'}{B'}}\right)\cdot\cos(\theta)^2 + \left(\frac{2 + \frac{B'}{L'}}{1 + \frac{B'}{L'}}\right)\cdot\sin(\theta)^2 \qquad n = 1.357$$

$$i_q := \left(1 - \frac{H}{V + c\cdot B'\cdot L'\cdot\cot(\phi)}\right)^n \qquad i_q = 1$$

$$i_c := \begin{cases} i_q - \left(\frac{1 - i_q}{N_q - 1}\right) & \text{if } \phi > 0\text{deg} \\ 1 - \left(\frac{n \cdot H}{c \cdot B' \cdot L' \cdot N_c}\right) & \text{otherwise} \end{cases} \qquad i_c = 1$$

$$i_\gamma := \left(1 - \frac{H}{V + B' \cdot L' \cdot c \cdot \cot(\phi)}\right)^{n+1} \qquad i_\gamma = 1$$

Calculate Modified Bearing Capacity Coefficients:

$j = 0 \cdot \text{deg}$

$$N_{cm} := \begin{cases} N_c \cdot s_c \cdot i_c & \text{if } j = 0\text{deg} \\ N_{cslope} \cdot s_c \cdot i_c & \text{otherwise} \end{cases} \qquad N_{cm} = 71.559$$

$$N_{qm} := \begin{cases} N_q \cdot s_q \cdot d_q \cdot i_q & \text{if } j = 0\text{deg} \\ 0 & \text{otherwise} \end{cases} \qquad N_{qm} = 52.991$$

$$N_{\gamma m} := \begin{cases} N_\gamma \cdot s_\gamma \cdot i_\gamma & \text{if } j = 0\text{deg} \\ N_{\gamma slope} \cdot s_\gamma \cdot i_\gamma & \text{otherwise} \end{cases} \qquad N_{\gamma m} = 43.797$$

Calculations, Section 3: Sliding Check **Checked By:**

Calculate the Maximum Resistance Force Between Footing and Foundation Soil for Sliding Failure:

$$P_{max} := V \cdot \tan(\delta) + B \cdot L \cdot c_a \qquad P_{max} = 185.4 \cdot \text{kip} \quad P_{max} = 824.6 \cdot \text{kN}$$

Calculate the Factored Resistance Against Sliding Failure:

$$P_{fres} := P_{max} \cdot \phi_\tau \qquad P_{fres} = 148.308 \cdot \text{kip} \quad P_{fres} = 659.706 \cdot \text{kN}$$

Check Sliding Factor of Safety:

$$Check_1 := \begin{cases} 1 & \text{if } H < P_{fres} \\ 0 & \text{otherwise} \end{cases} \qquad Check_1 = 1$$

If $Check_1 = 0$, sliding factor of safety below acceptable value.

Calculations, Section 4: Bearing Capacity **Checked By:**

Calculate Ultimate Bearing Capacity: Eq. 10.6.3.1.2a-1 Note that g term is included in unit weight

$$q_n := c \cdot N_{cm} + \gamma \cdot D_f \cdot N_{qm} \cdot C_{wq} + 0.5 \cdot \gamma \cdot B' \cdot N_{\gamma m} \cdot C_{w\gamma} \qquad q_n = 13.9 \cdot \text{ksf} \quad q_n = 667.5 \cdot \text{kPa}$$

Calculate Unfactored Bearing Capacity:

$$q_R := q_n \cdot \phi_b \qquad q_R = 6.3 \cdot \text{ksf} \quad q_R = 300.4 \cdot \text{kPa}$$

Bearing Pressure: $q_L := \frac{V}{A'}$ $q_L = 1.873 \cdot \text{ksf}$ $q_L = 89.7 \cdot \text{kPa}$

$$Check_2 := \begin{cases} 1 & \text{if } q_L < q_n \\ 0 & \text{otherwise} \end{cases} \qquad Check_2 = 1$$

Nominal (ultimate) bearing capacity:	**Ultimate slding resistance**	**Sliding OK (1) or not OK (0)?**
$q_n = 13.9 \cdot \text{ksf}$ $q_n = 667.469 \cdot \text{kPa}$	$P_{max} = 185 \cdot \text{kip}$ $P_{max} = 825 \cdot \text{kN}$	$Check_1 = 1$
Strength I factored bearing capacity	**Factored Sliding Resistance**	**Ultimate Bearing OK (1) or not OK (0)?**
$q_R = 6.3 \cdot \text{ksf}$ $q_R = 300.361 \cdot \text{kPa}$	$P_{fres} = 148 \cdot \text{kip}$ $P_{fres} = 660 \cdot \text{kN}$	$Check_2 = 1$

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Date: 6/27/2019
Revision No: 2019 March - 1
Developed by: JWP/PV
Calculated by: PV
Checked by: pv

Project Name: San Bernardino Class 1 Bike Trail Project
Project Number: 5012-02-1 B-02 Data
Design Case: Pathway Bridge - Piers (B=5 ft)

SETTLEMENT USING AASHTO-MODIFIED "HOUGH METHOD"

Only cells with blue background and blue text should be modified

AASHTO, 2007, LRFD Design Manual 4th Edition p 10-55 Same for AASHTO 2017

Hough, 1959, Compressibility as the Basis for Soil Bearing Value, Journal of the Soil Mechanics and Foundations Division, ASCE SM4, August 1959

Foundation Load	1900	kN	427.1	kips		
Foundation Depth	0.9144	m	3.0	ft		
Foundation Width	1.524	**m**	5	ft	**4746.0 psf**	
Foundation Length	5.4864	**m**	18	ft	For 1 inch settlement (Service Value)	
Depth of Influence (3B)	5.4864	m	18.0	ft	check	1.00 inch
Depth to Water Table	0	m				

Depth m	Unit Weight kN/m^3	Total Stress kPa	Eff Stress kPa	Inc Stress kPa	Hough C'	Settlement m	depth ft
0.000	20.0	0	0	NA	NA	NA	0
0.762	20.0	15	8	0.0	200	0.00000	2.5
1.524	20.0	30	16	179.4	100	0.00837	5
2.286	20.0	46	23	139.3	150	0.00429	7.5
3.048	20.0	61	31	111.9	175	0.00289	10
3.810	20.0	76	39	92.2	100	0.00403	12.5
4.572	20.0	91	47	77.5	75	0.00432	15
5.334	20.0	107	54	66.1	175	0.00151	17.5
6.096	20.0	122	62	57.2	175	0.00000	20
6.858	20.0	137	70	50.0	175	0.00000	22.5
7.620	20.0	152	78	44.1	175	0.00000	25
8.382	20.0	168	85	39.2	175	0.00000	27.5
9.144	20.0	183	93	35.1	175	0.00000	30
9.906	20.0	198	101	31.6	175	0.00000	32.5
10.668	20.0	213	109	28.6	175	0.00000	35
11.430	20.0	229	116	26.1	175	0.00000	37.5
12.192	20.0	244	124	23.8	175	0.00000	40
12.954	20.0	259	132	21.9	175	0.00000	42.5
13.716	20.0	274	140	20.2	175	0.00000	45
14.478	20.0	290	148	18.6	200	0.00000	47.5
15.240	20.0	305	155	17.3	200	0.00000	50
16.002	20.0	320	163	16.1	200	0.00000	52.5
16.764	20.0	335	171	15.0	200	0.00000	55
17.526	20.0	351	179	14.0	200	0.00000	57.5
18.288	20.0	366	186	13.1	200	0.00000	60
19.050	20.0	381	194	12.3	200	0.00000	62.5
19.812	20.0	396	202	11.6	200	0.00000	65
20.574	20.0	411	210	10.9	200	0.00000	67.5
21.336	20.0	427	217	10.3	200	0.00000	70
22.098	20.0	442	225	9.8	200	0.00000	72.5
22.860	20.0	457	233	9.2	200	0.00000	75
23.622	20.0	472	241	8.8	200	0.00000	77.5
24.384	20.0	488	248	8.3	200	0.00000	80

