PUBLIC DRAFT

Initial Study/Negative Declaration/Initial Environmental Checklist

City of South Lake Tahoe
Lake Tahoe Boulevard Class 1 Bicycle Trail Project

July 2019

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Shaping the Future

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Acronyms

AASHTO	American Association of State Highway and Transportation Officials
AB 32	California Global Warming Solutions Act of 2006
ADA	Americans with Disabilities Act
APCD	Air Pollution Control District
APE	Area of Potential Effects
APN	Assessor's Parcel Number
AQMD	Air Quality Management District
BAL	Base Allowable Land Coverage
bgs	Below Ground Surface
BMP	Best Management Practice
BPMP	Lake Tahoe Region Bike and Pedestrian Plan
CAA	Federal Clean Air Act of 1970
Cal Tahoe	California Tahoe Emergency Services Operations Authority
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CASQA	California Stormwater Quality Association
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEP	Community Enhancement Program
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH_4	Methane
City	City of South Lake Tahoe
CMAQ	Congestion Mitigation Air Quality
CNDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	Carbon Monoxide
CO_2	Carbon Dioxide
CO_2e	Carbon Dioxide Equivalent
County	El Dorado County
dB/dBA	Decibel/A-weighted decibel
dbh	Diameter at Breast Height

DPM	Diesel Particulate Matter
DVTE	Daily Vehicle Trip Ends
EIP	TRPA Environmental Improvement Program
EIR	Environmental Impact Report
EIS	Environmental Impact Statement
EPA	U.S. Environmental Protection Agency
ESCP	Erosion and Sediment Control Plan
FEMA	Federal Emergency Management Agency
FESA	Federal Endangered Species Act
FONSE	Finding of No Significant Effect
Forest Service	United States Department of Agriculture Forest Service
GHGs	Greenhouse Gases
IEC	Initial Environmental Checklist
IPaC	Information for Planning and Conservation
IS	Initial Study
ISA	Initial Site Assessment for Hazardous Waste
Lahontan Basin Plan	Water Quality Control Plan for the Lahontan Region
Lahontan Water Board	Regional Water Quality Control Board – Lahontan Region
LCD	Land Capability District
LOP	Limited Operation Period
LOS	Level of Service
LTBMU	USDA Forest Service Lake Tahoe Basin Management Unit
MBTA	Migratory Bird Treaty Act
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NHPA	National Historic Preservation Act
NO_2	Nitrogen Dioxide
NOA	Notice of Availability
NOI	Notice of Intent
NOX	Oxides of Nitrogen
NPDES	National Pollutant Discharge Elimination System permit program
PAC	Protected Activity Center
PAOT	Persons at One Time
PAS	Plan Area Statement
PIES	Public Improvements and Engineering Standards

PLRM	Pollutant Load Reduction Model
PLRM	Pollutant Load Reduction Model
PM_{10}	Particulate Matter Less than 10 Microns in Diameter
$PM_{2.5}$	Particulate Matter Less than 2.5 Microns in Diameter
PPB	Parts per Billion
PPM	Parts per Million
PRC	Public Resource Code
Project	Lake Tahoe Boulevard Class 1 Bicycle Trail Project
QSP	Qualified SWPPP Developer
ROG	Reactive Organic Gases
ROW	Right-of-Way
RPM	Resource Protection Measure
RPU	TRPA 2012 Regional Plan Update
RTP	Regional Transportation Plan
SEZ	Stream Environment Zone
SHPO	State Historic Preservation Office
SIP	State Implementation Plan
SLTFD	South Lake Tahoe Fire District
SLTPD	South Lake Tahoe Police Department
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_2	Sulfur Dioxide
SQIP	Scenic Quality Improvement Program
SR	State Route
State Water Board	California State Water Resources Control Board
STPUD	South Tahoe Public Utility District
SWPPP	Stormwater Pollution Prevention Plan
TAC	Toxic Air Contaminants
TMDL	Total Maximum Daily Load
TMPO	Tahoe Metropolitan Planning Organization
TPZ	Timberland Production Zone
TRPA	Tahoe Regional Planning Agency
TRPA Code	TRPA Code of Ordinances
TVAP	Tahoe Valley Area Plan
US 50	U.S. Highway 50
USFWS	United States Fish and Wildlife Service

USGS	United States Geological Survey
VMT	Vehicle Miles of Travel
WBS	Western Botanical Services, Inc.
WQO	Water Quality Objective
µg/m3	Microgram per Cubic Meter

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EXECUTIVE SUMMARY

The purpose of this Initial Study/Negative Declaration/Initial Environmental Checklist (IS/ND/IEC) is to evaluate the potential environmental impacts of the Lake Tahoe Boulevard Class 1 Bicycle Trail Project (Project). The Project is located in Section 3, Township 12 North, Range 18 East, in South Lake Tahoe, California. According to the California Environmental Quality Act (CEQA) Guidelines Section 15063(c), one of the purposes of an IS is to provide a preliminary analysis of a proposed project to determine whether an ND, Mitigated Negative Declaration, or Environmental Impact Report (EIR) should be prepared. The Tahoe Regional Planning Agency (TRPA) uses either an IEC or environmental assessment to determine whether an Environmental Impact Statement (EIS) should be prepared for a project or other matter.

Project Summary

The Project will implement Tahoe Regional Planning Agency's Environment Improvement Program (EIP) project number 03.01.02.0094 and construct a Class 1 shared-use trail on Lake Tahoe Boulevard from Vikings Way to the US Highway 50 (US 50) intersection at the "South Wye" and intersection crossing improvements at the western end (Vikings Way Intersection). The Project will also install a landscaped buffer zone, Americans with Disabilities Act (ADA)–compliant ramps and City of South Lake Tahoe (City) standard City pathway lighting with underground conduit. Sections of existing curb and gutter will be realigned, and sections of curb and gutter will be constructed. The existing Class 2 bike lanes will be realigned and restriped to establish a consistent lane width of 5 feet. The current Lake Tahoe Boulevard will be reconfigured from a four-lane roadway with two lanes in each direction to a three-lane roadway with one lane in each direction and a center turning lane. Lake Tahoe Boulevard roadway cross-section will remain unchanged from the "South Wye" to the east side of the South Y Center's main driveway. In the westbound direction, the roadway will add a westbound left-turn refuge lane at South Y Center's driveway, and then merge from three lanes to one by Glorene Avenue. In the eastbound direction the roadway will be reduced just west of Vikings Way to one lane and then increase back to two lanes east of Glorene Avenue.

This Project is a part of the Congestion Mitigation Air Quality (CMAQ) funding administered by California Department of Transportation (Caltrans). This program is funded from various federal and state funds appropriated in the annual Budget Act including MAP-21, FAST Act or other federal funds, and State Highway Account funds.

California Environmental Quality Act

This IS/ND/IEC has been prepared pursuant to the CEQA, Public Resources Code (PRC) Section 21000-21177, and the CEQA Statue and Guidelines (California Code of Regulations, Title 14, Division 6, Chapter 3, Sections 15000-15387). The City of South Lake Tahoe is the Lead Agency for this Project. CEQA-defined levels of impact significance are as follows:

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).

Impact Severity	Definition
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.

The decision to prepare an ND or Mitigated Negative Declaration is outlined in California Code of Regulations Section 15070:

> A public agency shall prepare or have prepared a proposed negative declaration or mitigated negative declaration for a project subject to CEQA when:
>
> (a) The initial study shows that there is no substantial evidence, in light of the whole record before the agency, that the project may have a significant effect on the environment, or
>
> (b) The initial study identifies potentially significant effects, but:
>
> > (1) Revisions in the project plans or proposals made by, or agreed to by the applicant before a proposed mitigated negative declaration and initial study are released for public review would avoid the effects or mitigate the effects to a point where clearly no significant effects would occur, and
> >
> > (2) There is no substantial evidence, in light of the whole record before the agency, that the project as revised may have a significant effect on the environment.

Section 15070 substantially mirrors the language of PRC Section 21080(c). Under subsection (a), an ND shall be adopted when the IS shows that a project may not have a significant effect on the environment.

CEQA Tiering Process

The CEQA concept of "tiering" refers to the evaluation of general environmental matters in a broad program-level EIR, with subsequent focused environmental documents for individual projects that implement the program. CEQA and the CEQA Guidelines encourage the use of tiered environmental documents to reduce delays and excessive paperwork in the environmental review process. This is accomplished in tiered documents by eliminating repetitive analyses of issues that were adequately addressed in the Program EIR and by incorporating those analyses by reference.

This environmental document incorporates by reference the discussions in the 2010 City General Plan EIR (the Program EIR) and the IS/MND/IEC/FONSE document prepared for the Tahoe Valley Area Plan (TVAP) approval. By tiering, the Tahoe Valley Stormwater and Greenbelt Improvement Project IS will rely on the 2010 City General Plan EIR and the TVAP IS/MND/IEC/FONSE for the following:

- A discussion of general background and setting information for environmental topic areas;
- Issues that were evaluated in sufficient detail in the TVAP for which there is no significant new information or change in circumstances that would require further analysis;
- Incorporation of the feasible mitigation measures identified in the TVAP environmental document for implementation by subsequent projects that are applicable to the Project; and
- Assessment of cumulative impacts.

Tahoe Regional Planning Agency

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 Bi-State Compact and TRPA Code of Ordinance (TRPA Code) Chapter 3. The Project is located within the jurisdictional boundary of the TRPA and is therefore required to comply with the environmental compliance guidelines of the agency. Except for planning matters, ordinary administrative and operational functions of TRPA, or exempt classes of projects, TRPA uses either an IEC or environmental assessment to determine whether an EIS shall be prepared for a project or other matter. TRPA Code Section 3.3.1, Initial Environmental Checklist, states that applicants for projects shall complete a TRPA IEC and shall submit the checklist as part of the project application:

> A. The applicant shall describe and evaluate the significance of all impacts receiving "yes" answers.
>
> B. The applicant shall describe and evaluate the significance of all impacts receiving "no with mitigation" answers and shall describe, in detail, the mitigation measures proposed to mitigate these impacts to a less than a significant level.

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 Rules of Procedure Section 6.6;
2. The proposed project could have a significant effect on the environment but, due to the listed mitigation measures that have been added to the project, the project could have no significant effect on the environment and a mitigated finding of no significant effect shall be prepared in accordance with Rules of Procedure Section 6.7; or
3. The proposed project may have a significant effect on the environment and an environmental impact statement shall be prepared in accordance with Code Chapter 3 and the Rules of Procedure, Article 6.

When the IEC is completed, TRPA reviews it 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. This document serves as a joint IS/ND/IEC to analyze potential environmental impacts of the Project and is compliant with both CEQA and TRPA policies and guidelines.

TRPA Tiering Process

The TRPA concept of "tiering" refers to the coverage of general matters in broader EISs (Program EIS) and subsequent narrow environmental documents incorporating by reference the general discussions and concentrating solely on the issues specific to the document subsequently prepared. Therefore, when an EIS has been certified for a project or matter, TRPA should limit the analysis on a later related or consistent

project or matter to effects that were not examined as significant effects in the prior EIS or that are susceptible to substantial reduction or avoidance by revisions in the project or matter through conditions of approval or mitigation. Tiering is limited to situations where a later project or matter is consistent with a program, plan, policy, or ordinance for which an EIS was prepared, is consistent with applicable TRPA plans, and does not require a supplemental EIS.

The TRPA 2012 Regional Plan Update (RPU) EIS is a Program EIS that was prepared pursuant to Article VI of TRPA Rules of Procedure and Chapter 3 of the TRPA Code of Ordinances. The TRPA 2012 RPU is a comprehensive land use plan that guides physical development within the Lake Tahoe Region through 2035. The 2012 RPU EIS analyzes full implementation of uses and physical development proposed under the 2012 RPU, and it identifies measures to mitigate the significant adverse program-level and cumulative impacts associated with that growth. The Project is an element of the growth that was anticipated in the 2012 RPU and evaluated in the 2012 RPU EIS. The Project IEC is tiered from the TRPA 2012 RPU EIS in accordance with Sections 6.12j of the TRPA Rules of Procedure. By tiering from the 2012 RPU EIS, this IEC will rely on the 2012 RPU EIS for the following:

- A discussion of general background and setting information for environmental topic areas;
- Issues that were evaluated in sufficient detail in the 2012 RPU EIS for which there is no significant new information or change in circumstances that would require further analysis; and
- Assessment of cumulative impacts.

Environmental Factors Potentially Affected

The IS identifies physical, biological, and social factors that might be affected by the Project. In many cases, background and technical studies conducted during Project planning and design indicate no impacts. A "No Impact" answer reflects this determination. Where there is a need for clarifying discussion, the discussion is included either following the applicable section of the checklist or is within the body of the environmental document itself. The questions in this form are intended to encourage the thoughtful assessment of impacts but do not represent thresholds of significance. The environmental factors, if checked below, would involve at least one impact that is a "Potentially Significant Impact," as indicated by the CEQA Environmental Checklist (and/or TRPA Initial Environmental Checklist) analyses presented in Sections 3 through 23.

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

NEGATIVE DECLARATION SCH No. TBD

Pursuant to Title 14 California Code of Regulations, Chapter 3, Guidelines for Implementation of the California Environmental Quality Act, and based on the information contained in the attached IS, the determination is made that the Project would not have a significant adverse effect on the environment.

Project Name: Lake Tahoe Boulevard Class 1 Bicycle Trail Project

Project Location: City of South Lake Tahoe, El Dorado County, California

Project Description: The Lake Tahoe Boulevard Class I Bicycle Trail Project (Project), Tahoe Regional Planning Agency (TRPA) Environment Improvement Program (EIP) project number 03.01.02.0094 is located in the southwest portion of the City of South Lake Tahoe (City) near South Tahoe High School, between Vikings Way and the US Highway 50 (US 50) and State Route 89 (SR 89) intersection at the "South Wye", in El Dorado County, California. The Project is located in Section 3, Township 12 North, Range 18 East, on the Emerald Bay, California, 7.5-minute series U.S. Geological Survey (USGS) quadrangle (**Figure 1**). The Project will provide for non-motorized and safe travel between the existing Class 1 shared-use trail on the northwest side of the Lake Tahoe Boulevard and Vikings Way intersection east to SR 89. A pedestrian crossing at the Vikings Way intersection will connect the new Class 1 shared-use trail installed within the southwest City right-of-way to the existing trail. The Project vicinity comprises a mix of school, governmental, multi-family residential, and commercial uses in close proximity to the state highway. The area currently includes roadways with two lanes in each direction, several ingress/egress areas, and a generally unsafe vehicular, pedestrian and bike travel corridor. The Project is designed to resolve vehicular, pedestrian, and bicycle safety issues.

The Project proposal includes multi-benefit vehicular, bicycle, pedestrian, and recreational improvements. The Project includes a Class 1 shared-use trail on Lake Tahoe Boulevard from Vikings Way to the South Wye and intersection crossing improvements at both ends. The Project installs a Class 1 shared use path, landscaped buffer zone, Americans with Disabilities Act (ADA) compliant ramps, and standard City pathway lightings with underground conduit. Sections of existing curb and gutter will be realigned, and sections of new curb and gutter will be constructed. The existing Class 2 bike lanes will be realigned and restriped to establish a consistent lane width of 5 feet. Pedestrian and bicycle improvements include increased connectivity of the Project area to the regional network with existing and planned pedestrian and bicycle pathways.

The Project is identified on the Lake Tahoe Environmental Improvement Program (EIP) 5-year list as Project #03.01.02.0094 (Lake Tahoe Boulevard Class 1 Bicycle Trail). The City is designated as the lead implementer for the EIP Project, with a planning/design start year of 2016 and implementation start year targeted for 2021. This Project is included in the EIP Air Quality and Transportation Focus Area (03), under the Air Quality and Transportation Program (03.01). The EIP Action Priority for this Project is Improving Transit and Trails Connections (03.01.02).

Findings: This Initial Study/Negative Declaration/Initial Environmental Checklist (IS/ND/IEC) follows the standard content required for environmental documents under the California Environmental Quality Act (CEQA) and the Tahoe Regional Planning Agency (TRPA) Code of Ordinances (TRPA Code) and Rules of Procedure. This IS/ND/IEC is a full disclosure document, describing the Project and its potential environmental effects in sufficient detail to aid decision-making.

Based on the IS and IEC analyses and level of significance conclusions, the determination can be made that the proposed Project will not result in a significant impact on the environment. An Environmental Impact Report (EIR)/Environmental Impact Statement (EIS) was determined to be unnecessary, as there are no

potentially significant environmental effects associated with approval of the Project that could not be avoided, reduced, minimized, or otherwise mitigated by the design to a less-than-significant level. An ND has been prepared in accordance with CEQA statutes and a finding of no significant effect (FONSE) will be issued in accordance with TRPA Rules of Procedure Section 6.6.

The Project will avoid potentially significant impacts or adequately and appropriately reduce, minimize, or mitigate potential impacts to a level of less than significant through the Project design and location and implementation of construction control measures, best management practices (BMPs), and resource protection measures (collectively called compliance measures) that have been built in to the Project proposal. The Project would have no impact or a level of less-than-significant impact on aesthetics, agriculture and forest resources, air quality, biological resources, cultural resources, energy, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, land use and planning, minerals, noise, population and housing, public services, recreation, transportation, tribal cultural resources, utilities and service systems, and wildfire.

CEQA Environmental Checklist Form:

Project Title:	**Lake Tahoe Boulevard Class 1 Bicycle Trail Project**
Lead agency name and address:	City of South Lake Tahoe
Contact person and phone number:	Randy Carlson (530) 542-6033
Project Location:	City of South Lake Tahoe, **Figure 1**
Project sponsor's name and address:	City of South Lake Tahoe 1052 Tata Lane, South Lake Tahoe, CA 96150
General plan description:	Traffic Circulation, Mobility, Safety Improvements
Zoning:	Town Center Mixed-Use Corridor, Town Center Core, Residential
Description of Project: (Describe the whole action involved, including but not limited to later phases of the Project, and any secondary, support, or off-site features necessary for its implementation.)	Refer to Section 1.0, Project Description
Surrounding land uses and setting; briefly describe the Project's surroundings:	The Project will be located within an existing Public right-of-way (ROW) with the appropriate rights-of-entries (ROE) across commercial driveways. Additionally, minor easements (2), will be required to construct the project. Surrounding land uses are commercial and residential
Other public agencies whose approval is required (e.g. permits, financial approval, or participation agreements):	Tahoe Regional Planning Agency (EIP Project Permit and Grading Permit); California Department of Transportation Encroachment; Lahontan Regional Water Quality Control Board (Tahoe General Construction Permit coverage)

Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1?	Yes, refer to Section 7.2 of the Initial Study.

Determination: On the basis of this initial evaluation,

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

Signature: Randy Carlson **Date:** 7/26/2019

Printed Name: Randy Carlson **For:** _____

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1.0 PROJECT DESCRIPTION

1.1 Introduction

This Initial Study/Initial Environmental Checklist (IS/IEC) has been prepared to address the potential environmental effects of the Lake Tahoe Boulevard Class 1 Bicycle Trail Project (Project) in South Lake Tahoe, California. An IS is a preliminary environmental analysis that is used by the lead agency as a basis for determining whether an Environmental Impact Report (EIR), a Mitigated Negative Declaration, or a Negative Declaration (ND) is required for a project under California Environmental Quality Act (CEQA) guidelines. An IEC is a preliminary environmental analysis that is used for determining whether an Environmental Impact Statement (EIS), a Mitigated Finding of No Significant Effect, or a Finding of No Significant Effect (FONSE) is required for a project under Tahoe Regional Planning Agency (TRPA) guidelines. The IS and the IEC contain a project description, description of environmental setting, identification of environmental effects by checklist or other similar form, explanation of environmental effects, discussion of mitigation for significant environmental effects, evaluation of the project's consistency with existing, applicable land use controls, and the names of persons who prepared the study.

This IS/ND has been prepared pursuant to the CEQA, California Public Resource Code §21000 et seq. The CEQA lead agency for this project is the City of South Lake Tahoe (City).

This document also serves as an IEC/FONSE prepared pursuant to the requirements of Article VI of the TRPA Rules of Procedure and Chapter 3 of the TRPA Code of Ordinances (TRPA Code). TRPA serves as lead agency pursuant to its own regulations.

1.2 Project Summary

The Project is located in the southwest portion of the City, near South Tahoe High School, between Vikings Way and the US Highway 50 (US 50) and State Route 89 (SR 89) intersection referred to as the "South Wye", in El Dorado County, California (**Figure 1**). A portion of the Project is within the *Tahoe Valley Area Plan* (TVAP) community boundary (between US 50/SR 89 and Julie Lane), while the remainder of the Project area is within the Bonanza plan area, Plan Area Statement (PAS) 114, between Julie Lane and Vikings Way. Additionally, the South Y Industrial Tract Community Plan and the Twin Peaks PAS 118 constitute small portions of the existing public right-of-way (ROW) at the western terminus of the Project area. South Tahoe High School, including the campus for Mt. Tallac Continuation High School and Transitional Learning Center, is located adjacent to the southwest portion of the Project area.

The City of South Lake Tahoe Department of Public Works, in coordination with the California Department of Transportation (Caltrans), is proposing to construct a Class 1 shared-use trail on Lake Tahoe Boulevard from Vikings Way to the South Wye and intersection crossing improvements at both ends. The Project vicinity comprises a mix of school, governmental, multi-family residential, and commercial uses in close proximity to the state highway. The area currently includes roadways with two lanes in each direction, with several ingress/egress areas, and a generally unsafe vehicular, pedestrian and bike travel area. The Project is designed to resolve these safety issues.

The Project proposes to install a landscaped buffer zone, a Class 1 bike trail/multi-use path, Americans with Disabilities Act (ADA)–compliant ramps, and standard City pathway lightings with underground conduit. Sections of existing cub and gutter will be realigned, and sections of curb and gutter will be constructed. The existing Class 2 bike lanes will be realigned and restriped to establish a consistent lane width of 5 feet. The current Lake Tahoe Boulevard will be reconfigured from a four-lane roadway with two lanes in each direction, to a three-lane roadway with one lane in each direction and a center turning lane. Lake Tahoe

Boulevard will remain unchanged from the "South Wye" to the east side of the South Y Center's main driveway. In the westbound direction, the roadway will add a westbound left-turn refuge lane at South Y Center's driveway, and then merge from three lanes to one by Glorene Avenue. In the eastbound direction, the roadway will be reduced just west of Vikings Way to one lane and then increased back to two lanes east of Glorene Avenue.

The Project will provide for non-motorized, safe travel between Vikings Way/D Street and the South Wye intersection, with a Class 1 shared-use trail providing for two-way bike and pedestrian traffic. Additionally, the Project will install standard City pathway lightings, curb and gutter improvements, and intersection improvements at Vikings Way. Lake Tahoe Boulevard will be restriped from the existing two lanes in each direction with no turn lane to one lane in each direction with a center turn lane and Class 2 bike lanes.

The Project is identified on the Lake Tahoe Environmental Improvement Program (EIP) 5-year list as Project #03.01.02.0094 (Lake Tahoe Boulevard Class 1 Bicycle Trail). The EIP Project number represents the following:

- EIP Focus Area: 03 – Air Quality and Transportation;
- EIP Program: 03.01 – Air Quality and Transportation; and
- EIP Action Priority: 03.01.02 – Improving Transit and Trails Connections.

The City is designated as the lead implementer for the EIP Project, with a planning/design start year of 2016 and implementation start year targeted for 2021.

1.3 Project Background

The TVAP, adopted in 2015, provides land use regulation and a zoning plan for the Tahoe Valley area (City and TRPA 2015), consistent with the policy directions of the *City of South Lake Tahoe General Plan* (General Plan) (City 2011) and the TRPA's 2012 Regional Plan Update (RPU) (TRPA 2012). The TVAP establishes goals, policies, and implementation strategies for enhancement of the built environment, environmental protections, and revitalization of the Tahoe Valley area (City and TRPA 2015). A portion of the Project area falls within the boundary of the TVAP, within the Town Center Mixed-Use corridor. The Project serves the goals and policies of the TVAP.

The section of Lake Tahoe Boulevard from the South Wye intersection to Vikings Way is identified as an unsafe pedestrian and bike travel area in the Linking Tahoe, Regional Transportation Plan (RTP) (TRPA 2017). The Project is designed to resolve the safety issues inherent to the existing conditions through the consideration of current crossing standards and the varying skill levels of pedestrians and cyclists both on and removed from the roadway. This Project is a part of the Congestion Mitigation Air Quality (CMAQ) funding administered by Caltrans. This program is funded from various federal and state funds appropriated in the annual Budget Act including MAP-21, FAST Act or other federal funds, and State Highway Account funds (Caltrans 2016). The City has also secured Surface Transportation Block Grants (ROW & CON) and Active Transportation Program (CON) funding for Project implementation.

1.4 Project Location, Setting, and Surrounding Land Uses

Figure 1 illustrates the Project vicinity. The Project area is contained within the City of South Lake Tahoe, El Dorado County, California. **Figure 2**, Project Area Location, depicts the Project area boundary in the context of the TVAP and PAS 114 (Bonanza Special Area #2), PAS 118 (Twin Peaks), and the South Y Industrial Tract Community Plan. Commercial (mixed use), industrial, and residential zoning districts surround the Project area.

In PAS 114 and 118, public services such as transportation routes and utilities (i.e., pipeline and power transmission) must be considered under the provisions of a special use. Riding and hiking trails are an allowable use, as are erosion control and runoff control.

The TVAP designates transportation routes, riding and hiking trails, and water quality improvements (e.g., stormwater improvements, erosion and sediment control) as allowable uses, while pipelines and power transmission must be considered under the provisions of a special use.

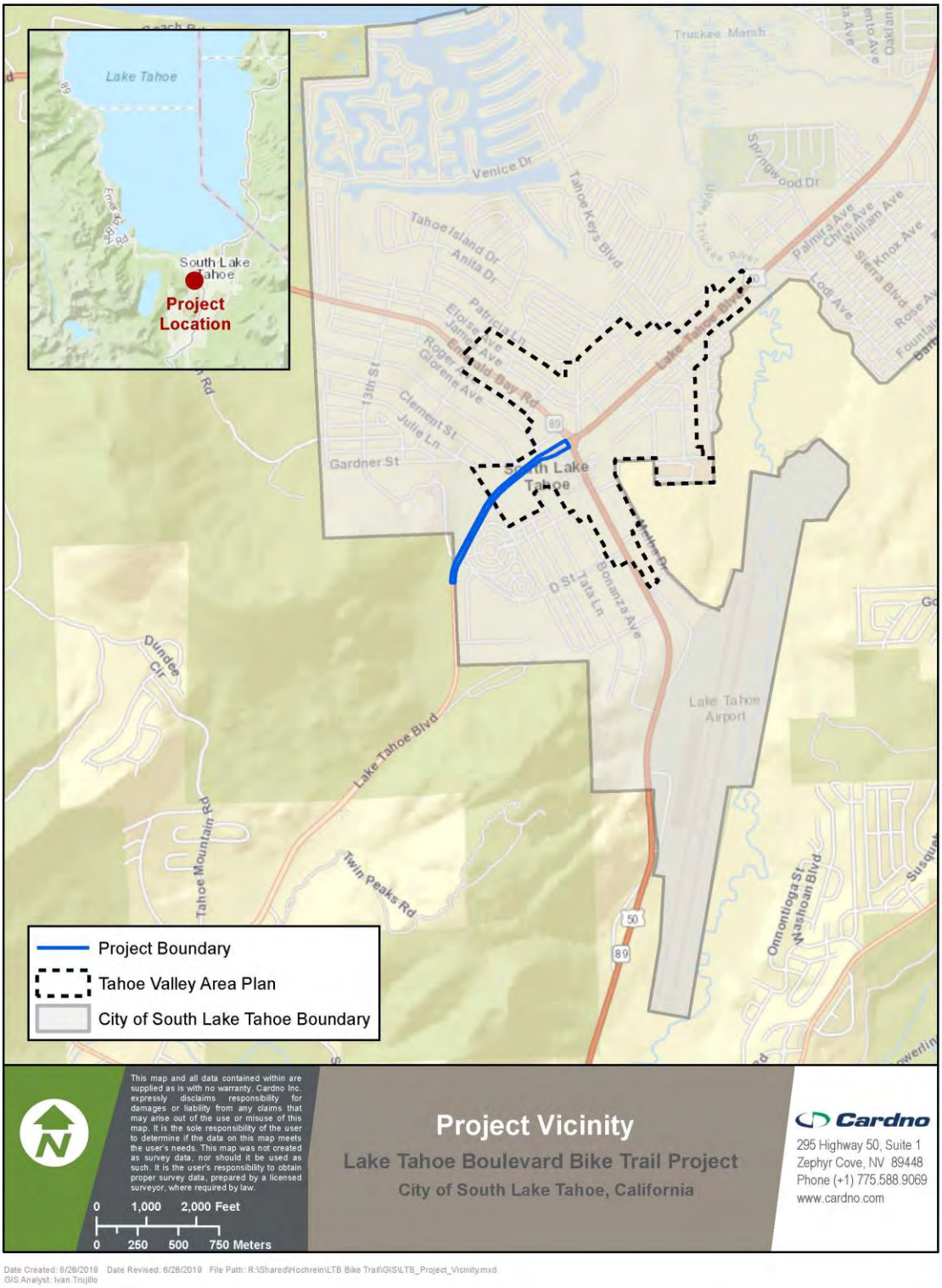

Figure 1. Project Vicinity.

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GIS Analyst: michelle.hochrein

Figure 2. Project Area Location Map.

1.5 Purpose and Need

The purpose of the Project is to implement the policies of and fulfill the goals and objectives of a number of regional and local plans and programs, including but not limited to, the following:

- TRPA 2012 RPU;
- Lake Tahoe EIP Project #03.01.02.0094;
- RTP;
- City General Plan; and
- TVAP.

The need for the Project is linked to traffic congestion reduction, providing an alternative transportation link from unincorporated portions of El Dorado County to existing and planned transit, civic, and school facilities, and recreation, commercial, and residential uses in the City, specifically the commercial core/town center identified in the TVAP.

The TVAP area is located within the City's General Plan land-use designation of Town Center (City 2011), and the western portion of the Project area lies within the Town Center Mixed-Use Corridor District. Town Centers are identified in the TRPA RPU as containing most of the region's non-residential services (TRPA 2012). Town Centers are targeted for redevelopment projects that improve environmental conditions, create a more sustainable and less automobile-dependent development pattern, and provide economic opportunities in the region (City and TRPA 2015).

The Project proposal and design is consistent with the goals and policies for land use within the TVAP (Policy LU-1.2 – Connectivity: Create bike, pedestrian and open space connections from the Tahoe Valley Area Plan to the adjacent residential neighborhoods and nearby recreation). The Project contributes toward meeting TVAP transportation goals T-3, Pedestrian Facilities, and T-4, Bikeways, and the associated policies to develop the City's pedestrian and bikeway system, effectively link residential neighborhoods, employment centers, commercial areas, public uses, and recreational and educational centers, both within and outside of the TVAP area.

The section of Lake Tahoe Boulevard from the US 50 intersection to Vikings Way is identified as an unsafe pedestrian and bike travel area in the RTP (TMPO/TRPA 2017). The Project purpose is ultimately to resolve the safety issues that are inherent to the existing conditions of the City ROW.

1.6 Project Objectives

The Project objectives are as follows:

- Provide for non-motorized travel along Lake Tahoe Boulevard;
- Establish connectivity and close the gap between El Dorado County and the City trails;
- Implement Safe Routes to School improvements that serve South Tahoe High School;
- Provide additional access to the South Wye transit center;
- Contribute toward improvement of regional air quality;
- Improve intersection and road crossings; and
- Install ADA accessibility improvements.

1.7 Public Involvement

Opportunities for public participation in the environmental document review process are provided in order to promote open communication and better decision-making. Pursuant to the requirements of CEQA, this IS/ND/IEC will be sent, along with a Notice of Completion, to the California State Clearinghouse. In addition, copies of this document will be distributed to other Lake Tahoe Basin reviewing agencies and interested individuals and entities for review.

After closure of the public review period, City staff will respond to comments received on the Public Draft IS/IEC. City staff will then prepare an agenda item for the City Planning Commission's action that includes consideration of the IS/IEC, the comments, and responses to the comments. If the Planning Commission determines that the Project would not have significant adverse impacts after mitigation, the Planning Commission would certify the environmental document. Following Planning Commission adoption, the Notice of Determination would be filed with the County recorder-clerk and State Clearinghouse.

Pursuant to the TRPA's Rules of Procedure and Chapter 3 of the TRPA Code of Ordinances, this IS/IEC will be made available for public review to those entities that request copies. The IEC will be reviewed and approved at the staff level, and Project conditions issued at the staff level. If it is determined that significant adverse impacts would not result from the Project after mitigation, a Mitigated Finding of No Significant Effect will be issued. Should the final Project require consideration by the Governing Board, TRPA staff will prepare an agenda item for the Advisory Planning Commission's recommendation and Governing Board action.

Opportunities for public participation in the environmental document review process are provided in order to promote open communication and better decision-making. Persons and organizations having a potential interest in the Project are invited to provide comments during the 30-day comment period for the IS/IEC, as advertised in the Notice of Availability/Notice of Intent.

1.8 Relationship to Land Use Plans, Policies, and Regulations

The Project falls under the direct jurisdiction of both the City and TRPA. In addition, federal and state agencies exercise varying levels of control concerning specific resources. This section identifies each agency's responsibility relative to the Project; it also identifies the plans and policies with which the Project must show compliance for use in TRPA actions.

1.8.1 Federal

1.8.1.1 *National Historic Preservation Act of 1966*

The National Historic Preservation Act (NHPA) of 1966, as amended (16 U.S. Code § 470 et seq.), is the primary federal legislation that outlines the federal government's responsibility to cultural resources. A cultural resource is a broad term that includes prehistoric, historic, and architectural resources, and traditional cultural properties. Section 106 of the NHPA requires the federal government to take into consideration the effects of an undertaking on cultural resources listed on or eligible for inclusion in the National Register of Historic Places. Those resources that are listed on or eligible for inclusion on the National Register of Historic Places are referred to as historic properties. The Section 106 process is outlined in the federal regulations at 36 Code of Federal Regulations (CFR) Part 800.

The applicable CEQA process is outlined in CEQA Guidelines Section 15060-15065. For the purposes of CEQA, significant "historical resources" and "unique archaeological resources" are defined as (Section 15064.5[a]):

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission for listing in, the California Register of Historical Resources (PRC SS5024.1, Title 14 California Code of Regulations, Section 4850 et seq.).
2. A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k), or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g), shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record.

1.8.2 State

1.8.2.1 *Regional Water Quality Control Board – Lahontan Region*

The Regional Water Quality Control Board – Lahontan Region (Lahontan Water Board) has water quality authority on the California side of the Lake Tahoe Basin. This agency establishes water quality standards, subject to the approval of the State Water Resources Control Board (State Water Board). By issuing waste discharge permits and requiring monitoring to show compliance, among other activities, the Lahontan Water Board actively enforces attainment of standards. Any party responsible for construction activity over 1 acre must obtain a National Pollutant Discharge Elimination System (NPDES) permit from the Lahontan Water Board and coverage under the Tahoe General Construction Permit (Board Order No. R6T-2016-0010) to eliminate or reduce pollutants in stormwater discharged to surface waters from the area of construction activity.

The state anti-degradation policy (Resolution No. 68-16) is incorporated into regional water quality control plans, including the *Water Quality Control Plan for the Lahontan Region* (Lahontan Basin Plan). The policy applies to high-quality waters only (i.e., Lake Tahoe and tributaries) and requires that existing high quality be maintained to the maximum extent possible. The Project must implement reasonable and appropriate measures for the protection of surface water quality and beneficial uses, and complies with conditions set forth in Board Orders No. R6T-2017-0010 (Tahoe Stormwater Permit) and R6T-2016-0010 (Tahoe General Construction Permit).

1.8.2.2 *California Department of Transportation*

Caltrans is responsible for planning, designing, constructing, and maintaining all state highway systems. The jurisdictional interest of Caltrans extends to facilities within the state highway system (including roadways designated as US highways). Connections or modifications to existing stormwater facilities or installation of new facilities within the state highway ROW as part of the Project would require coordination and review under Caltrans' encroachment-permitting procedures and applicable engineering/hydraulic design reviews. Any proposed facilities would be required to meet state standards.

1.8.3 Regional

1.8.3.1 *Tahoe Regional Planning Agency*

TRPA is a bi-state planning agency with the authority to regulate growth and development in the Lake Tahoe region. TRPA implements that authority through its Regional Plan. The plan's goals and policies establish an overall framework for development and environmental conservation in the region.

In April of 2017, the TRPA Governing Board adopted the RTP. Projects, studies, and programs listed in the TRPA EIP are considered part of the capital improvement programs for the 208 Water Quality Plan and the RTP. Priorities of the RTP (TRPA 2017) that apply to this Project include:

- Environment - Protect and enhance the environment, promote energy conservation, and reduce greenhouse gas (GHG) emissions.
- Connectivity - Enhance the connectivity and accessibility of the Tahoe transportation system, across and between modes, communities, and neighboring regions, for people and goods.

The TRPA Code contains minimum development standards for future development. It is intended to implement the goals and policies in a manner that attains or maintains the environmental thresholds' carrying capacities. Activities that may have a substantial effect on the land, air, water, space, or any other natural resources in the Lake Tahoe region are subject to TRPA review and approval and pursuant to the applicable Code chapters and mandatory findings.

In 1982, TRPA adopted nine environmental threshold carrying capacities (thresholds), which set environmental standards for the Lake Tahoe Basin and indirectly define the capacity of the region to accommodate additional land development. The EIP is intended to accelerate threshold attainment. These thresholds and goals are defined as follows:

- Water Quality: Return the lake to 1960s water clarity and algal levels by reducing nutrient and sediment in surface runoff and groundwater.
- Soil Conservation: Preserve natural stream environment zones (SEZ), restore 25% of disturbed urban SEZ areas (1,100 acres), and reduce total land coverage.
- Air Quality: Achieve strictest of federal, state, or regional standards for carbon monoxide, ozone, and particulates; increase visibility; reduce US 50 traffic; and reduce vehicle miles of travel.
- Vegetation: Increase plant diversity in forests, preserve uncommon plant communities including deep water plants, enhance late seral forests and reduce forest fuels, and maintain minimum sustainable populations of sensitive plants including Tahoe Yellow Cress.
- Wildlife: Provide habitat for special interest species, prevent degradation of habitats of special significance.
- Fisheries: Maintain 180 miles of good to excellent stream habitat, achieve nearly 6,000 acres of excellent lake habitat, and attempt to reintroduce Lahontan Cutthroat Trout.
- Scenic Resources: Maintain or improve 1982 roadway and shoreline scenic travel route ratings, maintain or improve views of individual scenic resources, and maintain or improve quality of views from public outdoor recreation areas.
- Noise: Minimize noise disturbance from single events, and minimize background noise disturbance in accordance with land use patterns.
- Recreation: Preserve and enhance a high quality recreational experience. Preserve undeveloped shorezone and other natural areas, and maintain a fair share of recreational capacity for the general public.