0.91 Df, m

1.5 B, m

5.5 L, m

227.2 q, kN/m^2

0.0254 m
25 mm

1.00 inches

CORESTONE ENGINEERING, INC.
1345 Capital Blvd, Suite B, Reno, NV 89502

Date: 6/27/2019
Revision No: 2019 March - 1
Developed by: JWP/PV
Calculated by: PV
Checked by: pv

Project Name: San Bernardino Class 1 Bike Trail Project
Project Number: 5012-02-1 B-02 Data
Design Case: Pathway Bridge - Piers (B=10 ft)

SETTLEMENT USING AASHTO-MODIFIED "HOUGH METHOD"

Only cells with blue background and blue text should be modified

AASHTO, 2007, LRFD Design Manual 4th Edition p 10-55 Same for AASHTO 2017

Hough, 1959, Compressibility as the Basis for Soil Bearing Value, Journal of the Soil Mechanics and Foundations Division, ASCE SM4, August 1959

Foundation Load	2100	kN	472.1	kips		
Foundation Depth	0.9144	m	3.0	ft		
Foundation Width	3.048	**m**	10	ft	**2622.8 psf**	
Foundation Length	5.4864	**m**	18	ft	For 1 inch settlement (Service Value)	
Depth of Influence (3B)	10.0584	m	33.0	ft	check	0.99 inch
Depth to Water Table	0	m				

Depth m	Unit Weight kN/m^3	Total Stress kPa	Eff Stress kPa	Inc Stress kPa	Hough C'	Settlement m	depth ft
0.000	20.0	0	0	NA	NA	NA	0
0.762	20.0	15	8	0.0	200	0.00000	2.5
1.524	20.0	30	16	108.2	100	0.00687	5
2.286	20.0	46	23	91.1	150	0.00351	7.5
3.048	20.0	61	31	77.9	175	0.00237	10
3.810	20.0	76	39	67.4	100	0.00333	12.5
4.572	20.0	91	47	58.9	75	0.00360	15
5.334	20.0	107	54	51.9	175	0.00127	17.5
6.096	20.0	122	62	46.1	175	0.00105	20
6.858	20.0	137	70	41.2	175	0.00088	22.5
7.620	20.0	152	78	37.1	175	0.00074	25
8.382	20.0	168	85	33.6	175	0.00063	27.5
9.144	20.0	183	93	30.5	175	0.00054	30
9.906	20.0	198	101	27.9	175	0.00046	32.5
10.668	20.0	213	109	25.6	175	0.00000	35
11.430	20.0	229	116	23.5	175	0.00000	37.5
12.192	20.0	244	124	21.7	175	0.00000	40
12.954	20.0	259	132	20.1	175	0.00000	42.5
13.716	20.0	274	140	18.7	175	0.00000	45
14.478	20.0	290	148	17.4	200	0.00000	47.5
15.240	20.0	305	155	16.3	200	0.00000	50
16.002	20.0	320	163	15.2	200	0.00000	52.5
16.764	20.0	335	171	14.3	200	0.00000	55
17.526	20.0	351	179	13.4	200	0.00000	57.5
18.288	20.0	366	186	12.6	200	0.00000	60
19.050	20.0	381	194	11.9	200	0.00000	62.5
19.812	20.0	396	202	11.3	200	0.00000	65
20.574	20.0	411	210	10.6	200	0.00000	67.5
21.336	20.0	427	217	10.1	200	0.00000	70
22.098	20.0	442	225	9.6	200	0.00000	72.5
22.860	20.0	457	233	9.1	200	0.00000	75
23.622	20.0	472	241	8.7	200	0.00000	77.5
24.384	20.0	488	248	8.2	200	0.00000	80

0.91 Df, m
3.0 B, m
5.5 L, m
125.6 q, kN/m^2

0.0252 m
25 mm
0.99 inches

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Date: 6/25/2019
Revision Number: 0319
Developed By: JWP/PV
Calculated By: PV
Checked By:

Project Name: San Bernardino Class 1 Bike Trail Project
Project Number: 5012-02-1

CALCULATION OF LRFD 8TH EDITION (2017) BEARING CAPACITY

Location: Abutment Footings on Embankment Fill 2H:1V Slope
Foundation: 5 feet Wide Footing footing

References

1. AASHTO, 2017, AASHTO LRFD Bridge Design Specifications, 8th Edition, American Association of State Highway and Transportation Officials.

Assumptions

1. Bearing capacity calculations account for foundation shape, possibility of local or punching shear, inclined load, eccentric loading, sloping ground, and ground water.
2. Calculations assume one, homogeneous soil unit. Two-layer soil systems not supported.

Unit Conversions

Checked By:

$psf := \frac{lbf}{ft^2}$ $pcf := \frac{lbf}{ft^3}$ $kip := 1000lbf$ $ksf := \frac{kip}{ft^2}$ $kPa := 1000Pa$ $kN := 1000N$ $kJ := 1000J$

$g = 32.174 \cdot \frac{ft}{s^2}$

Input Data

Checked By:

Soil Cohesion:	$c := 0psf$	$c = 0.0 \cdot kPa$
Soil Friction Angle:	$\phi := 36deg$	
Total Soil Unit Weight:	$\gamma := 20 \frac{kN}{m^3}$	$\gamma = 127.3 \cdot pcf$
Depth of Foundation Base below Ground Surface:	$D_f := 0m$	$D_f = 0.00 \cdot ft$
Foundation Width B (For Circular Footings B = L):	$B := 1.524m$	$B = 5.00 \cdot ft$
Foundation Length L:	$L := 5.4864m$	$L = 18.00 \cdot ft$
Depth of Ground Water from Ground Surface:	$D_w := 6ft$	$D_w = 1.83\,m$
Slope of Adjacent Ground (if j>0, the modified N_γ and Nc apply below, Nq=0):	$j := 26.56deg$	
Calculate estimate reduction factor from Table 10.6.3.1.2c-1 or -2 and calculate teh reduced bearing capacity factors	$N_{\gamma slope} := 15.25$ for β = 20.6 deg. $N_{cslope} := 0$	
Is Local or Punching Shear Possible (Yes = "Y" and No = "N")?	$F_{ps} := "N"$	
Unfactored Vertical Load on Footing (Vertical):	$V := 1500kN$	$V = 337.2 \cdot kip$
Unfactored Horiz Load on Footing (Enter 0 for vertical load only):	$H := 0kip$	$H = 0.0 \cdot kN$
Orientation of Horizontal Load (Enter 0 for parallel to long axis L):	$\theta := 0deg$	
Moment in x-Dimension (Footing Width):	$M_x := 0kip \cdot ft$	$M_x = 0.0 \cdot kJ$
Moment in y-Dimension (Footing Length):	$M_y := 0kip \cdot ft$	$M_y = 0.0 \cdot kJ$
Adhesion Between Footing and Foundation Soil for Sliding:	$c_a := 0psf$	$c_a = 0.0 \cdot kPa$
Angle of Friction Between Footing and Foundation Soil for Sliding:	$\delta := 0.8 \cdot \phi$	$\delta = 28.8 \cdot deg$