1.8.4 Local

1.8.4.1 *City of South Lake Tahoe General Plan*

The General Plan is a comprehensive and long-term document, outlining proposals for the physical development of the City and any land outside its boundaries that in the City's judgment bear relation to its planning. The General Plan is comprehensive in covering all territory within its jurisdiction and addresses

all physical aspects of development within the City. It provides guidance to the City through 2030. The General Plan includes the following policies that are directly applicable to the Project through improvements to the City street system, regional trail system and pedestrian connectivity to residential and commercial areas:

- Policy TC-1.1: Overall Street Design - The City shall develop: all arterial streets to provide infrastructure for vehicles, transit, bicycles, and pedestrians; all collector streets to provide at a minimum infrastructure for vehicles, transit, bicycles and pedestrians; and all local streets to provide adequate shared infrastructure for vehicles, bicycles, and pedestrians. The City shall develop a network of routes along collector and local streets for pedestrians and bicyclists.
- Policy TC-1.8: Complete Streets Design - The City shall seek to develop or upgrade all State Highways, arterials, and collectors as Complete Streets that accommodate all travel modes. Elements of Complete Streets design include the following:
    - Balanced design that accommodates walking, cycling, transit, driving, parking, snow removal, drainage, stormwater management, emergency vehicle access, and deliveries.
    - Appropriate street design that relates well to the uses bordering the street and allows for continuous activity (i.e., retail, restaurants, lodging, residential).
    - Interconnected network of facilities that increases travel route options and allows short trips to be completed off arterial roadways.
    - Appropriate pedestrian and bicycling facilities that promote safety and maximize access.
    - Well-designed and low-impact street lighting.
    - Appropriate landscaping that benefits the surroundings and encourages lower travel speeds.
    - Sustainable design that minimizes runoff, responds to the local climate, and conserves natural resources.
    - Well-maintained facilities.
- Policy TC-1.15: Safe Access to Schools - The City shall work with the South Lake Tahoe Unified School District and Lake Tahoe Community College to provide safe access to schools (e.g., sidewalks, road crossings, bicycle paths, bus circulation). The City shall coordinate with the schools on submittal of grant requests for Safe Routes to Schools to help underwrite the cost to build and maintain the bicycle facilities connecting to schools.
- Policy TC-3.1: City Bikeways to the Regional Bikeway System Linkages - The City shall link city bikeways to the larger regional bikeway system. This includes a bike trail system that links the Ski Run Marina to the Stateline casino core, the Lakeside Beach area, the mountain area (Van Sickle), Ski Run Boulevard, Tahoe Valley area, and ultimately to the future Greenway bike system. This system will also provide a connection to the Douglas County bike trail system on Lake Parkway, Highway 50, and the mountainside loop.
- Policy TC-3.2: Cohesive and Continuous Bicycle and Pedestrian Network The City shall develop a cohesive and continuous public bicycle and pedestrian network that allows convenient and safe travel for people of all abilities, free of major impediments and obstacles, and in compliance with ADA requirements.
- Policy TC-3.3: Implement the Bicycle Master Plan and Improve Connections - The City shall maintain and implement the Bicycle Master Plan and shall improve bicycle and pedestrian connections between all neighborhoods. This shall include linking residential neighborhoods, shopping districts, recreation facilities, employment centers, schools, and other public facilities with a network of safe, continuous, and attractive pedestrian sidewalks, paths, and bikeways.
- Policy LU-2.7 directs the City to transform the Tahoe Valley area into an attractive gateway commercial district that serves both residents and visitors.

- Policy LU-2.11 designates the Tahoe Valley as a primary area in the City for resident-serving commercial uses, workforce housing, and affordable housing. Furthermore, the policy encourages transforming the area into a contemporary, pedestrian-oriented, mixed-use, commercial service district served by a transit center and alternate transportation opportunities.

1.8.4.2 *City of South Lake Tahoe City Code*

Chapter 6.10, Land Use Development Standards, of the City Code provides development standards, including standards related to site and building design, setbacks, landscaping and street improvements, fence and wall design, and parking standards. Additionally, per Chapter 6.55, regulations for land use in the City are provided by both the City and TRPA (e.g., setback standards are established by the City, while height restrictions are established by TRPA) and often require actions by both the City and TRPA.

1.8.4.3 *Tahoe Valley Area Plan*

The TVAP provides for more detailed direction for the Tahoe Valley area and incorporates land use and zoning consistent with the RPU and the General Plan (City and TRPA 2015). Therefore, if the Project complies with the TVAP, it would comply with both the Regional and General Plans. The TVAP establishes land use regulations, development standards, strategies, and needed environmental improvements for the area, and encourages new development and redevelopment that enhances the area. Policies developed for the TVAP have been incorporated into the Project to be consistent with both the TVAP and the General and Regional Plans. The following land use policies developed for the TVAP direct development of the Project to be consistent with the General and Regional Plans.

The TVAP includes the following policies (below) that are directly applicable to the Project through improvements to land use and community design. Such policies have been considered throughout Project planning and design, and responsive measures are reflected in the Project proposal. TVAP policies that informed the Project proposal include, but are not limited, to the following:

- Policy LU-1.2 – Connectivity: Create bike, pedestrian, and open space connections from the TVAP to the adjacent residential neighborhoods and nearby recreation.
- Policy LU-3.3 – Inter-connected Development: Ensure that every project is planned to enhance the physical, visual, and social connections to surrounding parcels and to the larger community.
- Policy LU-3.6 – Lighting: Establish pedestrian-scaled and strategically-placed lighting along US 50, SR 89, and Lake Tahoe Boulevard. Lighting must promote pedestrian safety and comfort and enhance architectural and site design. Prevent unnecessary and intrusive lighting that detracts from the beauty and view of the night sky.
- Policy T-3.1 – Connectivity: Provide adequate pedestrian and bicycle facilities such as continuous sidewalks, bike paths, and bike lanes throughout the Tahoe Valley area that connect commercial, health services, entertainment, residential, and recreation areas.
- Policy T-3.6 – Pedestrian/Bicycle Crossing at the South Wye Intersection and US 50: Develop strong pedestrian and bicycle links (e.g., crosswalks and refuge islands) between the four corners of the "Y" intersection and along US 50. Coordinate with Caltrans to evaluate alternative crossings that create safe passage across US 50 for pedestrians and cyclists.

1.9 Project Components

As detailed in Section 1.5, Purpose and Need, the Project implements the policies of and fulfills the goals and objectives of a number of regional and local plans and programs. **Table 1** identifies the priority public parcels within the Project area that are identified for construction use and/or the siting of Project improvements, along with the assessor's parcel number (APN), land use designation, and parcel address. **Figure 3** provides a location reference for the Project improvements listed in **Table 1**.

Project construction requires private parcel easements. Also, as needed, temporary construction easements and/or rights of entry documents are planned for the ROW state of the Project for private property tie-ins (landscaping and driveways). As part of Project development, the City follows the requirements of the Caltrans Local Assistance Procedures Manual (LAPM) for ROW acquisitions along with the development of the ROW certification for the Project.

Table 1. Project Improvements by Parcel

APN/Agency	Land Use Designation	Parcel Address	Improvement within Parcel, Right-of-Entry or Easement Required
32-312-01/CSLT	Commercial	1700 D ST, South Lake Tahoe, CA 96150	Driveway
32-291-21/ANDERIO CA LLC	TC-MUC	1900 Lake Tahoe Blvd, South Lake Tahoe, CA 96150	Driveway/AC Driveway Tie-in
23-351-18/Tahoe Supply Co	TC-MUC	1931 Lake Tahoe Blvd, South Lake Tahoe, CA 96150	Sidewalk
32-291-30/Bill & Lori Liv Trust	TC-MUC	1920 Lake Tahoe Blvd, South Lake Tahoe, CA 96150	Driveway/AC Driveway Tie-in
32-291-17,23-351-29/Cornell H Trust	TC-MUC	1950 Lake Tahoe Blvd, South Lake Tahoe, CA 96150 1930 Lake Tahoe Blvd, South Lake Tahoe, CA 96150	Driveway/AC Driveway Tie-in, Curb and Gutter Improvements
23-430-32/Seven Springs LTD PTN	TC-C	1020 Lake Tahoe Blvd, South Lake Tahoe, CA 96150	Driveway/AC Driveway Tie-in, Bike Trail
23-411-24/Salvo & Zessin Trust	TC-C	1020 Emerald Bay Rd, South Lake Tahoe, CA 96150	Driveway Improvements
23-411-25/ CSLT	TC-C	1000 Emerald Bay Rd, South Lake Tahoe, Ca 96150	Driveway Improvements, Bike Trail
23-411-19/CSLT	None – Road	None	Curb and Gutter Improvements, Lane Striping, Bike Trail
23-351-20/El Dorado County	None – Road	None	Curb and Gutter, Landscaping, Bike Trail, Driveway Improvements
23-411-17/State of California	None - Road	None	Lane Striping

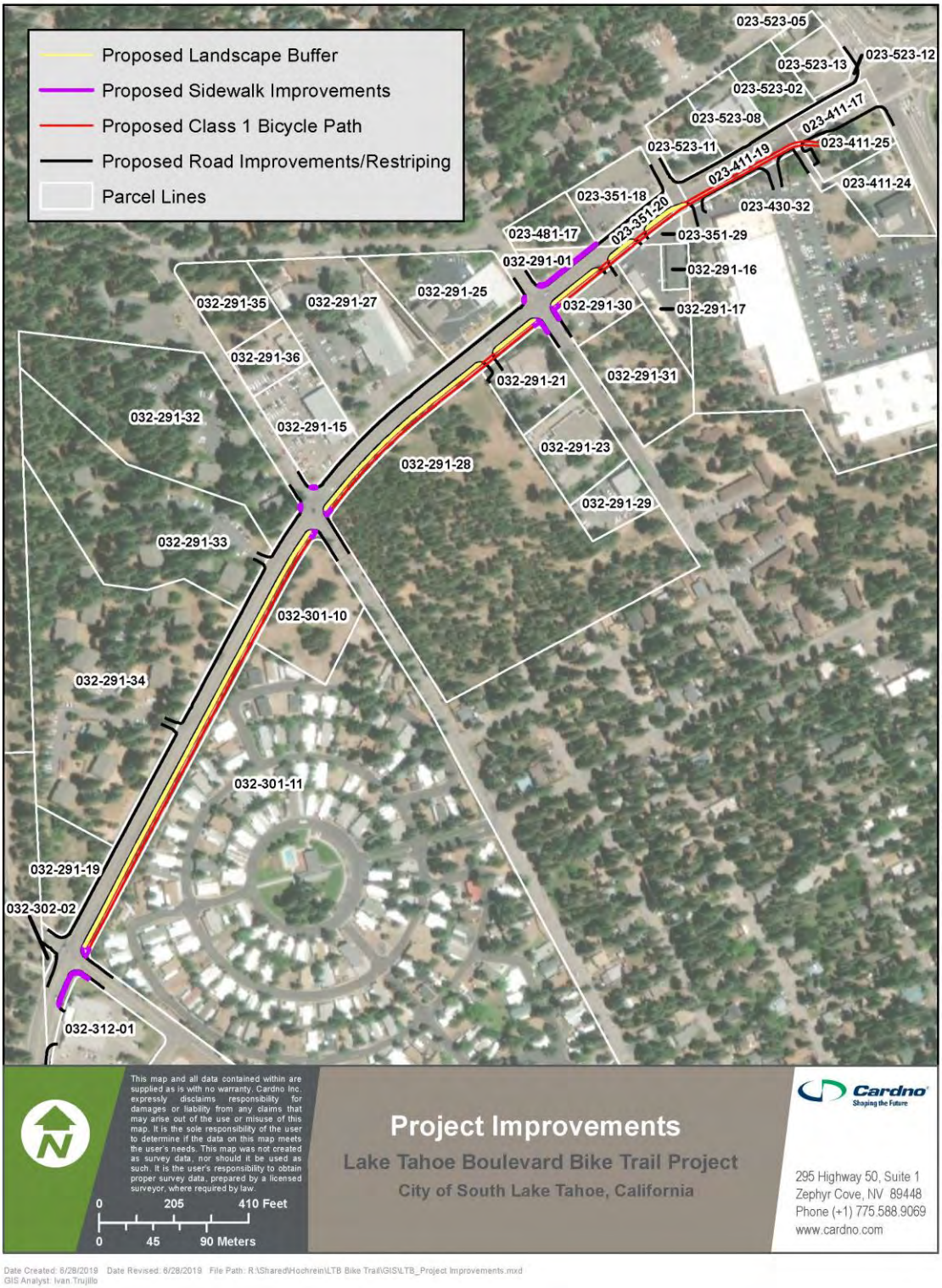

Figure 3. Project Improvements by Parcel (refer to Table 1).

1.9.1 Roadway Improvements

The Project actions for roadway improvements include the following:

1. Reconfigure Lake Tahoe Boulevard from a four-lane roadway with two lanes in each direction to a three-lane roadway with one lane in each direction and a center turning lane;

2. Retain existing Lake Tahoe Boulevard configuration from the South Wye to the east side of the South Y Center's main driveway (Glorene Avenue);

3. Add, in the westbound direction, a westbound left-turn refuge lane at the South Y Center's driveway and then merge from three lanes to one lane by Glorene Avenue; and

4. Reduce roadway in the eastbound direction just west of Vikings Way to one lane and then increase back to two lanes east of Glorene Avenue.

These reconfigurations will allow for the reconfiguration and striping of the existing Class 2 bike lanes and the implementation of the new Class 1 shared-use trail and pedestrian improvements that are described in Section 1.9.2 below.

1.9.2 Pedestrian, Bicycle, and Recreational Improvements

The Project constructs a Class 1 shared-use trail on Lake Tahoe Boulevard from Vikings Way to the South Wye intersection and intersection crossing improvements at both ends, providing for non-motorized and safe travel in the Project area. Four trees less than 18-inches diameter breast height (dbh) are identified for removal from the trail alignment. Pedestrian, bicycle, and recreational improvements include:

1. Installation of a Class 1 shared-use trail, providing for two-way bike and pedestrian traffic through the Project area;
2. Installation of ADA-compliant ramps and high-visibility crossing improvements at intersections;
3. Installation of standard City pathway lightings with underground conduit; and
4. Improved signage and striping on the roadways including directional striping and appropriate signage on the Class 1 shared-use path.

1.9.3 Stormwater Facility and Management Improvements

The Project retrofits existing drainage systems and realigns and replaces portions of the existing curb and gutter systems with new rolled concrete curb and gutter, vertical battered curb and gutter, and storm drains, as depicted in the 60 percent engineering plan set (**Appendix A**).

The improved curb and gutter system improves surface drainage and reduces minor flooding/ponding at driveways and ingress/egress locations traversed by sidewalks. The landscaping improvements on the south side of Lake Tahoe Boulevard decrease impervious coverage within the CityCity ROW and provide areas for increased stormwater capture, conveyance, and infiltration. During construction, stormwater impacts would be minimized through the development and implementation of the Project-specific Stormwater Pollution Prevention Plan (SWPPP) for compliance with Clean Water Act Section 402 and Board Order No. R6T-2016-0010.

1.9.4 Landscaping and Vegetation Improvements

The Project constructs a landscaped buffer zone on the south side of Lake Tahoe Boulevard, decreasing impervious coverage within the ROW, improving stormwater management, and improving visual quality along the ROW.

Site-specific conditions (e.g., soil types, uplands vs. SEZs, slope, existing soil cover) and the function of the associated Project components (e.g., retention, infiltration, nutrient uptake, erosion control) will dictate the selection of plant species and seed mixes that will comply with TRPA Code Section 36.7 and establish plantings consistent with the recommended native and adapted plant list.

1.9.5 Staging Areas

Construction staging and equipment storage areas are sited within the Project area and ROW construction corridor (**Appendix A**, Plan Sheets 21 through 27). When necessary, construction staging may also occur at City-owned properties located in close proximity to the Project area, such as the D Street Maintenance Yard and City Services Center on Tata Lane.

1.9.6 Construction Phasing and Schedule

The City's contractor will develop the detailed plan for construction staging and phasing for consideration by the City Resident Engineer during the public bidding process. A Project schedule, including key milestone dates and/or time durations, will be developed as part of the final design/bid package for the Project. The construction season is typically limited to May 1 through October 15, as outlined by TRPA Code Chapter 33, unless an extension is granted past the October 15 grading deadline. Based on the volume of anticipated work, construction is anticipated to occur in one construction season, with the ideal time frame being non-school times of the year (i.e., during school summer vacation, June through August).

Table 2 identifies the Project improvements and construction durations, though a Project element may be constructed at varying points over the duration of Project construction.

Table 2. Construction Actions and Duration

Year	Work Task / Major Elements (seasonal May 1 to Oct 15)	Duration (months)
1 (May)	Mobilization, survey, staging areas, and best management practices	0.25
1 ↓	Clearing and grubbing, tree removals	0.25
1 ↓	Public utility relocations (fire hydrant relocations, drop inlet relocations)	0.50
1 ↓	Removal and replacement of curb and gutter	1.00
1 ↓	Class 1 shared-use path construction, bus shelter pads, driveway repairs, standard City pathway lighting conduit	1.00
1 ↓	Landscaping and revegetation	0.50
1 ↓	Traffic and shared-use path striping and signage	0.25
1 (Aug)	Project site winterization/closeout, demobilization	0.25
	Project work/task duration:	4 months

1.9.7 Equipment and Labor Forces

The use of local labor forces and material suppliers is encouraged by the City, though this ultimately depends on the selected construction contractor. The labor force and type of equipment used varies according to the construction activities and work elements. **Table 3** details the assumptions that have been made, based on the 60 percent design, for Project construction.

Clearing and grubbing, asphalt concrete removal, tree felling, earthwork, grading, concrete installation, aggregate base, and asphalt concrete operations would require large tractor trailers and dump trucks for

hauling, and heavy mechanical equipment with buckets (e.g., excavators, backhoes) for earth-moving and excavating (**Table3**). Earthwork, concrete removal, grading, aggregate base, and asphalt concrete operations would require heavy mechanical equipment and trucks for excavating, hauling, and placing/compacting backfill. Trucks and equipment for hauling and placement of concrete and asphalt pavements would be required for construction of concrete structures and surface pavements. Import of concrete and asphaltic materials is expected from nearby material suppliers and batch plants. General use pick-ups, utility trucks, trailers, compressors, generators, and various small tools would also be used throughout construction.

Table 3. Equipment and Labor Force Summary

Seasonal Work Elements / Equipment and Labor	Crew Size (approx.)*
Mobilization, survey, traffic control, BMPs, seasonal demobilization • Office trailer, generator, temporary utility connections, sani-huts, dumpsters • Small tools, survey equipment, traffic control signage • Work trucks, dump trucks, trailers, oil/fuel truck • Water truck, sweeper • Backhoe, small loader, small excavator	5-10
Clearing & grubbing, tree removals • Chainsaw, small tools, wood chipper • Work trucks, dump trucks, log trailers, oil/fuel truck • Backhoe, small dozer, medium excavator	5-10
Public utility relocations • Small tools, generator, compressor, hydraulic hammers/breakers • Work trucks, dump trucks, oil/fuel truck • Backhoe, small/medium excavators, small loader, compactor	5-10
Stormwater infrastructure (e.g., pipe, inlets, manholes, curb and gutter) • Small tools, generator, compressor, hydraulic hammers/breakers • Work trucks, dump trucks, oil/fuel truck • Backhoe, small/medium excavators, medium loader, compactor	5-10
Earthwork and grading (e.g., stormwater basin, drainage ditch, trails, roads) • Small tools, generator, compressor • Work trucks, dump trucks, oil/fuel truck • Small dozer, motor grader, medium/large excavators, medium loader, compactor, vibratory roller	10-15
Roadway, trail, walkway, surface improvements (e.g., asphalt, concrete, aggregate) • Small tools, generator, compressor • Work trucks, dump trucks, concrete truck, oil/fuel truck • Backhoe, small loader, rollers, asphalt paver	10-15
Standard City pathway lighting, temporary irrigation if necessary, landscape elements, signage • Small tools, generator, compressor • Work trucks, dump trucks, delivery trucks, oil/fuel truck • Backhoe, small excavator, small loader	5-10
Permanent revegetation, cleanup and demobilization • Small tools, generator, compressor • Work trucks, dump trucks, oil/fuel truck	5-10

Table 3. Equipment and Labor Force Summary

Seasonal Work Elements / Equipment and Labor	Crew Size (approx.)*
• Backhoe, small loader	

* Crew size estimates are not cumulative, only work element-specific. Overlap of labor between work elements is expected. Maximum crew size at peak of work may range from 30-40.

1.10 Compliance Measures (Construction Controls, Best Management Practices, and Resource Protection Measures)

The following design features, construction controls, resource protection measures (RPMs), and BMPs are referred to as compliance measures for the Project proposal and shall be implemented and maintained, as appropriate, to avoid, reduce, minimize, or otherwise mitigate potential environmental impacts prior to, during, and following Project construction. The TRPA RPU defines compliance measures as "A program, regulation, or measure including, but not limited to, capital improvements, operational improvements, or controls on additional development to reduce, avoid, or remedy an environmental impact of activities within the Tahoe region or to promote attainment or maintenance of any threshold or standard" (TRPA Code Section 16.3.2).

Work shall be performed in compliance with City, TRPA, El Dorado County, and Lahontan Water Board requirements for Project construction. The TVAP also includes mitigation measures that subsequent projects are required to implement, when applicable. Applicable measures are therefore included as RPMs and identified in the Section 1.10. The Project shall comply with Policy NCR-5.3 from the TVAP, to "ensure installation and maintenance of best management practices as required by the City's NPDES Permit and memorandums of understanding with the TRPA" (City and TRPA 2015). BMPs shall be used to minimize impacts on the environment and human health during construction, operations, and maintenance. The following compliance measures and RPMs are incorporated into the Project proposal to avoid, minimize, reduce, or otherwise mitigate potential Project-level impacts to levels of less than significant.

1.10.1 Fugitive Dust Control Plan

Construction activities shall comply with the El Dorado County Air Quality Management District (AQMD) construction fugitive dust control and emission requirements and TVAP Policy NCR-8.1. At a minimum, the following compliance measures shall be implemented to avoid, reduce, minimize, or otherwise mitigate impacts to air quality:

AQ-1. The City's contractor shall take the necessary steps, procedures, or means as required to prevent operations in connection with the execution of construction activities from causing abnormal dust conditions. The City's contractor shall prevent dust from construction activities from being produced in amounts that may be harmful or cause a nuisance to persons living nearby or occupying buildings in the vicinity of the Project.

AQ-2. To ensure compliance with AQMD Rule 223 to minimize the amount of particulate matter entrained in the ambient air as a result of anthropogenic fugitive dust sources, the following feasible particulate matter (PM_{10}) control measures for construction activities shall be implemented:

- Dust control measures shall be applied, as needed to control particulate emissions from all unpaved parts of the site, including but not limited to any unpaved road that the City's contractor or any subcontractors are using, excavation or fill areas, demolition areas, and stockpile and staging areas.

- Dust control shall be conducted by sprinkling of water, use of dust palliatives or non-toxic stabilizers, modification of operations, reducing traffic speed, covering of stockpiles, installing temporary erosion controls, or any other means acceptable to governmental entities having jurisdiction, as needed to control emissions.
- The City's contractor shall cover or wet soil and other excavated material leaving and arriving at the Project area to prevent blowing dust.
- Paved portions of the Project area, including public access roads into and out of the site, shall be kept clean by sweeping.
- Fiber rolls, filtration fencing, or other erosion control measures shall be installed to prevent silt runoff onto public roadways.
- Excavation and grading activity shall be suspended whenever the wind is so high that it results in visible dust plumes despite control efforts.
- When sandblasting, spray painting, spraying insulation, or performing other activities that are inconvenient or dangerous to property or the health of employees or the public, the area of activity shall be enclosed adequately to contain the dust, spray, or other hazard. In the event there are no permanent enclosures of the area, or such enclosures are incomplete or inadequate, the City's contractor shall provide suitable temporary enclosures.

AQ-3. A Fugitive Dust Control Plan specifying methods for the control of dust potentially generated by construction activities shall also be included as part of the SWPPP.

AQ-4. The City's contractor shall implement air quality construction measures from TVAP Policy NCR-8.1:

- Implement measures recommended by the AQMD.
- Prohibit open burning of debris from site clearing unless involved with a fuels reduction project.
- Utilize low-emission construction equipment and/or fuels and use existing power sources wherever feasible.
- Restrict idling time for construction equipment and vehicles.
- Apply water to control dust as needed to prevent dust impacts.

1.10.2 Construction Equipment Emissions Control Measures

The following compliance measures shall be implemented to reduce emissions from construction equipment exhaust:

AQ-5. The City's contractor shall implement the following controls to limit emissions from construction equipment:

- Use alternative fuel construction equipment to the fullest extent possible.
- Minimize idling time (e.g., 5 minute maximum).
- Maintain properly tuned equipment according to the equipment manufacturer's guidelines.
- Limit the hours of operation of heavy equipment and/or the amount of equipment in use as specified for noise mitigation purposes.

1.10.3 Biological Resource Protection Measures

1.10.3.1 *Wildlife Protection Measures*

The Project shall implement existing regulatory wildlife protection measures to comply with Section 7 of the Endangered Species Act, Migratory Bird Treaty Act (MBTA), and TRPA Code Chapter 62 for protection of sensitive species and their habitats. Compliance measures incorporated into the Project proposal for the protection of wildlife shall, at a minimum, include the following:

BIO-1. For construction activities occurring during the nesting season (i.e., March 15 through August 15), and outside of paved areas, the City or the City's contractor shall conduct pre-construction nest surveys, including a 100-foot buffer, to identify any MBTA-protected nest sites that may be present. The pre-construction nest survey shall occur no more than 14 days prior to Project mobilization. If a nest is present in the immediate vicinity, a qualified biological monitor shall be contacted to evaluate whether any migratory bird nests would be impacted by the Project. The biological monitor shall have the authority to stop construction near occupied sites if construction activities appear to be having a negative or adverse impact on nesting migratory birds or their young. If construction must be stopped, the biological monitor shall consult with U.S. Fish and Wildlife Service (USFWS) and California Department of Fish and Wildlife (CDFW) staff within 24 hours to determine appropriate actions to restart construction while reducing impacts to identified migratory bird nests.

BIO-2. Should special-status species be observed within the Project area before or during construction, the City's contractor shall report the observation immediately to the City Resident Engineer or equivalent representative. In response, the City or approved construction contractor shall retain a qualified biological monitor to immediately (within 24 hours) implement adequate protections of special-status species.

BIO-3. Tree and snag removal shall be minimized to what is necessary for Project improvements. Construction access routes shall be positioned around existing trees and snags to avoid tree removal to the extent practical.

1.10.3.2 *Vegetation Protection Measures*

At a minimum, the following compliance measures shall be implemented to avoid, reduce, minimize, or otherwise mitigate impacts to vegetation. Refer to **Appendix A**, Plan Sheets 51 through 57, for the revegetation plan.

VEG-1. The extent of ground and vegetation disturbance in construction areas shall be minimized. Vegetation outside of the construction boundary, as well as other vegetation designated on the approved plans, shall be protected with temporary fencing, pursuant to TRPA Code Subsections 33.6.9 and 33.6.10.

VEG-2. Where disturbance cannot be avoided, riparian vegetation if present shall be pruned or cut at the ground to protect root structures and soil integrity. Clean pruning equipment shall be used to ensure that no disease or pests are introduced into the stems. Shoots, if viable, may be used for replanting. During construction, any removed native riparian vegetation of good quality shall be stockpiled and replanted. Specifications for this work shall be included in a landscaping or revegetation plan, pursuant to TRPA Code Chapter 61.4, Revegetation.

VEG-3. Revegetation plan shall consider the technical memorandum recommendations prepared by Western Botanical Services, Inc. (**Appendix B**).

VEG-4. Soil amendments and temporary irrigation may be used to help with plant establishment, as consistent with City landscaping standards (City Code Chapter 6.10.150d). Irrigation shall conform to water conservation standards contained within the landscaping standards (City Code Chapter 6.10.170).

VEG-5. The City or the City's contractor shall conduct inspections for and remove invasive plants and noxious weed species from within the Project area, along travel routes near Project area egress and ingress points, and in off-site areas identified for storage and staging. Such areas shall be hand-treated or flagged and avoided, depending on the risk presented by the species present.

VEG-6. Construction vehicles, including off-road vehicles, shall be inspected and shall be clean when equipment enters the Lake Tahoe Basin. Disclosure that equipment originated from a known invasive plant infested area shall occur. Equipment shall be considered clean when visual inspection does not reveal soil, seeds, plant material, or other such debris.

VEG-7. Earth-moving equipment, gravel, fills, or other materials shall be weed-free. Equipment shall be staged in weed-free areas to prevent vehicles from introducing or spreading invasive species.

VEG-8. On-site sand, gravel, rock, or organic matter shall be used when possible or weed-free materials from gravel pits and fill sources that have been surveyed and approved shall be used.

VEG-10. Weed-free mulches and seed sources shall be used. Topsoil shall be salvaged from the Project area and reused for revegetation and landscaping, unless contaminated with noxious weeds. Activities that require seeding or plantings shall use locally collected native seed sources when possible.

VEG-11. To prevent the spread of invasive plant species, the following measures and BMPs shall be implemented:

- Construction vehicles, including off-road vehicles, shall be cleaned when they come into the basin or come from a known invasive plant-infested area. Equipment shall be considered clean when visual inspection does not reveal soil, seeds, plant material, or other such debris.
- Equipment shall be staged in weed-free areas to prevent vehicles from introducing or spreading invasive species.
- Earth-moving equipment, gravel, fills, or other materials shall be weed-free. Onsite sand, gravel, rock, or organic matter shall be used when possible or weed-free materials from gravel pits and fill sources that have been surveyed and approved shall be used.
- The amount of ground and vegetation disturbance in the construction areas shall be minimized. Upon completion of construction, vegetation shall be reestablished in the footprint to minimize weed establishment after the removal.

1.10.4 Cultural Resource Protection Measures

Although the Project area has been subject to systematic surface archaeological investigations, it is possible that buried or concealed cultural resources could be present and detected during ground disturbance and excavation activities. Compliance measures and procedures shall be incorporated into demolition and construction contract documentation. In accordance with the NHPA (16 U.S. Code 470) and City General Plan Policies NCR 4.3 and 4.4, the following procedures shall be implemented to ensure historic preservation and cultural resource identification and protection. In the event previously unknown potential historical, architectural, archaeological, or cultural resources (hereinafter cultural resources) are discovered during Project construction, the following procedures shall be initiated and conducted:

CUL-1. The City Resident Engineer shall issue a "Stop Work Order" directing the City's contractor to cease construction operations at the location of the potential cultural resources find. The "Stop Work Order" shall be effective in the area of and within a 50-foot radius of the potential discovery until a qualified archaeologist assesses the value of the potential cultural resource and makes recommendations to the State Historic Preservation Office (SHPO).

If the qualified archaeologist determines that the potential find qualifies for inclusion in the National Register of Historic Places or the California Register of Historic Resources, at the direction of the SHPO, the City Resident Engineer shall extend the duration of the "Stop Work Order" in writing, and the City's contractor shall suspend work at the location of the find. Resources that are considered significant shall be avoided or subject to a data recovery program or other appropriate measures.

In the unlikely event that human remains are encountered, the City's contractor shall suspend construction activities immediately and inform the City Resident Engineer, who shall contact a qualified cultural resource specialist to provide an initial evaluation of the remains. If the remains are found to be human or potentially human, the El Dorado County Sheriff/Coroner shall be notified within 24 hours of the discovery to conduct proper evaluation and treatment of remains in accordance with PRC Section 5097.98 and Section 7050.5 of the California Health and Safety Code. The sheriff/coroner shall evaluate the find to determine whether it is a crime scene or of Native American origin. If human remains are determined to be Native American in origin, the sheriff/coroner must contact the Native American Heritage Commission (NAHC). The NAHC shall assign a Most Likely Descendent who, in collaboration with the Project proponent and landowner, will determine the ultimate treatment and disposition of the remains.

1.10.5 Solid Waste Disposal Measures

The Project shall be subject to City Code Chapter 4.150, Refuse and Garbage, City Code Title 6, Article VII, Construction and Demolition Debris Recycling, TRPA RPU Land Use Element Goal 5, Policy 1 and Public Services Element Goal 3, Policy 2, and City General Plan Policy PQP-3.3, requiring the transport of solid waste outside the Lake Tahoe Basin in compliance with California state laws. The following compliance measures shall be implemented to avoid and minimize potential effects from solid waste disposal.

HAZ-1. The Project shall implement the following controls to limit impacts from solid waste generation and disposal (TRPA Code Section 33.3.4):

- Temporary stockpiling of topsoil on the site for use in areas to be revegetated,
- Disposal of material at a location approved by TRPA, and
- Export of the materials outside of the region.

HAZ-2. The Project shall implement Caltrans Construction Site BMPs that address solid waste, such as WM-5, Solid Waste Management, and shall comply with federal and state regulations related to the storage and transportation of hazardous materials.

1.10.6 Hazard and Safety Control Measures

Staging, equipment refueling, and materials storage shall take place in one central portion of the Project area in accordance with City standard contract requirements and the provisions of the Caltrans Construction Site BMPs (e.g., WM-1, Material Delivery and Storage; WM-2, Material Use; WM-3, Stockpile Management; WM-5, Solid Waste Management; WM-6, Hazardous Waste Management; NS-8, Vehicle and Equipment Fueling; and NS-10, Vehicle and Equipment Management). The following compliance measures shall be implemented prior to and during Project construction:

HAZ-3. Material delivery and storage areas may change throughout construction, depending on where activities take place, but shall not be located near a storm drain inlet or drainage swale or adjacent to a fill slope.

HAZ-4. A Spill Control Plan shall be developed and implemented to protect construction workers and the public from construction-related health hazards.

- The Spill Control Plan shall outline measures that shall be implemented to ensure impacts on human and environmental health are avoided.
- Work shall stop immediately if suspected contamination is encountered during construction, and the City Resident Engineer shall be notified immediately in compliance with City General Plan Policy HS-6.2, Construction Stoppage Due to Contamination.
- Upon confirmation of contamination, the City Resident Engineer shall assess the Project design and obtain the required approvals to remove contaminated material or modify the design to avoid conflicts with the contaminated material and/or any ongoing or future remediation projects. Soil and groundwater materials removed during construction activities that have been deemed hazardous shall be segregated and disposed of appropriately.
- The City's contractor shall be responsible for familiarizing their personnel with the information contained in the SWPPP and specifically the Spill Control Plan.
- Contractors shall train/instruct on-site construction personnel in spill prevention practices and provide spill containment materials near staging areas.

HAZ-5. The Project shall implement Caltrans BMPs regarding spill prevention and waste management measures.

HAZ-6: Projects that meet the definition of a "Possible Contaminating Activity" under TRPA Code Section 60.3.5 shall demonstrate compliance with the findings and requirements under TRPA Code Section 60.3.3.D and shall demonstrate that adequate protections are in place to avoid soil and groundwater contamination and protect public health of area residents. This demonstration shall be required prior to subsequent Project approvals and implemented as part of Project design.

1.10.7 Water Quality and Soil Protection Measures

At a minimum, the following compliance measures shall be implemented to avoid and minimize potential Project impacts to soil and water quality. Refer to **Appendix A**, Plan Sheets 7, 8, and 9, for the TRPA Erosion and Sediment Control Plan, also referred to as the BMP Plan. Additionally, refer to Sheet 69 for BMP details.

WQ-1. The City's contractor shall prepare an Erosion and Sediment Control Plan (ESCP) compliant with TRPA requirements. Typical measures include preservation of existing vegetation to the extent feasible, use of native vegetation for landscaping, and implementation of construction pollutant source controls such as installation of silt fences, use of wind erosion control (e.g., geotextile or plastic covers on stockpiled soil), and stabilization of site ingress/egress locations to minimize erosion.

WQ-2. The City's contractor shall prepare a SWPPP compliant with the Tahoe General Construction Permit. The SWPPP shall outline BMPs and other measures that will minimize impacts on water quality and soils during construction activities. The SWPPP is mandated as part of the NPDES permit regulated by the U.S. Environmental Protection Agency (EPA) and administered by the Lahontan Water Board.

- Measures may include, but shall not be limited to, silt fences, straw wattles, water-filled berms, mulching, dewatering pumps, gravel/sand bags, stormwater drainage systems, construction fencing, and revegetation.
- The SWPPP shall include a Fugitive Dust Control Plan, specifying the methods for the control of dust potentially generated by construction activities.
- The SWPPP shall include a Spill Control Plan, specifying the methods for the containment and abatement of accidental spills during construction.

- The City's contractor shall cover stockpiled and transported material or apply water to control fugitive dust emissions and avoid wind erosion.
- Construction equipment shall be cleaned to remove any loose dirt or sediment prior to entering or exiting the site.
- Disturbed areas including staging and storage sites must either be revegetated following construction or repaved, as shown on the project 60 percent plans.

WQ-3. Disturbed areas shall be stabilized on or before October 15 of each year of construction (unless extensions are granted by the permitting agencies). The winterization shall be in compliance with TRPA and Lahontan Water Board requirements, and winterization measures shall be designed to capture and infiltrate the 20-year, 1-hour storm volume.

WQ-4. In performing excavation, fill, and grading operations, care shall be taken to disturb the pre-existing drainage pattern as little as possible. Particular care shall be taken not to direct drainage water onto private property or into streets or drainage ways that are inadequate for the increased flow. Adequate drainage shall be provided to protect the disturbed areas, including trench excavation at the site, which shall be provided with temporary erosion control.

WQ-5. A dewatering plan shall be developed to mitigate potential contamination of groundwater as well as to identify design provisions to allow for groundwater to flow through or around underground structures. Dewatering measures to control water quality may include use of settling tanks and Active Treatment Systems for treatment of dewatering as well as contamination prevention measures such as proper material storage, secondary containment systems, vehicle fluid drip pans, temporary berms or dikes to isolate construction activities, use of vacuum trucks, and other measures to capture contamination releases.

WQ-6. To avoid, reduce, and minimize potential impacts to groundwater, the following measures and BMPs shall be implemented:

- The City's contractor shall store and maintain construction equipment (except fueling by truck) at designated staging areas.
- The City's contractor shall maintain spill cleanup equipment with fuel trucks and shall respond to spills and leaks immediately to contain and remove pollutants from the site.
- The City's contractor shall minimize the amount and duration of construction materials stored on-site and shall store construction materials that could adversely affect groundwater quality (e.g., paint, solvents, and fuels) on containment pallets or similar facilities that would prevent discharges to the ground in the event of a spill or leak.
- Water resulting from construction activities, shall be dewatered if necessary, and shall be contained on-site with barriers and basins and not allowed to enter natural drainage courses with waters that have not evaporated or infiltrated to be reused during construction backfilling or disposed of off-site in a TRPA-approved location (i.e., sanitary sewer).

1.10.8 Noise Reduction Measures

TRPA Code Chapter 68, Noise Limitations, establishes noise limitations for areas within TRPA's jurisdiction. TRPA Code Section 68.3 establishes noise level standards (expressed in Community Noise Equivalent Level [CNEL]) that shall not be exceeded. In addition, TRPA Code Section 68.3 stipulates that community noise levels shall not exceed levels existing on August 26, 1982, where such levels are known. TRPA Code Section 68.9 stipulates that TRPA-approved construction or maintenance projects, or the demolition of structures, are exempt from TRPA Code noise limitations (TRPA Code Chapter 68) if the

activities occur between the hours of 8:00 a.m. and 6:30 p.m. To reduce construction-related noise and vibration, the following compliance measures shall be implemented:

NOISE-1. Construction activities shall be performed between 8:00 a.m. and 6:30 p.m. pursuant to TRPA Code Chapter 68, Noise Limitations.

NOISE-1. If there is a potential for activities that use impact equipment to occur within 200 feet of existing structures, site-specific measures shall be designed and implemented to ensure that construction activities avoid or mitigate for vibrations above 0.02 inches/second (0.5 millimeters/second) at nearby structures (City 2011). Measures shall address the potential for adverse vibration levels based on the criteria contained in Table 4.6-12 of the City General Plan Draft EIR.

NOISE-2. Equipment shall be adequately muffled and maintained.

NOISE-4. No piece of equipment that generates maximum noise levels greater than 85 A-weighted decibel (dBA) measured at 50 feet, shall be allowed on-site.

NOISE-5. In inhabited areas, particularly residential, the City's contractor operations shall be performed in a manner to minimize unnecessary noise.

NOISE-6. In residential areas, special measures shall be taken to suppress noise generated by repair and service activities during the night hours.

NOISE-7. The more stringent of either California Occupational Safety and Health Administration limits or the limits established by local ordinance shall be implemented.

1.10.9 Recreational Use Protection Measures

To avoid potential conflicts with pedestrians and bicyclists, the following compliance measures shall be implemented. Refer to **Appendix A**, Plan Sheets 4, 5, and 6, for the Traffic Control Plan.

REC-1. Public notices describing the nature and duration of construction shall be posted at public access points to the Project area.

REC-2. Construction fencing shall be placed around the active construction area and staging area perimeters to deter continued use of the bike and pedestrian facilities leading into the construction area during construction. Following construction, the fencing shall be removed to restore access to the areas.

REC-3. The Traffic Control Plan shall include actions for controlled passage of pedestrians and bicyclists through or around the linear Project area during the construction period.

1.10.10 Traffic Control Measures

Temporary traffic control measures shall be implemented, for both City and Caltrans roadways where Project improvements are proposed in the respective ROWs, to provide for safe emergency, business, residential, bicycle, and pedestrian access and pass through during construction. **Appendix A**, Plan Sheets 4, 5 and 6, detail the Traffic Control Plan.

TRANS-1. Project actions shall conform to the *Work Area Traffic Control Handbook* (Watch Committee of Public Works Standards, Inc. 2016) and the *California Manual of Uniform Traffic Control Devices* (Caltrans 2014).

TRANS-2. The City's contractor shall prepared a Project area-specific Traffic Control Plan for City and/or Caltrans approval in accordance with local and state guidelines and standards, including *Caltrans*

Guidelines for Projects Located on the California State Highways in the Lake Tahoe Basin (as applicable). Approval of the Traffic Control Plan shall be obtained from the City and Caltrans (if the Traffic Control Plan impacts US 50 or SR 89) prior to site disturbance. Provisions in the Traffic Control Plan shall include, but are not limited to:

- The temporary traffic control measures shall be implemented during approved construction periods (Monday through Friday), and the work areas shall be opened to their original configurations at the end of the day, during weekends and holidays.
- Access to driveways and parking lots within the Project area shall be maintained during the course of construction, unless work is being performed in the vicinity of, or for, the driveway or parking lot area.
- If a driveway or parking lot closure is necessary to facilitate construction activities, the City's contractor shall hand deliver notices to the affected property owners at least 48 hours prior to closure.
- During construction, temporary parking will be provided for construction personnel within designated staging areas.
- To the extent feasible, the number of vehicles (construction and other) on the roadways adjacent to construction sites shall be reduced during Project construction.
- To the extent feasible, the interaction between construction equipment and other vehicles shall be reduced.
- Public safety aimed at driver and roadway safety shall occur.
- Establishment and/or maintenance of safe routes through the Project area for bicycles and pedestrians shall occur.
- Establishment and/or maintenance of adequate emergency access for police, fire, ambulance, and other emergency service vehicles, as determined through direct consultation with those service providers, shall occur.

TRANS-3. The Project proposal shall consider fire protection and design provisions identified by the South Lake Tahoe Fire Department that are intended to improve access point(s) and circulation of the Project area and the overall area, in combination with other fire protection requirements (e.g., defensible space, fire flow improvements, fire-resistant building materials, landscape treatments, placement of hydrants, and installation of sprinklers). The South Lake Tahoe Fire Department shall review and approve the Project design prior to commencement of Project construction.

1.11 Required Permit Approvals

The City's retained design consultant will develop the appropriate permit application submittal packages that will be required for Project construction. The applications will combine the resource analysis that was conducted for the Project-level IS/ND/IEC with the design information developed for Project construction (e.g., 90 percent design plan sets). The permits that are anticipated for the Project include:

- TRPA EIP Project Permit;
- Lahontan Notice of Intent (NOI) for Coverage under the Tahoe General Construction Permit (Board Order No. R6T-2016-0010);
- SWPPP, as required by the Tahoe General Construction Permit; and
- Caltrans Encroachment Permit.

During the development of the 60 percent design plans, the City's design consultant will review the prior plan sets and coordinate with the appropriate agencies to obtain written documentation confirming the required permits and submittal timelines that will be necessary to meet the Project construction schedule.

Permit applications and the Project-level SWPPP will be prepared during the 90 percent design phase. Permit application submittal packages will include the Project's 90 percent design plan set. Agency requests and permit conditions will then be incorporated into the 100 percent design.

2.0 EXISTING CONDITIONS

The Project area is located in the southwest portion of the City, as depicted above in **Figure 1**. A portion of the Project is within the TVAP boundary (between the South Wye intersection and Julie Lane), while the remainder of the Project area is within the Bonanza plan area, TRPA PAS 114 (between Julie Lane and Vikings Way). South Tahoe High School is located adjacent to the southwest portion of the Project area. The portion of the Project area that is located within the TVAP boundary is zoned Town Center Mixed-Use Corridor. The portion of the Project area located within PAS 114 is designated Bonanza Special Area #1. At the terminus of the Project area with Vikings Way, very small portions of the Project area lie within PAS 118, Twin Peaks, and the South Y Industrial Tract Community Plan area.

Currently, the Project area includes:

- Roadway with two lanes in each direction;
- Class 2 bike lanes;
- City stormwater infrastructure (e.g., curb and gutter and drop inlets) and fire hydrant(s);
- Utility boxes;
- Ingress/egress at Julie Lane, D Street, Vikings Way (i.e., the access roadway to South Tahoe High School); and
- Ingress/egress to a number of commercial uses.

2.1 Land Use, Zoning, Permissible Uses

The Project area is located within the city limits of the City of South Lake Tahoe within Town Center Mixed-Use Corridor, Town Center Core, and Residential zoning. A portion of the Project area is located within the TVAP, specifically the South Y Town Center, with the remainder of the project area extending into PAS 114, (Bonanza), PAS 118 (Twin Peaks) and the South Y Industrial Tract Community Plan. Existing land uses within the project area are associated with the City ROWCity ROW and include: public services; linear public facilities; recreation; and erosion and runoff control.

The TVAP designates public services, linear public facilities, recreation, erosion control and runoff control as permissible uses. PAS 114 and PAS 118 designate that public services and linear public facilities (i.e., pipelines and power transmission and transportation routes) must be considered under the provisions for a special use. Riding and hiking trials, erosion control and runoff control are permissible uses in these plan areas. In the South Y Industrial Tract Community Plan area, pipelines and power transmission, erosion control, and runoff control are permissible uses, while transportation routes and riding and hiking trails must be considered under the provisions for a special use.

A Special Use Permit requires discretionary approval by the City Planning Commission or Zoning Administrator following review and a determination that the nature of the proposed use, at the location proposed, is not detrimental to the public welfare or injurious to property or improvements in the neighborhood. To obtain a special use permit, the applicant must generally show that the contemplated use is compatible with the zoning ordinance and land use standards. Findings that such use would be essential or desirable to the public convenience or welfare, and will not impair the integrity and character of the zoned district or be detrimental to the public health, safety, morals or welfare are required (City and TRPA 2015).

The applicable maximum Community Noise Equivalent Levels (CNELs) are variable, between 65 CNEL for the South Wye intersection and 75 CNEL for the South Y Industrial Tract to a maximum of 50 CNEL and 55 CNEL for PAS 114 and PAS 118, respectively.

2.2 Air Resources

The Project area is under the jurisdiction of the El Dorado County AQMD and lies within the boundaries of the Lake Tahoe Air Basin.

The Lake Tahoe Air Basin is in attainment or unclassified for National Ambient Air Quality Standards (NAAQS), although it is designated a non-attainment area for PM_{10} under the California Ambient Air Quality Standards and non-attainment-transitional for ozone.

The Project area is located in a NAAQS maintenance area for carbon monoxide (CO). According to Caltrans's Areas Subject to Transportation Conformity Requirements in California table, conformity no longer applied to the portion of El Dorado County within the Lake Tahoe Basin.

2.3 Biological Resources

2.3.1 Vegetation and Habitat Composition

Native vegetation within the Project area consists primarily of Jeffrey pine (*Pinus jeffreyi*) and white fir (*Abies concolor*) trees, with an understory of grasses and forbs where there is open space or vacant parcels. Many of the developed parcels are landscaped with native vegetation. The Project area was surveyed on June 4, 2018, for special-status plants, habitat composition, noxious and invasive weeds, and jurisdictional wetlands or waters of the U.S. (**Appendix B**). A jurisdictional drainage channel, seeps, and associated wetland vegetation occurred on the west side of Lake Tahoe Boulevard between Julie Lane and just south of Vikings Way. No riparian habitat, TRPA uncommon plant areas, or other sensitive natural communities were identified within the Project area. No special-status plant species are known to occur within the Project area, nor is there potential habitat for such species. None were observed during the survey. No noxious species, as defined by El Dorado County Department of Agriculture (El Dorado County 2018) and the Lake Tahoe Basin Weed Coordinating Group (2018), were identified during the surveys. Only cheatgrass (*Bromus tectorum*), a non-native annual grass, was noted in several locations during the surveys, although these populations are not significant.

2.3.2 Special-Status Species

Special-status species that occur within or near the Project area are discussed below. Special-status wildlife and fish species are species that have been afforded special recognition and protection by federal, state, or local resource conservation agencies and organizations. These species are generally considered rare, threatened, or endangered due to declining or limited populations. Additional details regarding the designation of special-status species and their potential to occur within the Project area are discussed in more detail in Section 6.0.

Goshawk Protected Activity Centers (PACs) and Threshold Zones within the Lake Tahoe Basin are designated by the Lake Tahoe Basin Management Unit (LTBMU). The Project area is 0.4 mile from the Tahoe Valley and Sawmill Pond goshawk Threshold Zones, and is 1.4 miles from the Tahoe Mountain goshawk PAC and Threshold Zone.

The nearest LTBMU-mapped willow flycatcher habitat is located 1.4 miles from the Project area, along the Upper Truckee near the Lake Tahoe Airport. A natural drainage channel, seeps, and associated wetland vegetation are present on the west side of Lake Tahoe Boulevard, between Julie Lane, and just south of Vikings Way. This area could support willow flycatcher, although is smaller than the suggested preferred

meadow/riparian habitat size, and is within close proximity to development. Lemmon's willow (*Salix lemmonii*) was observed during the Project area surveys, although in discrete, disconnected patches.

The nearest LTBMU-known bald eagle winter habitat is 1.25 miles from the Project area, along the Upper Truckee Marsh and inlet to Lake Tahoe. No bald eagle mapped nest buffer areas are located within the vicinity of the Project area.

According to the LTBMU mule deer habitat model (2004) there is 32,266.5 acres of high-quality fawning habitat in the basin and no suitable fawning habitat in the Project area. The nearest suitable fawning habitat is located 0.15 mile west of the Project area in the open space conifer forest near Gardner and Tahoe Mountain.

2.4 Cultural and Tribal Resources

A cultural resources review was performed for the Project, including database searches and field observations of the Area of Potential Effects (APE). In accordance with AB 52, Cardno sent letters to the parties listed on the NAHC response on February 21, 2018. As of August 23, 2018, the date of which this project-level IS commenced, no responses to these outreach letters had been received.

An Archaeological Survey Report and Historic Property Survey Report were completed for the Project area and are attached in **Appendix C**. There are no historic sites listed on the National Register of Historic Places within or adjacent to the Project area. Neither the archival research nor the archaeological survey identified any prehistoric or historic-era cultural sites, features, or artifacts within or immediately adjacent to the APE. Two resources were identified in a 0.5-mile radius of the APE: P-09-003886, the Celio Sawmill Site 0.45 mile southwest of the current APE, and P-09-004993, a 1955 commercial building at 1161 Emerald Bay Road that has had multiple uses over the last half century. Both have been determined not eligible for listing in the National Register of Historic Places. In addition, no potentially sensitive landforms or soil deposits possibly indicative of early Native American or historic activities were noted during the investigation.

2.5 Geology, Soils, and Land Capability

The Project area contains an SEZ, which is a term unique to the Lake Tahoe region. TRPA Code Chapter 90, Definitions, defines an SEZ as "Generally an area that owes its biological and physical characteristics to the presence of surface or ground water." SEZs are recognized by TRPA's Land Capability District (LCD) system as Class 1B. The LCDs range from 1 to 7, with 1 being the most environmentally sensitive and 7 being the most suitable for supporting development. SEZs within the TVAP region generally have been disturbed (City and TRPA 2015). The Project area also contains areas classified as LCD 7. **Figure 4**, Land Capability Districts, presents the LCDs currently mapped within the Project area. The TRPA landscape layer indicates LCD 1b or SEZ with sections of LCD 7, human-modified, at the far ends of the linear Project area at the South Wye intersection and the Lake Tahoe Boulevard intersection with Vikings Way.

TVAP approvals exist for land coverage and LCDs for the western Project area. Given the existing development within the City ROW, LCD 1b portions of the Project area are currently human-modified and should be delineated as such. A land capability verification application has been submitted to TRPA for review (**Appendix D**) for portions of the Project area that have not been field verified at the parcel or Project area level.

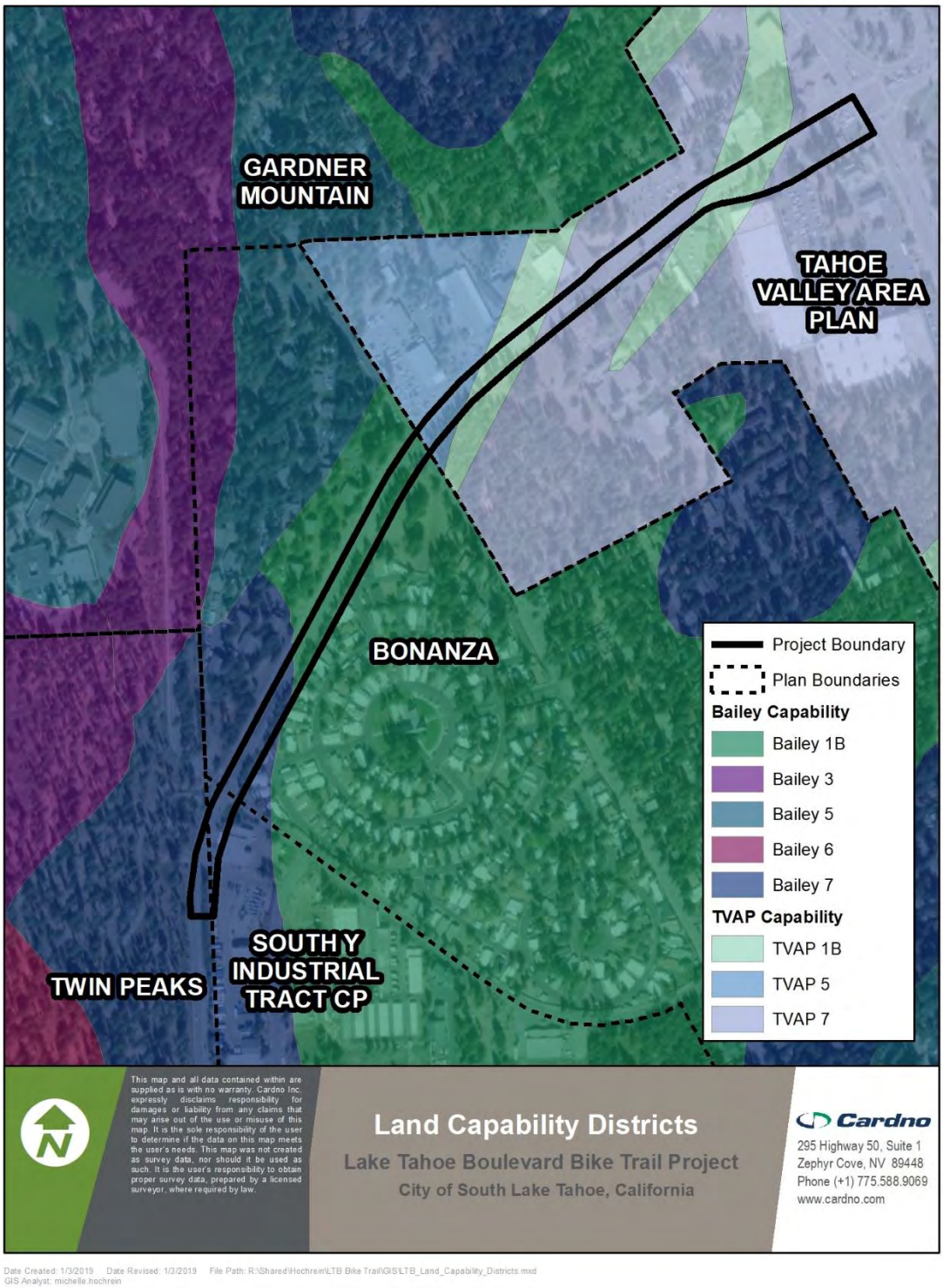

Figure 4. Project Area Land Capability Districts.

The geotechnical investigation conducted for the Tahoe Valley Greenbelt and Stormwater Improvements Project, a project site just to the southeast of the South Wye intersection and in the immediate vicinity of the Project area, found no evidence of Holocene faulting in the field or on published fault maps, which would indicate potential faulting on this Project area. However, the approximate location of the inferred fault (Saucedo 2005) older than 1.6 million years (which is not considered active) is southeast of the South Wye intersection. Thus, the potential for surface rupture at or near this fault is inferred to be low. The largest active fault in the area, however, is the Genoa Fault with its surface trace located approximately 7 miles east of the Project area. The Genoa Fault System is reported to have had activity within the past 500 years and be capable of producing earthquakes with a maximum moment magnitude of 6.9 (California Department of Conservation 1996).

SAGE Engineers, Inc. conducted geotechnical investigations for the Lake Tahoe Boulevard project area that included excavation of four test pits up to 8 feet in depth. The report is provided in **Appendix E**. Groundwater was encountered at a depth of 7 feet below ground surface (bgs) in one of the four pits

2.6 Hazards and Hazardous Materials

Hazardous waste sites have not been mapped within the Project area based on data and information reviewed in October 2018 on: the Geotracker for Hazardous Materials; California Department of Toxic Substances Control's Envirostor; California Environmental Protection Agency's Cortese List.

There is one Cease and Desist Order/Cleanup and Abatement Order for the Lake Tahoe Laundry for a PCE contamination of groundwater. **Appendix F** contains the Initial Site Assessment for Hazardous Waste (ISA) that was conducted for Caltrans. The Project area does not appear on the searched database lists for Recognized Environmental Conditions (RECs). The ISA found no evidence of RECs in direct connection with the Project area. There are seven sites identified in the general vicinity of the Project area's Area of Potential Effect (APE) in the GeoTracker for Hazardous Materials database: two are Waste Discharge Requirements sites (which are historically permitted sites), two are Leaking Underground Storage Tank (LUST) Cleanup Sites (both of which have been closed by the Lahontan Regional Water Quality Control Board (Lahontan Water Board), and two are Cleanup Program Sites (one site is undergoing active remediation and the other site is eligible for closure). An APE search radius of 2,000 feet from the centroid of the linear Project area was chosen in order to map the entire length of the Project area.

Lahontan Water Board waste discharge requirements sites, LUST sites, and Cleanup Program Sites that are mapped in the vicinity of the Project area are discussed further in Section 11.0. Hydrology, Drainage, and Water Quality

The Project area constitutes a portion of the Upper Truckee Hydrologic Area and the Upper Truckee River watershed. Existing conditions of the Project area are primary paved, with no surface waterbodies. No wetlands are identified in the National Wetlands Inventory within or directly adjacent to the Project area. Additionally, no functional TRPA SEZs are mapped within the Project area, as areas mapped as LCD 1b have been subject to anthropogenic modifications within the City ROW. Functional SEZs are located in close proximity to (i.e., adjacent to the northern edge of Lake Tahoe Boulevard at the eastern extent [behind Runnels Automotive]) but at a distance from areas of potential disturbance.

The Project area, through the existing stormwater system, drains toward the Eloise Avenue/5th Street detention basin that eventually drains to Lake Tallac. Lake Tallac is hydrologically connected to Lake Tahoe, and Lake Tahoe is subject to the total maximum daily load (TMDL) for sediment (Lahontan Water Board Order No. R6T-2010-0058).

2.7 Public Services

The City of South Lake Tahoe Public Works Department, South Lake Tahoe Fire Department, South Lake Tahoe Police Department (SLTPD), and Lake Tahoe Unified School District serve the Project area.

2.8 Traffic and Circulation

LSC Transportation Consultants, Inc. prepared the *Lake Tahoe Boulevard Bike Trail – Traffic Study*, which is contained in **Appendix G**. The study considered the existing City ROW configuration, including intersection and roadway level of service (LOS), and safety and crash data analysis, and provided a summary of recommendations and a preferred alternative.

LOS is defined as a qualitative measure describing operational conditions within a traffic stream and their perception by motorists and/or passengers. Six LOSs are defined for each type of facility. They are given letter designations, from A to F, with LOS A representing the best operating conditions and LOS F the worst. LOS standards for TRPA, El Dorado County, and the City are defined below.

TRPA LOS Standards. TRPA currently has no adopted standard for unsignalized intersections. Regional traffic operations and LOS standards for the Lake Tahoe Basin, established in Chapter 24, Transportation Element of the TRPA Goals and Policies, require that peak-period traffic flow not exceed the following:

- LOS C on rural recreational/scenic roads
- LOS D on rural developed area roads
- LOS D on urban developed area roads
- LOS D for signalized intersections
- LOS E may be acceptable during peak periods in urban areas, not to exceed 4 hours per day

El Dorado County General Plan LOS Standards. The El Dorado County General Plan states that LOS for county-maintained roads and state highways within the unincorporated areas of the county shall not be worse than LOS E in the Community Regions or LOS D in the Rural Centers and Rural Regions.

City of South Lake Tahoe General Plan LOS Standards. The City's General Plan states that the City shall establish a minimum LOS standard D for all City streets and intersections. Up to 4 hours per day of LOS E shall be considered acceptable. LOS shall be considered based on average delay for the intersection as a whole for signalized intersections, and for the worst approach for intersections controlled by stop signs or roundabouts. LOS shall be evaluated for a busy, but not peak traffic, day in the peak seasons.

Table 4 presents the intersection volumes, based on traffic counts for existing conditions along the Project area. **Table 5** identifies the existing LOS for the three study intersections within the Project area, which are currently rated as LOS B or LOS D.

Table 4. Intersection Volumes – Existing Conditions (Left, Turning and Right Lanes)

Intersection	Eastbound			Westbound			Northbound			Southbound			TOTAL
	L	T	R	L	T	R	L	T	R	L	T	R	
A.M. Peak Hour													
Lake Tahoe Blvd/Vikings Way	183	20	20	3	78	17	81	142	5	47	99	22	917

PM Peak Hour													
Lake Tahoe Blvd/South Y Center Driveway	0	507	73	165	512	0	53	0	155	0	0	0	1,465
Lake Tahoe Blvd/Vikings Way	160	24	26	3	14	48	13	131	5	56	165	62	707

Source: Appendix G

Table 5. Intersection Level of Service

Intersection	Current Configuration	
	LOS	**Delay (second/vehicle)**
A.M. Peak Hour		
Lake Tahoe Blvd/Vikings Way	B	12.9
P.M. Peak Hour		
Lake Tahoe Blvd/South Y Center Driveway	D	34.3
Lake Tahoe Blvd/Vikings Way	B	11.0

Source: Appendix G

LSC Transportation Consultants, Inc. also summarized crash data by crash type and crash severity; 15 crashes were reported over the 5 years studied (Appendix G). The majority of crashes in the corridor were either broadsides or sideswipes. Three out of the 15 crashes (or 20 percent of crashes) involved bicyclists while none involved a pedestrian. The severity of crashes can be broken down into three categories: property damage only, injury, and fatal.

Overall, 60 percent of reported crashes resulted in an injury, and 40 percent resulted in property damage only. There were no reported fatalities during the analysis time period. The crash rate for the study corridor, as measured in crashes per million vehicle-miles was calculated and compared with the applicable statewide average based on roadway type (currently Lake Tahoe Boulevard is an undivided four-lane roadway). Any value over 100 percent indicates that the observed rate is greater than the statewide average. The total crash rate for all types of crashes is lower than the statewide average (78 percent of the statewide average). The "fatal + injury" crash rate is 10 percent higher than the statewide average.

2.9 Utilities and Service Systems

The Project area contains the following public utilities and service systems:

- AT&T;
- Charter Communications;
- Southwest Gas;
- South Tahoe Public Utility District (STPUD); and
- Liberty Energy.

3.0 AESTHETICS (CEQA) AND SCENIC RESOURCES/COMMUNITY DESIGN & LIGHT AND GLARE (TRPA)

This section analyzes Project impacts on aesthetics, scenic resources, and light and glare during construction and operations. Potential impacts are evaluated based on information developed through site visits; review of existing published documents, including TRPA mapping of scenic travel route roadway unit ratings and bicycle trail viewshed protection area scenic quality ratings; and review of temporary and permanent Project design features.

Table 6 identifies the level of significance of the impacts based on the CEQA Guidelines Appendix G: Environmental Checklist Form and the TRPA Initial Environmental Checklist Form and indicates whether additional mitigation measures would be required to avoid, reduce, minimize, or otherwise mitigate potential impacts to a level of less than significant.

Table 6. Aesthetics, Scenic Resources/Community Design, and Light and Glare Impacts

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
CEQA Environmental Checklist Item				
Have a substantial adverse effect on a scenic vista? (CEQA Ia)	☐	☐	☒	☐
Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway? (CEQA Ib)	☐	☐	☐	☒
Substantially degrade the existing visual character or quality of the site and its surroundings? (CEQA Ic)	☐	☐	☒	☐
Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area? (CEQA Id)	☐	☐	☒	☐
Will the Proposal:	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
TRPA Initial Environmental Checklist Item				
Include new or modified sources of exterior lighting? (TRPA 7a)	☒	☐	☐	☐
Create new illumination which is more substantial than other lighting, if any, within the surrounding area? (TRPA 7b)	☐	☐	☐	☒
Cause light from exterior sources to be cast off-site or onto public lands? (TRPA 7c)	☐	☐	☐	☒
Create new sources of glare through the siting of the improvements or through the use of reflective materials? (TRPA 7d)	☐	☐	☐	☒

Will the proposal:	Yes	No, With Mitigation	Data Insufficient	No
TRPA Initial Environmental Checklist Item				
Will the proposal be visible from any state or federal highway, Pioneer Trail, or Lake Tahoe? (TRPA 18a)	☒	☐	☐	☐
Be visible from any public recreation area or TRPA designated bicycle trail? (TRPA 18b)	☒	☐	☐	☐
Block or modify an existing view of Lake Tahoe or other scenic vista seen from a public road or other public area? (TRPA 18c)	☐	☐	☐	☒
Be inconsistent with the height and design standards required by the applicable ordinance or Community Plan? (TRPA 18d)	☐	☐	☐	☒
Be inconsistent with the TRPA Scenic Quality Improvement Program (SQIP) or Design Review Guidelines? (TRPA 18e)	☐	☐	☐	☒

3.1 CEQA Checklist Analysis – Aesthetics

CEQA Ia. Would the Project have a substantial adverse effect on a scenic vista?

Standard of Significance. CEQA defines a scenic vista as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public as defined by local plans or policies (e.g., City General Plan or TRPA Scenic Guidelines). 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 viewed from foreground or middleground; and/or (3) non-compliance with scenic resource goals, policies, or standards of federal, state, or local agencies. CEQA relies on local policies to define scenic vistas.

Both the City's General Plan and the TRPA RPU describe Lake Tahoe and the forested Sierra Nevada Mountains as among the region's scenic resources. No scenic viewpoints have been formally designated at the Project area. One scenic resource is located in the vicinity of the Project area. Scenic Resource #35.1 is a view of the natural landscape to the west as seen from US 50 (City and TRPA 2015). The resource is in attainment but rated low because of the dominance of the surrounding built environment (City and TRPA 2015). Project impacts to Roadway Unit 35 that is currently rated as non-attainment would be less than significant and potentially beneficial.

The Visual Impact Assessment conducted for Caltrans Preliminary Environmental Study resulted a score of 10, indicating there is negligible potential for the Project to affect visual or scenic resources. The planned improvements would be designed and constructed in compliance with local and regional codes and ordinances to protect, or enhance, the visual corridor associated with Lake Tahoe Boulevard. To help maintain and potentially restore the scenic quality of Lake Tahoe Boulevard, the Project would implement design features developed by the TRPA Scenic Quality Improvement Program (SQIP) that aim to restore and enhance roadway scenic quality. SQIP-developed recommendations that have been incorporated into the design include: new curb and gutter; connecting bike trail; pedestrian facilities; standard City pathway lighting; and a landscaped buffer to provide a natural edge along the roadway. Implementation of these features would restore the scenic quality of roadway units within the TVAP area and a short section of Lake Tahoe Boulevard that confluences with Roadway Units 35 and 36.

The Project would not affect views of the mountains because improvements would be below or at-grade, constructed along existing roadways, and would comply with Citywide Design Standards. The Project would similarly improve the scenic quality rating of Unit 35 at the South Wye intersection. The Project, by design, avoids the creation of strong visual contrast and direct and indirect effects on scenic vistas. The Project would not block or modify existing views of Lake Tahoe or other scenic vistas. The Project area contains no views of Lake Tahoe and contains no scenic vistas visible from public roadways or recreational areas. The Project would not create a new visibly dominant anthropogenic feature that is out of scale with the surrounding landscape. Compliance with the City General Plan, City Code, and TVAP standards for site, building, landscaping, and development would ensure potential impacts to aesthetics and TRPA-designated scenic resources would be less than significant.

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

Required Mitigation: **None.**

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

Standard of Significance. The significance criteria outlined above for CEQA Ia also apply to CEQA Ib for consideration of impacts to state scenic highways, as CEQA relies on local policies to define scenic vistas.

TRPA has designated major highways and roadways in the Lake Tahoe Basin as scenic roadway travel routes or roadway units (TRPA 2015). The South Wye intersection, which traverses the eastern boundary of the Project area, is designated within Unit 35. Although US 50 is designated as a state scenic highway from Placerville to the City of South Lake Tahoe limits, it is not designated as such within the City limits.

The Project would not substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic building, within a state scenic highway because no state scenic highway is located within or in the vicinity of the Project area.

Environmental Analysis: **No Impact.**

Required Mitigation: **None.**

CEQA Ic. Would the Project substantially degrade the existing visual character or quality of the site and its surroundings?

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

Temporary impacts to the visual character and quality occur during construction. Construction impacts would be short term and expected to persist over one construction period. Construction of Project improvements would require the removal of four trees from the City ROW, but as discussed under CEQA Ib, the Project area would be landscaped and revegetated to avoid scenic degradation.

Project construction would have temporary impacts on the visual quality of the Project area; however, the Project installs facilities that would be located at-grade and underground, and would not significantly degrade the existing visual character or quality of the site and its surroundings. Following post-construction site cleanup and demobilization and revegetation and landscaping of the City ROW, the Project would expand upon City infrastructure improvements to improve the visual character of the Project area, as compared to existing conditions.

Compliance with City General Plan, City Code, and TVAP standards for site, building, landscaping, and development would ensure potential impacts to aesthetics and TRPA-designated scenic resources would be less than significant.

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

Required Mitigation: **None.**

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

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

Within the Project area, existing pedestrian-level lighting along sidewalks and typical overhead roadway intersection lighting are present along the US 50 corridor and at the South Wye intersection at the eastern end of the Project area. Overhead parking lot lighting and typical exterior light sources are also present at commercial properties within the Project area. Residential areas adjacent to the Project area include a mobile home park and a multi-family apartment complex.

The Project installs new pedestrian-oriented lighting for the safety of cyclists and pedestrians. Pedestrian lighting sources within recreational trail systems are known to discourage loitering and associated nuisances and public safety concerns. New lighting would provide the minimum lighting necessary to meet performance and safety standards and minimize the potential for impacts to neighboring properties or the night sky. Project lighting would not be more substantial than existing lighting in the Project area and vicinity.

TVAP design standards require the use of natural, appealing materials and colors that blend in with natural surroundings, and prohibit use of flood-lighting, reflective materials, or lighting strips, including florescent tubing, to minimize reflectivity and glare (City and TRPA 2015). As required by TRPA Code Section 36.8, Exterior Lighting Standards, exterior light fixtures would be equipped with full cutoff fixtures and would not adversely affect day or nighttime views in the area or allow light spilling beyond City ROW boundaries into public lands or residences.

New pathway lighting would conform to City Code Section 6.10.160, Exterior Lighting and TRPA Code Section 36.8, Exterior Lighting General Standards. These standards include, but are not limited to, the following provisions that would ensure that subsequent development does not result in significant adverse lighting impacts:

1. Outdoor lights will not blink, flash, or change intensity or give the illusion of movement.
2. Illumination utilizing exterior light fixtures is permitted, provided the following criteria are met:
    a. Lighting will only be directed downward (not above the horizontal plane) to avoid sky-lighting. Up-lighting for any purpose including the lighting of architecture or landscape architecture is not permitted except with overhead shields to prevent nighttime sky-lighting.
    b. The light source (bulbs), within a fixture as seen in elevation, will not be visible, including the cobra head fixture style.
    c. No light (freestanding or building mounted) will spray off-site. The use of cutoff shields or other devices as approved by staff will be required, including parking garages. (Note: parking garages will not have fluorescent lighting.)

d. The maximum height of exterior architectural building lighting and landscape lighting will be 26 feet and the light source is shielded from view.

The Project proposes no new sources of substantial light or glare that would adversely affect day or nighttime views in the area. The Project would comply with TRPA Code, City Code, and TVAP provisions for new or modified sources of light or glare to result in less-than-significant impacts to day or nighttime views.

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

Required Mitigation: **None.**

3.2 TRPA Checklist Analysis – Light and Glare

TRPA 7a. Will the proposal include new or modified sources of exterior lighting?

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

The Project installs new pedestrian-oriented lighting for the safety of cyclists and pedestrians. Refer to the analysis for CEQA Id, which concludes that the level of potential impact to adjacent residences, as related to new or modified sources of exterior lighting, would be less than significant. The Project would comply with TRPA Code, City Code, and TVAP provisions for new or modified sources of light or glare to result in less-than-significant impacts to day or nighttime views.

Environmental Analysis: **Yes; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 7b. Will the proposal create new illumination which is more substantial than other lighting, if any, within the surrounding area?

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

Refer to the analysis for CEQA Id, which concludes that the level of potential impact to the area adjacent to the Project area, as related to new sources of light or glare, would be less than significant.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 7c. Will the proposal cause light from exterior sources to be cast off-site or onto public lands?

Standard of Significance. An increase in lighting or glare sufficient to enter adjacent public lands constitutes a significant impact to day or nighttime views in the Project area.

Refer to the analysis for CEQA Id, which concludes that the level of potential impact to public lands related to new sources of light or glare would be less than significant.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 7d. Will the proposal create new sources of glare through the siting of the improvements or through the use of reflective materials?

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

Refer to the analysis for CEQA Id, which concludes that the level of potential impact to residences at Tahoe Verde Mobile Home Park and Tahoe Valley Townhomes, as related to new sources of light or glare would be less than significant. No new sources of glare would result from the Project. The Project would conform to TRPA Code Section 36.8, Exterior Lighting Standards and Chapter 38, Signs, which prohibits reflective materials.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

3.3 TRPA Checklist Analysis – Scenic Resources/Community Design

TRPA 18a. Will the proposal be visible from any state or federal highway, Pioneer Trail, or Lake Tahoe?

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.

The Project area is not visible from Pioneer Trail or Lake Tahoe, but would be visible from US 50 because the Project area boundary encompasses and proposes improvements at the South Wye intersection, which is currently in "non-attainment" for TRPA scenic quality thresholds.

Project construction temporarily impacts the scenic quality of the Project area, which would be temporarily degraded; however, the completed Project would have long-term benefits to the aesthetics of the Project area and would improve scenic quality consistent with the TRPA SQIP for roadway units not in attainment. The Project proposal includes SQIP recommendations for landscaping, stormwater improvements, pedestrian connectivity and safety, and Class 1 shared-use trail design. Implementation of these Project components would serve to improve the scenic quality of the South Wye intersection within the Project area and create less-than-significant impacts to a federal highway.

Environmental Analysis: **Yes; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 18b. Will the proposal be visible from any public recreation area or TRPA designated bicycle trail?

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

The Project area contains no TRPA-designated scenic resources and is not visible from a public recreation area. Construction activities would be partially visible from the existing TRPA-designated Class 1 bike trail that terminates at Vikings Way during construction. Following construction the resultant Class 1 shared-use trail would provide for a connection to this existing facility. Given that the shared-use trail system exists at-grade with only standard City pathway lighting (installed for public safety) persisting above grade, the level of impact to visual quality would be less than significant.

Environmental Analysis: **Yes; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 18c. Will the proposal block or modify an existing view of Lake Tahoe or other scenic vista seen from a public road or other public area?

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. Significant impacts include: (1) creation of strong visual contrast; (2) reduction in scenic vista area viewed from the foreground or middleground; and/or (3) non-compliance with scenic resource goals, policies, or standards of federal, state, or local agencies.

Refer to the analysis for CEQA Ia, which concludes that the level of potential impact related to scenic vistas would be less than significant. The Project would not create a new, visibly dominant anthropogenic feature that is out of scale with the surrounding landscape, as most Project components would be installed at-grade or belowground. The Project area contains no views of Lake Tahoe and no TRPA-designated scenic vistas, and therefore, would not block or modify existing views of Lake Tahoe or other scenic vistas.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 18d. Will the proposal be inconsistent with the height and design standards required by the applicable ordinance or Community Plan?

Standard of Significance. The TRPA RPU provides standards that are applicable to the Project. TRPA Code Chapter 37 sets forth standards for building height and is 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 RPU Land Use Element. Appendix C, Development and Design Standards, of the TVAP specifies the TRPA Code standards that were adopted by TRPA and the City for the Tahoe Valley area. An inconsistency with these standards constitutes a significant impact.