Sliding Resistance Factor for the Strength Limit State: $\phi_\tau := 0.80$ CIP on sand

Bearing Resistance Factor for the Strenght Limit State: $\phi_b := 0.45$ This is a the Munfakh (2001) approach, ϕb varies from 0.45 to 0.5

Bearing Resistance Factor for Extreme State(scour, EQ, ice, impacts = 1.0)

Bearing Resistance Factor for Service State (Settlements and Servicability = 1.0)

An exception for service limit state 1 is that overall stability shall use resistance factors in Article 11.6.2.3

Calculations, Section 1: Bearing Pressures, Eccentricity Reduction **Checked By:**

Calculate Eccentricity in Footing "B" Direction:

$e_B := \frac{M_y}{V}$ $e_B = 0.0 \cdot ft$ $e_B = 0.00$

Calculate Eccentricity in Footing "L" Direction:

$e_L := \frac{M_x}{V}$ $e_L = 0.0 \cdot ft$ $e_L = 0.00$

Calculate Eccentric Loading Reduced Footing Dimensions:

$B' := B - 2 \cdot e_B$ $B' = 5.0 \cdot ft$ $B' = 1.52\,m$

$L' := L - 2 \cdot e_L$ $L' = 18.0 \cdot ft$ $L' = 5.49\,m$

Determine Effective Footing Dimensions based on any Eccentricity:

$B' := \begin{cases} B' & \text{if } e_B > 0ft \\ B & \text{otherwise} \end{cases}$ $B' = 5.0 \cdot ft$ $B' = 1.52\,m$

$L' := \begin{cases} L' & \text{if } e_L > 0ft \\ L' & \text{otherwise} \end{cases}$ $L' = 18.0 \cdot ft$ $L' = 5.49\,m$

Calculate the Eccentric Loading Effective Footing Area:

$A' := |B' \cdot L'|$ $A' = 90.0 \cdot ft^2$ $A' = 8.36\,m^{2.00}$

Calculations, Section 2: Bearing Capacity Coefficients **Checked By:**

Calculate Reduced Shear Strength Parameters if Local or Punching Shear is Possible:

$c := \begin{cases} 0.67 \cdot c & \text{if } F_{ps} = \text{"Y"} \\ c & \text{otherwise} \end{cases}$ $c = 0.0 \cdot psf$ $c = 0.0 \cdot kPa$

$\phi := \begin{cases} \operatorname{atan}(0.67 \cdot \tan(\phi)) & \text{if } F_{ps} = \text{"Y"} \\ \phi & \text{otherwise} \end{cases}$ $\phi = 36 \cdot deg$

Calculate Bearing Capacity Factors:

$N_q := \exp(\pi \cdot \tan(\phi)) \cdot \tan\left(45deg + \frac{\phi}{2}\right)^2$ $N_q = 37.752$

$N_c := \max\left[\left(N_q - 1\right) \cdot \cot(\max(\phi, 0.01deg)), 5.14\right]$ $\phi = 0.628$ $N_c = 50.585$

$N_\gamma := 2 \cdot \left(N_q + 1\right) \cdot \tan(\phi)$ $N_\gamma = 56.311$

Calculate the Ground Water Factors Cwy and Cwq:

$C_{wq} := \begin{cases} 0.5 & \text{if } D_w = 0 \\ 1 & \text{if } D_w > 1.5 \cdot B + D_f \\ 0.5 + 0.5 \cdot \frac{D_w}{1.5 \cdot B + D_f} & \text{otherwise} \end{cases}$ $C_{wq} = 0.9$

$$C_{w\gamma} := \begin{cases} 0.5 & \text{if } D_w \le D_f \\ 1 & \text{if } D_w > 1.5\cdot B + D_f \\ 0.5 + 0.5\cdot\dfrac{D_w - D_f}{1.5\cdot B} & \text{otherwise} \end{cases} \qquad C_{w\gamma} = 0.9$$

Calculate Depth Factors:

$$\phi = 36\cdot\text{deg} \qquad \min\left(\frac{D_f}{B}, 8\right) = 0$$

$$dq_{42} := \begin{pmatrix} 0 & 1 \\ 1 & 1.15 \\ 2 & 1.20 \\ 4 & 1.25 \\ 8 & 1.30 \end{pmatrix} \quad dq_{37} := \begin{pmatrix} 0 & 1 \\ 1 & 1.20 \\ 2 & 1.25 \\ 4 & 1.30 \\ 8 & 1.35 \end{pmatrix} \quad dq_{32} := \begin{pmatrix} 0 & 1 \\ 1 & 1.20 \\ 2 & 1.30 \\ 4 & 1.35 \\ 8 & 1.40 \end{pmatrix}$$

The first columns of vectors above is Df/B. Correlation only valid for friction angles of 32 to 42 degrees; above 42 degrees,value for 42 degrees is considered conservative.

$$d_q := \begin{cases} \text{linterp}\left(dq_{42}^{\langle 0\rangle}, dq_{42}^{\langle 1\rangle}, \min\left(\dfrac{D_f}{B}, 8\right)\right) & \text{if } \phi \ge 42\text{deg} \\ \text{linterp}\left(dq_{37}^{\langle 0\rangle}, dq_{37}^{\langle 1\rangle}, \min\left(\dfrac{D_f}{B}, 8\right)\right) & \text{if } 42\text{deg} > \phi \ge 37\text{deg} \\ \text{linterp}\left(dq_{32}^{\langle 0\rangle}, dq_{32}^{\langle 1\rangle}, \min\left(\dfrac{D_f}{B}, 8\right)\right) & \text{if } 37\text{deg} > \phi \ge 32\text{deg} \\ 1 & \text{otherwise} \end{cases} \qquad d_q = 1$$

Calculate Footing Shape Factors:

$$s_c := \begin{cases} 1 + \left(\dfrac{B'}{L'}\right)\cdot\left(\dfrac{N_q}{N_c}\right) & \text{if } \phi > 0 \\ 1 + \dfrac{B'}{5\cdot L'} & \text{otherwise} \end{cases}$$

(all terms to go 1.0 for strip footing) $\qquad s_c = 1.207$

$$s_q := \begin{cases} 1 + \left(\dfrac{B'}{L'}\right)\cdot\tan(\phi) & \text{if } \phi > 0 \\ 1 & \text{otherwise} \end{cases} \qquad s_q = 1.202$$

$$s_\gamma := \begin{cases} 1 - 0.4\cdot\left(\dfrac{B'}{L'}\right) & \text{if } \phi > 0 \\ 1 & \text{otherwise} \end{cases} \qquad s_\gamma = 0.889$$

Calculate Inclined Loading Factors:

$$n := \left(\frac{2 + \frac{L'}{B'}}{1 + \frac{L'}{B'}}\right)\cdot\cos(\theta)^2 + \left(\frac{2 + \frac{B'}{L'}}{1 + \frac{B'}{L'}}\right)\cdot\sin(\theta)^2 \qquad n = 1.217$$

$$i_q := \left(1 - \frac{H}{V + c\cdot B'\cdot L'\cdot\cot(\phi)}\right)^n \qquad i_q = 1$$

$$i_c := \begin{cases} i_q - \left(\frac{1 - i_q}{N_q - 1}\right) & \text{if } \phi > 0\text{deg} \\ 1 - \left(\frac{n \cdot H}{c \cdot B' \cdot L' \cdot N_c}\right) & \text{otherwise} \end{cases} \qquad i_c = 1$$

$$i_\gamma := \left(1 - \frac{H}{V + B' \cdot L' \cdot c \cdot \cot(\phi)}\right)^{n+1} \qquad i_\gamma = 1$$

Calculate Modified Bearing Capacity Coefficients:

$j = 26.56 \cdot \text{deg}$

$$N_{cm} := \begin{cases} N_c \cdot s_c \cdot i_c & \text{if } j = 0\text{deg} \\ N_{cslope} \cdot s_c \cdot i_c & \text{otherwise} \end{cases} \qquad N_{cm} = 0$$

$$N_{qm} := \begin{cases} N_q \cdot s_q \cdot d_q \cdot i_q & \text{if } j = 0\text{deg} \\ 0 & \text{otherwise} \end{cases} \qquad N_{qm} = 0$$

$$N_{\gamma m} := \begin{cases} N_\gamma \cdot s_\gamma \cdot i_\gamma & \text{if } j = 0\text{deg} \\ N_{\gamma slope} \cdot s_\gamma \cdot i_\gamma & \text{otherwise} \end{cases} \qquad N_{\gamma m} = 13.556$$

Calculations, Section 3: Sliding Check **Checked By:**

Calculate the Maximum Resistance Force Between Footing and Foundation Soil for Sliding Failure:

$P_{max} := V \cdot \tan(\delta) + B \cdot L \cdot c_a$ $P_{max} = 185.4 \cdot \text{kip}$ $P_{max} = 824.6 \cdot \text{kN}$

Calculate the Factored Resistance Against Sliding Failure:

$P_{fres} := P_{max} \cdot \phi_\tau$ $P_{fres} = 148.308 \cdot \text{kip}$ $P_{fres} = 659.706 \cdot \text{kN}$

Check Sliding Factor of Safety:

$$Check_1 := \begin{cases} 1 & \text{if } H < P_{fres} \\ 0 & \text{otherwise} \end{cases} \qquad Check_1 = 1$$

If $Check_1 = 0$, sliding factor of safety below acceptable value.

Calculations, Section 4: Bearing Capacity **Checked By:**

Calculate Ultimate Bearing Capacity: Eq. 10.6.3.1.2a-1 Note that g term is included in unit weight

$q_n := c \cdot N_{cm} + \gamma \cdot D_f \cdot N_{qm} \cdot C_{wq} + 0.5 \cdot \gamma \cdot B' \cdot N_{\gamma m} \cdot C_{w\gamma}$ $q_n = 3.9 \cdot \text{ksf}$ $q_n = 185.9 \cdot \text{kPa}$

Calculate Unfactored Bearing Capacity:

$q_R := q_n \cdot \phi_b$ $q_R = 1.7 \cdot \text{ksf}$ $q_R = 83.7 \cdot \text{kPa}$

Bearing Pressure: $q_L := \frac{V}{A'}$ $q_L = 3.747 \cdot \text{ksf}$ $q_L = 179.4 \cdot \text{kPa}$

$$Check_2 := \begin{cases} 1 & \text{if } q_L < q_n \\ 0 & \text{otherwise} \end{cases} \qquad Check_2 = 1$$

Nominal (ultimate) bearing capacity:

$q_n = 3.9 \cdot \text{ksf}$ $q_n = 185.928 \cdot \text{kPa}$

Ultimate slding resistance

$P_{max} = 185 \cdot \text{kip}$ $P_{max} = 825 \cdot \text{kN}$

Sliding OK (1) or not OK (0)?

$Check_1 = 1$

Strength I factored bearing capacity

$q_R = 1.7 \cdot \text{ksf}$ $q_R = 83.668 \cdot \text{kPa}$

Factored Sliding Resistance

$P_{fres} = 148 \cdot \text{kip}$ $P_{fres} = 660 \cdot \text{kN}$

Ultimate Bearing OK (1) or not OK (0)?

$Check_2 = 1$

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Date: 6/25/2019
Revision Number: 0319
Developed By: JWP/PV
Calculated By: PV
Checked By:

Project Name: San Bernardino Class 1 Bike Trail Project
Project Number: 5012-02-1

CALCULATION OF LRFD 8TH EDITION (2017) BEARING CAPACITY

Location: Abutment Footings on Embankment Fill 2H:1V Slope
Foundation: 10 feet Wide Footing footing

References

1. AASHTO, 2017, AASHTO LRFD Bridge Design Specifications, 8th Edition, American Association of State Highway and Transportation Officials.

Assumptions

1. Bearing capacity calculations account for foundation shape, possibility of local or punching shear, inclined load, eccentric loading, sloping ground, and ground water.
2. Calculations assume one, homogeneous soil unit. Two-layer soil systems not supported.

Unit Conversions

Checked By:

$psf := \frac{lbf}{ft^2}$ $pcf := \frac{lbf}{ft^3}$ $kip := 1000lbf$ $ksf := \frac{kip}{ft^2}$ $kPa := 1000Pa$ $kN := 1000N$ $kJ := 1000J$

$g = 32.174 \cdot \frac{ft}{s^2}$

Input Data

Checked By:

Soil Cohesion:	$c := 0psf$	$c = 0.0 \cdot kPa$
Soil Friction Angle:	$\phi := 36deg$	
Total Soil Unit Weight:	$\gamma := 20 \frac{kN}{m^3}$	$\gamma = 127.3 \cdot pcf$
Depth of Foundation Base below Ground Surface:	$D_f := 0m$	$D_f = 0.00 \cdot ft$
Foundation Width B (For Circular Footings B = L):	$B := 3.048m$	$B = 10.00 \cdot ft$
Foundation Length L:	$L := 5.4864m$	$L = 18.00 \cdot ft$
Depth of Ground Water from Ground Surface:	$D_w := 6ft$	$D_w = 1.83\,m$
Slope of Adjacent Ground (if j>0, the modified N_γ and Nc apply below, Nq=0):	$j := 26.56deg$	
Calculate estimate reduction factor from Table 10.6.3.1.2c-1 or -2 and calculate teh reduced bearing capacity factors	$N_{\gamma slope} := 21.22$ for β = 20.6 deg. $N_{cslope} := 0$	
Is Local or Punching Shear Possible (Yes = "Y" and No = "N")?	$F_{ps} := "N"$	
Unfactored Vertical Load on Footing (Vertical):	$V := 1500kN$	$V = 337.2 \cdot kip$
Unfactored Horiz Load on Footing (Enter 0 for vertical load only):	$H := 0kip$	$H = 0.0 \cdot kN$
Orientation of Horizontal Load (Enter 0 for parallel to long axis L):	$\theta := 0deg$	
Moment in x-Dimension (Footing Width):	$M_x := 0kip \cdot ft$	$M_x = 0.0 \cdot kJ$
Moment in y-Dimension (Footing Length):	$M_y := 0kip \cdot ft$	$M_y = 0.0 \cdot kJ$
Adhesion Between Footing and Foundation Soil for Sliding:	$c_a := 0psf$	$c_a = 0.0 \cdot kPa$
Angle of Friction Between Footing and Foundation Soil for Sliding:	$\delta := 0.8 \cdot \phi$	$\delta = 28.8 \cdot deg$

Sliding Resistance Factor for the Strength Limit State: $\phi_\tau := 0.80$ CIP on sand

Bearing Resistance Factor for the Strenght Limit State: $\phi_b := 0.45$ This is a the Munfakh (2001) approach, ϕb varies from 0.45 to 0.5

Bearing Resistance Factor for Extreme State(scour, EQ, ice, impacts = 1.0)

Bearing Resistance Factor for Service State (Settlements and Servicability = 1.0)

An exception for service limit state 1 is that overall stability shall use resistance factors in Article 11.6.2.3

Calculations, Section 1: Bearing Pressures, Eccentricity Reduction **Checked By:**