The Project would construct facilities at-grade or below grade, with the exception of standard City pathway lights that have been selected for conformance with TRPA and City design standards. The Project proposal incorporates the appropriate TRPA and City design and scenic quality standards and would result in no impacts.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None.**

TRPA 18e. Will the proposal be inconsistent with the TRPA Scenic Quality Improvement Program (SQIP) or Design Review Guidelines?

Standard of Significance. The SQIP requires that scenic roadway unit ratings be maintained or improved. A reduction in the rating of a scenic roadway unit constitutes a significant impact. Six criteria define the ratings: (1) anthropogenic 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 ratings. The TRPA SQIP prescribes the 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.

Refer to the analyses for CEQA Ib, CEQA Ic, and TRPA 18a, which conclude that the level of potential impact related to scenic resources and aesthetics would be less than significant and the Project design would be consistent with the SQIP.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

4.0 AGRICULTURE & FOREST RESOURCES

This section evaluates the Project's agriculture and forest resource impacts during construction and operations. **Table 7** identifies the level of significance of the impacts based on the CEQA Guidelines Appendix G: Environmental Checklist Form and indicates whether additional mitigation measures would be required to avoid, reduce, minimize, or otherwise mitigate potential impacts to a level of less than significant. The TRPA IEC does not directly address agricultural resources and farmland, but does address potential effects to wildlife habitat, trees, and vegetation, which are addressed in Section 6.0, Biological Resources.

Table 7. Agriculture and Forest Resources Impacts

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
CEQA Environmental Checklist Item				
Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? (CEQA IIa)	☐	☐	☐	☒
Conflict with existing zoning for agricultural use, or a Williamson Act contract? (CEQA IIb)	☐	☐	☐	☒
Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? (CEQA IIc)	☐	☐	☐	☒
Result in the loss of forest land or conversion of forest land to non-forest use? (CEQA IId)	☐	☐	☐	☒
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)	☐	☐	☐	☒

4.1 CEQA Checklist Analysis – Agriculture and Forest Resources

CEQA IIa. 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 non-agricultural use?

Standard of Significance. A significant impact on agricultural resources may result from a project that involves the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as defined by the State of California on the Important Farmlands Map, to a non-agricultural use.

The Project lies within the City limits of South Lake Tahoe, and there is no agricultural activity or use within or in the vicinity of the Project area. Additionally, the Project area is fully within a public utility easement or City ROW. The Project area does not contain 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 California Natural Resources Agency. Because no lands designated Prime Farmland, Unique Farmland, or Farmland of Statewide Importance exist within the Project area, the Project would result in no impact to these resources.

Environmental Analysis: **No Impact.**

Required Mitigation: **None.**

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

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

The TVAP designates as portion of the Project area as Town Center, while PAS 114 zones the remainder of the Project area as Residential. The Project area is not zoned for agricultural use, and does not contain Williamson Act contracts. Because no such zoning exists within the Project area, the Project would result in no impact to these resources.

Environmental Analysis: **No Impact.**

Required Mitigation: **None.**

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

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.

Refer to the analysis for CEQA IIb. The Project area is zoned Town Center and Residential, and therefore, would not conflict with or cause rezoning of forest land, timberland, or land zoned as Timberland Production Zone (TPZ). The Project area does not meet the zoning designations of forest land (as defined by PRC Section 4526) or timberland zoned TPZ (as defined by California Government Code Section 51104(g)).

Minor tree removal (i.e., individual trees that cannot be avoided during field fitting) within the City ROW would be necessary to implement some improvements. The Project would not conflict with zoning of or cause rezoning of forest land, timberland, or timberland zoned TPZ, because the portion of the Project requiring tree removal is a small subset of the total Project area and tree removal would not be concentrated or significant.

Environmental Analysis: **No Impact.**

Required Mitigation: **None.**

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

Standard of Significance. The loss of substantial forest land, defined above for CEQA IIc, or conversion of forest land to non-forest use creates a significant impact if appropriate permits, ensuring minimal impact to the overall forest resource, are not obtained.

The Project would be entirely located within the City ROW or public utility easement, which contains existing development and facilities. The Project would not result in the loss of forest land or conversion of forest land to non-forest use. Because forest land does not exist within the Project area, the Project would create no impact to this resource.

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

Required Mitigation: **None.**

CEQA IIe. 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?

Standard of Significance. Conversion of farmland to non-agricultural use or conversion of forest land to non-forest use constitutes a significant impact.

Refer to the analyses for CEQA IIa and CEQA IIb, which conclude no impacts would result to farmland, and the analysis for CEQA IIc, which concludes no impact to forest land would result.

Environmental Analysis: **No Impact**.

Required Mitigation: **None.**

5.0 AIR QUALITY

This section evaluates the Project's air quality impacts during construction and operations. **Table 8** identifies the level of significance of the impacts based on the CEQA Guidelines Appendix G: Environmental Checklist Form and the TRPA Initial Environmental Checklist Form and indicates whether additional mitigation measures would be required to avoid, reduce, minimize, or otherwise mitigate potential impacts to a level of less than significant.

Table 8. Air Quality Impacts

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
CEQA Environmental Checklist Item				
Conflict with or obstruct implementation of the applicable air quality plan? (CEQA IIIa)	☐	☐	☒	☐
Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non- attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? (CEQA IIIb)	☐	☐	☒	☐
Expose sensitive receptors to substantial pollutant concentrations? (CEQA IIIc)	☐	☐	☒	☐
Create objectionable odors affecting a substantial number of people? (CEQA IIId)	☐	☐	☒	☐
Will the Proposal:	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
TRPA Initial Environmental Checklist Item				
Result in substantial air pollutant emissions? (TRPA 2a)	☐	☐	☐	☒
Deterioration of ambient (existing) air quality? (TRPA 2b)	☐	☐	☐	☒
The creation of objectionable odors? (TRPA 2c)	☐	☐	☐	☒
Alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally? (TRPA 2d)	☐	☐	☐	☒
Increased use of diesel fuel? (TRPA 2e)	☐	☐	☐	☒

5.1 CEQA Checklist Analysis

CEQA IIIa. Would the Project conflict with or obstruct implementation of the applicable air quality plan?

Standard of Significance. The federal Clean Air Act (CAA) was passed by Congress in 1970 and last amended in 1990. The CAA gives the federal government (i.e., the EPA) authority to establish air quality standards, including setting NAAQS for major air pollutants. States with areas that exceed the NAAQS must prepare a State Implementation Plan (SIP) that demonstrates how those areas will attain the standards within mandated time frames. In California, the EPA has delegated the authority to prepare SIPs to the California Air Resources Board (CARB), which, in turn, has delegated that authority to individual air districts.

The Project area is under the jurisdiction of the El Dorado County AQMD and lies within the boundaries of the Lake Tahoe Air Basin, which is in attainment with federal air quality standards. As such, the AQMD is not required to prepare a SIP. **Table 9** below is a summary of local, state, and federal ambient air quality standards.

Table 9. Summary of Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	TRPA	National Standards	
				Primary[a]	Secondary[b]
Ozone (O_3)	1 Hour	0.09 ppm	0.08 ppm	--	Same as Primary
	8 Hour	0.070 ppm	--	0.070 ppm	
Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	Shall not exceed CAAQS/NAAQS	150 µg/m^3	
	AAM	20 µg/m^3		--	
Fine Particulate Matter ($PM_{2.5}$)	24 Hour	--	--	35 µg/m^3	
	AAM	12 µg/m^3		12.0 µg/m^3	15 µg/m^3
Carbon Monoxide (CO)	1 Hour	20 ppm	--	35 ppm	--
	8 Hour	9.0 ppm	6.0 ppm[c]	9 ppm	
	8 Hour (Lake Tahoe)[4]	6 ppm	--	--	
Nitrogen Dioxide (NO_2)	1 Hour	0.18 ppm	--	100 ppb	--
	AAM	0.030 ppm		0.053 ppm	Same as Primary
Sulfur Dioxide (SO_2)	1 Hour	0.25 ppm	--	75 ppb	--
	3 Hour	--		--	0.5 ppm
	24 Hour	0.04 ppm		0.14 ppm	--
	AAM	--		0.030 ppm	--
Lead	30 Day Average	1.5 µg/m^3	--	--	--
	Calendar Quarter	--		1.5 µg/m^3 (For Certain Areas)	Same as Primary

Pollutant	Averaging Time	California Standards	TRPA	National Standards	
				Primary[a]	Secondary[b]
	Rolling 3-Month Average	--		0.15 µg/m^3	
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per kilometer	[d]	No National Standards	No National Standards
	8 Hour (Lake Tahoe)	Extinction coefficient of 0.07 per kilometer			
Sulfates	24 Hour	25 µg/m^3	--		
Hydrogen Sulfide	1 Hour	0.3 ppm	--		
Vinyl Chloride	24 Hour	pm	--		

Sources: CARB 2016; TRPA 2004

[a] Levels necessary to protect public health.

[b] Levels necessary to protect the public welfare from known or anticipated adverse effects.

[c] State 8-hour CO standard of 6 ppm is specific to the Lake Tahoe Air Basin.

[d] Regional Visibility - Achieve an extinction coefficient of 25 Mm^{-1} at least 50 percent of the time as calculated from aerosol species concentrations measured at the Bliss State Park monitoring site (visual range of 156 km, 97 miles). Achieve an extinction coefficient of 34 Mm^{-1} at least 90 percent of time as calculated from aerosol species concentrations measured at the Bliss State Park monitoring site (visual range of 115 km, 71 miles). Calculations will be made on three year running periods using the existing 1991-1993 monitoring data as the performance standards to be met or exceeded.

Sub-Regional Visibility - Achieve an extinction coefficient of 50 Mm^{-1} at least 50 percent of the time as calculated from aerosol species concentrations measured at the South Lake Tahoe monitoring site (visual range of 78 km, 97 miles). Achieve an extinction coefficient of 125 Mm^{-1} at least 90 percent of time as calculated from aerosol species concentrations measured at the Bliss State Park monitoring site (visual range of 31 km, 19 miles). Calculations will be made on three year running periods using the existing 1991-1993 monitoring data as the performance standards to be met or exceeded

AAM: Annual Arithmetic Mean

µg/m^3: Micrograms per cubic meter

CAAQS: California Ambient Air Quality Standards

ppm: parts per million

ppb: parts per billion

Because TRPA's authority is granted directly from Congress, TRPA has the authority to adopt air quality and other environmental quality thresholds, and to enforce ordinances designed to achieve the thresholds. TRPA takes air quality into consideration in its planning and permitting activities to ensure compliance with state and AQMD air quality standards for projects in the Lake Tahoe Air Basin. TRPA has established a number of thresholds and policies regarding local air quality through its RPU (TRPA 2012), 2015 Thresholds Evaluation (TRPA 2016), and 2017 RTP (TRPA 2017). The RPU's goals and policies are designed to achieve and maintain adopted environmental threshold standards and are implemented through the TRPA Code. The RPU includes Policy AQ-1.7, "Promote the reduction of air quality impacts from construction and property maintenance activities in the region," but the TRPA's policies and thresholds are oriented more toward long-term development rather than short-term construction activities.

The Project would comply with the applicable AQMD and TRPA rules and regulations during construction to result in less-than-significant impacts to air quality. The Project would be consistent with the RPU because it does not require a change in the existing land use designation (e.g., a general plan amendment or rezone), nor would it result in emissions of reactive organic gases (ROG) and oxides of nitrogen (NO_x)

from the operations and maintenance of the improvements. The Project would be consistent with the RTP because the plan's goals and policies encourage walking and cycling as modes of transportation within the Lake Tahoe Air Basin.

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

Required Mitigation: **None.**

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

Standard of Significance. The AQMD has established methods for determining the significance of cumulative impacts (El Dorado County APCD 2002). A primary criterion for determining if a project has significant cumulative impacts is the project's consistency with an approved plan or mitigation program of district-wide or regional application in place for the pollutants emitted by the project. This criterion is applicable to both the construction and operation phases of a project.

ROG and NO_x. For projects in the Lake Tahoe Air Basin to be determined as not having a significant cumulative air quality impact, consistency with the applicable TRPA air quality plans and mitigation requirements must be shown, as set forth in the RPU for the Lake Tahoe Basin, the RTP, and TRPA Codes relating to air quality. As discussed under CEQA IIIa, the Project would be consistent with applicable regional and local plans. Thus, impacts from ROG and NO_x would not be cumulatively considerable and would be less than significant.

Other Pollutants. For other pollutants such as CO, PM_{10}, SO_2, nitrogen dioxide (NO_2), and toxic air contaminants (TACs), there is no applicable air quality plan. Accordingly, the AQMD applies the following pollutant-specific criteria for determining the significance of cumulative impacts:

- **CO**: The Lake Tahoe Air Basin is in attainment for CO, and local CO concentrations are expected to decline even further in the future as more stringent CO standards for motor vehicles take effect. The AQMD does not consider CO to be an area-wide or regional pollutant that is likely to have cumulative effects. Accordingly, CO emissions for a project will ordinarily be considered not cumulatively significant as long as "project alone" emissions are not significant, and they are not.
- **PM_{10}, SO_2, and NO_2**: The Lake Tahoe Air Basin is in non-attainment for the state 24-hour PM_{10} standard, which dictates the use of a relatively sensitive criterion for identifying cumulative effects on PM_{10} ambient concentrations. PM_{10} directly emitted from a project can have area-wide impacts and can be cumulatively significant even if not significant on a project-alone basis. The county is in attainment for the SO_2 and NO_2 ambient air quality standards, but SO_2 and NO_2 can also contribute to area-wide PM_{10} impacts through their transformation into sulfate and nitrate particulate aerosols. There is no approved regional plan for attainment of the PM_{10} standard, and there is no readily available model for predicting the combined ambient effects of directly emitted PM_{10}, SO_2, or NO_2 from individual projects. Accordingly, the AQMD applies alternative "de minimis" criteria, but these are relevant only to projects that are principally industrial or where most emissions are from stationary sources or that are principally development projects, or where the majority of the emissions of these pollutants is attributable to motor vehicle sources. Thus, these criteria are not applicable to the Project, which would only generate short-term construction emissions of PM_{10}, SO_2, and NO_2. With implementation of air quality emissions measures outlined in Section 1.10.2, short-term impacts on emissions would be minimized during construction and would not have a cumulatively considerable impact.
- **TACs**: Emissions of TACs are typically localized and not region-wide. Except in cases where there is information indicating the possible commingling of toxic pollutants from projects that are contiguous

or nearby, the AQMD considers implementation of the "project alone" mitigation requirements and compliance with the applicable emission limits and mitigation measures required by EPA, CARB, district rules and regulations, and local ordinances sufficient for a finding of not significant for cumulative impacts of TACs. The Project would comply with the applicable requirements, and the emission of TACs from this short-term construction Project would be less than significant. Project operations would not generate new vehicle trips or create new sources of long-term emissions.

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

Required Mitigation: **None.**

CEQA IIIc. Would the Project expose sensitive receptors to substantial pollutant concentrations?

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. A significant impact results from increases in CO that cause exceedance of NAAQS and California Ambient Air Quality Standards and diesel particulate matter (DPM) (note that there is no quantitative threshold for DPM).

Sensitive receptors are facilities including schools, parks, playgrounds, nursing homes, hospitals, and residential dwellings where the public could be adversely affected by continued exposure to air emissions. The Project area is adjacent to a number of sensitive receptors, including residential neighborhoods, open space, South Tahoe High School, and pedestrian access points. The nearest hospital is within 0.5 mile of the Project boundary.

The AQMD has determined that keeping total construction-phase fuel use under the limits shown in **Table 10** (refer to TRPA 2a) would result in no health risk from DPM (El Dorado County APCD 2002). Additionally, as discussed in Section 1.10.1, the required site-specific BMPs would be implemented to limit fugitive dust emissions, including TVAP Policy NCR-8.1 (City and TRPA 2015:71), which addresses short-term construction emissions, including measures to reduce construction-generated emissions to the extent feasible on a project-specific basis. Such measures include, but are not limited to, the following:

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

Thus, sensitive receptors would not be exposed to substantial pollutant concentrations. Once operational, the Project would not result in increased emissions and could result in reduced emissions by providing increased opportunities for walking and bicycling.

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

Required Mitigation: **None.**

CEQA IIId. Would the Project create objectionable odors affecting a substantial number of people?

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

Nuisance odors resulting from the following Project construction sources may be noticeable to some individuals for short periods of time: (1) combustive emissions from the use of diesel fuel in construction equipment and (2) hydrocarbon emissions from the use of asphalt during paving activities. Individuals most susceptible to Project odor emissions would include nearby residents, high school students and staff (although the Project is proposed to be completed during the school summer break and therefore would not impact students), and public passing through the Project area near US 50 and 89. However, the transitory nature of these emissions would not produce substantial odor impacts on the public. Therefore, emissions from Project construction would not create objectionable odors that would affect a substantial number of people and would produce less-than-significant air quality impacts. The Project, once complete, would not create objectionable odors.

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

Required Mitigation: **None.**

5.2 TRPA Checklist Analysis

TRPA 2a. Will the proposal result in substantial air pollutant emissions?

Standard of Significance. A significant long-term (e.g., operational) impact results if the Project causes violations of air quality standards listed in **Table 9** or contributes substantially to an existing or projected air quality violation. As identified by CARB, AQMD, and TRPA, a significant short-term (e.g., construction related) air quality impact results if construction-generated emissions of ROG, NO_X, particulate matter less than 10 microns in size (PM_{10}), or sulfur dioxide (SO_2) exceed mass emissions of 82 pounds per day (lbs/day), or construction-generated emissions of carbon monoxide (CO) exceed mass emissions of 550 lbs/day.

The Lake Tahoe Air Basin is in attainment or unclassified for NAAQS, although it is designated a non-attainment area for PM_{10} under the California Ambient Air Quality Standards and non-attainment-transitional for ozone. Construction activities would generate combustive emissions and fugitive dust. Pollutants such as ROG, NO_x, CO, SO_2, and PM_{10} would be emitted from the use of diesel and gasoline-powered equipment and vehicles during activities such as vegetation removal, excavation and grading, demolition, material hauling, and site restoration and from worker vehicles traveling to and from the site. Fugitive dust (PM_{10}) would result from soil disturbance and demolition.

The AQMD, which is the primary agency with air quality management authority over the Project, has produced a *Guide to Air Quality Assessment* (El Dorado County Air Pollution Control District [APCD] 2002) to be used in assessing air quality impacts for projects that are subject to CEQA. The guide identifies two alternative methods for determining the significance of combustive emissions: the first involves quantifying fuel use and comparing it to an AQMD threshold, and the second is based on the incorporation of mitigation measures into project design. This IS uses the first method. Fuel use and other air quality pollutants and emissions were calculated using CalEEMod, Version 2016.3.2. This air quality modeling was performed using Project-specific details in order to determine whether the Project would result in criteria air pollutant emissions in excess of the applicable thresholds of significance. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for various user types to quantify potential criteria pollutants and emissions. The model output contained in **Appendix H** of this IS is designed to estimate construction emissions for construction projects and post-construction operations and allows for input of project-specific information. Input parameters were based on default model settings and information detailed in the Project description (such as specified construction phases, duration of equipment use, and construction season) in Section 1.

If exhaust emissions are determined to be less than significant under either approach, then further calculations to determine construction equipment exhaust emissions is not required. For fugitive dust (PM_{10}) emissions, the screening approach is based on use of specific dust suppression measures that the AQMD has determined would prevent visible emissions beyond the boundaries of a project. If those measures are incorporated into the project design, then further calculations to determine PM_{10} emissions are not required.

The AQMD has established a significance threshold of 82 lbs/day for ROG and NO_x on a quarterly basis (total ROG plus NO_x emissions are to remain below 164 lbs/day). Diesel-powered equipment used during construction would include standard construction equipment related to demolition, site preparation, grading, architectural coating, and paving phases. Such equipment could include excavators, dozers, industrial saws, loaders, backhoes, graders, air compressors, water trucks, and paving equipment. Daily construction emissions for these and other pollutants were calculated using CalEEMod, Version 2016.3.2, based on approximately 6 months of construction (utilizing the entire Tahoe construction season of May 1 through October 15 as a conservative time frame for construction). Model outputs are included in **Appendix H** and use CARB and EPA fugitive dust algorithms.

As shown in **Table 10**, Project construction would result in maximum daily emissions of approximately 1.23 lbs/day of ROG, 8.23 lbs/day of NO_X, 5.32 lbs/day of CO, 1.94 lbs/day of total (dust and emission) PM_{10}, and 1.17 lbs/day of total (dust and emission) particulate matter less than 2.5 microns in diameter ($PM_{2.5}$). Thus, estimated emissions of ROG and NO_X are less than the AQMD construction significance thresholds. The AQMD has determined that if ROG and NO_x emissions are not deemed significant, then exhaust emissions of CO and PM_{10} from construction equipment and exhaust emissions from worker commute vehicles also would not be significant.

Table 10. Estimated Daily Construction Emissions for the Project (lbs/day)

	ROG	NO_x	CO	PM_{10}	$PM_{2.5}$
Project	1.23	8.23	5.32	1.94	1.17
AQMD Threshold	82	82	None	None	None
Significant?	No	No	No	No	No

Source: Cardno modeling using CalEEMod, Version 2016.3.2

As discussed in Section 1.10.1, the Project would incorporate the applicable fugitive dust control measures. A Fugitive Dust Control Plan would be prepared that would incorporate the relevant BMPs established in AQMD Rules 223 and 223-1, including the measures shown in Appendix C-1 of the AQMD's Tables 1-3 of Rule 223-1, as appropriate. Potential impacts from fugitive dust would be reduced to a level of less than significant.

As detailed above, the Project would not violate the construction-generated emissions standards for ROG, NO_X, PM_{10}, SO_2, or CO. The Project would not generate new vehicle trips and therefore would not result in increased air emissions during operations. Through implementation of new bicycle trail and pedestrian pathways and improved connectivity, bike and pedestrian transportation are expected to increase, which would benefit overall air quality in the region. In summary, the Project's long-term impacts may result in a reduction of vehicle emissions by enhancing opportunities for bicycling and walking.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 2b. Will the proposal result in deterioration of ambient air quality?

Standard of Significance. Refer to the analysis for TRPA 2a, which concludes that the level of potential impact to air quality would be less than significant.

As discussed in the analysis for TRPA 2a, the Project would only generate air pollutant emissions during 6 months of construction, and based on the CalEEMod output for this Project (**Appendix H**) these emissions would be well under the established AQMD thresholds. Thus, it would not lead to a deterioration of ambient air quality. Once operational, the Project would not result in increased emissions and could result in reduced emissions by providing increased opportunities for walking and bicycling.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 2c. Will the proposal result in the creation of objectionable odors?

Standard of Significance. Refer to the analysis for CEQA IIIe, which concludes that the level of potential impact from nuisance odors would be less than significant.

As discussed in CEQA IIIe, the transitory nature of Project construction emissions would not produce substantial odor impacts on the public. Therefore, emissions from Project construction would not create objectionable odors that would affect a substantial number of people and would produce less-than-significant air quality impacts. The Project, once complete, would not create objectionable odors.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 2d. Will the proposal result in the alteration of air movement, moisture or temperature, or any change in climate, either locally or regionally?

Standard of Significance. A significant impact occurs if the Project carbon dioxide (CO_2) or methane (CH_4) emissions, the current primary indicators of climate change for California, exceed 500 tons/year and/or the concentration of resultant tree removal changes habitat categorization.

GHG emissions associated with Project construction and operations were modeled with CalEEMod, as detailed in **Appendix H**. Construction equipment, haul trucks, and worker vehicles generate GHGs. Model results estimate maximum annual GHG emissions of approximately 164 metric tons of CO_2 equivalent (CO_2e) emitted during the conservative estimate of 6 total months of construction.

As recommended by the El Dorado County AQMD for long-term operations, the threshold of 1,100 metric tons per year CO_2e from sources other than permitted stationary sources (Sacramento Metropolitan Air Quality Management District [SMAQMD] 2016) was applied to this Project. As shown in **Appendix H**, GHG emissions generated by on-road mobile sources associated with worker vehicle trips, construction equipment trips, and water truck vehicle trips equate to approximately 163 metric tons of CO_2 total over the 6 months of construction. Project operations would not exceed the applied GHG threshold and would be less than significant.

The Project includes no activities or facilities that generate heat or moisture.

Refer to the analysis for CEQA IVa, which addresses tree removal as an effect to habitat alterations and concludes that tree removal within the Project area creates no impact to habitat categorization. The removal

of select trees along Lake Tahoe Boulevard does not create reductions in forest canopy sufficient to increase local solar gain, raise temperatures, or create microclimate changes.

The Project features would not alter air movement, moisture, or temperature, nor create any change in climate (also refer to Section 10 for additional detailed analysis related to potential changes in climate).

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 2e. Will the proposal result in increased use of diesel fuel?

Standard of Significance. The increased use of diesel fuel that results in objectionable odors results in a significant impact to sensitive receptors within and downwind of the project area. Refer to the analysis for CEQA IIIe, which concludes that the level of potential impact would be less than significant.

TRPA 2e is not applicable to the Project during the operational phase because of the subsequent Project-related reduction in fuel use upon implementation. The Project would not result in a permanent increased use of diesel fuel. Temporary use of diesel would be required during construction for equipment and vehicle fuel use, but the use would be minimal, lasting only over a 6-month period of construction.

Environmental Analysis: **No; Less than Significant Impact**.

Required Mitigation: **None.**

6.0 BIOLOGICAL RESOURCES (SEZs, WETLANDS, WILDLIFE, & VEGETATION)

This section evaluates the Project's potential impacts on biological resources during construction and operations. **Table 11** identifies the level of significance of the impacts based on the CEQA Guidelines Appendix G: Environmental Checklist Form and the TRPA Initial Environmental Checklist Form and indicates whether additional mitigation measures would be required to avoid, reduce, minimize, or otherwise mitigate potential impacts to a level of less than significant.

Table 11. Biological Resources Impacts

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
CEQA Environmental Checklist Item				
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)	☐	☐	☒	☐
Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? (CEQA IVb)	☐	☐	☒	☐
Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means? (CEQA IVc)	☐	☐	☐	☒
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)	☐	☐	☒	☐
Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? (CEQA IVe)	☐	☐	☐	☒
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)	☐	☐	☐	☒

Will the Proposal:	Yes	No, With Mitigation	Data Insufficient	No
TRPA Initial Environmental Checklist Item - Vegetation				
Removal of native vegetation in excess of the area utilized for the actual development permitted by the land capability/IPES system? (TRPA 4a)	☐	☐	☐	☒
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)	☐	☐	☐	☒
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)	☐	☐	☐	☒
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)	☐	☐	☐	☒
Reduction of the numbers of any unique, rare or endangered species of plants? (TRPA 4e)	☐	☐	☐	☒
Removal of streambank and/or backshore vegetation, including woody vegetation such as willows? (TRPA 4f)	☐	☐	☐	☒
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)	☐	☐	☐	☒
A change in the natural functioning of an old growth ecosystem? (TRPA 4h)	☐	☐	☐	☒
TRPA Initial Environmental Checklist Item - Wildlife	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
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)	☐	☐	☐	☒
Reduction of the number of any unique, rare or endangered species of animals? (TRPA 5b)	☐	☐	☐	☒
Introduction of new species of animals into an area, or result in a barrier to the migration or movement of animals? (TRPA 5c)	☐	☐	☐	☒
Deterioration of existing fish or wildlife habitat quantity or quality? (TRPA 5d)	☐	☐	☐	☒

6.1 CEQA Checklist Analysis

CEQA IVa. 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?

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 designated critical habitat constitutes a significant impact as defined by CEQA Article 5, Section 15065; California Endangered Species Act (CESA) Sections 2062 and 2067; California Department of Fish and Game (CDFG) Code Sections 1900-1913; and TRPA Thresholds.

Special-status wildlife and fish species are species that have been afforded special recognition and protection by federal, state, or local resource conservation agencies and organizations. These species are generally considered rare, threatened, or endangered due to declining or limited populations. Special-status species include:

- Animals that are legally protected or proposed for protection under the CESA or Federal Endangered Species Act (FESA);
- Animals defined as endangered or rare under CEQA;
- Animals designated as species of special concern by the CDFW;
- Animals designated as species of concern by the USFWS;
- Animals listed as "fully protected" in the Fish and Game Code of California (Sections 3511, 4700, 5050, and 5515);
- Animals designated as special interest species by the TRPA;
- Plants that are legally protected or proposed for protection under the CESA or FESA;
- Plants defined as endangered or rare under CEQA;
- Plants designated as species of concern by the USFWS;
- Plants listed in the California Native Plant Society's (CNPS's) Inventory of Rare and Endangered Plants of California (2001); and
- Plants designated as special interest species by the TRPA.

6.1.1 Candidate, Sensitive, or Special-Status Species

Information on the potential presence of candidate, sensitive, or special-status species or their habitat in the vicinity of the Project area was obtained through a number of sources, including the USFWS, CDFW, and a biological survey of the Project area. **Appendix I** contains the biological resource data from CDFW and USFWS.

A request for a species list from the USFWS's Information for Planning and Conservation (IPaC) database for this Project was generated on December 4, 2018. The IPaC report provides a list of federal special-status species that may be present within El Dorado County and the Project area, as summarized in **Table 12**. A copy of the official species list is included in **Appendix I**.

A query was conducted of CDFW's California Natural Diversity Database (CNDDB) using RareFind 5.2.14 on December 5, 2018, for California state-listed endangered, threatened, rare, candidate endangered, or

candidate threatened species within El Dorado County and the Project area. The CNDDB is an inventory of the status and locations of rare plants and animals in California, as managed and updated by CDFW. Due to the habitat and elevation range of the Project, species that are limited to the low-elevation, western portion of El Dorado County are not discussed further here, although a full list of the query results is included in **Appendix I**. Habitat requirements of CNDBB botanical species are discussed in more detail in **Appendix B**. Relevant species are included in **Table 12**.

TRPA special interest species and sensitive plants are also included in **Table 12**, and discussed further in Sections 6.2 and 6.3. Species in **Table 12** that potentially occur or have suitable habitat within or near the Project area are discussed and summarized in more detail below.

In addition, Western Botanical Services (WBS) surveyed the project area on June 4, 2018 for special-status plants, habitat composition, noxious and invasive weeds, and jurisdictional wetlands and waters of the U.S. (**Appendix B**). A jurisdictional drainage channel, seeps, and associated wetland vegetation (as depicted on **Figure 5**) occurred on the west side of Lake Tahoe Boulevard between Julie Lane and just south of Vikings Way. No improvements have been proposed for these areas. No special-status plant species are known to occur within the Project area, nor is there potential habitat. No special-status plant species were observed during the survey. No noxious species, as defined by El Dorado County Department of Agriculture (El Dorado County 2018) and the Lake Tahoe Basin Weed Coordinating Group (2018), were identified during the surveys. Only cheatgrass, a non-native annual grass, was noted in several locations during the surveys, although these populations are not significant. Cheatgrass occurs throughout the Lake Tahoe Basin and is considered invasive but is not currently regulated in California.

6.1.1.1 *Northern Goshawk (Accipter gentilis)*

Status: TRPA Special-Interest Species

Habitat Requirements and Species Occurrence. Northern goshawks require mature conifer and deciduous forests with large trees, snags, downed logs, dense canopy cover, and open understories for nesting. Goshawk foraging habitat includes forests with dense to moderately open overstories and open understories interspersed with meadows, brush patches, riparian areas, or other natural and artificial openings. Structural characteristics of nesting habitat may vary across geographic regions; typically, nest sites have greater canopy cover, greater basal area, greater number of large-diameter trees, low shrub/saplings/understory cover and numbers of small-diameter trees, and gentle to moderate slope relative to non-used random sites (Hall 1984; Hargis et al. 1994; Keane 1999). Goshawk habitat in the Lake Tahoe Basin is typically limited to areas of low or no development, with limited human disturbance. The Project area is a developed area, although adjacent to the open space area of Gardner and Tahoe Mountain. It is unlikely that goshawks utilize conifer trees within the Project area for nesting, and nearby suitable habitat is likely too close to existing development to be considered preferable nest sites. Goshawk PACs and Threshold Zones within the Lake Tahoe Basin are designated by LTBMU. The Project area is 0.4 mile of the Tahoe Valley and Sawmill Pond goshawk Threshold Zones, and is 1.4 miles from the Tahoe Mountain goshawk PAC and Threshold Zone.

Direct, Indirect, and Cumulative Effects. Direct effects of the Project to northern goshawks may include short-term reduction in habitat quality and quantity during Project construction, due to disturbance along the Project area. Removal of conifer trees within the Project site is not expected to have an effect on goshawk, as the proximity to development would exclude these trees as suitable nest sites. The Project does not alter the existing level of development within the Project area. Pre-construction nesting surveys would be conducted prior to site disturbance. Biological RPMs incorporated into the Project description would minimize and avoid potential impacts to northern goshawks. Any disturbance effects are expected to be minor and temporary, and northern goshawks are not expected to utilize the Project area or surrounding suitable habitat, as preferred suitable habitat is located farther from human disturbance; therefore, no indirect or cumulative effects are expected.

Determination and Rationale. The Project would have a less-than-significant impact on northern goshawk due to localized and temporary disturbance impacts on nearby suitable habitat combined with low probability of nesting occurrence and habitat utilization within or near the Project area and implementation of biological RPMs and the initiation of limited operation period (LOP) should individual nesting sites be observed during pre-construction surveys.

6.1.1.2 *Willow Flycatcher (Empidonax traillii)*

Status: CA State Endangered Species, CNDDB Ranked Species

Habitat Requirements. Willow flycatchers are habitat specific, utilizing wet meadows or, in some cases, riparian streams, with well-developed willow or other deciduous shrub elements. Willow flycatchers typically occupy meadows with structurally diverse willow cover (Bombay et al. 2003). The presence of water during the breeding season (May to September) appears to be an important habitat component (Fowler et al. 1991). Fowler et al. (1991) proposed 0.62 acre as the minimum size meadow usable by willow flycatchers. Willow flycatchers have also been found in riparian habitat of various types and sizes, ranging from small lakes or ponds surrounded by willows with a fringe of meadow or grassland, to willow-lined streams, grasslands, or boggy area. The nearest LTBMU-mapped willow flycatcher habitat is located 1.4 miles from the Project area, along the Upper Truckee near the Lake Tahoe Airport. A natural drainage channel, seeps, and associated wetland vegetation (as depicted on **Figure 5**) are present on the west side of Lake Tahoe Boulevard, between Julie Lane, and just south of Vikings Way. This area could support willow flycatcher, although is smaller than the suggested preferred meadow/riparian habitat size, and is in close proximity to development. No improvements have been proposed for these areas. Lemmon's willow was observed during the Project area surveys, although in discrete, disconnected patches. Individual willows along developed corridors are unlikely to be suitable willow flycatcher nests. Pre-construction nesting surveys would be conducted prior to site disturbance.

Direct, Indirect, and Cumulative Effects. Direct effects of the Project to individual willow flycatchers may include short-term reduction in nearby habitat quality during Project construction, due to localized nearby disturbance and presence of construction equipment. Pre-construction nesting surveys would be conducted prior to site disturbance. Biological RPMs incorporated into the Project description would minimize and avoid potential impacts to willow flycatcher. Disturbance effects are expected to be minor and temporary, and would not directly impact suitable habitat; therefore, no indirect or cumulative effects are expected.

Determination. The Project would have a less-than-significant impact on willow flycatcher due to localized and temporary disturbance impacts on nearby suitable habitat, combined with implementation of biological RPMs and the initiation of LOP should individual nesting sites be observed during pre-construction surveys.

6.1.1.3 *Bald Eagle (Haliaeetus leucocephalus)*

Status: CA State Endangered Species; TRPA Special-Interest Species: nesting and wintering habitat

Habitat Requirements. Bald eagle habitat includes coniferous and/or conifer/hardwood forest, near large bodies of water where they can typically find fish, their staple food. Bald eagles typical nest on the tops of large trees of snags (Buehler 2000). The nearest known bald eagle winter habitat is 1.25 miles from the Project site along the Upper Truckee Marsh and inlet to Lake Tahoe. No bald eagle mapped nest buffer areas are located within the vicinity of the Project area.

Direct, Indirect, and Cumulative Effects and Determination Rationale. Direct effects of the Project to bald eagles may include short-term reduction in habitat quality and quantity during Project construction, due to disturbance along the Project area and removal of conifer trees within the Project area. However, it is unlikely that bald eagles use conifers within the Project area due to proximity of development. Additionally, adequate nesting and perching sites are available in the nearby open space areas. The Project would not

impact the nearby bald eagle wintering habitat. Pre-construction nesting surveys would be conducted prior to site disturbance. Biological RPMs incorporated into the Project description would minimize and avoid potential impacts to bald eagle. Disturbance effects are expected to be minor and temporary, and conifer removal would not impact nearby conifer habitat; therefore, no indirect or cumulative effects are expected.

Determination. The Project would have a less-than-significant impact on bald eagle due to localized and temporary impacts on suitable habitat, and surrounding suitable habitat, and implementation of biological RPMs and the initiation of LOP should individual nesting sites be observed during pre-construction surveys.

6.1.1.4 *North American Porcupine (Erethizon dorsatum)*

Status: CNDDB Ranked Species

Habitat Requirements and Species Occurrence. The North American porcupine has a wide range and habitat requirements, including coniferous, deciduous, and mixed species forest in most of Canada, the western United States, south into parts of Mexico, and north-eastern parts of the United States. Porcupine utilize caves, decaying logs, and hollow trees for dens and shelter.

Direct, Indirect, and Cumulative Effects. Direct effects of the Project to North American porcupines may include short-term reduction in habitat quality and quantity during Project construction, due to disturbance along the Project area. Removal of conifer trees within the Project site is not expected to have an effect on porcupine, as removal is limited and other nearby conifers would likely provide adequate habitat. The Project does not alter the existing level of development within the Project area. Any disturbance effects are expected to be minor and temporary, therefore, no indirect or cumulative effects are expected.

Determination and Rationale. The Project would have a less-than-significant impact on North American porcupine due to localized and temporary disturbance impacts on nearby suitable habitat, and availability of nearby suitable habitat.

6.1.1.5 *Deer*

Status: TRPA Special-Interest Species

Habitat Requirements. The mule deer population in the Lake Tahoe Basin is not monitored; therefore, it is not known if there are mule deer within the Project area. There are two herds that reside in the Lake Tahoe Basin: the Truckee-Loyalton herd in the northern portion and the Carson herd in the southern portion. In this region, young are born in June and July and remain dependent on the mother for approximately 8 to 10 months. According to the LTBMU mule deer habitat model (2004) there is 32,266.5 acres of high-quality fawning habitat in the basin and no suitable fawning habitat in the Project area. The nearest suitable fawning habitat is located 0.15 mile west of the Project area, in the open space conifer forest near Gardner and Tahoe Mountain.

Direct, Indirect, and Cumulative Effects and Determination Rationale. Direct and indirect effects of the Project to deer may include short-term reduction in habitat quality during Project construction, due to disturbance along the Project area. Disturbance effects are expected to be minor and temporary. The Project area is not considered suitable habitat due to the existing level of development, and the Project does not alter the existing level of development; therefore, no cumulative effects are expected.

Determination. The Project would have a less-than-significant impact on deer due to localized and temporary disturbance impacts on nearby suitable habitat.