Calculate Eccentricity in Footing "B" Direction:

$e_B := \frac{M_y}{V}$ $e_B = 0.0 \cdot ft$ $e_B = 0.00$

Calculate Eccentricity in Footing "L" Direction:

$e_L := \frac{M_x}{V}$ $e_L = 0.0 \cdot ft$ $e_L = 0.00$

Calculate Eccentric Loading Reduced Footing Dimensions:

$B' := B - 2 \cdot e_B$ $B' = 10.0 \cdot ft$ $B' = 3.05\,m$

$L' := L - 2 \cdot e_L$ $L' = 18.0 \cdot ft$ $L' = 5.49\,m$

Determine Effective Footing Dimensions based on any Eccentricity:

$B' := \begin{cases} B' & \text{if } e_B > 0ft \\ B & \text{otherwise} \end{cases}$ $B' = 10.0 \cdot ft$ $B' = 3.05\,m$

$L' := \begin{cases} L' & \text{if } e_L > 0ft \\ L' & \text{otherwise} \end{cases}$ $L' = 18.0 \cdot ft$ $L' = 5.49\,m$

Calculate the Eccentric Loading Effective Footing Area:

$A' := |B' \cdot L'|$ $A' = 180.0 \cdot ft^2$ $A' = 16.72\,m^{2.00}$

Calculations, Section 2: Bearing Capacity Coefficients **Checked By:**

Calculate Reduced Shear Strength Parameters if Local or Punching Shear is Possible:

$c := \begin{cases} 0.67 \cdot c & \text{if } F_{ps} = \text{"Y"} \\ c & \text{otherwise} \end{cases}$ $c = 0.0 \cdot psf$ $c = 0.0 \cdot kPa$

$\phi := \begin{cases} \operatorname{atan}(0.67 \cdot \tan(\phi)) & \text{if } F_{ps} = \text{"Y"} \\ \phi & \text{otherwise} \end{cases}$ $\phi = 36 \cdot deg$

Calculate Bearing Capacity Factors:

$N_q := \exp(\pi \cdot \tan(\phi)) \cdot \tan\left(45deg + \frac{\phi}{2}\right)^2$ $N_q = 37.752$

$N_c := \max\left[\left(N_q - 1\right) \cdot \cot(\max(\phi, 0.01deg)), 5.14\right]$ $\phi = 0.628$ $N_c = 50.585$

$N_\gamma := 2 \cdot \left(N_q + 1\right) \cdot \tan(\phi)$ $N_\gamma = 56.311$

Calculate the Ground Water Factors Cwy and Cwq:

$C_{wq} := \begin{cases} 0.5 & \text{if } D_w = 0 \\ 1 & \text{if } D_w > 1.5 \cdot B + D_f \\ 0.5 + 0.5 \cdot \frac{D_w}{1.5 \cdot B + D_f} & \text{otherwise} \end{cases}$ $C_{wq} = 0.7$

$$C_{w\gamma} := \begin{cases} 0.5 & \text{if } D_w \le D_f \\ 1 & \text{if } D_w > 1.5\cdot B + D_f \\ 0.5 + 0.5\cdot\dfrac{D_w - D_f}{1.5\cdot B} & \text{otherwise} \end{cases} \qquad C_{w\gamma} = 0.7$$

Calculate Depth Factors:

$$\phi = 36\cdot\text{deg} \qquad \min\left(\frac{D_f}{B}, 8\right) = 0$$

$$dq_{42} := \begin{pmatrix} 0 & 1 \\ 1 & 1.15 \\ 2 & 1.20 \\ 4 & 1.25 \\ 8 & 1.30 \end{pmatrix} \quad dq_{37} := \begin{pmatrix} 0 & 1 \\ 1 & 1.20 \\ 2 & 1.25 \\ 4 & 1.30 \\ 8 & 1.35 \end{pmatrix} \quad dq_{32} := \begin{pmatrix} 0 & 1 \\ 1 & 1.20 \\ 2 & 1.30 \\ 4 & 1.35 \\ 8 & 1.40 \end{pmatrix}$$

The first columns of vectors above is Df/B. Correlation only valid for friction angles of 32 to 42 degrees; above 42 degrees,value for 42 degrees is considered conservative.

$$d_q := \begin{cases} \text{linterp}\left(dq_{42}^{\langle 0\rangle}, dq_{42}^{\langle 1\rangle}, \min\left(\dfrac{D_f}{B}, 8\right)\right) & \text{if } \phi \ge 42\text{deg} \\ \text{linterp}\left(dq_{37}^{\langle 0\rangle}, dq_{37}^{\langle 1\rangle}, \min\left(\dfrac{D_f}{B}, 8\right)\right) & \text{if } 42\text{deg} > \phi \ge 37\text{deg} \\ \text{linterp}\left(dq_{32}^{\langle 0\rangle}, dq_{32}^{\langle 1\rangle}, \min\left(\dfrac{D_f}{B}, 8\right)\right) & \text{if } 37\text{deg} > \phi \ge 32\text{deg} \\ 1 & \text{otherwise} \end{cases} \qquad d_q = 1$$

Calculate Footing Shape Factors:

$$s_c := \begin{cases} 1 + \left(\dfrac{B'}{L'}\right)\cdot\left(\dfrac{N_q}{N_c}\right) & \text{if } \phi > 0 \\ 1 + \dfrac{B'}{5\cdot L'} & \text{otherwise} \end{cases}$$

(all terms to go 1.0 for strip footing) $\qquad s_c = 1.415$

$$s_q := \begin{cases} 1 + \left(\dfrac{B'}{L'}\right)\cdot\tan(\phi) & \text{if } \phi > 0 \\ 1 & \text{otherwise} \end{cases} \qquad s_q = 1.404$$

$$s_\gamma := \begin{cases} 1 - 0.4\cdot\left(\dfrac{B'}{L'}\right) & \text{if } \phi > 0 \\ 1 & \text{otherwise} \end{cases} \qquad s_\gamma = 0.778$$

Calculate Inclined Loading Factors:

$$n := \left(\frac{2 + \frac{L'}{B'}}{1 + \frac{L'}{B'}}\right)\cdot\cos(\theta)^2 + \left(\frac{2 + \frac{B'}{L'}}{1 + \frac{B'}{L'}}\right)\cdot\sin(\theta)^2 \qquad n = 1.357$$

$$i_q := \left(1 - \frac{H}{V + c\cdot B'\cdot L'\cdot\cot(\phi)}\right)^n \qquad i_q = 1$$

$$i_c := \begin{cases} i_q - \left(\frac{1 - i_q}{N_q - 1}\right) & \text{if } \phi > 0\text{deg} \\ 1 - \left(\frac{n \cdot H}{c \cdot B' \cdot L' \cdot N_c}\right) & \text{otherwise} \end{cases} \qquad i_c = 1$$

$$i_\gamma := \left(1 - \frac{H}{V + B' \cdot L' \cdot c \cdot \cot(\phi)}\right)^{n+1} \qquad i_\gamma = 1$$

Calculate Modified Bearing Capacity Coefficients:

$j = 26.56 \cdot \text{deg}$

$$N_{cm} := \begin{cases} N_c \cdot s_c \cdot i_c & \text{if } j = 0\text{deg} \\ N_{cslope} \cdot s_c \cdot i_c & \text{otherwise} \end{cases} \qquad N_{cm} = 0$$

$$N_{qm} := \begin{cases} N_q \cdot s_q \cdot d_q \cdot i_q & \text{if } j = 0\text{deg} \\ 0 & \text{otherwise} \end{cases} \qquad N_{qm} = 0$$

$$N_{\gamma m} := \begin{cases} N_\gamma \cdot s_\gamma \cdot i_\gamma & \text{if } j = 0\text{deg} \\ N_{\gamma slope} \cdot s_\gamma \cdot i_\gamma & \text{otherwise} \end{cases} \qquad N_{\gamma m} = 16.504$$

Calculations, Section 3: Sliding Check **Checked By:**

Calculate the Maximum Resistance Force Between Footing and Foundation Soil for Sliding Failure:

$$P_{max} := V \cdot \tan(\delta) + B \cdot L \cdot c_a \qquad P_{max} = 185.4 \cdot \text{kip} \quad P_{max} = 824.6 \cdot \text{kN}$$

Calculate the Factored Resistance Against Sliding Failure:

$$P_{fres} := P_{max} \cdot \phi_\tau \qquad P_{fres} = 148.308 \cdot \text{kip} \quad P_{fres} = 659.706 \cdot \text{kN}$$

Check Sliding Factor of Safety:

$$Check_1 := \begin{cases} 1 & \text{if } H < P_{fres} \\ 0 & \text{otherwise} \end{cases} \qquad Check_1 = 1$$

If $Check_1 = 0$, sliding factor of safety below acceptable value.

Calculations, Section 4: Bearing Capacity **Checked By:**

Calculate Ultimate Bearing Capacity: Eq. 10.6.3.1.2a-1 Note that g term is included in unit weight

$$q_n := c \cdot N_{cm} + \gamma \cdot D_f \cdot N_{qm} \cdot C_{wq} + 0.5 \cdot \gamma \cdot B' \cdot N_{\gamma m} \cdot C_{w\gamma} \qquad q_n = 7.4 \cdot \text{ksf} \quad q_n = 352.1 \cdot \text{kPa}$$

Calculate Unfactored Bearing Capacity:

$$q_R := q_n \cdot \phi_b \qquad q_R = 3.3 \cdot \text{ksf} \quad q_R = 158.5 \cdot \text{kPa}$$

Bearing Pressure: $q_L := \frac{V}{A'}$ $q_L = 1.873 \cdot \text{ksf}$ $q_L = 89.7 \cdot \text{kPa}$

$$Check_2 := \begin{cases} 1 & \text{if } q_L < q_n \\ 0 & \text{otherwise} \end{cases} \qquad Check_2 = 1$$

Nominal (ultimate) bearing capacity:		**Ultimate slding resistance**		**Sliding OK (1) or not OK (0)?**
$q_n = 7.4 \cdot \text{ksf}$	$q_n = 352.139 \cdot \text{kPa}$	$P_{max} = 185 \cdot \text{kip}$	$P_{max} = 825 \cdot \text{kN}$	$Check_1 = 1$
Strength I factored bearing capacity		**Factored Sliding Resistance**		**Ultimate Bearing OK (1) or not OK (0)?**
$q_R = 3.3 \cdot \text{ksf}$	$q_R = 158.462 \cdot \text{kPa}$	$P_{fres} = 148 \cdot \text{kip}$	$P_{fres} = 660 \cdot \text{kN}$	$Check_2 = 1$

CORESTONE ENGINEERING, INC.
1345 Capital Blvd, Suite B, Reno, NV 89502

Date: 6/27/2019
Revision No: 2019 March - 1
Developed by: JWP/PV
Calculated by: PV
Checked by: pv

Project Name: San Bernardino Class 1 Bike Trail Project
Project Number: 5012-02-1 B-02 Data
Design Case: Pathway Bridge - Abutments (B=5 ft)

SETTLEMENT USING AASHTO-MODIFIED "HOUGH METHOD"

Only cells with blue background and blue text should be modified

AASHTO, 2007, LRFD Design Manual 4th Edition p 10-55 Same for AASHTO 2017

Hough, 1959, Compressibility as the Basis for Soil Bearing Value, Journal of the Soil Mechanics and Foundations Division, ASCE SM4, August 1959

Foundation Load	4700	kN	1056.6	kips			
Foundation Depth	0	m	0.0	ft			
Foundation Width	1.524	**m**	5	ft	**11740.1 psf**		
Foundation Length	5.4864	**m**	18	ft	For 1 inch settlement (Service Value)		
Depth of Influence (3B)	4.572	m	15.0	ft	check	0.98	inch
Depth to Water Table	1.829	m					

Depth m	Unit Weight kN/m^3	Total Stress kPa	Eff Stress kPa	Inc Stress kPa	Hough C'	Settlement m	depth ft
0.000	20.0	0	0	NA	NA	NA	0
1.829	20.0	37	37	301.1	150	0.01177	6
2.591	20.0	52	44	245.8	200	0.00311	8.5
3.353	20.0	67	52	205.0	75	0.00704	11
4.115	20.0	82	60	174.0	150	0.00301	13.5
4.877	20.0	98	68	149.7	175	0.00000	16
5.639	20.0	113	75	130.3	100	0.00000	18.5
6.401	20.0	128	83	114.5	75	0.00000	21
7.163	20.0	143	91	101.5	175	0.00000	23.5
7.925	20.0	158	99	90.7	175	0.00000	26
8.687	20.0	174	106	81.5	175	0.00000	28.5
9.449	20.0	189	114	73.7	175	0.00000	31
10.211	20.0	204	122	66.9	175	0.00000	33.5
10.973	20.0	219	130	61.1	175	0.00000	36
11.735	20.0	235	138	56.0	175	0.00000	38.5
12.497	20.0	250	145	51.5	175	0.00000	41
13.259	20.0	265	153	47.6	175	0.00000	43.5
14.021	20.0	280	161	44.1	175	0.00000	46
14.783	20.0	296	169	40.9	175	0.00000	48.5
15.545	20.0	311	176	38.1	175	0.00000	51
16.307	20.0	326	184	35.6	200	0.00000	53.5
17.069	20.0	341	192	33.3	200	0.00000	56
17.831	20.0	357	200	31.3	200	0.00000	58.5
18.593	20.0	372	207	29.4	200	0.00000	61
19.355	20.0	387	215	27.7	200	0.00000	63.5
20.117	20.0	402	223	26.1	200	0.00000	66
20.879	20.0	418	231	24.7	200	0.00000	68.5
21.641	20.0	433	238	23.3	200	0.00000	71
22.403	20.0	448	246	22.1	200	0.00000	73.5
23.165	20.0	463	254	21.0	200	0.00000	76
23.927	20.0	479	262	20.0	200	0.00000	78.5
24.689	20.0	494	270	19.0	200	0.00000	81
25.451	20.0	509	277	18.1	200	0.00000	83.5

0.00 Df, m
1.5 B, m
5.5 L, m
562.1 q, kN/m^2

0.0249 m
25 mm
0.98 inches

CORESTONE ENGINEERING, INC.
1345 Capital Blvd, Suite B, Reno, NV 89502

Date: 6/27/2019
Revision No: 2019 March - 1
Developed by: JWP/PV
Calculated by: PV
Checked by: pv

Project Name: San Bernardino Class 1 Bike Trail Project
Project Number: 5012-02-1 B-02 Data
Design Case: Pathway Bridge - Abutments (B=10 ft)

SETTLEMENT USING AASHTO-MODIFIED "HOUGH METHOD"

Only cells with blue background and blue text should be modified

AASHTO, 2007, LRFD Design Manual 4th Edition p 10-55 Same for AASHTO 2017

Hough, 1959, Compressibility as the Basis for Soil Bearing Value, Journal of the Soil Mechanics and Foundations Division, ASCE SM4, August 1959