Table 12. USFWS FESA-listed Species, CDFW CESA Species, and TRPA Special-Interest Species Occurring in El Dorado County, Habitat Characteristics, and Potential to Occur in the Project Area

Species	Status	Habitat Characteristics	Potential to Occur, or Have Suitable Habitat, Within or Near the Project Area
Terrestrial and Aquatic Species			
Amphibians and Fish			
Lahontan cutthroat trout *Oncorhynchus clarkii henshawi*	USFWS ESA Federally Threatened	Lakes and streams of the Lahontan Basin.	No suitable habitat within or near the Project area.
Sierra Nevada yellow-legged Frog *Rana sierrae*	USFWS ESA Federally Endangered; CA State Threatened	Ponds, tarns, lakes, and streams at moderate to high elevation.	No suitable habitat within or near the Project area.
Birds			
Northern goshawk *Accipiter gentiles*	TRPA Special-Status Species	Mature coniferous forests with open understory and dense canopy for roosting and nesting. Mature coniferous forest interspersed with open meadows for feeding.	Suitable habitat nearby.
Golden eagle *Aquila chrysaetos*	TRPA Special-Status Species	Exposed cliffs within or in proximity of Project area.	No suitable habitat in or near the Project area.
Willow flycatcher *Empidonax traillii*	CA State Endangered Species	Nests in extensive montane willow thickets, 2,000-8,000 feet in elevation.	Suitable habitat nearby.
Peregrine falcon *Flaco peregrinus anatum*	TRPA Special-Status Species	Exposed cliffs within or in proximity of Project area.	No suitable habitat in or near the Project area.
Bald eagle *Haliaeetus leucocephalus*	CA State Endangered Species; TRPA Special-Interest Species: nesting and wintering habitat	Coniferous and conifer/hardwood forests near large bodies of water.	Suitable habitat nearby.
Osprey *Pandion haliaeetus*	TRPA Special-Interest Species	Near bodies of water. Suitable nest sites include poles, channel markers, and snags, often over open water.	No suitable habitat in or near the Project area.
Great gray owl *Strix nebulosi*	CA State Endangered Species	Mature forests with suitable nest sites. Low human disturbance.	No suitable habitat in or near the Project area; the Lake Tahoe Basin is outside of the current known range.
Waterfowl	TRPA Special-Status Species	Near bodies of water.	No suitable habitat in or near the Project area.
Mammals			
Deer	TRPA Special-Status Species	Forests and meadows.	Suitable habitat near the Project area.

Table 12. USFWS FESA-listed Species, CDFW CESA Species, and TRPA Special-Interest Species Occurring in El Dorado County, Habitat Characteristics, and Potential to Occur in the Project Area

North American wolverine *Gulo luscus*	USFWS ESA Federally Proposed Threatened; CA State Threatened Species	Montane conifer, subalpine conifer, alpine dwarf-shrub, wet meadow, and montane riparian habitats. Prefers areas with low human disturbance.	No suitable habitat in or near the Project area.
Fisher – West Coast DSP *Pekania pennanti*	CA State Threatened Species	Mature conifer forests.	No suitable habitat in or near the Project area; the Lake Tahoe Basin is outside of the current known range.
Sierra Nevada red fox *Vulpes necator*	CA State Threatened Species	Conifer forests and alpine areas between 4,000-12,000 feet.	No suitable habitat in or near the Project area; the Lake Tahoe Basin is outside of the current known range.
Botanical Species			
Tahoe yellow cress *Rorippa subumbellata*	CA State Endangered Species; TRPA Sensitive Plant	Endemic to the shore zone of Lake Tahoe, typically in back beach areas between 6,223 and 6,230 feet.	No suitable habitat in the Project area.
Tahoe Draba *Draba asterophora* var. *asterophora*	TRPA Sensitive Plant	Rock crevices and open granite talus slopes on northeast slopes; 8,000-10,200 feet.	No suitable habitat in the Project area.
Long-petaled lewisia *Lewisia longipetala*	TRPA Sensitive Plant	North-facing slopes and ridge tops where snow banks persist throughout the summer; often found near snow bank margins in wet soils; 8,000-12,500 feet.	No suitable habitat in the Project area.
Cup Lake draba *Draba asterophora* var. *macrocarpa*	TRPA Sensitive Plant	Steep, gravelly, or rocky slopes; 8,400-9,300 feet.	No suitable habitat in the Project area.
Galena Creek rockcress *Boechera rigidissima*	TRPA Sensitive Plant	Open, rocky areas along forest edges of conifer and/or aspen stands; usually found on north aspects; 7,500 feet and above.	No suitable habitat in the Project area.

Source: USFWS, CDFW, CNDDB, and TRPA

6.1.2 Avian Species

Select conifer trees would be removed when operable soil conditions exist, which is typically between May to October, and thus would overlap with bird nesting season, affecting nesting birds through loss of nesting habitat. Noise and human presence associated with construction-related activities would have the potential to directly and indirectly affect any adjacent nests present through nest failure or abandonment. Such birds are protected under the MBTA, and those species associated with the Project area habitat, as identified by USFWS, and discussed in more detail above, include the following (**Appendix I**):

- Bald eagle (*Haliaeetus leucocephalus)* – Breeds January 1 to August 31
- California spotted owl (*Strix occidentalis occidentalis*) – Breeds March 10 to June 15

- Cassin's finch (*Carpodacus cassinii*) – Breeds May 15 to July 15
- Golden eagle (*Aquila chrysaetos*) – Breeds December 1 to August 31
- Lewis's woodpecker (*Melanerpes lewis*) – Breeds April 20 to September 30
- Olive-sided flycatcher (*Contopus cooperi*) – Breeds May 20 to August 31
- Rufous hummingbird (*selasphorus rufus*) – Breeds elsewhere
- Williamson's sapsucker *(Sphyrapicus thyroideus*) – Breeds May 1 to July 31
- Willow flycatcher (*Empidonax traillii*) – Breeds May 20 to August 31

Conifer tree removal would be necessary in the locations listed in **Table 13** (four conifer trees), which could further affect nesting birds through removal of individual nesting trees. Potential impacts to nesting birds would be avoided through implementation of pre-construction nest surveys and the implementation of biological RPMs that are detailed in Section 1.10.3 of the Project description. Additionally, the trees slated for removal are located in a heavily used area, near both commercial and highway use; the presence of migratory birds is low; and the habitat area has low suitability potential. The removal of individual trees would not be in numbers significant enough to result in conversion or loss of wildlife habitat.

Table 13. Tree Removal Estimates

Project Feature	Approx. Removal (#)	Diameter at Breast Height (inches at dbh)	Species
APN 23-430-32: Removal of tree within the right-of-way, as depicted on the plan sheets, to construct shared-use path. Tree slated for removal is located in the vicinity of the South Y Transit Center.	1	10-18	Pine
APN 23-411-24: Removal of trees within the right-of-way, as depicted on the plan sheets, to construct shared-use path. All trees slated for removal are located in the vicinity of the South Y Transit Center.	2	10-18	Pine
APN 23-411-25: Removal of tree within the right-of-way, as depicted on the plan sheets, to construct shared-use path. Tree slated for removal is located adjacent to the South Y Transit Center.	1	10-18	Pine

Source: Appendix A

Although the agency species lists do not show willow flycatcher habitat or occurrences within the Project area (due to lack of riparian habitat present), the presence and subsequent removal or trimming of individual willows could potentially affect the protected species. The willow flycatcher is a U.S. Department of Agriculture Forest Service (Forest Service) "sensitive" species, USFWS "species of concern," and State of California "endangered" species. Direct or indirect impacts to willow flycatcher would be significant due to its listing status. The Project would implement measures associated with impacts to special-status species, such as willow flycatcher, including pre-construction surveys, notification of observed special-status species, and tree removal requirements, as detailed in Section 1.10.3.

Project impact would be less than significant, as the Project is required to comply with local, state, and federal laws such that the Project would not result in the loss of greater than zero endangered, threatened, or rare fish or wildlife individuals or disturbance of greater than zero acres of occupied or designated critical habitat. The Project would avoid potentially significant impacts to special-status species due to lack of suitable habitat and through implementation of biological compliance measures detailed in Section 1.10.3.

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

Required Mitigation: **None.**

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

Standard of Significance. A direct or indirect impact greater than zero acres for state or federal sensitive natural communities, or direct or indirect impact greater than zero acres to SEZ including riparian habitat constitutes a significant impact.

Sensitive Natural Communities. The Project impacts no listed sensitive natural communities because the Project area contains no such communities. Database searches covering the Project area include the CDFW's CNDDB (**Appendix I**, dated December 5, 2018) and USFWS's IPaC database (**Appendix I**, dated December 4, 2018) for El Dorado County.

The USFWS identifies no critical habitat within the Project area. TRPA designates uncommon plant communities in TRPA Code Subsection 61.3.6.C, which are as follows: the deepwater plants of Lake Tahoe, Grass Lake (sphagnum fen), Osgood Swamp, Hell Hole (sphagnum fen), Pope Marsh, Taylor Creek Marsh, Upper Truckee Marsh, and the Freel Peak cushion plant community. These communities lie outside of and distant from the Project area.

Stream Environmental Zones. As discussed in Section 2.5 and depicted in **Figure 4**, the Project area contains areas mapped as LCD 1b or SEZ, which is a term unique to the Lake Tahoe region. TRPA Code Chapter 90, Definitions, defines an SEZ as "Generally an area that owes its biological and physical characteristics to the presence of surface or ground water." SEZs provide a variety of environmental services, including water quality maintenance, flood attenuation, infiltration and groundwater recharge, wildlife habitat, and scenic and recreation enjoyment, among others. SEZs are recognized by TRPA's LCD system as Class 1b. LCDs 1a, 1b, 1c, and 2 are not generally suited for urbanization or intensive forestry use, but can be considered for open space, conservation areas, and low-intensity recreation (City and TRPA 2015).

Land coverage and land capability was mapped and verified by TRPA as part of the TVAP planning process. Based on available LCD boundary files, LCD 1b, LCD 5, and LCD 7 constitute the Project area. **Figure 4** illustrates the LCDs mapped within the Project area. Much of the Project area falls within TRPA's mapped impervious area, and thus a land capability verification application has been submitted to TRPA for consideration to reclassify the LCD 1b areas within the City ROW to LCD 7, which identifies "man-modified" lands that are appropriate for redevelopment.

Project improvements would be installed within the City ROW, which contains existing development. The disturbance necessary for Project implementation is in accordance with the requirements outlined for each LCD for restoration of temporary disturbance, as detailed in the analysis for TRPA 1a. The Project would also comply with the grading and construction standards of TRPA Code Chapter 33, Grading and Construction, which protects the environment against significant adverse effects from excavation, clearing, and filling, and outlines requirements for protection of vegetation during construction. Vegetation located outside the construction site boundary, as well as other vegetation designated on the approved plans, would

be protected by installing temporary fencing, pursuant to TRPA Code Section 33.6.9, Standards for Soil and Vegetation Protection, and Section 33.6.10, Standards for Retained Tree Protection.

Implementation of the Project improvements would occur within an existing developed City ROW and would result in less-than-significant impacts to riparian habitat or other sensitive natural community.

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

Required Mitigation: **None.**

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

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 Clean Water Act through direct removal, filling, hydrologic interruption, or other means constitutes a significant impact as defined by the U.S. Army Corps of Engineers jurisdictional waters regulations, 404 CFR 230 Section 404(b)(1), CDFG Section 1600 et seq., and EPA and State of California no net loss policies.

The Project includes no actions that would result in direct removal, filling, or hydrological interruption of federally protected wetlands. As shown on **Figure 5**, there are no National Wetlands Inventory designated wetlands within the Project area. The Project area was surveyed on June 4, 2018, by WBS, and no wetlands or other potential jurisdictional features were identified in the Project area. As the Project involves installation improvements within a City ROW that contains existing and/or previous disturbance, there would be no impact to wetlands or waters of the U.S. in the form of filling, removal or hydrologic interruption, or other means.

Figure 5. Potential Jurisdictional Waters of the U.S in the Vicinity of the Project Area.

Environmental Analysis: **No Impact.**

Required Mitigation: **None.**

CEQA IVd. 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?

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.

The Project would not result in the interference with the movement of any wildlife species or migratory fish species, as no structures would be installed aboveground or within waterways. As discussed in the analysis for CEQA IVa, removal of conifer species would have the potential to impact avian species, including migratory birds, although impacts would be limited due to the City ROW, the existing use of which most likely excludes these conifers as suitable nesting sites. There were no other migratory wildlife corridors identified within the Project area.

Construction is expected to take place from May to August and thus would occur during the bird nesting season. Noise and human presence associated with construction-related activities would have the potential to directly and indirectly affect any adjacent nests present through nest failure or abandonment. Tree removal also would be necessary, which further would affect nesting birds through loss of habitat. Although these impacts could be significant because these birds are protected under the MBTA, the Project would

avoid effects to species protected under the MBTA through implementation of biological RPMs that are detailed in Section 1.10.3 of the Project description, and as discussed above in the analysis for CEQA IVa.

No wildlife nursery sites would be impeded. If special-status wildlife species with agency-mandated PACs and LOP are found breeding in the Project area, an appropriately trained biologist would implement appropriate LOP around the PAC. Nests of species covered by the MBTA would be protected in place via a 100-foot construction buffer until the young fledge. As a result the Project's potential impact to MBTA species and willow flycatcher nursery sites would be reduced to a level of less than significant.

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

Required Mitigation: **None**.

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

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

The Project would not conflict with provisions of any Habitat or Natural Community Conservation Plan, as none exist for the Project area. A Conservation Strategy for Tahoe yellow cress (CNPS 1.B and TRPA Sensitive) has been adopted and applies to the backshore areas of Lake Tahoe. Habitat for Tahoe yellow cress does not exist within the Project area, and therefore, no conflict with the Conservation Strategy would occur.

Environmental Analysis: **No Impact.**

Required Mitigation: **None.**

CEQA IVf. 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?

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.

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. A Conservation Strategy for Tahoe yellow cress has been adopted and applies to the backshore areas of Lake Tahoe. Habitat for Tahoe yellow cress does not exist within the Project area, and therefore, no conflict with the Conservation Strategy would occur.

Environmental Analysis: **No Impact.**

Required Mitigation: **None**.

6.2 TRPA Checklist Analysis – Vegetation

TRPA 4a. Will the proposal result in the removal of native vegetation in excess of the area utilized for the actual development permitted by the land capability/IPES system?

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 LCD system results in a significant impact as defined by TRPA Code Chapters 30 and 33. TRPA-verified LCDs reflect the amount of development a site can support without experiencing soil or water quality degradation (**Appendix D**). LCDs range from 1 to 7, with LCD 1a, 1b, and 1c being the most environmentally sensitive and LCD 7 being the most suitable for supporting development.

Land coverage and land capability was mapped and verified by TRPA as part of the TVAP planning process. Based on the LCD boundaries that were verified for the TVAP, LCDs 1b, 5, and 7 constitute the Project area. **Figure 4** illustrates the LCDs mapped within the Project area. Refer to the analysis for TRPA 1a, which analyzes land coverage by LCD.

The Project would result in relocated land coverage associated with the physical roadway and shared-use trail surfaces, short section of pedestrian sidewalk, and ADA ramps. Temporary land disturbance associated with adjacent clear zones that infiltrate runoff and cut and fill slopes necessary to control trail grades for compliance with American Association of State Highway and Transportation Officials (AASHTO) and ADA design standards. Stormwater facilities would result in temporary disturbance during construction but no permanent land coverage or disturbance during operations.

Project improvements would be installed within the City ROW that contains existing development. Project construction would remove native vegetation during soil disturbance activities; however, the Project would comply with TRPA regulations for restoration and revegetation of disturbance areas. The Project proposal minimizes the extent of disturbance through trail location by utilizing existing slopes and grades and would include reestablishment of native vegetation. The disturbance necessary for Project implementation is in accordance with the requirements outlined for each LCD for restoration of temporary disturbance, as detailed in the analysis for TRPA 1a. The Project would also comply with the grading and construction standards of TRPA Code Chapter 33, Grading and Construction, which protects the environment against significant adverse effects from excavation, clearing, and filling, and outlines requirements for protection of vegetation during construction. Vegetation located outside the construction site boundary, as well as other vegetation designated on the approved plans, would be protected by installing temporary fencing, pursuant to TRPA Code Section 33.6.9, Standards for Soil and Vegetation Protection, and Section 33.6.10, Standards for Retained Tree Protection.

The Project proposal limits vegetation removal to the area utilized only for construction and operation to reduce potential impacts to a level of less than significant.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None**.

TRPA 4b. Will the proposal result in the removal of riparian vegetation or other vegetation associated with critical wildlife habitat, either through direct removal or indirect lowering of the groundwater table?

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

The Project area has been previously disturbed and is located within a City ROW. Areas disturbed during construction would be stabilized and revegetated. Installation of Project improvements would require excavations of 5 feet or less and would not result in a permanent lowering of the groundwater table. Project implementation would not result in the removal of riparian vegetation associated with critical wildlife habitat. No impacts to these resources would occur because such resources do not occur in the Project area.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None**.

TRPA 4c. Will the proposal result in the introduction of new vegetation that will require excessive fertilizer or water, or will provide a barrier to the normal replenishment of existing species?

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.

Refer to the analysis for CEQA IVb, which concludes that the level of potential impact related to riparian habitat and sensitive natural communities would be less than significant.

The Project would revegetate disturbed areas with native species. An appropriate high-elevation native species mix would be used for revegetation activities and would not require fertilizer or excessive water to establish. Native species typically require less water than non-native species. The Project would implement the Noxious Species Control Plan that is detailed in Section 1.10.3. The Project would comply with the City-wide design standards for landscaping (City Code Section 6.10.150, Landscaping) and the landscaping standards of the TVAP for the use of landscaping species listed in the TRPA-recommended and approved *Native and Adapted Plants for the Tahoe Basin*, with the exception of accent plantings. The Project would comply with the TRPA Code provisions for revegetation (Section 61.4, Revegetation).

Project compliance with the TRPA Code and City-wide design standards for revegetation would reduce potential impacts to vegetation to a level of less than significant.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None**.

TRPA 4d. Will the proposal result in the 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)?

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.

Refer to the analysis for TRPA 4a, which concludes that the level of potential impact related to the removal of native vegetation would be less than significant.

Through Project compliance with the TRPA Code provisions for revegetation and tree removal (Section 61.4, Revegetation; Section 61.1.5, General Tree Removal Standards; Section 61.1.6, Minimum Standards for Tree Removal; and Section 33.6, Vegetation Protection During Construction), the Project would avoid the potential to change the diversity, distribution, or number of any species of plants and the level of impact would be reduced to a level of less than significant.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None**.

TRPA 4e. Will the proposal result in a reduction of the numbers of any unique, rare or endangered species of plants?

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.

Rare, unique, or endangered plant species were not encountered during the botanical field survey (**Appendix B**). The Project would not result in the removal of any unique, rare, or endangered species of plants. All work is to be performed in the City ROW, a previously disturbed and developed Project area that is not suitable for rare or endangered plant species.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None.**

TRPA 4f. Will the proposal result in the removal of streambank and/or backshore vegetation, including woody vegetation such as willows?

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

The Project would not remove any woody backshore or streambank vegetation, as the Project area is not located in the backshore or along any streambanks.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None**.

TRPA 4g. Will the proposal result in the removal of any native live, dead, or dying trees 30 inches or greater in diameter at breast height (dbh) within TRPAs Conservation or Recreation land use classifications?

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 TRPA Code Subsection 61.1.4 results in a significant impact within TRPA conservation or recreation land use areas.

Four conifers of 18 inches or smaller dbh would be removed during Project construction. The Project would not result in the removal of any live, dead, or dying trees 30 inches or greater dbh within the TVAP or PAS 114 area.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None.**

TRPA 4h. Will the proposal result in a change in the natural functioning of an old growth ecosystem?

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.

Old-growth ecosystems are defined as late seral/old-growth forests that provide unique habitat for wildlife and plant species, have increased resistance to tree mortality due to catastrophic wildfire, and are less common than would naturally occur due to clear-cut activities in the late 1800s followed by wildfire exclusion policies through most of the twentieth century by TRPA Regional Plan Goals and Policies: Goal

Veg-4. No old-growth forests/ecosystems are mapped within the Project area, and therefore, no impacts to old-growth ecosystems would occur.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None**.

6.3 TRPA Checklist Analysis – Wildlife

TRPA 5a. Will the proposal result in a change in the biodiversity 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)?

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, as cited in TRPA Resolution 82-11 Exhibit A, and TRPA Goals and Policies pertaining to wildlife fisheries.

Refer to the analysis for CEQA IVa, which concludes that the potential impact to wildlife species would be less than significant. The Project area is located in a developed urban area and would have temporary, localized effects during construction. Although some common species, including nesting birds, may experience disturbance during construction, the limited impacts that would occur would not affect the biodiversity or distribution of any species of animals.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None**.

TRPA 5b. Will the proposal result in a reduction of the number of any unique, rare, or endangered species of animals?

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 designated critical habitat constitutes a significant impact as defined by CEQA Article 5, Section 15065, CESA Sections 2062 and 2067, CDFG Code Sections 1900-1913, and TRPA Thresholds.

Refer to the analysis for CEQA IVa, which concludes that the level of potential impact to species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the CDFG or USFWS would be less than significant.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None**.

TRPA 5c. Will the proposal result in the introduction of new species of animals into an open area, or result in a barrier to the migration or movement of animals?

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.

Refer to the analysis for CEQA IVd, which concludes that the Project would not introduce a new species of animals into an open area. Project improvements would be primarily installed belowground and at-grade and would not result in a significant barrier to migration or movement of animals.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None**.

TRPA 5d. Will the proposal result in the deterioration of existing fish or wildlife habitat quantity or quality?

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.

Refer to the analysis for CEQA IVa, which concludes that potential impacts to wildlife and sensitive species would be less than significant. The Project would not result in the deterioration of fish or wildlife habitat quality or quantity due to the Project area's location and because no sensitive wildlife habitat is present within the Project area or vicinity. The Project area is a City ROW that has been previously disturbed and is not suitable for wildlife species.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None**.

7.0 CULTURAL (CEQA) AND ARCHAEOLOGICAL & HISTORICAL RESOURCES (TRPA)

This section addresses the cultural resources criteria in the CEQA Guidelines as well as the tribal cultural resources criteria. **Table 14** identifies the level of significance of the impacts based on the CEQA Guidelines Appendix G: Environmental Checklist Form and the TRPA Initial Environmental Checklist Form and indicates whether additional mitigation measures would be required to avoid, reduce, minimize, or otherwise mitigate potential impacts to a level of less than significant.

Table 14. Cultural Resources and Archaeological/Historical Resources Impacts

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
CEQA Environmental Checklist Item				
Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? (CEQA Va)	☐	☐	☒	☐
Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? (CEQA Vb)	☐	☐	☒	☐
Disturb any human remains, including those interred outside of dedicated cemeteries? (CEQA Vc)	☐	☐	☒	☐
Will the Proposal:	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
TRPA Initial Environmental Checklist Item				
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)	☐	☐	☐	☒
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)	☐	☐	☐	☒
Is the property associated with any historically significant events and/or sites or persons? (TRPA 20c)	☐	☐	☐	☒
Does the proposal have the potential to cause a physical change which would affect unique ethnic cultural values? (TRPA 20d)	☐	☐	☐	☒
Will the proposal restrict historic or pre-historic religious or sacred uses within the potential impact area? (TRPA 20e)	☐	☐	☐	☒

7.1 CEQA Checklist Analysis – Cultural Resources

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

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 prehistoric or historic archaeological resources and are unavoidable based on the Project trail placement. If the Project causes "a substantial adverse change in the significance of an historical or 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.

Since the Project is situated in the City and El Dorado County, cultural resource studies were conducted to comply with El Dorado County guidelines under the CEQA PRC Section 5024. Federal statutes, including compliance for cultural resources under Section 106 of the NHPA, also apply to the Project.

An assessment of impact is based on the Area of Potential Effects or APE, which includes the area of both direct and indirect effects of a proposed project on a cultural resource. The APE was established as generally following the course of Lake Tahoe Boulevard and extends 100 feet on either side of the road centerline. At the southwest end of the APE, it extends 190 feet southwest of the centerline of Vikings Way, while at the northeast end it extends 75 feet past the centerline of Emerald Bay Road. The APE encompasses the maximum limits of potential ground-disturbing construction activities that would reasonably be expected from the Project, including but not limited to the bicycle path itself, all existing and proposed new ROWs, utility relocations, and equipment/material staging areas.

No cultural resources were identified in the APE, although resources were noted in the vicinity of the APE during the record search (**Appendix C**). The Project actions would occur within the existing development of the City ROW, and therefore, the entire Project APE has been subject to prior ground disturbance. In many cases previous disturbance extended to a considerable depth and likely below any potential archaeological surface or subsurface deposits that could once have been present.

There are no known or visible historic or prehistoric resources in the Project area that are potentially eligible for the National Register of Historic Places and no unevaluated cultural resources. The Project area has been disturbed by past grading and fill activities for residential construction, road installation, and utility connections. If historic resources are discovered during installation of a water meter, construction activity would be immediately stopped and a qualified archaeologist would be contacted, as detailed in the cultural RPMs described in Section 1.10.4.

Because no historical resources as defined in PRC Section 15064.5 would be disturbed, the Project would not cause substantial adverse change in the significance of a historical or archaeological resource and the level of potential impact would be less than significant.

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

Required Mitigation: **None**.

CEQA Vb. Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?

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 prehistoric or historic archaeological resources and are unavoidable based on the Project trail placement. If the Project causes "a substantial adverse change in the significance of an historical or 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.

No archaeological resources have been identified within the Project area, and excavation would occur in previously disturbed areas. However, since the time when previous excavation and disturbance of the area last occurred is unknown, there is a remote potential to unearth undiscovered archaeological resources. Requirements for the protection of unknown resources, as described in Section 1.10.4, would be included in construction contracts to ensure that there would be no impacts to previously undiscovered resources. Should previously undiscovered resources be unearthed, ground-disturbance activities would cease until consultation with a qualified archaeologist occurs and recommended procedures are implemented. The Project would not cause a substantial adverse change in the significance of a previously unknown archaeological resource because avoidance of such resources would occur during Project construction.

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

Required Mitigation: **None**.

CEQA Vc. Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?

Standard of Significance. The potential exists to pose a significant impact to human remains identified during construction-related ground-disturbing activities. A significant impact results if the Project affects human remains.

There are no known cemetery or burial areas within the Project area; however, there is a potential for inadvertent discoveries of human remains during construction. The Project would avoid potentially significant impacts to human remains through compliance with PRC Section 5097.98 and Section 7050.5 of California Health and Safety Code, and implementation of the cultural RPMs detailed in Section 1.10.4, which require that if remains are found, a cultural resources specialist would be contacted to provide an initial evaluation of the remains. If the remains are found to be human or potentially human, the El Dorado County Sheriff/Coroner must be notified within 24 hours of the discovery to conduct proper evaluation and treatment of remains. If the sheriff/coroner determines the remains to be of early Native American origin, the NAHC must be contacted. The NAHC then assigns a Most Likely Descendent to the project who, in collaboration with the City and any landowner(s), would determine the ultimate treatment and disposition of the remains.

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

Required Mitigation: **None**.

7.2 TRPA Checklist Analysis – Historical Resources

TRPA 20a. 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?

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 prehistoric or historic archaeological resources and are unavoidable based

on the Project trail placement. If the Project causes "a substantial adverse change in the significance of an historical or 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.

Refer to analyses for CEQA Va and Vb, respectively, which conclude that the level of impact to historical and archaeological resources would be less than significant.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None**.

TRPA 20b. 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?

Standard of Significance. A project that disturbs resources on TRPA or other regulatory official maps or records creates a significant impact.

Refer to analyses for CEQA checklist items Va and Vb, respectively, which conclude that the level of impact to historical and archaeological resources would be less than significant.

As reported in **Appendix C**, the Project would not be located on properties with any known cultural, historical, and/or archaeological resources, including resources on TRPA or other regulatory official maps or records.

Implementation of the cultural RPMs that are detailed in Section 1.10.4 would reduce potential impacts to such resources to a level of less than significant.

Environmental Analysis: **No; Less than Significant Impact**.

Required Mitigation: **None**.

TRPA 20c. Is the property associated with any historically significant events and/or sites or persons?

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 prehistoric or historic archaeological resources and are unavoidable based on the Project trail placement. If the Project causes "a substantial adverse change in the significance of an historical or 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.

No historically significant events and/or sites or persons are known to be associated with the Project area (**Appendix C**). Refer to analysis for CEQA Va, which concludes that the level of impact to historical resources is less than significant.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None**.

TRPA 20d. Will the proposal have the potential to cause a physical change which would affect unique ethnic cultural values?

Standard of Significance. A project that causes a significant physical change which affects unique ethnic cultural values constitutes a significant impact.

On January 2, 2018, Cardno archaeologists submitted a request to the NAHC for a search of the Sacred Lands File and for a contact list of potentially interested Native American parties. The NAHC responded on January 8, 2018, with results of the Sacred Lands File search and provided a contact list. The Sacred Lands File search did not indicate the presence of a place or places of importance to any Native American parties within the vicinity of the Project APE.

In accordance with AB 52, Cardno sent letters to the parties listed on the NAHC response on February 21, 2018. As of August 23, 2018, no responses to these outreach letters had been received:

- Ms. Pamela Cubbler, Treasurer, Colfax-Todds Valley Consolidated Tribe
- Ms. Crystal Martinez-Alire, Chairperson, Ione Band of Miwok Indians
- Mr. Randy Yonemura, Cultural Committee Chair, Ione Band of Miwok Indians
- Mr. Cosme Valdez, Chairperson, Nashville-Eldorado Miwok
- Mr. Nicholas Fonseca, Chairperson, Shingle Springs Band of Miwok Indians
- Mr. Grayson Coney, Cultural Director, T'Si-Akim Maidu
- Mr. Don Ryberg, Chairperson, T'Si-Akim Maidu
- Mr. Gene Whitehouse, Chairperson, United Auburn Indian Community of the Auburn Rancheria
- Mr. Darrel Cruz, Tribal Historic Preservation Officer for the Washoe Tribe of Nevada and California

Due to the Washoe Tribe of Nevada and California's traditional ties to the APE and surrounding region, Cardno placed a follow-up call to Mr. Darrel Cruz (Tribal Historic Preservation Officer) on July 7, 2018. Mr. Cruz noted that he was unaware of any Native American cultural resources or significant properties or locations within or near the APE. Mr. Cruz also did not express any concerns regarding the Project.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None**.

TRPA 20e. Will the proposal restrict historic or pre-historic religious or sacred uses within the potential impact area?

Standard of Significance. The restriction of historic or pre-historic religious or sacred uses by a project constitutes a significant impact.

Refer to analysis for CEQA Vb, which concludes that the level of impact to archaeological resources is less than significant. There are no known uses that would be impacted by the Project.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None**.

8.0 ENERGY

This section evaluates the Project's impacts on energy resources during construction and operations. **Table 15** identifies the level of significance of the impacts based on the CEQA Guidelines Appendix G: Environmental Checklist Form and the TRPA Initial Environmental Checklist Form and indicates whether additional mitigation measures would be required to avoid, reduce, minimize, or otherwise mitigate potential impacts to a level of less than significant.

Table 15. Energy Impacts

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
CEQA Environmental Checklist Item – Energy				
Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation? (CEQA VIa)	☐	☐	☒	☐
Conflict with or obstruct a state or local plan for renewable energy or energy efficiency? (CEQA VIb)	☐	☐	☐	☒
Will the Proposal:	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
TRPA Environmental Checklist Item – Energy				
Use of substantial amounts of fuel or energy? (TRPA 15a)	☐	☐	☐	☒
Substantial increase in demand upon existing sources of energy, or require the development of new sources of energy? (TRPA 15b)	☐	☐	☐	☒

8.1 CEQA Checklist Analysis

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

Standard of Significance. Wasteful, inefficient, or unnecessary consumption of energy during project construction or operations constitutes a significant impact. Additionally, use of substantial amounts of fuel or energy by a project results in a significant impact, as defined by TRPA RPU Conservation Element and City General Plan.

The goal of conserving energy implies the wise and efficient use of energy. The means of achieving this goal include: decreasing overall per capita energy consumption; decreasing reliance on natural gas and oil; and increasing reliance on renewable energy resources. In order to ensure that energy implications are considered in project decisions, CEQA requires that environmental documentation include a discussion of

the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy. Energy conservation implies that a project's cost effectiveness be reviewed not only in dollars, but also in terms of energy requirements.

Energy-consuming equipment listed in Table 3 would be used to construct the Project. Fuel use and other air quality pollutants and emissions were calculated using CalEEMod, Version 2016.3.2. Modeled air emissions were calculated from construction scheduling and equipment and material assumptions, and reflect potential effects of energy and fuel usage during construction. Refer to the analysis for CEQA IIIb, which concludes that the Project would not result in a cumulatively considerable net increase of any criteria pollutant. Refer to the analysis for TRPA 2a, which concludes the Project would not violate the construction-generated emissions standards for ROG, NOX, PM_{10}, or SO_2, or CO.

As part of the TRPA RPU, utility companies projected that based on the forecasted growth, the available capacity of utilities would far exceed the demand of new projects considered under the RPU build out alternative (TRPA 2012). The Project would implement TRPA EIP project number 03.01.02.0094. Energy usage for Project operations would be confined to operation of City standard pathway lighting, which would use energy-efficient bulbs. The Project would not require new local or regional energy sources and would result in no measurable change to peak and base period demands for electricity and other forms of energy in the City.

Project operations would not induce growth or result in growth-inducing effects and as a result would not contribute to change in local and regional energy consumption. Project operations would improve connectivity to the regional trail network and promote use of more energy-efficient transportation alternatives. As a result, daily vehicle trips and vehicle miles of travel (VMT) would be expected to decrease, which would translate into a reduction in energy consumed per trip by mode.

Consumption of energy during Project construction or operations would not be wasteful, inefficient, or unnecessary, and Project impacts would be less than significant.

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

Required Mitigation: **None**.

CEQA VIb. Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Standard of Significance. Conflict with or obstruction of a state or local plan for renewable energy or energy efficiency constitutes a significant impact.

Local plans and programs have been developed to implement CARB goals to increase energy efficiency and derive 50 percent of electricity in 2030 from renewable resources. The Lake Tahoe Sustainable Communities Program is a basin-wide program, housed within TRPA but supported by a partnership of local agencies, organizations, jurisdictions, and the community, that has developed the Sustainability Action Plan for the Lake Tahoe Region (TRPA 2013). Additionally, the City Council unanimously approved a resolution on April 16, 2019, committing to a goal of 100 percent renewable energy by 2032. Additionally, the City has set a goal to reduce carbon emissions by at least 80 percent by 2040. The City partnered with the Energy Department and the National Renewable Energy Laboratory to demonstrate how data and analysis can inform more strategic energy decisions. Results estimate that changes to public transit, which would include improvements to the regional trail system to reduce reliance on motor vehicles for personal transportation, have an energy reduction potential of just under 5,000 tons of CO_2 annually (U.S. Department of Energy 2019).

Because the Project would implement an important regional trail system connection and contribute toward CARB energy reduction goals and would not conflict with or obstruct the goals and policies of the TRPA RPU or Sustainability Action Plan, no impact would result.

Environmental Analysis: **No Impact.**

Required Mitigation: **None**.

8.2 TRPA Checklist Analysis

TRPA 15a. Will the proposal result in use of substantial amounts of fuel or energy?

Standard of Significance. Use of substantial amounts of fuel or energy by the Project results in a significant impact as defined by TRPA RPU Conservation Element and the City General Plan.

As part of the RPU, utility companies projected that based on the forecasted growth, the available capacity of utilities would far exceed the demand of new projects considered under the RPU build out alternative (TRPA 2012).

The Project would be located in close proximity to existing electricity and gas infrastructure and would not result in the need for new utility facilities. The Project would not result in additional commercial, tourist, or residential development, and would therefore have a less-than-significant impact on the incremental use of natural resources. Installation of new standard City pathway lighting would result in the use of energy; however, as discussed in the response to TRPA 15b, this use would not be significant and would require the use of energy-efficient bulbs. The Project would conform to the energy efficiency requirements of California's mandated CalGreen Code.

Non-renewable natural resources such as gasoline and diesel would be consumed during Project construction. However, because construction would be limited and would not require quantities of non-renewable resources beyond those of typical residential construction, the Project would not result in substantial depletion of any non-renewable natural resource.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 15b. Will the proposal result in substantial increase in demand upon existing sources of energy, or require the development of new energy sources?

Standard of Significance. A substantial increase in demand upon existing sources of energy or requirement of the development of new sources of energy by the Project results in a significant impact as defined by TRPA RPU Conservation Element.

The Project would not result in additional commercial, tourist, or residential development, and would therefore create less-than-significant impacts to existing energy sources. The Project would not result in a substantial increase in demand upon existing sources of energy or require the development of new sources of energy. Installation of standard City pathway lighting within the Project area would use existing sources of energy and would not require the development of a new energy source. Consistent with City General Plan Policy NCR-6.18, energy-efficient bulbs would be installed. Other uses of energy would be temporary in nature during construction.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

9.0 GEOLOGY & SOILS (CEQA) AND LAND (TRPA)

This section evaluates the Project's impacts on geological and soil resources during construction and operations. **Table 16** identifies the level of significance of the impacts based on the CEQA Guidelines Appendix G: Environmental Checklist Form and the TRPA Initial Environmental Checklist Form and indicates whether additional mitigation measures would be required to avoid, reduce, minimize, or otherwise mitigate potential impacts to a level of less than significant.

Table 16. Geology, Soils, and Land Impacts

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
CEQA Environmental Checklist Item – Geology and Soils				
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)	☐	☐	☒	☐
Result in substantial soil erosion or the loss of topsoil? (CEQA VIIb)	☐	☐	☒	☐
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)	☐	☐	☒	☐
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)	☐	☐	☒	☐
Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water? (CEQA VIIe)	☐	☐	☐	☒
Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? (CEQA VIIf)	☐	☐	☒	☐

Will the Proposal:	Yes	No, With Mitigation	Data Insufficient	No
TRPA Initial Environmental Checklist Item – Land				
Compaction or covering of the soil beyond the limits allowed in the land capability or Individual Parcel Evaluation System (IPES)? (TRPA 1a)	☐	☐	☐	☒
A change in the topography or ground surface relief features of site inconsistent with the natural surrounding conditions? (TRPA 1b)	☐	☐	☐	☒
Unstable soil conditions during or after completion of the proposal? (TRPA 1c)	☐	☐	☐	☒
Changes in the undisturbed soil or native geologic substructures or grading in excess of 5 feet? (TRPA 1d)	☐	☐	☐	☒
The continuation of or increase in wind or water erosion of soils, either on or off the site? (TRPA 1e)	☐	☐	☐	☒
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)	☐	☐	☐	☒
Exposure of people or property to geologic hazards such as earthquakes, landslides, backshore erosion, avalanches, mud slides, ground failure, or similar hazards? (TRPA 1g)	☐	☐	☐	☒

9.1 CEQA Checklist Analysis – Geology and Soils

CEQA VIIa. Would the Project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, including liquefaction, or landslides?

Standard of Significance. For CEQA VIIa-i through VIIa-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.