Foundation Load	3300	kN	741.9	kips		
Foundation Depth	0	m	0.0	ft		
Foundation Width	3.048	**m**	10	ft	**4121.5 psf**	
Foundation Length	5.4864	**m**	18	ft	For 1 inch settlement (Service Value)	
Depth of Influence (3B)	9.144	m	30.0	ft	check	0.99 inch
Depth to Water Table	1.829	m				

Depth m	Unit Weight kN/m^3	Total Stress kPa	Eff Stress kPa	Inc Stress kPa	Hough C'	Settlement m	depth ft
0.000	20.0	0	0	NA	NA	NA	0
1.829	20.0	37	37	130.1	150	0.00803	6
2.591	20.0	52	44	112.0	200	0.00209	8.5
3.353	20.0	67	52	97.5	75	0.00465	11
4.115	20.0	82	60	85.7	150	0.00196	13.5
4.877	20.0	98	68	75.9	175	0.00142	16
5.639	20.0	113	75	67.7	100	0.00212	18.5
6.401	20.0	128	83	60.8	75	0.00242	21
7.163	20.0	143	91	54.9	175	0.00089	23.5
7.925	20.0	158	99	49.8	175	0.00077	26
8.687	20.0	174	106	45.4	175	0.00067	28.5
9.449	20.0	189	114	41.6	175	0.00000	31
10.211	20.0	204	122	38.2	175	0.00000	33.5
10.973	20.0	219	130	35.2	175	0.00000	36
11.735	20.0	235	138	32.6	175	0.00000	38.5
12.497	20.0	250	145	30.2	175	0.00000	41
13.259	20.0	265	153	28.1	175	0.00000	43.5
14.021	20.0	280	161	26.3	175	0.00000	46
14.783	20.0	296	169	24.5	175	0.00000	48.5
15.545	20.0	311	176	23.0	175	0.00000	51
16.307	20.0	326	184	21.6	200	0.00000	53.5
17.069	20.0	341	192	20.3	200	0.00000	56
17.831	20.0	357	200	19.2	200	0.00000	58.5
18.593	20.0	372	207	18.1	200	0.00000	61
19.355	20.0	387	215	17.1	200	0.00000	63.5
20.117	20.0	402	223	16.2	200	0.00000	66
20.879	20.0	418	231	15.4	200	0.00000	68.5
21.641	20.0	433	238	14.6	200	0.00000	71
22.403	20.0	448	246	13.9	200	0.00000	73.5
23.165	20.0	463	254	13.2	200	0.00000	76
23.927	20.0	479	262	12.6	200	0.00000	78.5
24.689	20.0	494	270	12.0	200	0.00000	81
25.451	20.0	509	277	11.5	200	0.00000	83.5

0.00 Df, m
3.0 B, m
5.5 L, m
197.3 q, kN/m^2

0.0250 m
25 mm
0.99 inches

Project Name:	San Bernardino Class 1 Bike Trail Project	Calc By:	PV
Project No.:	5012-02-1	Check By:	PV
Design Case:	Pathway Bridge Abutments B = 5 ft	Date:	6/26/2019

AASHTO (2017) Table 10.6.3.1.2c-1 RC_{BC} Values For Footing on Slope

C' = 0 Phi = 36 deg

B/H	β		
	10	20	30
0.1	0.800	0.380	0.170
0.2	0.780	0.370	0.160
0.4	0.720	0.360	0.170
0.6	0.660	0.340	0.170
1	0.700	0.450	0.320
1.5	0.740	0.560	0.470
3	0.770	0.580	0.620

Input per the range to determine interpolated values

20 -30	10-20	Range
β	β	
20	10	input
0.380	0.800	
0.370	0.780	
0.360	0.720	
0.340	0.660	
0.450	0.700	
0.560	0.740	
0.580	0.770	

B/H	0.8

RC_{BC} = 0.404

Input bracket values based on above calcs for linear interpolation

B/H	RC_{BC}
0.6	0.340
1	0.450

RC_{BC} = 0.404 (Only for interpolation)

Project Name:	San Bernardino Class 1 Bike Trail Project	Calc By:	PV
Project No.:	5012-02-1	Check By:	PV
Design Case:	Pathway Bridge Abutments B = 10 ft	Date:	6/26/2019

AASHTO (2017) Table 10.6.3.1.2c-1 RC_{BC} Values For Footing on Slope

C' = 0 Phi = 36 deg

B/H	β		
	10	20	30
0.1	0.800	0.380	0.170
0.2	0.780	0.370	0.160
0.4	0.720	0.360	0.170
0.6	0.660	0.340	0.170
1	0.700	0.450	0.320
1.5	0.740	0.560	0.470
3	0.770	0.580	0.620

Input per the range to determine interpolated values

20 -30	10-20	Range
β	β	
20	10	input
0.380	0.800	
0.370	0.780	
0.360	0.720	
0.340	0.660	
0.450	0.700	
0.560	0.740	
0.580	0.770	

B/H	1.7

RC_{BC} = 0.562

Input bracket values based on above calcs for linear interpolation

B/H	RC_{BC}
1.5	0.560
3	0.580

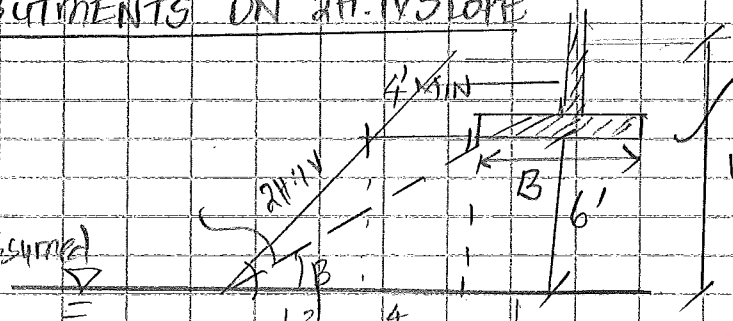
RC_{BC} = 0.562 (Only for interpolation)

CORESTONE ENGINEERING, INC
GEOTECHNICAL SERVICES & CONSTRUCTION MATERIALS TESTING
1345 CAPITAL BLVD, SUITE B, RENO, NV 89502; PH: 775-636-5916

DATE: 6/27/18 CALCULATED BY: PV CHECKED BY: V 1 OF 1
PROJECT: SAN BERNARDINO CLASS I BIKE TRAIL PROJECT NO.: 5012-02-1
SUBJECT: BRIDGE FOUNDATIONS

AASHTO LRFD (2017)

ABUTMENTS ON 2H:1V SLOPE



Embankment Fill
$\phi = 36°$ $\gamma = 125$ PCF

10' Assumed

$\tan\beta = \frac{6}{16}$

$\beta = 20.56°$

Native sand soils
m.d. dense

For settlement calcs, use the most conservative

USE DATA FROM B-02 (East Side of UPPER TRUCKEE RIVER

FOR PIER FOUNDATIONS
CALC AVERAGE ... = $N = 7 - 35$ (VARIES)
$N_{1,60} = 13 - 48$

$(N_{1,60}) = 35$ ~ From AASHTO (2017)
Through 2B Depth $\phi_{avg} = 36°$ — USE 36°
(See separate calcs)