Potential geologic hazards within and in the vicinity of the Project area have been assessed in accordance with the requirements of the California Board for Geologists and Geophysicists (Board) *Geologic Guidelines for Earthquake and/or Fault Hazard Reports*; the Board *Guidelines for Engineering Geologic Reports*; California Geological Survey Special Publication 42, *Fault-Rupture Hazard Zones in California*: Alquist-Priolo Earthquake Fault Zoning Act with Index to Earthquake Fault Zone Maps (Hart and Bryant 1997); and California Geological Survey Special Publication 117, *Guidelines for Evaluating and Mitigating Seismic Hazards in California* (California Division of Mines and Geology 1997).

The Project area is located within the Sierra Nevada-Great Basin seismic belt. Based on the Division of Mines and Geology Special Publication 42 and the Index to Official Maps of Earthquake Fault Zones (Hart and Bryant 1997), the Project area is not located in the Alquist-Priolo Earthquake Fault Zone, which means that the Project area is not traversed by faults identified by the California Geological Survey as active. The

Project area, however, is located in Uniform Building Code Seismic Hazard Zone 3, and the most significant geologic hazards associated with the Project area are from earthquakes and their associated effects.

The Project would not involve construction of homes or other building structures for human habitation that would expose people to risk of loss, injury, or death from earthquake faults, ground shaking, liquefaction, or landslides during strong seismic shaking events. The Project design has incorporated review of topography, soils, and suitability of materials to ensure safety and minimize the risk of loss.

Fault Rupture. The risk of fault rupture is less than significant based on existing published data of officially recognized faults and proximity of the Project area to such faults. The Project would not increase the present surface rupture hazard nor constructs habitable structures in these areas.

Strong Seismic Groundshaking. The Project area is located in a region traditionally characterized by moderate seismic activity. A large earthquake in the Project area vicinity could cause moderate to high ground shaking in the Project area. Anticipated ground acceleration at the Project area is great enough to cause structural damage to trail features, such as warping or cracking of trail surfaces. Implementation of design features and construction controls appropriate to seismic coefficients minimizes the potential ground shaking hazards on features in the Project area. As engineering details develop, additional investigations will direct engineering specifications for stormwater infrastructure. These details would include appropriate site preparation, excavation of unstable materials, structural fill, compacted fill, subsurface drainage, and subgrade and aggregate base for paved trail surfaces to minimize the adverse effects from ground shaking.

The Project would construct no occupied structures and thus exposes no new occupants to ground shaking or injury resulting from seismically induced structural damage. Through conformance to federal, regional, state, and local codes and requirements, design specifications, and construction controls, the potential impact from ground shaking would be reduced to a level of less than significant.

Seismic-related Ground Failure, including Liquefaction. Review of available literature and Project area soil maps indicate subsurface soils consist generally of silt sands, silty sands with gravel, poorly graded sands with silts, and well-graded sands with silts and gravels to depths of 9.2 feet bgs (SAGE Engineers, Inc. 2018). Liquefaction is the phenomena where more commonly loose saturated sands or silty sands lose their shear strength when subjected to cyclic loading, and become unstable. Large earthquakes, as described above, may provide that type of cyclic loading. This condition was not encountered during field investigations conducted for the TVAP and subsequent Tahoe Valley Greenbelt and Stormwater Improvement Project; native sands encountered were medium dense and the potential for liquefaction to occur at the site is considerably low. Locations with shallow groundwater and less dense sandy soil could be more susceptible to liquefaction. SAGE Engineers, Inc. conducted geotechnical investigations for the Project area that included excavation of four test pits up to 8 feet in depth. Groundwater was encountered at a depth of 7 feet bgs in one of the four pits. Proposed excavations are minimal to achieve grades. Additionally, excavation depths would not exceed a maximum depth of 5 feet and would not intercept the seasonal high groundwater table.

Landslides. Project area conditions do not contribute to increased risk from unstable soil conditions from debris flow, flooding, landslide, rock fall, or avalanche. The possibility of landslides and seismically induced slope instability is considered low because of the topography within and adjacent to the Project area. The impact level is less than significant because most locations along the Project area have existing development and flat topography. The construction and operation of the Project would not increase the potential for landslides or seismically induced slope instability.

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

Required Mitigation: **None.**

CEQA VIIb. Would the Project result in substantial soil erosion or the loss of topsoil?

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 condition 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.

Short-term Construction. The potential for erosion is greatest during the construction period and prior to establishment of revegetation plantings. Construction of the Project would involve clearing and grubbing activities, grading, and excavation and trenching. These construction activities result in soil disturbance and vegetation trimming and removal, which can cause temporary, short-term increases in runoff, soil erosion, wind erosion, and sedimentation within and down gradient of the Project area. When disturbed areas 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 streambank erosion, loss of vegetation, and reductions in functional aquatic habitat and SEZ.

The risk of soil erosion is low due to the relatively flat topography of the Project area. Furthermore, the risk of sedimentation impacting surface waters is extremely low, as the Project area contains no surface water features and no functional aquatic habitat or unmodified SEZs. The design features, construction controls, and BMPs (i.e., compliance measures) that are incorporated into the Project proposal to reduce short-term erosion potential would include construction phasing to limit the duration of construction and extent of disturbance present at one time. 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. Compliance measures for these plans would include, but are not limited to:

- Construction phasing that minimizes the extent of disturbance areas and duration of disturbance;
- Clearly marked staging hammerhead (i.e., designated turnarounds) and access areas;
- Armoring of staging, access, and hammerhead areas;
- Construction equipment and vehicle restrictions;
- Temporary BMPs that are effective in containing the 20-year, 1-hour TRPA design storm;
- Topsoil salvaging and pile protection;
- Stabilization of slopes during Project construction and initial vegetation establishment periods;
- Qualified SWPPP Practitioner (QSP) present during construction to ensure BMP effectiveness and conduct remedial actions.

Section 1.10.7 provides additional details of the water quality and soil protection measures that would be implemented to prevent short-term soil erosion from construction actions. Compliance with NPDES general construction permit conditions, the TRPA ESCP requirements and the TRPA grading ordinance ensure that runoff, wind and water erosion, and sedimentation are contained on-site during construction of the Project and that actions comply with grading restrictions. The ESCP determines the site-specific temporary BMPs for installation during construction activities. The SWPPP developed by a qualified engineer or erosion and sediment control specialist is submitted concurrently with the NOI to Lahontan Water Board 30 days prior to the start of construction for review and approval. As detailed in Section 1.10.7, the Project's site-specific SWPPP would be employed during construction to minimize risk of soil erosion or loss of topsoil from disturbed areas. As preparation of the final design plans and associated construction documents progress,

details for the Lahontan Water Board-required SWPPP and the TRPA-required ESCP will refine the final Project proposals.

The Project would be required to comply with the provisions of TRPA Code Chapter 33, Grading and Construction, and City Code Section 7.15, Urban Runoff and Storm Water Quality Management, and Section 7.20, Grading, Erosion, and Sediment Control. Chapter 33 includes specific provisions for timing of grading, winterization of construction sites, specifications for cut and fill areas, and protection of vegetation during construction. Plan Sheets 28 through 37 (Grading Plan), 52 through 57 (Revegetation Plan) and 62 through 69 (Additional Details) in **Appendix A** provide additional details, as based on the 60 percent design submittal.

Long-term Operation. The Project would include hydrologic source controls to infiltrate runoff from trail surfaces into the adjacent landscaping zones and avoid adverse effects to soils. The stormwater infrastructure by its very nature is designed to include source controls and improve infiltration to avoid accelerated erosion or loss of topsoil. The Project would stabilize and revegetate areas that are disturbed during construction and would maintain these areas as part of the City's ongoing facilities operations and maintenance program. Long-term maintenance of these areas minimizes adverse effects to soils. The Project proposal minimizes soil disturbance and loss of topsoil through: adequate cross drainage; stabilization of disturbed areas; some landscaping; and revegetation specifications that respond to site-specific conditions.

The Project would include design features, construction controls and BMPs 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 final Project proposal would conform to federal, regional, state, and local codified regulations for the control of soil erosion and thereby reduce potential impacts to a level of less than significant.

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

Required Mitigation: **None**.

CEQA VIIc. 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?

Standards 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. Refer to the analysis for CEQA VIIa, which analyzes the potential for landslides, lateral spreading, and liquefaction and determines the level of impact would be less than significant.

The liquefaction potential within the Project area is low (SAGE Engineers, Inc. 2017). The possibility of landslides and seismically induced slope instability is considered low due to flat topography within and upslope of the Project area. The Project location and design avoids areas of steep slopes. Additionally, substantial potential for avalanche within the Project area does not exist due to the flat and gradually sloping topography.

The Project entails construction of surface improvements and the relocation of subsurface stormwater collection and conveyance facilities. A majority of the surface excavation/grading associated with the Project would be minor surface grading of less than 2 feet. Additional excavations would be associated with modifications to existing storm drainage systems and installation of new stormwater pipelines. These excavations would be localized to drainage inlet sumps with maximum depths of 5 feet. The surface improvements and storm drainage facility improvements are similar in nature to existing infrastructure throughout the developed Project area. Depending on the characteristics of the preceding water year,

shallow or seasonally high groundwater may be encountered at the Project area during construction, but seepage would not be substantial enough to initiate debris flow mobilization or shallow landslides from the relatively flat Project area.

Additionally, the Tahoe Basin Soil Survey (Natural Resources Conservation Service 2007) identifies no areas of unstable soil conditions that are susceptible to collapse or subsidence within the Project area. In summary, soil units within the Project area are not considered unstable and would not become unstable as a result of Project construction or operations. The Project would not increase the potential for on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse, and the level of impact associated with the unstable soil conditions would be less than significant.

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

Required Mitigation: **None**.

CEQA VIId. 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?

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

Soil map units within the Project area are not considered expansive soils, as defined in the Uniform Building Code of 1994. Additionally, according to the Swelling Clays Map (USGS 1989), the Lake Tahoe Basin is in an area with little to no clays with swelling potential. The Project would not be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), and therefore, would not pose substantial risks to life or property from unstable soil conditions.

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

Required Mitigation: **None**.

CEQA VIIe. Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

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

The Project proposes no septic tanks or alternative wastewater disposal systems, and therefore, would create no impact to this resource.

Environmental Analysis: **No Impact.**

Required Mitigation: **None**.

CEQA VIIf. Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

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 destroys 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.

As reported in **Appendix C**, the Project would not be located on properties with any known cultural, historical, and/or archaeological resources. There are no mapped paleontological resources or known unique geologic features within the Project area, and unique paleontological or unique geologic features are not expected to occur within the City ROW. In general, the Project area is underlain by unconsolidated to moderately consolidated sedimentary materials, including alluvial fans, lacustrine, and fluvial environments. These environments do not usually contain intact fossils. The Project requires excavation and disturbance in areas that have been previously disturbed for residential, commercial, roadway, and utility development and that are not mapped as a high or moderate resource potential geologic deposit, formation, or rock unit. Additionally, in the unlikely event that paleontological resources are discovered during construction, Section 1.10.4, which outlines cultural RPMs, requires that ground-disturbance activities cease until consultation with a qualified archaeologist occurs. As a result, the Project would avoid and protect encountered resources and would result in less-than-significant impacts to paleontological resources.

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

Required Mitigation: **None**.

9.2 TRPA Checklist Analysis – Land

TRPA 1a. Will the proposal result in compaction or covering of the soil beyond the limits allowed in the land capability or Individual Parcel Evaluation System (IPES)?

Standard of Significance. Project proposals that do not comply with provisions of TRPA Code Section 30.4 for maximum coverage, Section 30.5 for additional coverage in low capability lands, or Section 30.6 for existing excess coverage create a significant impact (Note: Maximum land coverage for linear public facilities equals the minimum amount necessary to achieve the public purpose, and land coverage within City ROWs is excluded from base allowable land [BAL] coverage calculations for a Project area per TRPA Code Chapter 30).

Refer to the discussion for CEQA IVb, which concludes that the Project would not have a substantial adverse effect on any riparian habitat or other sensitive natural community. The Project proposal would result in an overall net reduction in land coverage within the City ROW and would also reduce land coverage in area currently mapped as LCD 1b/SEZ. Refer to the analysis for CEQA Xc; the Project would not impact floodplains. These analyses are not repeated in this section.

TRPA Code Chapter 30 contains the criteria pertinent to land coverage for the Project area. TRPA Code Section 30.4 details land coverage limitations and states the maximum land coverage (i.e., BAL plus transferred land coverage) for public service projects is limited to the minimum amount needed to achieve their public purpose. In instances where proposed land coverage exceeds the TRPA BAL, land coverage must be relocated from other portions of the project area in conformance with TRPA Revised Code Section 30.6. If relocation of land coverage within the project area cannot fully offset the proposed land coverage, then land coverage must be transferred into the project area following the process outlined in TRPA Code Section 30.4.2. The Project would implement a TRPA EIP project and is categorized as a linear public service project, and is therefore, not subject to the excess land coverage mitigation program in revised Code Section 30.6.

TRPA Code Subsection 30.4.1.C outlines the methods of calculating the BAL for a project area and states that land coverage associated with existing linear public facilities (e.g., bike trails and pedestrian paths),

highways, streets, and roads shall not be considered in the calculation of land coverage. Code Subsection 30.4.6(D)(3) states that non-motorized public trails are exempt from the calculation of land coverage, subject to the following siting and design requirements and limitations:

a. Accessibility

The trail shall be open to the public in perpetuity at no cost, through dedication of a public easement or other means acceptable to TRPA.

b. Trail Route Design

(i) Trail routes shall be designed to minimize disturbance of sensitive lands and removal of large trees and riparian vegetation. Particular areas to minimize disturbance of in the routing of trails are (in order of preference):

(1) Federal jurisdictional wetlands as mapped by the Army Corps of Engineers;

(2) Other areas in Land Capability District 1b (Stream Environment Zones);

(3) Other areas in Land Capability Districts 1 and 2;

(4) Areas in Land Capability District 3; and

(5) Areas requiring the removal of trees that are larger than 14 inches DBH.

(ii) In designing trail routes, the protection of sensitive areas, trees, and vegetation shall be balanced with consideration of the following:

(1) Trail routes shall generally be consistent with trail networks identified in Map 5 of the Regional Plan, "Bicycle and Pedestrian Facilities," or adopted federal, state, tribal, or local government plans;

(2) Detours in trail design to protect sensitive resources should avoid significant additions to trail length; and

(3) Routes shall be designed to promote safety for trail users (e.g., by minimizing road/driveway crossings and providing buffers between trail users and roadways).

c. Trail Design

In addition to the requirements of the Army Corps of Engineers and other public agencies, trail designs shall comply with the following:

(i) Trail design shall comply with the AASHTO Guide for the Development of Bicycle Facilities or other industry standard design criteria for the appropriate trail type, as determined by TRPA.

(ii) Except for unpaved single-track trails, bridges, boardwalks, and/or other elevated over-stream crossings shall be provided.

(iii) Except for unpaved single-track trails, all trails through SEZ areas shall allow periodic surface flows to pass under the trail and to maintain the natural function of the SEZ lands.

(iv) The trail shall be designed in accordance with the BMP handbook.

(v) The trail shall be designed to minimize disruptions to or crossings of sensitive wildlife habitat.

d. Limit on Exemption

The maximum amount of allowable exempted coverage under this exemption shall be limited to the trail networks identified in the Lake Tahoe Region Bike Trail and Pedestrian Plan (TMPO 2010 as amended) and other necessary trail connections to the trails identified in the Lake Tahoe Region Bike Trail and Pedestrian Plan.

e. Existing Trails Do Not Qualify

Trails constructed prior to January 1, 2013 do not qualify for this coverage exemption.

Existing land coverage within the Project area is related to public roadways and ROWs, soft coverage, footpaths, and bike lanes, which are exempt from the calculation of BAL. New land coverage would be relocated within the City ROW and associated with improved sections of pedestrian walkways and Class 2 bike lanes and the Class 1 shared-use trail. Stormwater improvements may result in temporary disturbance but would not result in new permanent disturbance or land coverage. As illustrated in the plan set in **Appendix A** and existing and proposed land coverage figures provided in **Appendix D,** the Project's linear public service improvements would comply with TRPA Code Section 30.4.6 and would be exempt from land coverage findings.

Table 17 presents the land coverage calculations upon which the evaluation of the land capability limitations rests, and provides data segregated by LCD 1b, LCD 5, and LCD 7, which is then totaled for the Project area.

Land Capability District – Land capability, as mapped in **Figures 4 and 6**, reflects the LCDs that were verified for TVAP approvals. For the Project area outside of the TVAP boundary, the TRPA landscape-level LCD shapefiles are used. As applicable to the project area, lands in LCD 1b are treated as SEZ, while lands in LCD 7 are defined as man-modified and of high capability.

Project Area/Public ROW – The Project area, which aligns with the construction corridor (or limits of temporary disturbance) and also generally aligns with the City ROW (including parcel easements), measures 344,060 square feet or 7.9 acres.

The determination of the project area would follow the boundaries of the area of land involved for a project on two or more contiguous parcels and is the total combined square footage of the multiple contiguous parcels. However, the Project improvements would occur entirely within a currently developed City ROW, which according to TRPA Code Section 30.4.6 is considered "Land Not Included in the Project Area" per the following findings:

(i) The project area shall not include the following:

> *(1) Lands lakeward of the high-water lines of bodies of water, such as lakes and ponds;*
>
> *(2) Lands underlying covered surfaces associated with existing linear public facilities;*
>
> *(3) Highways, streets, and roads referred to in subparagraph 30.4.2.A.3; and*
>
> *(4) Easements or rights-of-way allowing potential land coverage for linear public facilities, highways, streets, and roads.*

(ii) Land coverage associated with existing linear public facilities, highways, streets, and roads shall not be considered in the calculation of land coverage, except as pertinent to the review by TRPA of the facilities, highway, streets, or roads, or as required pursuant to subparagraph 30.4.1.C.3.e.

Land Coverage – A man-made structure, improvement, or covering, either created before February 10, 1972, or created after February 10, 1972, pursuant to either TRPA Ordinance No. 4, as amended, or other TRPA approval, that prevents normal precipitation from directly reaching the surface of the land underlying the structure, improvement, or covering. Such structures, improvements, and coverings include, but are not limited to, (1) roofs, decks, and surfaces that are paved with asphalt, concrete, or stone, roads, streets, sidewalks, driveways, parking lots, tennis courts, patios; and (2) lands so used before February 10, 1972, for such uses as for the parking of cars and heavy and repeated pedestrian traffic that the soil is compacted so as to prevent substantial infiltration. A structure, improvement, or covering shall not be considered as

land coverage if it permits at least 75 percent of normal precipitation directly to reach the ground and permits growth of vegetation on the approved species list. See also "Potential Land Coverage." Common terms related to land coverage are: Hard Coverage—man-made structures as defined above and Soft Coverage—compacted areas without structures as defined above.

TRPA Base Allowable Land Coverage (BAL) – The maximum amount of BAL on a parcel or project area is equal to the cumulative allowed base coverage of all LCDs, as determined by applying the land coverage percentage for each district set forth in TRPA Code Subsection 30.4.1 to the parcel or project area. Due to the nature of the Project area, which is contained within the developed City ROW, determination of BAL is not applicable.

Table 17. Project Area Existing, Proposed, and Removed Land Coverage

Land Capability District (LCD)	Project area (sqft)	Existing Land Coverage Exempt from BAL (sqft)	Proposed Land Coverage Exempt from BAL (sqft)	Removed Land Coverage (sqft)
1b (SEZ) (1%)	133,220	122,505	115,390	(7,115)
5 (20%)	22,695	20,750	19,570	(1,180)
7 (Man-modified) (30%)	188,145	174,090	164,695	(9,395)
Totals	**344,060**	**317,345**	**299,655**	**(17,690)**

Existing Land Coverage. TRPA existing land coverage for the Project area tiers partially from TVAP approvals. TRPA Code Section 30.4 outlines the calculations of base allowable land coverage. The existing land coverage is exempt land coverage contained within a City ROW. The Project is a public service project and is thus not subject to the excess land coverage mitigation program set forth in TRPA Code Section 30.6.

Proposed Land Coverage. Due to the nature of the Project area, which aligns with the construction corridor along the developed City ROW, proposed land coverage would be located over existing land coverage.

Removed Land Coverage. Permanent land coverage created by the Project would be less than the existing land coverage present within the City ROW. As a result, the Project would remove up to 17,690 square feet of land coverage through installation of the landscaped buffer strip.

In summary, the Project meets the findings necessary to demonstrate compliance with TRPA land capability system and avoids potentially significant impacts to land coverage.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None**.

TRPA 1b. Will the proposal result in a change in the topography or ground surface relief features of site inconsistent with the natural surrounding conditions?

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.

Field evaluations identify no unique geologic or physical features within the Project area that could be destroyed, covered, or modified. Trenching and excavations will be necessary for stormwater and utility

improvements; however, following installation, excavations would be filled and compacted and the Project area would be returned to prior grade and condition. The Project would not result in a change in the topography or ground surface relief features inconsistent with the natural surrounding conditions.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None**.

TRPA 1c. Will the proposal result in unstable soil conditions during or after completion of the proposal?

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.

Refer to the analysis for CEQA VIIb, which concludes the level of impact to soils would be less than significant and that unstable soil conditions would not occur as a result of Project construction and operations.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None**.

TRPA 1d. Will the proposal result in changes in the undisturbed soil or native geologic substructures or grading in excess of 5 feet?

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 would occur as demonstrated by a soils hydrologic report, excavations can be approved 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.

Preliminary field evaluations identified no soil constraints that would preclude grading and construction activities. Construction of the Project would require little to no importation of fill materials, as the Project utilizes materials from cut areas within the Project area, with transportation of excess materials off-site to a TRPA-approved disposal site that would be identified during Project permitting.

TRPA prohibits excavations deeper than 5 feet because of the potential for groundwater interception or interference, except under defined and permitted conditions. The Project avoids cuts that exceed 5 feet. 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. A majority of the surface excavation/grading associated with the Project would be minor surface grading with general grading elevation changes of less than 2 feet. Excavations would be associated with modifications to existing stormwater and utility systems and construction of new stormwater pipelines. Such excavations would be temporary open-cut/trenching and backfilled upon completion, with work localized to installation of underground drainage inlet sumps and maximum trench depths of 5 feet.

SAGE Engineers, Inc. conducted geotechnical investigations for the Project area that included excavation of four test pits up to 8 feet in depth. Groundwater was encountered at a depth of 7 feet bgs in one of the four pits (i.e., TP-3). Proposed excavations are minimal to achieve grades. Excavation depths would not exceed a maximum depth of 5 feet and would not intercept the seasonal high groundwater table.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None**.

TRPA 1e. Will the proposal result in the continuation of or increase in wind or water erosion of soils, either on or off the site?

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). These regulations require the control of erosion on- and off-site and the stabilization of soils during and upon completion of excavation, grading, and fill activities.

Refer to analysis for CEQA checklist item VIIb, which concludes that the Project would result in less-than-significant impact from erosion on-site or off-site.

Environmental Analysis: **No; Less than Significant Impact**.

Required Mitigation: **None**.

TRPA 1f. Will the proposal 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?

Standard of Significance. Actions that modify the channel of a river or stream or the bed of a lake could result in a significant impact.

The Project area is approximately 1.75 miles from the beaches of Lake Tahoe and does not contain shorezone. The Project area does not contain any lakes, streams, or rivers, and therefore, Project construction and operations would not result in modifications to the channel or a river or stream or the bed of a lake.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None**.

TRPA 1g. Will the proposal result in the exposure of people or property to geologic hazards such as earthquakes, landslides, backshore erosion, avalanches, mud slides, ground failure, or similar hazards?

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.

Refer to the analysis for CEQA VIIa, which concludes that the Project would result in minimal to no exposure of people or property to geologic hazards such as earthquakes, landslides, backshore erosion, avalanches, mudslides, ground failure, or similar hazards.

Environmental Analysis: **No; Less than Significant Impact**.

Required Mitigation: **None**.

10.0 GREENHOUSE GAS EMISSIONS

The Project has been analyzed for impacts associated with GHG emissions. GHGs include CO_2, CH_4, nitrous oxide (N_2O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (California Health and Safety Code, Section 38505[g]). The most common GHGs that result from human activity are CO_2, followed by CH_4 and N_2O (EPA 2018). **Table 18** identifies the level of significance of the impacts based on the CEQA Guidelines Appendix G: Environmental Checklist Form and the TRPA Initial Environmental Checklist Form and indicates whether additional mitigation measures would be required to avoid, reduce, minimize, or otherwise mitigate potential impacts to a level of less than significant.

Table 18. Greenhouse Gas Emissions Impacts

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
CEQA Environmental Checklist Item				
Generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment? (CEQA VIIIa)	☐	☐	☒	☐
Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs? (CEQA VIIIb)	☐	☐	☒	☐
Will the Proposal:	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
TRPA Initial Environmental Checklist Item				
Significantly alter climate, air movement, moisture, or temperature? (TRPA 2d)	☐	☐	☐	☒

10.1 CEQA Checklist Analysis

CEQA VIIIa. Would the Project generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment?

Standard of Significance. El Dorado County AQMD participated in the development of GHG thresholds for air districts in the Sacramento region. The SMAQMD recommends a threshold of significance of 1,100 metric tons of CO_2e per year for the construction phase of projects. This analysis assesses construction and long-term operational emissions as a percent of existing emissions.

The Project would temporarily generate GHG emissions from combustion of fossil fuels (i.e., diesel, gasoline) used to run construction equipment and vehicles, both on-site and off-site during construction over one summer construction season (6 months of construction total maximum). The GHG emissions would predominantly occur as CO_2 from diesel engine exhaust. Currently, no federal or state GHG emission thresholds have been adopted. However, the SMAQMD threshold is intended to evaluate a project for consistency with GHG targets established by the California Global Warming Solutions Act of 2006 (AB 32), particularly for emissions occurring by 2020. An approach was also identified for operational emissions, but the Project would not generate emissions once construction is completed, and would likely

decrease emission due to expansion of alternative transportation options (multi-path improvements); therefore, this approach is not discussed further.

GHG emissions caused by operation of construction equipment and on-road vehicles were calculated using CalEEMod, Version 2016.3.2 utilizing Project-specific details. CalEEMod is a statewide land use emissions computer model designed to provide a uniform platform for various user types to quantify potential criteria pollutants and emissions. The model (output contained in **Appendix H**) is designed to estimate construction emissions for construction projects and post-construction operations and allows for input of project-specific information. Input parameters were based on default model settings and information detailed in the Project description (such as specified construction phases, duration of equipment use, and construction season) in Section 1. CalEEMod was utilized to calculate emissions of sulfur oxides (Sox), CH_4, and N_2O, in addition to emissions of CO_2, for determination of CO_2e. The approximate quantity of total GHG emissions generated by construction activities is shown in **Table 19**.

Table 19. Construction-Related Greenhouse Gas Emissions (Metric Tons per Year)

Construction Activities	Metric Tons of CO_2e
Total Project Emissions	164
AQMD Significance Threshold	1,100
Exceed Threshold?	No

As shown in **Table 19**, Project construction would result in CO_2e emissions of approximately 164 metric tons; therefore, emissions would not exceed AQMD significance thresholds for construction-related GHG emissions and the level of potential impact would be less than significant.

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

Required Mitigation: **None**.

CEQA VIIIb. Would the Project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of GHGs?

Standard of Significance. Currently, neither the TRPA, TMPO nor the El Dorado AQMD maintains local or regional plans, policies, or regulations for the purpose of reducing the emissions of GHGs. Therefore, evaluation of this effect relies on general compliance with the 2008 CARB Scoping Plan strategies to achieve GHG emissions reduction goal as directed by AB 32.

As discussed under CEQA VIIIa, the threshold established by the SMAQMD is intended to evaluate a project for consistency with GHG targets established in AB 32, particularly for emissions occurring by 2020. Project emissions would be below the threshold; therefore, the Project would not conflict with AB 32, which is one of the primary regulations intended to reduce California's GHG emissions. In addition, Project implementation would help to achieve the AB 32 goals, in part by reducing daily traffic trips through expanding and providing additional connectivity of Class 1 multi-use trail, thus reducing GHG emissions. These features would support an alternative mode of transportation that does not rely on the use of fossil fuels, and would help the City meet General Plan Goal NCR-5, "incorporate air quality improvements and emissions reductions directly with land use and transportation planning" by implementing Policy NCR-5.1 (*The City shall encourage the use of alternative modes of transportation by encouraging public transit, neighborhood electric vehicles, bicycle, and pedestrian modes in City transportation planning and by requiring new development to provide safe and separate pedestrian circulation and adequate bikeway circulation and facilities*). The Project also would not conflict with the City's goals and policies specifically

related to climate change (e.g., Goal NCR-6, Policies NCR 6.1 through 6.2), which are focused on new development.

The TRPA RPU (TRPA 2012) also includes goals and policies intended to reduce GHG emissions, including the following:

- Goal 1, Protect and enhance the environment, promote energy conservation, and reduce greenhouse gas emissions.
- Policy 1.3, Mitigate the regional and cumulative traffic impacts of new, expanded, or revised developments or land uses by prioritizing projects and programs that enhance non-automobile travel modes.
- Policy AQ-1.3, Encourage the reduction of emissions from motor vehicles and other motorized machinery in the region.

TRPA's RTP (2017) includes similar provisions:

- Goal 1, Protect and enhance the environment, promote energy conservation, and reduce greenhouse gas emissions.
- Policy 1.3, Mitigate the regional and cumulative traffic impacts of new, expanded, or revised developments or land uses by prioritizing projects and programs that enhance non-automobile travel modes.

The Transportation Plan also indicates that the Tahoe region is required to meet GHG reduction targets of 7 percent by 2020 and 5 percent by 2035 based off 2005 emission levels.

By facilitating improvements to the existing trail system that will increase connectivity through the Tahoe Valley and surrounding areas, the Project would enhance opportunities for alternative, non-motorized transportation, such as bicycling and walking. Therefore, the Project would be consistent with TRPA plans and policies intended to reduce GHG emissions.

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

Required Mitigation: **None**.

10.2 TRPA Checklist Analysis

TRPA 2d. Will the proposal significantly alter climate, air movement, moisture, or temperature?

Standard of Significance: A significant impact occurs if the Project CO_2 or methane emissions exceed 500 tons/year and/or the concentration of resultant tree removal changes habitat categorization.

Table 20. Construction-Related Greenhouse Gas Emissions (Metric Tons per Year)

Construction Activities	Metric Tons of CO_2	Metric Tons of CH_4
Total Project Emissions	163	0.04
AQMD Significance Threshold	500	500
Exceed Threshold?	No	No

As shown in **Table 20**, Project construction would result in combined Bio and NBio-CO_2 emissions of approximately 163 metric tons, and less than 1 metric ton of methane (CH_4) for a combined net of CO_2e of 164 metric tons, as discussed in CEQA VIIIa. The removal of trees related to Project activities (4 total, as discussed in CEQA IVa) would not change the habitat categorization of the Project area. Therefore, emissions would not exceed AQMD significance thresholds for construction-related GHG emissions of CO_2 and methane, and the level of potential impact would be less than significant.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

11.0 HAZARDS & HAZARDOUS MATERIALS (CEQA) AND RISK OF UPSET & HUMAN HEALTH (TRPA)

This section evaluates the Project's impacts associated with hazards, hazardous materials, and risk of upset during construction and operations. Impacts on public health from air emissions are discussed in Section 5.0. **Table 21** identifies the level of significance of the impacts based on the CEQA Guidelines Appendix G: Environmental Checklist Form and the TRPA Initial Environmental Checklist Form and indicates whether additional mitigation measures would be required to avoid, reduce, minimize, or otherwise mitigate potential impacts to a level of less than significant.

Table 21. Hazards and Hazardous Materials Impacts and Risk of Upset and Human Health

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
CEQA Environmental Checklist Item - Hazards and Hazardous Materials				
Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? (CEQA IXa)	☐	☐	☒	☐
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)	☐	☐	☒	☐
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)	☐	☐	☒	☐
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)	☐	☐	☒	☐
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)	☐	☐	☐	☒
Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? (CEQA IXf)	☐	☐	☒	☐
Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? (CEQA IXg)	☐	☐	☒	☐

Will the Proposal:	Yes	No, With Mitigation	Data Insufficient	No
TRPA Environmental Checklist Item – Risk of Upset				
Involve a risk of 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)	☐	☐	☐	☒
Involve possible interference with an emergency evacuation plan? (TRPA 10b)	☐	☐	☐	☒
TRPA Environmental Checklist Item – Human Health				
Creation of any health hazard or potential health hazard (excluding mental health)? (TRPA 17a)	☐	☐	☐	☒
Exposure of people to potential health hazards? (TRPA 17b)	☐	☐	☐	☒

11.1 CEQA Checklist Analysis – Hazards and Hazardous Materials

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

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.

The El Dorado County General Plan, as well as the Health and Safety Element of the City's General Plan, includes industrial or other land use designations that allow the handling, use, or manufacture of hazardous materials. However, only relatively small quantities of hazardous materials and hazardous wastes are generated, stored, and transported in South Lake Tahoe because of limited heavy industrial land uses and lack of major interstate trucking routes. Consequently, the Project area has a low risk of hazardous materials spills or incidents, as the significant portion of the Project area is located on disturbed land.

The Project would not result in increased density or the development of new land uses that would create the need for transportation, storage, use, and disposal of significant amounts of hazardous materials. The transportation, use, storage, and handling of minor amounts of hazardous materials would be anticipated with refueling or equipment cleaning activities during Project construction. Project construction would require limited use of potentially hazardous materials, such as fuel, paint, solvents, petroleum products, and asphalt concrete. Once constructed, the Project would not require the use of hazardous materials other than during periodic maintenance activities, such as repainting and restriping and asphalt repair.

The City will ensure that risk is maintained at less-than-significant levels by requiring the selected contractor to comply with federal, state, and local regulations regarding the handling and transportation, disposal, and cleanup of hazardous materials. The Project would not involve the transportation of explosives, inhalation hazards, or radioactive materials. The amount of hazardous materials necessary for the Project would not be substantial enough to create a significant hazard from routine transport, use, or disposal of hazardous materials during Project construction or maintenance.

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

Required Mitigation: **None.**

CEQA IXb. 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?

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.

The area does have naturally occurring hazardous materials such as radon gas, which is a radioactive gas that is found in some soil types, but is often concentrated in granite and granitic soils. These types of soils are not prevalent within the Project area. Radon vapors occurring in building materials, within buildings, and through indoor water systems are considered hazardous if they are allowed to concentrate to levels at 4 pico-curies per liter of air. Although radon vapors are found in some soils, they typically only become hazardous when vapors are concentrated, such as in indoor settings, and are unable to disperse into the atmosphere. The Project creates no such environment.

Project design, implementation of compliance measures, and conformance to local, state, and federal regulations and permit programs would avoid and minimize hazards to the public or the environment involving the release of hazardous materials into the environment. Construction equipment that utilizes gasoline, diesel, and other hazardous substances in small quantities would be associated with the Project. Human exposure to construction materials containing hazardous materials or from hazardous material spills exists on most construction sites. The risk of exposure of people to construction-associated hazardous materials would be reduced to less-than-significant levels through the implementation of BMPs for safe handling and use. The City's contractor will be required to comply with all federal, state, and local regulations regarding the handling and transportation, disposal, and cleanup of hazardous materials.

The Project area does not appear on the searched database lists for RECs. The ISA (**Appendix F**) found no evidence of RECs in direct connection with the Project area. There are seven sites identified in the general vicinity of the Project area's Area of Potential Effect (APE) in the GeoTracker for Hazardous Materials database: two are Waste Discharge Requirements sites (which are historically permitted sites), two are Leaking Underground Storage Tank (LUST) Cleanup Sites (both of which have been closed by the Lahontan Regional Water Quality Control Board (Lahontan Water Board), and two are Cleanup Program Sites (one site is undergoing active remediation and the other site is eligible for closure). An APE search radius of 2,000 feet from the centroid of the linear Project area was chosen in order to map the entire length of the Project area.

The ISA identified a low risk of associated groundwater contamination from the Cleanup Program Site that is undergoing active remediation; this site is located near the western terminus of the APE and the risk originates from the Raley's Shopping Center. Monitoring reports prepared for the Lahontan Water Board (CITATION) indicate that the gradient of the contamination plume is 0.017 to 0.019 feet/feet to the north and away from the section of the Project area west of Glorene Avenue that may require excavations of up to 5 feet below ground surface (bgs) for installation of stormwater and utility infrastructure improvements. In the portion of the Project area in the vicinity of the Cleanup Program Site, only asphalt removal and surface disturbance of up to 12 inches will be necessary to meet bike trail grade requirements, with excavations less than 5 feet bgs necessary for installation of two (2) new stormwater drop inlets. As a result of groundwater gradient direction and because minor surface disturbances would not extend to depths bgs that would intercept seasonal high groundwater, Project actions would create no impact to Cleanup Program Site remediation actions.

The Project operations are not anticipated to result in the creation of health hazards following compliance with health and safety regulations. Risk of release of hazardous materials during construction and operation would be less than significant.

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

Required Mitigation: **None.**

CEQA IXc. 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?

Standard of Significance. The transport or use of hazardous materials within 0.25 mile of a school constitutes a significant impact if the Project includes no measures ensuring public health and safety.

The Project area is within 0.25 mile of South Tahoe High School (which includes the Mount Tallac Continuation High School and Transitional Learning Center on the campus), the entrance to which is from Vikings Way. Because of the nature of the Project, the potential to emit hazardous emissions or need to handle acutely hazardous materials, substances, or waste would not persist following the construction period. Implementation of the Spill Control Plan, as detailed in Section 1.10.6, would ensure the protection of persons and property and safeguard the environment should emissions or spills occur during construction.

As discussed in the analyses for CEQA IXa and IXb, construction materials would be handled in accordance with applicable regulations intended to protect public health and safety, and potential impacts on schools would be less than significant.

Environmental Analysis: **Less than Significant Impac**t.

Required Mitigation: **None.**

CEQA IXd. 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?

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

It is highly unlikely that hazardous materials (including underground or aboveground tanks, etc.) or hazardous waste (including oil/water separators, waste oil, asbestos-containing material, lead-based paint, ADL, etc.) would be encountered within or immediately adjacent to the Project area. The Project does not propose to obtain large areas of additional ROW (the acquisition is minor and located directly adjacent to existing City ROW), nor is structural demolition part of the planned construction. Excavation planned to occur in native soils is minimal in nature and would not exceed 5 feet in depth bgs. Depth and area for excavation for is relatively shallow for minor storm drainage work and minor surface grading and would occur primarily in the area of previous impervious and paved surfaces. It is highly unlikely for hazardous materials or hazardous waste to be within or immediately adjacent to the Project area based on data and information reviewed in October 2018 with results as follows:

- GeoTracker for Hazardous Materials (http://geotracker.waterboards.ca.gov/): There are seven sites identified in the general vicinity of the Project area in the GeoTracker, two of which are Waste Discharge Requirements sites (which are historically permitted sites), two of which are LUST Cleanup Sites (both of which have been closed by the Lahontan Water Board), and two Cleanup Program Sites (one site is undergoing active Remediation and the other site is Eligible for Closure);

- California Department of Toxic Substances Control, Envirostor: There are no sites/facilities identified on the Hazardous Waste and Substances List (CORTESE) (http://www.envirostor.dtsc.ca.gov);
- There are no sites identified with waste constituents above hazardous waste levels outside the waste management list within, or directly adjacent to, the Project area. List downloaded and reviewed on 10/29/2018 (https://calepa.ca.gov/sitecleanup/corteselist/); and
- There are no Cease and Desist Orders and Cleanup and Abatement Orders within, or directly adjacent to, the Project area. List downloaded and reviewed on 10/29/2018 (https://calepa.ca.gov/sitecleanup/corteselist/).

A site investigation for aerially-deposited lead and petroleum hydrocarbon was conducted in 2008 by Geocon Consultants, Inc. for the Caltrans South Lake Tahoe US 50 Improvement Project (PM 77.3/79.3) Trout Creek to Ski Run Boulevard. The site investigation and subsequent report involved the advancement of 25 direct-push and 26 hand-auger borings for aerially-deposited lead and petroleum hydrocarbon sampling of soil and groundwater. Based on the soils data collected, excavated soil materials were not classified as California hazardous waste. Consequently, soil excavated from the surface top 3 feet could be reused or disposed as nonhazardous soil without restrictions, based on total and/or soluble lead content (GEOCON 2008).

SAGE Engineers, Inc. conducted geotechnical investigations for the Project area that included excavation of four test pits up to 8 feet in depth. Groundwater was encountered at a depth of 7 feet bgs in one of the four pits (i.e., TP-3). Proposed excavations are minimal to achieve grades. Additionally, excavation depths would not exceed a maximum depth of 5 feet and would not intercept the seasonal high groundwater table.

Refer to the analysis for CEQA IXb, which concluded the Project would no 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. In the event that undocumented hazardous materials are encountered in site soils or water during construction, the Project would comply with the requirements of City General Plan Policy HS-6.2: Construction Stoppage Due to Contamination. Implementation of the compliance measures for hazardous materials detailed in Section 1.10.6 would reduce impacts to a level of less than significant, because the type of contamination would be identified, and contamination would be disposed of at an appropriate site in accordance with applicable regulations.

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

Required Mitigation: **None.**

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

Standard of Significance. A significant impact results from non-compliance with an airport comprehensive land use plan or Federal Aviation Administration safety regulations.

The Project is located outside of the Zone 3 of the Overflight Safety Zone of the Lake Tahoe Airport Comprehensive Land Use Plan (City 2007). Zone 3 is the least restrictive safety zone, and Project actions are considered compatible with airport activities within this area. The Project would be compliant with the City's Airport Ordinance and the City's General Plan regulating use of the Overflight Zone. The impact would be less than significant.

The Project would not be located within an airport land use plan but the Project area is within 2 miles of a public airport or public use airport. Because of the nature of the Project, which would not emit hazardous

emissions or handle hazardous or acutely hazardous materials, substances, or waste, the Project would not present a safety hazard for people residing or working in the Project area and would create no impact to human safety hazards in designated airport influence areas.

Environmental Analysis: **No Impact.**

Required Mitigation: **None.**

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

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.

Construction activities would not interfere with an emergency response plan or emergency evacuation plan. The Project would involve construction within a City ROW that could be used for emergency response vehicles and evacuation. During Project construction, US 50 and local city streets within the Project area would have temporary traffic controls in place for road shoulder and lane closures to accommodate construction activities, equipment, and crews; however, a minimum of one traffic lane would remain open to emergency vehicles and for evacuations, if needed. Construction activities would be conducted in compliance with the Project-specific contractor's Traffic Control Plan (Section 1.10.10), which includes measures to ensure safe emergency, business, residential, bicycle, and pedestrian access to the Project area during construction, The Traffic Control Plan will be reviewed by the South Lake Tahoe Fire Department. The Project would not alter or require revisions to the City's Emergency Operation Plan or Emergency Management Plan.

The Project would not result in increased density, and therefore would not adversely affect emergency response described in local, regional, and state emergency response and/or evacuation plans, including but not limited to the El Dorado County Emergency Operations Plan, the City of South Lake Tahoe Emergency Operations Plan, and the South Lake Tahoe Fire Department Fire Planning Process. Should Project construction require residential streets to be temporarily blocked for equipment access, traffic control would be required to allow for direction of traffic and prioritization of emergency vehicles.

There are no hospitals, fire, police, or sheriff stations located within the Project area, and the Project would comply with applicable codes for emergency vehicle access and reduce to the extent feasible the interaction between construction equipment and other vehicles, bicycles and pedestrians to result in less-than-significant impacts. The Project would have a temporary impact on traffic circulation during the anticipated 4-month construction period. To reduce potential traffic impacts, traffic control measures, as detailed in Section 1.10.10, would be implemented in both the City and Caltrans roadways where improvements are proposed in the respective City ROW, and appropriate standards would be addressed accordingly. Project construction activities would conform to the Work Area Traffic Control Handbook (Watch Committee of Public Works Standards, Inc. 2016) and the California Manual of Uniform Traffic Control Devices (Caltrans 2014). A traffic control plan would be developed by the City's contractor. Traffic controls within the City ROW would include varying lane and shoulder closures using standard signage, delineators, barricades, and flagger personnel. Section 1.10.10 provides more details about the Traffic Control Plan measures that would reduce potential traffic congestion during Project construction.

Wildland-urban interface areas are locations in which developed areas are adjacent to areas of natural vegetation capable of carrying a wildfire. In the event of wildfire or other significant community threat, emergency access for evacuation or fire-fighting equipment can occur along the shared-use trail.

Project construction and operations would result in a less-than-significant impact on emergency response or evacuation plans.

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

Required Mitigation: **None.**

CEQA IXg. Would the Project expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

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.

The Project would not expose people or structures to a significant risk involving wildfires because the Project would not construct new aboveground structures or increase residential land-use densities. The Project would be constructed within existing, developed City ROWs that are comprised predominantly of compacted soils with ground cover or existing pavement and landscaping. The risk of starting a wildfire within the Project area is minimal because of the nature of the Project actions and location. The potential to expose people or structures to wildfires is considered less than significant because the South Lake Tahoe Fire Department and Lake Valley Fire District serve the Project area and vicinity, and a network of federal, state, and local agencies has been established to respond to fires, natural disasters, and emergencies.

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

Required Mitigation: **None.**

11.2 TRPA Checklist Analysis – Risk of Upset

TRPA 10a. Will the proposal involve a risk of 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?

Standard of Significance. Non-compliance with local, state, and federal standards for transport and use of hazardous materials during construction or 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 City's 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-2011-0101 also outlines requirements for storage and handling of hazardous substances for construction projects within the California portion of the Lake Tahoe Basin.

Refer to the analyses for CEQA IXa and IXb, which conclude that the Project would result in a less-than-significant risk of an explosion or release of hazardous substances.

Environmental Analysis: **No; Less than Significant Impact**.

Required Mitigation: **None.**

TRPA 10b. Involve possible interference with an emergency evacuation plan?

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.

Refer to the analysis for CEQA IXf, which concludes that the Project would have a less-than-significant impact on emergency response or evacuation plans.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

11.3 TRPA Checklist Analysis – Human Health

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

Standard of Significance. Non-compliance with state and federal standards for transport and use of hazardous materials during construction or 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.

Refer to the analyses for CEQA IXa and IXb, which concern the Project's potential to create health hazards or increase exposures to health hazards and conclude that the Project would not create a significant health hazard to the public or to the environment.

Environmental Analysis: **No; Less than Significant Impac**t.

Required Mitigation: **None.**

TRPA 17b. Will the proposal result in exposure of people to potential health hazards?

Standard of Significance. Non-compliance with state and federal handling and disposal regulations and procedures during construction or 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.

Refer to the analysis for CEQA IXa through CEQA IXd, which conclude that the Project would not create a significant health hazard to the public or to the environment.

Environmental Analysis: **No; Less than Significant Impact**.

Required Mitigation: **None.**

12.0 HYDROLOGY & WATER QUALITY

This section evaluates the Project's impacts on surface and groundwater hydrology and water quality during construction and operations. **Table 22** identifies the level of significance of the impacts based on the CEQA Guidelines Appendix G: Environmental Checklist Form and the TRPA Initial Environmental Checklist Form and indicates whether additional mitigation measures would be required to avoid, reduce, minimize, or otherwise mitigate potential impacts to a level of less than significant.

Table 22. Hydrology and Water Quality Impacts

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
CEQA Environmental Checklist Item				
Violate any water quality standards or waste discharge requirements? (CEQA Xa)	☐	☐	☒	☐
Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin? (CEQA Xb)	☐	☐	☒	☐
Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would (CEQA Xc):				
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?	☐	☐	☒	☐
iv) Impede or redirect flood flows?	☐	☐	☒	☐
Result in flood hazard, tsunami, or seiche zones, or risk release of pollutants due to project inundation? (CEQA Xd)	☐	☐	☐	☒
Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan? (CEQA Xe)	☐	☐	☐	☒
Will the Proposal:	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
TRPA Initial Environmental Checklist Item				
Changes in currents, or the course or direction of water movements? (TRPA 3a)	☐	☐	☐	☒

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)	☐	☐	☐	☒
Alterations to the course or flow of 100-yearflood waters? (TRPA 3c)	☐	☐	☐	☒
Change in the amount of surface water in any water body? (TRPA 3d)	☐	☐	☐	☒
Discharge into surface waters, or in any alteration of surface water quality, including but not limited to temperature, dissolved oxygen or turbidity? (TRPA 3e)	☐	☐	☐	☒
Alteration of the direction or rate of flow of ground water? (TRPA 3f)	☐	☐	☐	☒
Change in the quantity of groundwater, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations? (TRPA 3g)	☐	☐	☐	☒
Substantial reduction in the amount of water otherwise available for public water supplies? (TRPA 3h)	☐	☐	☐	☒
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)	☐	☐	☐	☒
The potential discharge of contaminants to the groundwater or any alteration of groundwater quality? (TRPA 3j)	☐	☐	☐	☒
Is the project located within 600 feet of a drinking water source? (TRPA 3k)	☐	☐	☐	☒

12.1 CEQA Checklist Analysis

CEQA Xa. Would the Project violate any water quality standards or waste discharge requirements?

Standard of Significance. Failure to implement effective, reasonable and appropriate measures to protect water quality and/or non-compliance with Water Quality Objectives (WQOs), waste discharge requirements, or Board Orders No. R6T-2017-0010 (Tahoe Stormwater Permit/City's Municipal Stormwater Discharge Permit) or R6T-2016-0010 (Tahoe General Construction Permit) constitutes a significant impact to surface water quality and beneficial uses. TRPA Code Chapters 33 and 60 and the Lahontan Basin Plan Chapter 5 disclose the applicable codified regulations and narrative and quantitative WQOs.

Site disturbance, stormwater runoff, erosion, and sedimentation during construction activities can pose direct and indirect short-term impacts to surface water quality and beneficial uses within and downstream of the Project area. During construction, ground-disturbing activities could expose soils to potential mobilization by rainfall/runoff and wind through activities such as vegetation removal, grading, and road asphalt removal. Non-sediment-related pollutants that are also of concern during construction include waste construction materials, chemicals, and petroleum products. Concentrated runoff from modified impervious surfaces and disturbed slopes could occur from long-term operations of the Project. Indirect impacts of atmospheric deposition of particulates could occur if disturbed areas are not revegetated or significant increased VMT occur.

Little surface water data is available for the Project area, but non-point sources of stormwater runoff from residential and commercial developments, including lawns and landscaping, driveways, parking lots and access roadways that comingle with surface runoff from forested uplands are known to be the primary influences on surface water quality (City and TRPA 2015). This analysis evaluates potential impacts in the context of the design features, construction controls, BMPs, and RPMs (i.e., compliance measures) that have been built into the Project proposal. These measures, incorporated into the Project proposal during planning and design, are intended to avoid, reduce, and minimize potential effects to surface water quality and beneficial uses. These Project components address direct and indirect, short-term, and long-term effects to surface water quality and beneficial uses from construction runoff, urban runoff, and atmospheric deposition within the Project area.

Short-term Construction Impacts. Construction of the Project would involve land disturbance activities, such as vegetation removal, excavation and backfill, soil compaction, and stockpiling of soils. Short-term impacts to surface water quality and beneficial uses could result if precipitation events occur simultaneously with construction activities. Disturbed and compacted soils could alter contribute runoff rates and subsequently increase peak and total runoff volumes from the Project area. However, containment of soil erosion and runoff on-site during construction would protect the down-gradient drainage surface water quality and beneficial uses. A small potential for accidental petroleum releases from motorized equipment exists during construction activities, which could result in temporary effects to water quality.

The Project would not be constructed through any waterways or wetlands and would not result in direct impacts to surface water quality standards or waste discharge requirements. Source control and erosion and sediment control BMPs would be identified in the site-specific SWPPP, which would be installed and maintained throughout the construction period. Following construction excavation and trenching, disturbed areas would be returned to existing grade and covered and/or revegetated to minimize the potential for erosion from wind and surface water.

The Project area is generally hydrologically disconnected from the Upper Truckee River meadow system and no perennial drainage channels are present in the area. Surface runoff within the Project area typically sheet flows and infiltrates within unpaved portions of the City ROW or is captured and conveyed to existing City stormwater system that was installed in the early to mid-1980s.

The Project would comply with conditions for permit coverage under Board Order No. R6T-2017-0010, the Tahoe Construction General Permit. During the final stages of construction plan development, the City and its contractors will prepare details and specifications that make up the TRPA ESCP and NPDES SWPPP requirements. These plans address construction-related disturbance to minimize, control and infiltrate runoff. At a minimum, implementation of the ESCP and SWPPP would prevent debris, soil, silt, sand, rubbish, cement or concrete or washings thereof, oil or petroleum products or other organic or earthen material from Project construction from entering into receiving waters or their tributaries and adjacent wetlands. The SWPPP outline erosion control measures to be taken as well as structural BMPs to control and prevent to the maximum extent practicable the discharge of pollutants to surface waters and groundwater. The SWPPP includes a plan for responding to and managing accidental spills during construction (i.e., Spill Control Plan) as well as overall management of construction such as designating areas for material storage, equipment fueling, concrete washout, and stockpiles. The City would file the permit registration documents prior to ground-disturbing activities and its contractor would install construction-related temporary BMPs according to the California Stormwater Quality Association (CASQA) and TRPA BMP handbooks.

This evaluation concludes that through implementation of the water quality and soil compliance measures detailed in Section 1.10.7, the Project would adequately avoid and minimize the potential for direct and indirect water quality degradation during construction. Conformance with existing regulations and Project

permitting conditions would reduce direct and indirect short-term potential impacts to surface water quality and beneficial uses during the construction period to a level of less than significant.

Long-term Operation Impacts. The Project would improvement a portion of the comprehensive regional stormwater treatment system and provide for connects of the regional bike network. The Project would not increase long term potential for runoff containing hydrocarbons, heavy metals, and other chemicals or toxins associated with motorized vehicles and exhaust, as compared to existing conditions. To reduce potential long-term impacts to surface water quality from operations and maintenance actions, the Project would implement post-construction stormwater management in accordance with permit R6T-2016-0010 requirements for Lahontan Notice of Termination conformance and install permanent BMPs according to the CASQA and TRPA BMP handbooks. Post-Project BMP effectiveness and stormwater monitoring would be addressed through the ongoing, City-owned Facilities, Equipment and Parks Maintenance Program.

The Project includes strategies for revegetation and restoration based on the type and location of disturbance with goals of reestablishment of native hydrology and vegetation communities. The Project would install extensive ornamental landscaping or necessitate long term irrigation or fertilizer use beyond the vegetation reestablishment stage. Revegetation strategies would include the use of native plants and materials.

The Project would contribute toward attainment of TRPA water quality thresholds and Lahontan's WQOs for specific water bodies and general hydrologic areas. The Project provides for an incremental step in meeting the basin-wide water quality thresholds through implementation of a TRPA EIP project number 03.01.02.0094 and would install essential public transportation linkage identified in the RTP (TRPA 2017), Lake Tahoe Region Bike and Pedestrian Plan (TMPO 2010), and TRPA EIP Update, Planning Horizon 2008-2018 (TRPA 2009).

Given that the Project would implement a portion of the comprehensive area-wide stormwater treatment system and improve connectivity to the regional bicycle and pedestrian system, long-term operational impacts water quality are anticipated to be beneficial. The stormwater infrastructure would serve to convey and treat additional stormwater runoff volumes captured from the Project area, removing pollutants and specifically removing fine sediments. Additionally, positive indirect effects to water quality typically result from increased utility and connectivity for bicyclist and pedestrians and reductions of daily vehicle trips and associated air quality emissions.

The direct and indirect, long-term impacts to surface water quality and beneficial uses from operations and maintenance of the Project would be less than significant based on the potential benefits to the immediate Project area and the Project's contributions toward attainment of TRPA Thresholds and the Lake Tahoe TMDL Program.

Atmospheric Deposition. Atmospheric sources can contribute to surface water quality degradation, as more than half of the nitrogen loading in Lake Tahoe is delivered by air (TRPA and Nevada Department of Environmental Protection 2008). Several sources of airborne pollutants include motorized vehicles, dust and particulates from unvegetated slopes, and pulverized road salts and abrasives. Fugitive dust generated during Project construction could increase ambient fine particulate concentrations. Fine particulate emissions can be deposited directly in surface waters or can be transported by runoff to surface waters.

The Project includes the development and implementation of a Fugitive Dust Control Plan (Section 1.10.1) for the control of dust during construction activities. The Project minimizes long-term, potential impacts to surface water quality and atmospheric deposition through revegetation of disturbed areas and trail clear zones.

The Project offers an alternative to use of private automobiles for travel. Section 19.0 discusses VMT, and after Project construction no measurable change related to emissions would be expected. Revegetation of disturbed areas to cover bare soils, stabilize slopes, and reduce sediment sources and proper management and maintenance to identify areas of trail surface repair and additional slope stabilization and revegetation further minimize long-term, potential impacts to surface water quality and beneficial uses from atmospheric deposition.

Anti-Degradation Policy. The State anti-degradation policy (Resolution No. 68-16) is incorporated into regional water quality control plans, including the Lahontan Basin Plan. The policy applies to high-quality waters only (i.e., Lake Tahoe and tributaries) and requires that existing high quality be maintained to the maximum extent possible. The Project would implements reasonable and appropriate measures for the protection of surface water quality and beneficial uses and complies with conditions set forth in Board Orders No. R6T-2017-0010 and R6T-2016-0010. Based on the stated evaluation criteria for determination of significant impacts to surface water quality and beneficial uses, the Project would maintain beneficial uses and protects surface water quality through the Project proposal and implementation of compliance measures for conformance with federal, regional, State, and City codified regulations.

The Project as proposed would not purposefully discharge any waste that would degrade water quality and the potential for impacting water quality would be reduced to a level of less than significant.

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

Required Mitigation: **None.**

CEQA Xb. Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

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 5 feet that will intercept groundwater; or fails to comply with Lahontan Water Board requirements for disposal of groundwater during construction, as outlined in TRPA Code Chapters 33 and 60, Lahontan Basin Plan Chapter 5.7, and Lahontan Board Order No. R6T-2017-0010 (Tahoe General Construction Permit).

Groundwater elevations within the Project area were investigated during the geotechnical investigations and have informed the Project design. The geotechnical report is included in this IS/IEC as **Appendix E** and reports that groundwater was encountered at a depth of 7 feet bgs in one of the four pits (i.e., TP-3).

The Project would not affect groundwater quantity. The Project would not increase impervious surface area, and thus would not significantly alter groundwater recharge. Extraction of groundwater would not result. The Project would cause no permanent change in the quantity of groundwater, either through direct addition or withdrawal, and thus poses no effects to local groundwater table levels. Project operations would pose no impacts to the existing available public water supply.

The Project accommodates groundwater infiltration of surface runoff along the length of the Class 1 shared-use trail alignment. Infiltration of surface water to groundwater would occur in close proximity to its origin and along the landscaped buffer or would be captured, conveyed, and infiltrated by the stormwater treatment infrastructure that is proposed. No active hazardous release sites are located within the Project area (refer to the analysis for CEQA VIIId). Excavations would not exceed 5 feet bgs and Project improvement would be installed above the seasonal high groundwater table.

Implementation of compliance measures, detailed in Section 1.10.7, would ensure compliance with Lahontan Water Board requirements for dewatering of groundwater during construction, if necessary, as outlined in Lahontan Basin Plan Chapter 5.7 and Lahontan Board Order No R6T-2016-0010. Depending on final engineering design, the Project would submit a dewatering plan as part of the SWPPP for NPDES construction permitting. Dewatering plans would identify actions to be taken should unexpected groundwater interception occur during construction. Proper planning and implementation of the dewatering plan minimizes the risk of discharge of contaminants to groundwater or alteration of groundwater movement during construction.

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

Required Mitigation: **None.**

CEQA Xc. 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 in a manner, which would (i) result in substantial erosion or siltation on- or off-site, (ii) increase the rate or amount of surface runoff such that flooding would result 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?

Standard of Significance. A significant impact occurs if Project construction or operations substantially alter an existing watercourse alignment or capacities or increases in runoff occur such that flooding results because the 20-year, 1-hour storm volume cannot be captured by existing or proposed stormwater drainage facilities. Creation of or contribution of polluted runoff that exceed the capacity of existing or planned stormwater drainage systems constitutes a significant impact. If the Project places structures that impede or redirect 100-year flood flows or exposes people or structures to a significant risk of loss, injury or death involving flooding, a significant impact results.

Drainage Patterns. The Project improvements would operate at or below ground surface and would not influence or cause any flooding events. The Project would implement stormwater improvements that improve drainage in the Project area, and therefore, the Project would not alter hydrological conditions that would increase site inundation or debris flow risk over that which currently exists within the Project area. Risk of dam failure is not applicable to the Project area because no dams or levees are present or proposed.

The Project would not result in new impervious surfaces that would impact existing drainage patterns. Temporary disturbance would be contained within the City ROW and would not result in a degradation of function or value of any surface water bodies. Project construction would not take place in a stream channel and would, therefore, not result in impacts to streambed characteristics or downstream properties.

Temporary BMPs identified in the site-specific SWPPP will contain runoff within the Project area during precipitation events occurring during the construction period. The Project design includes source control for runoff from impervious surfaces, which would ensure that long term operation of the shared-use trail does not alter surface water drainage patterns or increase runoff rates or volumes that would result in flooding or exceed the capacity of existing or planned stormwater drainage systems.

Erosion or Siltation. To conform to TRPA codified regulations set forth in Code Chapter 60, the 20-year, 1-hour storm runoff volume must be contained and infiltrated within the Project area so that existing drainage patterns do not substantially change and result in erosion or siltation on- or off-site. The Project drainage design would direct surface flow to the edges of trails and infiltrate runoff into the landscaped buffer that functions as source control so that existing drainage patterns would not substantially change and result in erosion or siltation on- or off-site. The 60 percent construction plan set (**Appendix A**) identifies areas requiring cross drainage of surface runoff. Properly sized and located (or relocated) drop inlets

installed at appropriate grade would collect cross drainage such that Project improvements would not contribute to substantial erosion or siltation on- or off-site.

The Project would not alter watercourse alignments or direction of water movements, as no surface water bodies are mapped within the Project area. Stormwater improvements would be beneficial to site drainage and would reduce the amount of sediment with potential to be carried off-site. The Project would implement stormwater design features that would allow for greater infiltration of stormwater on-site, reducing erosion and siltation potential and alleviating localized flood risk. The level of potential impact to drainage patterns would be reduced to less than significant through the Project design.

Flooding. Project improvements would allow for increased capture, retention and infiltration of runoff, thus reducing potential for localized ponding and flooding. Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps consulted indicate no FEMA 100-year flood hazard areas present within the Project area (**Figure 6**). Furthermore, Project improvements would be installed at or below grade. The analysis identifies no potential changes to the 100-year floodplain storage capacity, flow routes, or boundaries, and no s adverse effects to neighboring properties or structures. The Project area is not located within a FEMA Special Flood Hazard Area, and the Project would create no new significant risk or loss, injury or death involving flooding.

Existing or Planned Stormwater Drainage Systems. The Project would not relocate the existing City ROW and would not increase impervious land coverage; thus runoff volume associated with a 20-year, 1-hour storm would not be significantly altered by Project improvements. Following construction, the Project implements a portion of an area-wide stormwater treatment system to improve capture, conveyance, and treatment of stormwater runoff, and potential impacts to system capacities would be less than significant.

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

Required Mitigation: **None.**

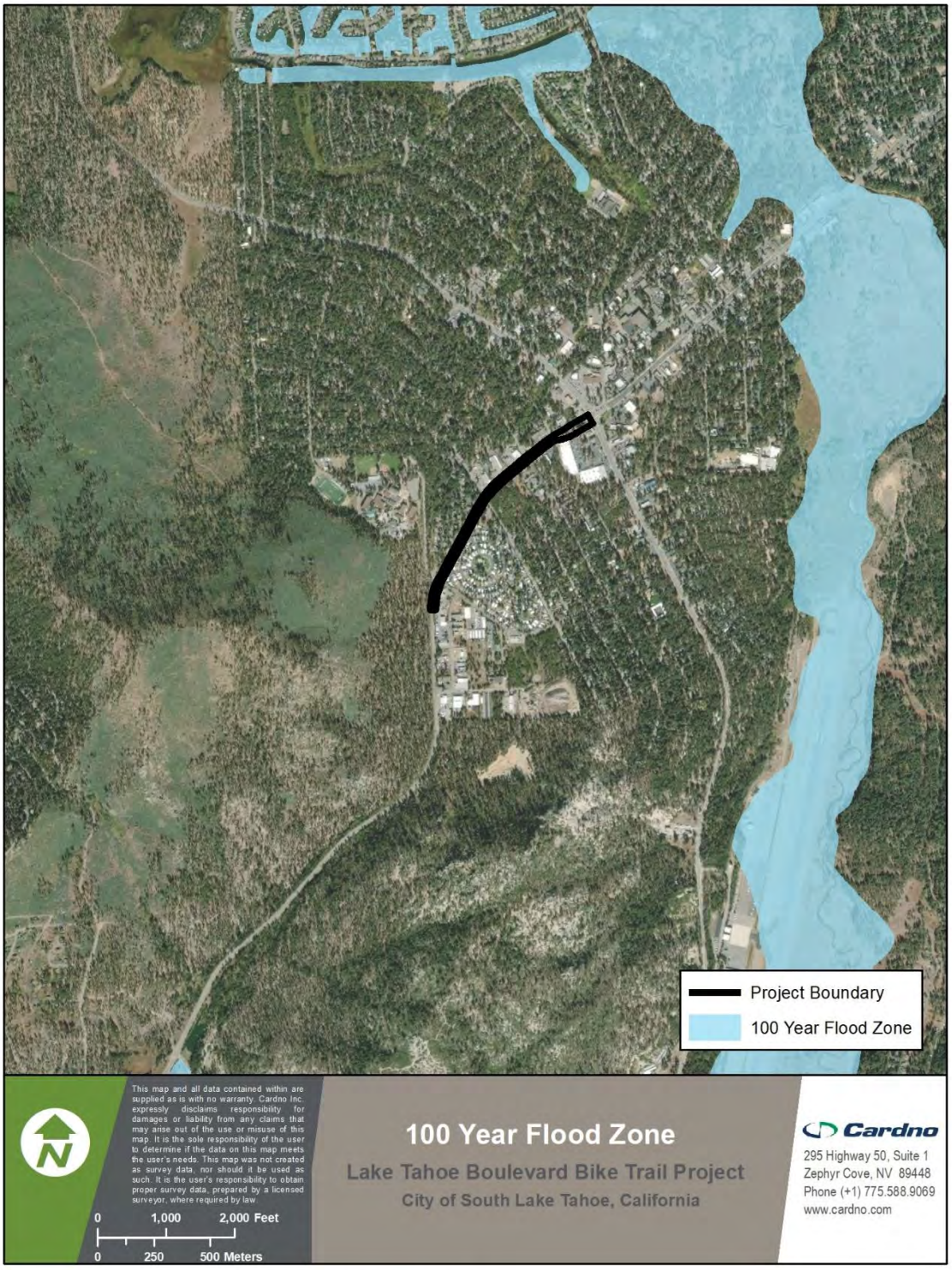

Figure 6. FEMA 100-year Flood Hazard Zone.

The Project area is not located within a FEMA Special Flood Hazard Area, and the Project would create no new significant risk or loss, injury or death involving flooding. The Project improvements would operate at or below ground surface and would not influence or cause any flooding events. The Project would implement stormwater improvements that would improve drainage in the Project area, and therefore, the Project would not alter any hydrological conditions that would increase site inundation or debris flow risk over that which currently exists within the Project area. Risk of dam failure would not be applicable to the Project area because no dams or levees are present or proposed.

Environmental Analysis: **No Impact.**

Required Mitigation: **None.**

CEQA Xd. Would the Project create flood hazard, tsunami, or seiche zones, or risk release of pollutants due to project inundation?

Standard of Significance. An increase in risk of inundation by seiche, tsunami, or mudflow as a result of Project installation constitutes a significant impact.

The potential exists of a seiche developing in Lake Tahoe that could pose a hazard to areas located in close proximity or sited as similar elevation to the lakeshore. The Project, however, does not propose development, infrastructure, or land use changes that would increase the density of existing development. Additionally, the Project would not increase this general hazard or increase the number of people that could be affected by a seiche, and the existing topography of the Project area would not accommodate mudflows. The Project's inland and low-gradient location negates the risk of a seiche, tsunami or mudflow. The Project would not create any housing or other structures and would not expose people or structures to impacts from inundation by seiche, tsunami, or mudflow.

The City has in place a Natural Hazard Mitigation Plan and an Emergency Management Plan. Both of these plans assist in reducing potential impacts resulting from a seiche. These plans provide for the effective mobilization of available resources and emergency response entities, both public and private, to meet conditions constituting a local emergency, state of emergency, or state of war emergency, and outline the organization, powers and duties, services, and staff of the emergency organization.

Project operations would not create additional risk of inundation by seiche, tsunami, or release of pollutants due to inundation, because the Project improvements would operate at or below ground surface and would result in no impacts.

Environmental Analysis: **No Impact**.

Required Mitigation: **None.**

CEQA Xe. Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Standard of Significance. Noncompliance with the policies of the Lahontan Basin Plan and TRPA Regional Plan, criteria and conditions of Board Order R6T-2016-0010 and Board Order R6T-2017-0010, and recommendations of the Groundwater Management Plan for the South Tahoe Subbasin constitute a significant impact.

The Project would not violate narrative or numeric water quality standards or degrade water quality or beneficial uses during construction or operation and would not interfere with execution of the Lahontan Basin Plan or TRPA Regional Plan. Refer to Section 1.10.7, which specifies the compliance measures that would be implemented to avoid and minimize potential temporary impacts to soil and water quality during

construction. In additional of direct benefits from stormwater improvmeents, opertation of the Project would indirectly benefit water quality through reduction of VMT and associated air quality emissions.

The California legislature passed the Sustainable Groundwater Management Act in 2014 creating a statewide framework for groundwater regulation in California. The Project is located within the Tahoe Valley South Groundwater Basin listed as California Department of Water Resources Groundwater Basin 6-5.01. The STPUD developed the updated Groundwater Management Plan for the Tahoe South Subbasin (STPUD 2014), which is inclusive of portions of El Dorado County, the City of South Lake Tahoe, and the community of Meyers and Christmas Valley and thus applicable to the Project area. The Project would install transportation and stormwater improvements and would not involve the extraction or injection of groundwater. The plan includes a number of recommendations for the management of the groundwater subbasin, none of which the Project would conflict with. Project operations would not conflict with or obstruct the Basin Plan, Regional Plan or sustainable management of the groundwater basin and through implementation of compliance measures specified in Section 1.10.7, temporary impacts to surface water and groundwater quality would be reduced to a less of less than significant.

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

Required Mitigation: **None.**

12.2 TRPA Checklist Analysis

TRPA 3a. Will the proposal result in changes in currents, or the course or direction of water movements?

Standard of Significance. Chapter 63 of the TRPA Code of Ordinances requires the protection of fish resources and limits modifications of streams. Additionally, the CDFW requires lake and streambed alteration agreements for projects that propose potential changes to stream course or direction of water movement.

Refer to analysis for CEQA Xc, which concludes that the level of impact to existing drainage patterns of the Project area would be less than significant. There are no surface water bodies located within the Project area. Therefore, the Project would not result in a significant impact to currents or the course of direction of water movements.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 3b. Will the proposal 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?

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. 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 includes bike trails.

Refer to analysis for CEQA Xc, which concludes that the level of impact to existing drainage patterns and the rate and amount of runoff from the Project area to existing or planned stormwater drainage systems would be reduced to a level of less than significant by the Project proposal.

The Project would not increase impervious surfaces (e.g., land coverage), and therefore, would not reduce infiltration of surface runoff from a 20-year, 1-hour storm event. BMPs would be implemented during construction for source control and to maintain absorption rates, drainage patterns, and the rate and amount of surface runoff so that approximately 1 inch per hour would be contained on-site.

The Project would not alter the adsorption rates within the Project area, nor would the Project improvements increase surface water runoff. Hydrologic modeling has been performed and incorporated into the 60 percent design plan to ensure that Project improvements would not alter absorption rates, drainage patterns, or the rate and amount of surface water runoff so that the 20-year, 1-hour storm cannot be contained on-site. Implementation of the Project would improve the performance of the area-wide stormwater system to contain the 20-year, 1-hour storm event.

Environmental Analysis: **No; Beneficial Impact.**

Required Mitigation: **None.**

TRPA 3c. Will the proposal result in alterations to the course or flow of 100-year flood waters?

Standard of Significance. Alteration to the course or flow of 100-year flood waters constitutes a significant impact.

Refer to analysis for CEQA Xc which concludes Project improvements would not impede or redirect 100-year floodwaters. As depicted in **Figure 6**, the Project area lies outside of the 100-year flood way and 100-year floodplain.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None.**

TRPA 3d. Will the proposal result in change in the amount of surface water in any waterbody?

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.

Refer to the analysis for CEQA Xc, which concludes that the Project would not result in a significant change in drainage patterns or the amount of surface water in any water body.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

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

Standard of Significance. Failure to implement effective, reasonable and appropriate measures to protect water quality and non-compliance with WQOs, waste discharge requirements or Board Order No R6T-2011-0019 or R6T-2011-0101 result in a significant impact to surface water quality and beneficial use.

Refer to analyses for CEQA Xa and Xe, which conclude the level of impact to surface water quality and beneficial uses would be less than significant. Construction and operation of the Project would not cause alteration to surface water quality nor contribute toward non-attainment of TRPA Thresholds and would

not conflict with or obstruct implementation of the Lahontan Basin Plan or a sustainable groundwater management plan.

Environmental Analysis: **No; Less than Significant Impact**.

Required Mitigation: **None.**

TRPA 3f. Will the proposal result in the alteration of the direction or rate of flow of groundwater?

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 5 feet that would intercept groundwater; or fails to comply with Lahontan Water Board requirements for disposal of groundwater during construction, as outlined in TRPA Code Chapters 33 and 60, Lahontan Basin Plan Chapter 5.7, and Lahontan Board Order No. R6T-2017-0010 (Tahoe General Construction Permit).

Refer to analysis for CEQA Xb, which concludes that the level of impact to groundwater movement would be less than significant. The Project would not alter the direction or rate of flow of groundwater.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 3g. Will the proposal result in change in the quantity of groundwater, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations?

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 5 feet that would intercept groundwater; or fails to comply with Lahontan Water Board requirements for disposal of groundwater during construction, as outlined in TRPA Code Chapters 33 and 60, Lahontan Basin Plan Chapter 5.7, and Lahontan Board Order No. R6T-2017-0010 (Tahoe General Construction Permit).

Refer to analysis for CEQA Xb, which concludes that the level of impact to groundwater quantity would be less than significant. The Project would not result in a change in the quantity of groundwater, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 3h. Will the proposal result in substantial reduction in the amount of water otherwise available for public water supplies?

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.

Project construction would require minor amounts of water for dust suppression and would not substantially reduce public water supplies. The Project area would be revegetated with native plants that require minimal to no irrigation until established. As supported by the analysis in the Lake Tahoe Region BPMP (TMPO 2010), implementation of bikeway and pedestrian projects is not anticipated to change the amount of surface water in any body of water in the Lake Tahoe Basin or reduce the amount of water available for public water supplies. The Project does not include features, such as developed trailheads with restroom facilities or irrigated planting beds. Construction activities and initial revegetation activities may require irrigation

to meet performance criteria, yet would occur in phases over the construction season and this temporary demand would not exceed the maximum permitted capacity of service providers.

Environmental Analysis: **No; Less than Significant Impact**.

Required Mitigation: **None.**

TRPA 3i. Will the proposal 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?

Standard of Significance. An increase in risk of inundation by seiche, tsunami, or mudflow as a result of Project installation constitutes a significant impact.

Refer to the analysis for CEQA Xd, which concludes that Project operations would not create additional risk of inundation by seiche, tsunami, or mudflow, because the Project improvements would operate at or below ground surface and would not result in significant impacts.

The Project's inland and low-gradient location negates the risk of a seiche, tsunami or mudflow. The Project would not create any housing or other structures and thus would not expose people or structures to impacts from inundation by seiche, tsunami, or mudflow.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None.**

TRPA 3j. Will the proposal result in the potential discharge of contaminants to the groundwater or any alteration of groundwater quality?

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 5 feet that would intercept groundwater; or fails to comply with Lahontan Water Board requirements for disposal of groundwater during construction, as outlined in TRPA Code Chapters 33 and 60, Lahontan Basin Plan Chapter 5.7, and Lahontan Board Order No. R6T-2017-0010 (Tahoe General Construction Permit).

Refer to the analysis for CEQA Xb, which concludes that the level of impact to groundwater quality is less than significant. The Project would implement a site-specific SWPPP, reducing the potential of discharge of contaminants to groundwater to a level of less than significant.

Environmental Analysis: **No; Less than Significant Impact**.

Required Mitigation: **None.**

TRPA 3k. Will the proposal be located within 600 feet of a drinking water source?

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.

Project construction would not impact drinking water sources because excavation depths would not exceed 5 feet in depth bgs, thus avoiding potential impacts to groundwater. Water quality compliance measures (Section 1.10.7) would be implemented, as required by TRPA Code Section 60.3.3.D to reduce potential impacts to drinking water sources to a level of less than significant.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

13.0 LAND USE & PLANNING

This section evaluates the Project's impacts on land use and planning during construction and operations. **Table 23** identifies the level of significance of the impacts based on the CEQA Guidelines Appendix G: Environmental Checklist Form and the TRPA Initial Environmental Checklist Form and indicates whether additional mitigation measures would be required to avoid, reduce, minimize, or otherwise mitigate potential impacts to a level of less than significant.

Table 23. Land Use and Planning Impacts

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
CEQA Environmental Checklist Item				
Physically divide an established community? (CEQA XIa)	☐	☐	☐	☒
Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? (CEQA XIb)	☐	☐	☐	☒
Will the Proposal:	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
TRPA Initial Environmental Checklist Item				
Include uses which are not listed as permissible uses in the applicable Plan Area Statement, adopted Community Plan, or Master Plan? (TRPA 8a)	☐	☐	☐	☒
Expand or intensify an existing non-conforming use? (TRPA 8b)	☐	☐	☐	☒

13.1 CEQA Checklist Analysis

CEQA XIa. Would the Project physically divide an established community?