Abutments $B = 5' \rightarrow R_{CB} = 0.34$ ~ for no slope

$N_{\gamma slope} = 37.75 \times 0.404 = 15.25$

$B = 10' \rightarrow R_{CB} = 0.562 \times 37.75 \approx 21.22$

Granular Soils Friction Angle - AASHTO (2017) Table 10.4.6.2.4.1

$N1_{60}$	ϕ_f (deg) low	ϕ_f (deg) high
4	27	32
5	27.5	32.5
6	28	33
7	28.5	33.5
8	29	34
9	29.5	34.5
10	30	35
11	30.25	35.25
12	30.5	35.5
13	30.75	35.75
14	31	36
15	31.25	36.25
16	31.5	36.5
17	31.75	36.75
18	32	37
19	32.25	37.25
20	32.5	37.5
21	32.75	37.75
22	33	38
23	33.25	38.25
24	33.5	38.5
25	33.75	38.75
26	34	39
27	34.25	39.25
28	34.5	39.5
29	34.75	39.75
30	35	40
31	35.15	40.15
32	35.3	40.3
33	35.45	40.45
34	35.6	40.6
35	35.75	40.75
36	35.9	40.9
37	36.05	41.05
38	36.2	41.2
39	36.35	41.35
40	36.5	41.5
41	36.65	41.65
42	36.8	41.8
43	36.95	41.95
44	37.1	42.1
45	37.25	42.25
46	37.4	42.4
47	37.55	42.55
48	37.7	42.7
49	37.85	42.85
50	38	43

Values from AASHTO Table

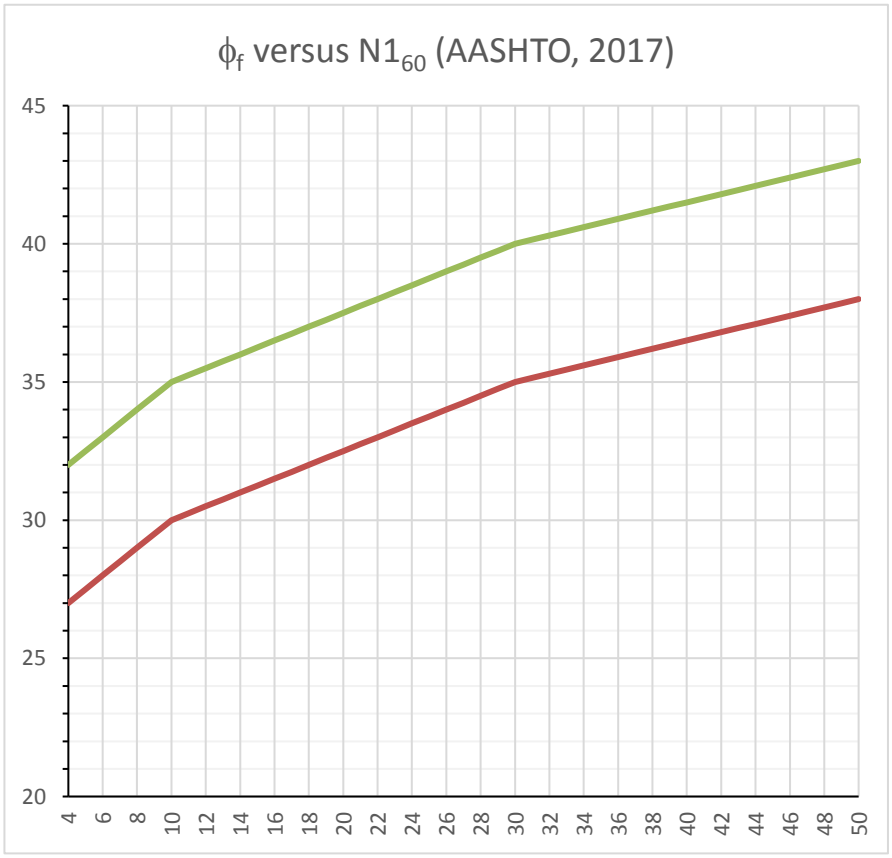
Interpolated values

Input

$N1_{60}$ = 35

Output

ϕ_f (deg)		
35.75	**40.75**	**38.25**
low	high	average

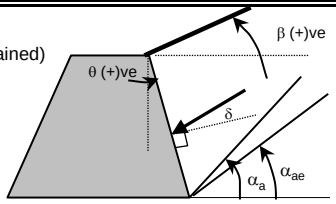


Project Name:	San Bernardino Class 1 Bike Trail Project	Developed By:	PV
Project No:	5012-02-1	Calculated By:	PV
Description:	Retaining Walls	Checked By:	
		Date:	6/28/2019

Inclination of active failure plane and lateral earth pressure coefficients

Reference: 1. Geotechnical Earthquake Engineering, FHWA HI-99-012, Dec 1998 (GEE)
2. Earth Retaining Structures, NHI Course No. 13236, May 1998 (ERS)

ϕ = 36 deg 0.628 rad. (Friction angle of soil retained)
β = 0 deg 0.000 rad.
δ = 12 deg 0.209 rad. (ϕ/3 ?)
θ = 0 deg 0.000 rad.
ϕ/3 = 12.0 deg



A = 0.42 (Design acceleration coeff.) k_h = 0.21 use (-)ve values as appropriate
(Sds/2.5 - geo report) k_v = 0 (generally zero)

$\Psi = \tan^{-1}[k_h / (1-k_v)]$ = 11.86 deg 0.207 rad.

Failure Wedge (Static and Seismic)

From Mononobe-okabe theory, (GEE 9-30)

$$\alpha_{ae} = \phi - \psi + \arctan\left(\frac{\sqrt{F_1(F_1+F_2)(1+F_3F_1)} - F_1}{1+F_3(F_1+F_2)}\right)$$

α_{ae} = 43.1 deg *(Seismic Wedge)*

Where, when ψ = 0 deg,

F1 = tan (ϕ–ψ–β) =	0.448	0.727
F2 = cot (ϕ–ψ–θ) =	2.231	1.376
F3 = tan (δ+θ+ψ) =	0.442	0.213

When ψ = 0,
α_a = 58.6 deg *(Static ?)*

Compare with Rankine active failure angle (static loading with horizontal backfill)

$\alpha_a = 45 + \phi/2$ → **α_a = 63.0 deg** *(use this for static wedge)*

Lateral Earth Pressure Coefficients (Static and Seismic):

Using Coulomb's Theory, (ERS 2-4)

$$K_a = \frac{\cos^2(\phi-\theta)}{\cos^2\theta\cos(\theta+\delta)\left[1+\sqrt{\frac{\sin(\phi+\delta)\sin(\phi-\beta)}{\cos(\theta+\delta)\cos(\theta-\beta)}}\right]^2}$$

Results in Equivalent Fluid Presssure (pcf)		
Unit weight =		125 pcf
Case	Static	Dynamic
At-rest	52	N/A
active	**30**	**47**
passive	481	

K_a = 0.240

Check:
Rankine $K_a = \tan^2(45 - \phi/2)$ = 0.260
(Only for vertical walls with level backfill)

Using Mononobe-Okabe Theory, (GEE 9-13b)

$$K_{ae} = \frac{\cos^2(\phi-\psi-\theta)}{\cos\psi\cos^2\theta\cos(\delta+\theta+\psi)\left[1+\sqrt{\frac{\sin(\phi+\delta)\sin(\phi-\psi-\beta)}{\cos(\delta+\theta+\psi)\cos(\beta-\theta)}}\right]^2}$$

K_{ae} = 0.374

Further,

Coulomb K_p = 6.080 (use only when $\delta \le \phi/3$) Mononobe-Okabe, K_{pe} = 5.187
Rankine K_p = 3.852 (vertical wall with level backfill)

NAVFAC chart can also be used to determine K_p & K_{pe} values (more reasonable values for some cases).

Note : Use WASP to calculate K_{ae} when Mononobe-Okabe equation fails or for special cases.