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 (PASs) and Code, and City General Plan determine this level of impact significance.

The Project area is located within the city limits of the City of South Lake Tahoe and partially within the established TVAP area. The Project would implement a suite of improvements that would create not physical divide between established communities. The recreational improvements would improve access and mobility for local residents by providing a lighted shared-use path for cyclists and pedestrians, improving pedestrian and bicycle connectivity within the community. The Project would install a linear trail and associated amenities that are not of a size or use that physically divides the community or redirects

existing traffic to change circulation patterns, but would result in improved connectivity within the urban community.

Environmental Analysis: **No Impact.**

Required Mitigation: **None.**

CEQA XIb. Would the Project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

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 RPU and Code Chapters 21 and 20, City General Plan, and TVAP.

The adopted land use plan for the Project area is the TVAP (City and TRPA 2015), with a portion of the Project area extending into PAS 114, Bonanza, PAS 118 (Twin Peaks) and the South Y Industrial Tract Community Plan. The Project would install stormwater, utility, and traffic/circulation improvements, which are designated by the TVAP as permissible uses. The TVAP conforms to the RPU conceptual land use map and the City General Plan land use diagram and conforms to the applicable policies and regulations to avoid or mitigate an environmental effect. Because the Project would implement land uses established in the TVAP, the Project would not conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project. For the portion of the Project area located in PAS 114 (Bonanza), PAS 118 (Twin Peaks) and the South Y Industrial Tract Community Plan, certain improvements would be allowed as considered under the provisions of a special use permit. The Project improvements replace, relocate or expand upon existing public services and linear public facilities within a City ROW and would not result in non-compliance with land use plans, goals, policies, regulations or provisions.

Environmental Analysis: **No Impact**.

Required Mitigation: **None.**

13.2 TRPA Checklist Analysis

TRPA 8a. Will the proposal include uses which are not listed as permissible in the applicable Plan Area Statement, adopted Community Plan, or Master Plan?

Standard of Significance. A significant impact results from inconsistency with permissible land uses established in the TVAP, PAS 114, PAS 118 or the South Y Industrial Tract Community Plan.

Special uses listed in applicable plan area statements, community plans, redevelopment plans, or specific or master plans as "special" ("S") may be determined to be appropriate uses for the specified area, and projects and activities pursuant to such uses found to be appropriate maybe permitted. To allow a special use, TRPA shall conduct a public hearing according to the procedures in the TRPA Rules of Procedure. Before issuing an approval, TRPA shall make the following findings:

> *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;*
>
> *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; and

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.

A Special Use Permit will require discretionary approval by the City Planning Commission or Zoning Administrator following review and a determination that the nature of the proposed use, at the location proposed, is not detrimental to the public welfare or injurious to property or improvements in the neighborhood. To obtain a special use permit, the applicant (i.e., the City) must generally show that the contemplated use is compatible with the zoning ordinance and land use standards. Findings that such use would be essential or desirable to the public convenience or welfare, and will not impair the integrity and character of the zoned district or be detrimental to the public health, safety, morals or welfare are required.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None.**

TRPA 8b. Will the proposal expand or intensify an existing non-conforming use?

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 the TVAP, South Y Industrial Tract Community Plan, PAS 114, and PAS 118.

The Project would not result in the expansion or intensification of any non-conforming use. Improvements that are proposed are either an existing and allowable use or would be allowed under the provisions of a special use permit, as described in the analysis for TRPA 8a.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None.**

14.0 MINERAL RESOURCES (CEQA) & NATURAL RESOURCES (TRPA)

This section evaluates the Project's impacts on mineral resources during construction and operations. **Table 24** identifies the level of significance of the impacts based on the CEQA Guidelines Appendix G: Environmental Checklist Form and the TRPA Initial Environmental Checklist Form and indicates whether additional mitigation measures would be required to avoid, reduce, minimize, or otherwise mitigate potential impacts to a level of less than significant.

Table 24. Mineral and Natural Resources Impacts

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
CEQA Environmental Checklist Item – Mineral Resources				
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)	☐	☐	☒	☐
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)	☐	☐	☐	☒
Will the Proposal:	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
TRPA Environmental Checklist Item – Natural Resources				
A substantial increase in the rate of use of any natural resources? (TRPA 9a)	☐	☐	☐	☒
Substantial depletion of any non-renewable natural resource? (TRPA 9b)	☐	☐	☐	☒

14.1 CEQA Checklist Analysis – Mineral Resources

CEQA XIIa. 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?

Standard of Significance. A significant impact occurs if the Project creates a loss of availability of mineral resources that are valuable to the region and the residents of California.

The Project area is not located in Mineral Resource Zones 1 through 4 classification areas. The Project area does not contain an economically feasible extraction operation, and no mineral resources are known to exist within the Project area. When fill material needed, an engineered fill is detailed in the final plan set. Any borrow or disposal sites must comply with the Surface and Mining Reclamation Act of 1975. If necessary, fill material would be obtained from such authorized sources and no significant impacts to mineral resources would occur from the Project.

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

Required Mitigation: **None.**

CEQA XIIb. 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?

Standard of Significance. A significant impact occurs if the Project creates a loss of availability of locally important mineral resource recovery sites.

The Project area contains no mineral resource recovery sites, and therefore, the Project would create no impact to such sites.

Environmental Analysis: **No Impact.**

Required Mitigation: **None.**

14.2 TRPA Checklist Analysis – Natural Resources

TRPA 9a. Will the proposal result in a substantial increase in the rate of use of any natural resources?

Standard of Significance. A significant impact occurs if the Project creates a substantial increase in the rate of use of natural resources.

The Project would use what is required for construction such as metal, vegetation, and fuel; however, the use would be required only during construction, and there would be no sustained, long-term use or need for these resources. The Project would not result in additional commercial, tourist, or residential development, and would therefore have no impact on the incremental use of natural resources.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None.**

TRPA 9b. Will the proposal result in substantial depletion of any non-renewable natural resource?

Standard of Significance. A significant impact occurs if the Project creates a substantial depletion of non-renewable resources.

Non-renewable natural resources, such as gasoline and diesel fuel for construction equipment and vehicles would be used temporarily during construction. The Project does not include facilities or actions that cause depletion of non-renewable natural resources and thus creates no impact to such resources.

Non-renewable natural resources such as gasoline and diesel would be consumed during Project construction. However, because construction would be limited and temporary and would not require quantities of non-renewable resources beyond those of typical roadway construction, the Project would not result in substantial depletion of any non-renewable natural resource.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None.**

15.0 NOISE

This section evaluates the Project's noise impacts during construction and operations. **Table 25** identifies the level of significance of the impacts based on the CEQA Guidelines Appendix G: Environmental Checklist Form and the TRPA Initial Environmental Checklist Form and indicates whether additional mitigation measures would be required to avoid, reduce, minimize, or otherwise mitigate potential impacts to a level of less than significant.

Table 25. Noise Impacts

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
CEQA Environmental Checklist Item - Noise				
Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? (CEQA XIIIa)	☐	☐	☒	☐
Generation of excessive groundborne vibration or groundborne noise levels? (CEQA XIIIb)	☐	☐	☒	☐
A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? (CEQA XIIIc)	☐	☐	☒	☐
A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? (CEQA XIIId)	☐	☐	☒	☐
For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels? (CEQA XIIIe)	☐	☐	☒	☐
For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels? (CEQA XIIIf)	☐	☐	☐	☒
Will the Proposal result in:	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
TRPA Initial Environmental Checklist Item - Noise				
Increases in existing Community Noise Equivalency Levels (CNEL) beyond those permitted in the applicable Plan Area Statement, Community Plan or Master Plan? (TRPA 6a)	☐	☐	☐	☒

Exposure of people to severe noise levels? (TRPA 6b)	☐	☐	☐	☒
Single event noise levels greater than those set forth in the TRPA Noise Environmental Threshold? (TRPA 6c)	☐	☐	☐	☒
The placement of residential or tourist accommodation uses in areas where the existing CNEL exceeds 60 dBA or is otherwise incompatible? (TRPA 6d)	☐	☐	☐	☒
The placement of uses that would generate an incompatible noise level in close proximity to existing residential or tourist accommodation uses? (TRPA 6e)	☐	☐	☐	☒
Exposure of existing structures to levels of ground vibration that could result in structural damage? (TRPA 6f)	☐	☐	☐	☒

15.1 CEQA Checklist Analysis

CEQA XIIIa. Would the Project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Standard of Significance. Exceedance of CNEL limits stated in the TVAP, PAS 114, and TRPA and City noise ordinances constitutes a significant noise impact.

Noise sources can be grouped into two categories: mobile and stationary. Noise generation from the Project would be related to construction activities and construction noise, which would be temporary and short-term in nature and pose little potential for adverse construction-related noise impact, given the existing commercial use and circulation patterns of the Project area.

The City and TRPA have adopted the noise thresholds established by TVAP Policy HNS-2.1 (**Table 26**), which would apply to a portion of the Project area at the South Wye intersection. For the portion of the Project area within PAS 114 and PAS 118, the maximum of 50 CNEL and 55 CNEL would apply for permanent uses and activities, and in the South Y Industrial Tract Community Plan area the maximum CNEL would be 65 CNEL. **Table 26** compares CNELs adopted for the Project area to typical CNELs produced by commercial land uses.

Table 26. Maximum Cumulative Noise Equivalent Levels

Land Use District	CNEL (dBA)
Tahoe Valley Area (TVAP)	65
Bonanza Plan Area (PAS 114)	50
South Wye Intersection	61
Neighborhood Professional	55
Healthcare Campus	55

Source: TVAP, PAS 114, TRPA RPU

The Project would not require pile driving, blasting, or structural demolition. Construction equipment (e.g., excavators, tractors, rollers, trucks) would produce localized noise of intermittent and temporary nature during standard TRPA and City-approved work hours during the anticipated 4-month construction period. CNELs have been developed for permanent uses and activities. TRPA has established noise thresholds for CNELs for various land use categories and single-event standards for specific noise sources. Allowable construction hours are from 8:00 a.m. to 6:30 p.m.; however, there is no defined construction noise limit. TRPA-approved construction projects are exempt from CNEL and single-event noise standards during the hours of 8 am to 6:30 pm.

The long-term operation of the Project would result in no new stationary sources of operational noise. The shared-use trail would be limited to non-motorized vehicle use and existing mobile noise sources (e.g., automobile, bicycle, pedestrian pass through) would continue. Noise from recreation activities (e.g., bicycling, walking, running and skateboarding) is generally not considered nuisance noise, and therefore, Project operations would not have a significant impact on sensitive noise receptors.

Construction noise levels would be minimized and reduced to a level of less than significant through implementation of the noise compliance measures, as detailed in Section 1.10.8. The Project would create less-than-significant noise levels during construction and operations.

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

Required Mitigation: **None.**

CEQA XIIIb. Would the Project result in generation of excessive groundborne vibration or groundborne noise levels?

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.

Installation of stormwater, recreation, and transportation improvements does not typically create groundborne vibration. Construction equipment would create localized, temporary and periodic vibration effects in the Project area, but would not expose persons to excessive groundborne vibration or noise levels. Vibratory rollers are routinely used to compact soils, bases, and some types of pavement. Vibration from the rollers and other ground disturbing equipment would be perceptible at the immediate Project site, but the vibration from this equipment would not generate vibrations that could damage any houses or businesses. Additionally, the Project would not utilize full time generator power for operations.

TVAP policy HNS-2.4 requires construction activities that have potential to cause groundborne vibration within 200 feet of structures to conduct analysis to determine the potential for adverse effects. Although

vibration dissipates rapidly, given the proximity of structures, the impact would be less than significant with implementation of the noise reduction measures consistent with TVAP Policy HNS-2.4 and detailed in Section 1.10.8. An analysis of potential vibration impact would be conducted prior to initiation of construction activities that wound necessitate impact equipment and activities, such as pile driving, soil compaction, or vibratory hammers, to occur within 200 feet of existing structures. The analysis would address the potential for adverse vibration levels based on the criteria contained in Table 4.6-12 of the City General Plan Draft EIR and the City's contractor would be required to ensure that construction operations are designed to avoid or mitigate for vibrations above 0.02 inches/second (0.5 millimeters/second).

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

Required Mitigation: **None.**

CEQA XIIIc. Would the Project result in a substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project?

Standard of Significance. Substantial permanent increase in ambient noise levels in the Project vicinity created by the Project constitutes a significant impact, as defined by permissible CNELs for PASs and noise ordinances.

Following construction, the Project would not generate a source of permanent noise. The Project would not create substantial permanent increase in ambient noise levels in the Project vicinity above levels existing without the Project, and therefore, would result in less-than-significant impacts to ambient noise levels.

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

Required Mitigation: **None.**

CEQA XIIId Would the Project result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project?

Standard of Significance. TRPA Code Section 68.9 stipulates that TRPA-approved construction or maintenance projects are exempt from TRPA's noise limitations during the hours of 8:00 a.m. and 6:30 p.m. Construction activities occurring outside of these exempt hours, or if noise levels exceed CNEL levels set for the land use categories and PAS corresponding to the Project area (see **Table 26**) results in a significant impact.

As discussed in the analysis for CEQA XIIIa, construction activities would result in a temporary and intermittent increases in ambient noise levels, with the level depending on the type, location and length of the activity and the distance between the noise-generating activities and nearby sensitive receptors. The EPA estimates that construction of public works projects, which include features similar to those of the Project, typically generates an average of between 78 and 88 dBA depending on the construction phase and the amount of equipment being used (EPA 1971). Noise generated by a point source, such as equipment at a construction site, drops off at a rate of 6 dBA per doubling of distance. Assuming construction noise of 78 to 88 dBA, noise attenuation from construction activities is anticipated to occur as shown in **Table 27**.

Table 27. Attenuation of a Noise Source of 78 to 88 dBA Leq*

Distance (feet)	Noise Level (dBA)
50	78 – 88
100	72 – 82
200	66 – 76
400	60 – 70
800	54 – 64
1,600	48 – 58
3,200	42 – 52
6,400	36 – 46
12,800	30 – 40

Note: * dB(A) Leq denotes the time weighted average of the level of sound in decibels on scale A, which is relatable to human hearing. This attenuation is applicable to point sources, such as construction equipment, not mobile sources, such as truck traffic.

Construction would occur primarily in the City ROW that is adjacent to commercial buildings and residential properties. Considerable sound reduction occurs in buildings when the windows are closed. Buildings constructed in cold climates, like in the City of South Lake Tahoe, typically reduce exterior noise levels by 27 decibels (dB) (USEPA 1978). Thus, impacts from construction would not result in a substantial noise increase inside commercial and residential buildings.

Construction activities would not include the use of explosives or other materials that would cause a significant single event noise. In addition, TRPA Code Section 68.9 exempts approved construction and demolition noise from the restrictions for single noise events. Construction activities would temporarily increase noise levels; however, these noise levels would not exceed threshold limits or be of a nuisance to surrounding land uses.

In summary, Project construction wound generate temporary and periodic noise, but ambient noise would not increase substantially as measured at the Project area boundaries. Implementation of noise reduction measures (Section 1.10.8) would minimize noise effects related to construction by placing noise controls on construction equipment. Given that the noise increase would be temporary, and noise reduction measures would be implemented during construction activities, the Project would create less-than-significant levels of noise.

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

Required Mitigation: **None.**

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

Standard of Significance. Exposure of people residing or working in the Project area to excessive noise levels from aircraft results in a significant impact.

The Project is located approximately 1 mile from the northern end of the runway at Lake Tahoe Airport. The Project area is located outside of the 60 dB CNEL contour for the latest Lake Tahoe Airport Master Plan (City 2017), and as a result, those working within the Project area would not be exposed to excessive

aircraft noise. Moreover, any noise exposure would be temporary. Because the Project would not result in exposure of people to excessive noise levels associated with an airport, the level of impact would be less than significant.

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

Required Mitigation: **None.**

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

Standard of Significance. Exposure of people residing or working in the Project area to excessive noise levels from aircraft results in a significant impact.

The Project would not establish permanent, non-transitory populations after completion of construction and would not expose people utilizing the trail to excessive noise levels. The Project is not located in the vicinity of a private airstrip, and therefore, the Project would not expose people in the Project area to excessive noise levels from private aircraft.

Environmental Analysis: **No Impact.**

Required Mitigation: **None.**

15.2 TRPA Checklist Analysis

TRPA 6a. Will the proposal result in increases in existing Community Noise Equivalency Levels (CNEL) beyond those permitted in the applicable Plan Area Statement, Community Plan, or Master Plan?

Standard of Significance. Exceedance of CNEL limits stated in Project area PASs and Regional and City noise ordinances constitutes a significant noise impact.

Refer to the analysis for CEQA XIIIa, which concludes construction noise levels would be minimized and reduced to a level of less than significant through implementation of noise reduction measures, as detailed in Section 1.10.8. The long-term operation of the Project would result in no new stationary sources of operational noise. As a result, the Project would create less-than-significant noise levels during construction and operations.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 6b. Will the proposal expose of people to severe noise levels?

Standard of Significance. Exceedance of CNEL limits stated in the TVAP, PAS 114, and TRPA and City noise ordinances constitutes a significant noise impact. 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.

Refer to the analyses for CEQA XIIIa and CEQA XIIIb, which conclude that the Project would not exposure people to severe or excessive (i.e., vibrational or groundborne) noise levels. The long-term operation of the Project would result in no new stationary sources of operational noise. Construction noise levels would be

minimized and reduced to a level of less than significant through implementation of the noise reduction measures, as detailed in Section 1.10.8.

Environmental Analysis: **No; Less than Significant Impact**.

Required Mitigation: **None.**

TRPA 6c. Will the proposal result in single event noise levels greater than those set forth in the TRPA Noise Environmental Threshold?

Standard of Significance. TRPA Code Section 68.9 stipulates that TRPA-approved construction or maintenance projects are exempt from TRPA's noise limitations during the hours of 8:00 a.m. and 6:30 p.m. Construction activities occurring outside of these exempt hours, or if noise levels exceed CNEL levels set for the land use categories and PAS corresponding to the Project area (see **Table 26**) results in a significant impact.

The Project proposal does not include actions that would result in single noise events that would exceed those allowed by the TRPA Noise Environmental Threshold. Refer to the analysis for CEQA XIIId, which concludes that ambient noise levels in the Project vicinity would be reduce to a level of less than significant through implementation of the noise reduction measures, as detailed in Section 1.10.8.

Environmental Analysis: **No; Less than Significant Impact**.

Required Mitigation: **None.**

TRPA 6d. Will the proposal result in the placement of residential or tourist accommodation uses in areas where the existing CNEL exceeds 60 dBA or is otherwise incompatible?

Standard of Significance. Placement of residential or tourist accommodation uses in areas where the existing CNEL exceeds 60 dBA or is otherwise incompatible would result in a significant impact.

The Project proposal does not include residential and tourist accommodation uses, and therefore would result in no impact to existing CNELs as a result of new uses.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None.**

TRPA 6e. Will the proposal result in the placement of uses that would generate an incompatible noise level in close proximity to existing residential or tourist accommodation uses?

Standard of Significance. A significant impact would occur if the Project results in placement of uses that would generate an incompatible noise level in close proximity to existing residential or tourist accommodation uses.

The Project would not change the existing uses of the Project area, and therefore would generate no incompatible noise levels.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None.**

TRPA 6f. Will the proposal expose of existing structures to levels of ground vibration that could result in structural damage?

Standard of Significance. Exposure of existing structures to levels of ground vibration that could result in structural damage would be a significant impact.

Refer to the analysis for CEQA XIIIb, which concludes that potential impacts from vibrational noise would be less than significant during construction. Project compliance with TVAP Policy HNS-2.4, would ensure that noise vibration levels would be measured and reduced if Project construction activities reach adverse vibration levels. Criteria contained in Table 4.6-12 of the City General Plan Draft EIR require construction operations to be designed to avoid or mitigate for vibrations above 0.02 inches/second (0.5 millimeters/second) (City and TRPA 2015).

Environmental Analysis: **No; Less than Significant Impact**.

Required Mitigation: **None.**

16.0 POPULATION & HOUSING

This section evaluates the Project's population and housing impacts during construction and operations. **Table 28** identifies the level of significance of the impacts based on the CEQA Guidelines Appendix G: Environmental Checklist Form and the TRPA Initial Environmental Checklist Form and indicates whether additional mitigation measures would be required to avoid, reduce, minimize, or otherwise mitigate potential impacts to a level of less than significant.

Table 28. Population and Housing Impacts

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
CEQA Environmental Checklist Item – Population and Housing				
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)	☐	☐	☐	☒
Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere? (CEQA XIVb)	☐	☐	☐	☒
Will the Proposal:	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
TRPA Environmental Checklist Item – Population				
Alter the location, distribution, density, or growth rate of the human population planned for the Region? (TRPA 11a)	☐	☐	☐	☒
Include or result in the temporary or permanent displacement of residents? (TRPA 11b)	☐	☐	☐	☒
Will the Proposal:	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
TRPA Environmental Checklist Item – Housing				
Affect existing housing, or create a demand for additional housing? (TRPA 12a):	☐	☐	☐	☒
Will the proposal decrease the amount of housing in the Tahoe Region?	☐	☐	☐	☒
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?	☐	☐	☐	☒
Will the proposal result in the loss of housing for lower-income and very-low-income households? (TRPA 12b)	☐	☐	☐	☒

16.1 CEQA Checklist Analysis – Population and Housing

CEQA XIVa. 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)?

Standard of Significance. A significant impact results from direct and indirect population growth in excess of the growth anticipated in the TRPA RPU and City General Plan, as disclosed in the Land Use Element and PASs and Areas Plans.

The Project proposal provides for no long-term employment, educational opportunities, or other population-generating features known to increase local populations. The Project would not directly induce substantial population growth because no new homes or business would be constructed, and the temporary staffing associated with construction is not considered an adverse alteration of the location, distribution, density or growth rate of human population in the region because the population changes are merely temporary and do not represent a significant increase in the overall population or density in the region. The Project also would not indirectly induce population growth because the infrastructure improvements would be located in an already developed area. No impacts associated with population growth would result from Project implementation.

Environmental Analysis: **No Impact.**

Required Mitigation: **None.**

CEQA XIVb. Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

Standard of Significance. Displacement of substantial numbers of people or existing housing that necessitates construction of replacement housing elsewhere creates a significant impact.

The Project displaces no people or existing housing and thus would not necessitate the construction of replacement housing.

Environmental Analysis: **No Impact.**

Required Mitigation: **None.**

16.2 TRPA Checklist Analysis – Population

TRPA 11a. Will the proposal alter the location, distribution, density, or growth rate of the human population planned for the Region?

Standard of Significance. Alteration to land use patterns not envisioned by the RPU or City General Plan constitutes a significant impact to human population planned for the Region.

Refer the analysis for CEQA XIVa, which concludes that no impacts associated with population growth would result from Project implementation.

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 would occur, however, because housing is regulated and limited by the TRPA RPU. With no residential displacement, permanent employment opportunities, or new housing

developments, the Project would result 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.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None.**

TRPA 11b. Will the proposal include or result in the temporary or permanent displacement of residents?

Standard of Significance. Significant temporary or permanent displacement of residents results in a significant impact.

The Project would not create the temporary or permanent displacement of residents.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None.**

16.3 TRPA Checklist Analysis – Housing

TRPA 12a. Will the proposal 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?

Standard of Significance. A significant impact results from direct and indirect population growth in excess of the growth anticipated in the TRPA RPU and City General Plan and as disclosed in the Land Use Element and PASs and Areas Plans, which decreases the amount of housing in the Tahoe region.

Refer to the analysis for CEQA XIVa, which concludes that the Project would have no effect on existing housing nor would a demand for additional housing result. The Project would not decrease the total amount of housing in the Tahoe region and would not decrease the amount of housing available by low to very-low income households.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None.**

TRPA 12b. Will the proposal result in the loss of housing for lower-income and very-low-income households?

Standard of Significance**.** A significant impact results from direct and indirect population growth in excess of the growth anticipated in the TRPA RPU and City General Plan and as disclosed in the Land Use Element and PASs and Areas Plans, which decreases the amount of housing in the Tahoe region.

Refer to the analysis for CEQA XIVa, which concludes that the Project would have no effect on existing housing nor would a demand for additional housing result. The Project would not decrease the total amount of housing in the Tahoe region and would not decrease the amount of housing available by low to very-low income households.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None.**

17.0 PUBLIC SERVICES

This section evaluates the Project's impacts on public services during construction and operations. **Table 29** identifies the level of significance of the impacts based on the CEQA Guidelines Appendix G: Environmental Checklist Form and the TRPA Initial Environmental Checklist Form and indicates whether additional mitigation measures would be required to avoid, reduce, minimize, or otherwise mitigate potential impacts to a level of less than significant.

Table 29. Public Service Impacts

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
CEQA Environmental Checklist Item				
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 (CEQA XVa):				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☒	☐
Parks?	☐	☐	☒	☐
Other public facilities?	☐	☐	☒	☐
Will the Proposal:	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
TRPA Environmental Checklist Item				
Have an unplanned effect upon, or result in a need for new or altered governmental services in any of the following areas:	☐	☐	☐	☒
Fire Protection? (TRPA 14a)	☐	☐	☐	☒
Police Protection? (TRPA 14b)	☐	☐	☐	☒
Schools? (TRPA 14c)	☐	☐	☐	☒
Parks or other recreational facilitie?s (TRPA 14d)	☐	☐	☐	☒
Maintenance of public facilities, including roads? (TRPA 14e)	☐	☐	☐	☒
Other governmental services? (TRPA 14f)	☐	☐	☐	☒

17.1 CEQA Checklist Analysis

CEQA XVa. 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, and other public facilities?

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 City General Plan.

The Project area is located in a developed area of the City, partially located in the TVAP and partially located in PAS 114, PAS 118, and the South Y Industrial Tract Community Plan. City services such as fire protection and law enforcement are available and accessible. Schools, parks, and other governmental facilities are also in the vicinity of the Project area.

Fire Protection. The South Lake Tahoe Fire District (SLTFD) is a municipal fire department that operates two staffed fire stations in City limits. The Project area is currently served by the SLTFD. Fire Station #3 is located at 2101 Lake Tahoe Boulevard and just north of the Project area and the South Wye intersection. In addition, the SLTFD maintains mutual aid agreements with other fire and emergency response agencies in the Tahoe region, including the Tahoe Douglas Fire Protection District, the Lake Valley Fire Protection District, and the Forest Service, providing for area-wide fire response and ambulance services both inside and outside the City limits.

Ambulance services within the City are provided by the California Tahoe Emergency Services Operations Authority (Cal Tahoe). Cal Tahoe responds to medical emergencies from City's Fire Station #2, located at 2951 Lake Tahoe Blvd, 2 miles from the Project area.

The General Plan includes policies to ensure adequate fire protection services. For example, Policy PQP-6.0 requires the City to ensure that fire department staffing levels reflect enough personnel to perform the needed tasks to control an emergency and provide for the life and safety of the public and the responders.

Because the Project is located in an area that is currently served by the SLTFD and Cal Tahoe, the Project would not require new construction or expansion of existing fire protection facilities. The Project would require protection from fire during construction activities, and would therefore have minimal impact on SLTFD and Cal Tahoe. Because impact would be temporary and there would be no need for additional services, potential impacts to fire protection services would be less than significant.

Law Enforcement. The SLTPD provides police services within incorporated South Lake Tahoe. The SLTPD has a jurisdictional area of approximately 13 square miles. The City's only police facility is located at 1532 Johnson Boulevard. The Project area is currently served by the SLTPD. The City is also located within the jurisdiction of the California Highway Patrol Valley Division, which covers the greater Sacramento area and an area extending to the City on the east. The California Highway Patrol area office is located at 2063 Hopi Avenue in Meyers.

Typically, increases in the need for police services are linked to an increase in population. As discussed for this analysis, the Project would not result in a substantial increase in population, and potential impacts on law enforcement would be less than significant.

Schools. South Tahoe High School is located approximately 0.6 mile west of the Project area in Tahoe Valley. Tahoe Valley Elementary is located within 0.25 mile of the northernmost part of the Project area. South Tahoe Middle School and Lake Tahoe Community College are located approximately 2.5 miles away

from the Project area. Impacts to school facilities are typically linked to an increase or decrease in population. As discussed in CEQA XVa, the Project would not have potential to impact population, and therefore, the potential to impact school services would be less than significant.

Parks. Public parks are not located within the Project area or in the vicinity of the Project area. As discussed in this analysis, the Project would not have potential to impact population, and therefore, the potential to impact public parks would be less than significant.

Other Public Facilities. The Project would not result in an increase in population that would require additional services. The Project area would continue to be served by the existing surrounding facilities and would not result in the need for additional services. The Project would create no impact to acceptable service ratios, response times, or other performance objectives. Existing fire, police, and other governmental services would be sufficient to accommodate the service needs of the Project. The Project would not necessitate the expansion of the equipment, facilities, or manpower of responsible fire, police, health, and school services in order to maintain current service ratios and response times. The Project also would not result in substantial adverse physical impacts associated with the provision of new or altered fire, police, health, or school facilities. There would be no need for new or physically altered governmental facilities. In summary, Project construction and operations would result in less-than-significant impacts to public services.

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

Required Mitigation: **None.**

17.2 TRPA Checklist Analysis – Public Services

TRPA 14. 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:

Standard of Significance. A significant impact results to governmental and public services if the Project causes an increase in demand for personnel, equipment, or infrastructure beyond that planned by public service entities, the TRPA RPU, or City General Plan.

TRPA 14a. Fire protection?

Refer to the analysis for CEQA XVa, which concludes that the level of impact to fire protection would be less than significant. The Project would not reduce access, response times, or other performance objectives for fire protection. The Project would not result in the need for new or additional services for fire protection.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 14b. Police protection?

Refer to the analysis for CEQA XVa, which concludes that the level of impact to police protection would be less than significant. The Project would not reduce access, response times or other performance objectives for police protection. The Project would not result in the need for new or additional services for police protection.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 14c. Schools?

Refer to the analysis for CEQA XVa, which concludes that the level of impact to schools would be less than significant. The Project would maintain acceptable service ratios and other performance objectives for schools and would not result in the need for new or additional school services.

Environmental Analysis: **No; Less than Significant Impact**.

Required Mitigation: **None.**

TRPA 14d. Parks or other recreational facilities?

Refer to the analysis for CEQA XVa, which concludes that the level of impact to parks or other recreational facilities would be less than significant. The Project would improve access to existing and planned recreational facilities in the Tahoe Valley area, but would not create the need for additional parks or recreation facilities.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 14e. Maintenance of public facilities, including roads?

Standard of Significance: If the Project creates new or altered unplanned effects to governmental services in maintenance of roads, a significant impact results. The Project facilities and improvements would be added to operations and maintenance program. The Project would create little impact or change to what is required for maintenance of the existing City ROW.

The Public Works Operations staff would continue to be responsible for the maintenance and repair of 130 miles of City streets, including pavement repair and construction, drainage facilities, pavement marking and striping, sign installation and maintenance, curb and gutter maintenance, street sweeping, and additional activities connected with keeping the City streets safe for all motorists.

Environmental Analysis: **No; Less than Significant Impact**.

Required Mitigation: **None.**

TRPA 14f. Other governmental services?

Refer to the analyses for CEQA XVa and TRPA 14a through 14e, which conclude that the level of impact to governmental services such as fire protection, police protection, schools, parks, and roadways would be less than significant. For other governmental services, such as treatment of stormwater, if the Project creates new or altered unplanned effects to governmental services in maintenance of stormwater systems, a significant impact results.

The Project would not result in the need for new or additional governmental services. The Project would not contribute additional stormwater runoff to existing stormwater infrastructure and would not create runoff to exceed existing system capacities. The Project proposal relies on source control and infiltration to soils for stormwater treatment along the trail alignment and within the stormwater improvements, potentially reducing City maintenance services for existing stormwater infrastructure. Long-term maintenance of facilities would be included on the City's operations and maintenance program.

Environmental Analysis: **No; Less than Significant Impact**.

Required Mitigation: **None.**

18.0 RECREATION

This section evaluates the Project's impacts on recreation during construction and operations. **Table 30** identifies the level of significance of the impacts based on the CEQA Guidelines Appendix G: Environmental Checklist Form and the TRPA Initial Environmental Checklist Form and indicates whether additional mitigation measures would be required to avoid, reduce, minimize, or otherwise mitigate potential impacts to a level of less than significant.

Table 30. Recreation Impacts

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
CEQA Environmental Checklist Item				
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)	☐	☐	☒	☐
Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? (CEQA XVIb)	☐	☐	☒	☐
Will the Proposal:	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
TRPA Initial Environmental Checklist Item				
Create additional demand for recreation facilities? (TRPA 19a)	☐	☐	☐	☒
Create additional recreation capacity? (TRPA 19b)	☐	☐	☐	☒
Have the potential to create conflicts between recreation uses, either existing or proposed? (TRPA 19c)	☐	☐	☐	☒
Result in a decrease or loss of public access to any lake, waterway, or public lands? (TRPA 19d)	☐	☐	☐	☒

18.1 CEQA Checklist Analysis

CEQA XVIa. 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?

Standard of Significance. If the Project improves access to recreation facilities or public lands used for recreation, by numbers sufficient to create new disturbance, this constitutes a significant impact.

The Project improvements would be constructed within a City ROW, would connect to the existing regional transportation system and is expected to encourage more people to access Class 2 bike lands and the Class 1 shared-use trail by improving access near neighborhoods. Some regional trails pass through undeveloped land that currently supports unpaved trail use. Allowing an alternative, non-motorized means of

transportation would reduce the pressure on existing parking supply and reduces the potential for unpermitted parking in undeveloped areas.

There are no publically-owned parks or recreation areas and no National Wildlife Refuges within or adjacent to the Project area. The Project would not increase use of adjacent parks because the Project would not result in increased population, and demands for recreational facilities are driven by the ratio of parkland to population. Thus, the Project would not have potential to increase the use of adjacent parks such that physical deterioration of the facilities would occur. Improvements to the existing trail system within the Project area may increase use, but the increase would not lead to substantial physical deterioration of these facilities. The City has planned for increased use and associated maintenance of shared-use trails and pedestrian facilities, which is consistent with its goals and policies supporting alternative forms of transportation (e.g., General Plan Transportation and Circulation Element Goal TC-3, which seeks to "*expand bicycle and pedestrian activity in community centers and throughout the City, across all seasons of the year, through enhancements to and maintenance of bike paths, bike lanes, pedestrian paths, and sidewalks*,"), and has factored in ongoing maintenance into its maintenance plans. As demonstrated throughout this document, the Project would not result in significant environmental deterioration.

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

Required Mitigation: **None.**

CEQA XVIb. Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

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 RPU Recreation Element, PASs and Thresholds, along with the City's General Plan Recreation Element, determine this level of impact significance.

The Project improvements for bike/pedestrian trails and paths would retain and enhance linkages and connectivity to the existing bike/pedestrian network identified within the TVAP. The Project location and design avoids, reduces and minimizes the potential impacts of constructing and operating these facilities and no significant impacts that would result from Project implementation have been identified. The Project would not require the construction or expansion of other recreational facilities because it would not result in increased population. Implementation of recreational use compliance measures detailed in Section 1.10.9 would further reduce potential temporary impacts on pedestrian and trail users during construction.

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

Required Mitigation: **None.**

18.2 TRPA Checklist Analysis

TRPA 19a. Will the proposal create additional demand for recreation facilities?

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 RPU Recreation Element, PASs and Thresholds, along with the City's General Plan Recreation Element, determine this level of impact significance.

Refer to the analyses for CEQA XVIa and CEQA XVIb, which conclude that the Project would not create additional demand for recreational facilities, but would instead serve to meet existing recreation and connectivity needs.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 19b. Will the proposal create additional recreation capacity?

Standard of Significance: Recreation capacity at Lake Tahoe is measured by TRPA with the allocation of Persons at One Time (PAOTs).

The Project does not propose an allocation of PAOT summer day recreation use. Because the Project does not propose a PAOT recreation use, as based on this TRPA standard of significance no adverse impact would result to recreation capacity.

Environmental Analysis: **No; Less than Significant Impact**.

Required Mitigation: **None.**

TRPA 19c. Will the proposal have the potential to create conflicts between recreation uses, either existing or proposed?

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.

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 attributed 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.

Temporary conflicts could occur during the construction period from the temporary closure of the existing trails/path linkages through the Project area that connect the South Wye intersection to the existing El Dorado County trail facilities at Vikings Way. Surrounding trails and roadways exterior and adjacent to the Project area would allow for sufficient detours and connectivity, when directed by temporary construction signage. Temporary impacts to recreational users would be reduced to a level of less than significant by implementing the recreational use compliance measures (Section 1.10.9). These measures would reduce potential impacts from the temporary closure of the existing paths to a level of less than significant because those currently using the path would be notified in advance of the closure and would be able to take an alternate route during the brief construction period. This would ensure safety of users and would not allow recreational use within the active construction area. The Project would not eliminate or decrease viability of a recreation facility.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 19d. Will the proposal result in a decrease or loss of public access to any lake, waterway, or public lands?

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.

Project construction would result in temporary restricted access to the Project area for purposes of public health and safety. Public access would not decrease outside of the active construction corridor. Project operation would lead to an increase of public access to public lands and to the lake through non-motorized

means, thereby supporting TRPA Recreation Threshold R-1. The Project would connect with existing bike trails and pathways with connections to established public access routes to the lake and beach facilities. The improvements for bike/pedestrian trails and paths within the Project area would retain and enhance linkages and connectivity to the existing bike/pedestrian network, increasing access and connectivity to public lands within the City and the County.

Environmental Analysis: **No; Less than Significant Impact**.

Required Mitigation: **None.**

19.0 TRANSPORTATION (CEQA) AND TRAFFIC & CIRCULATION (TRPA)

This section evaluates the Project's impacts on transportation and traffic during construction and operations **Table 31** identifies the level of significance of the impacts based on the CEQA Guidelines Appendix G: Environmental Checklist Form and the TRPA Initial Environmental Checklist Form and indicates whether additional mitigation measures would be required to avoid, reduce, minimize, or otherwise mitigate potential impacts to a level of less than significant.

Table 31. Transportation, Traffic, and Circulation Impacts

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
CEQA Environmental Checklist Item – Transportation				
Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities? (CEQA XVIIa)	☐	☐	☒	☐
Conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)? (CEQA XVIIb)	☐	☐	☒	☐
Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? (CEQA XVIIc)	☐	☐	☒	☐
Result in inadequate emergency access? (CEQA XVIId)	☐	☐	☒	☐
Will the Proposal result in:	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
TRPA Environmental Checklist Item – Traffic & Circulation				
Generation of 100 or more new Daily Vehicle Trip Ends (DVTE)? (TRPA 13a)	☐	☐	☐	☒
Changes to existing parking facilities, or demand for new parking? (TRPA 13b)	☐	☐	☐	☒
Substantial impact upon existing transportation systems, including highway, transit, bicycle or pedestrian facilities? (TRPA 13c)	☐	☐	☐	☒
Alterations to present patterns of circulation or movement of people and/or goods? (TRPA 13d)	☐	☐	☐	☒
Alterations to waterborne, rail or air traffic? (TRPA 13e)	☐	☐	☐	☒

19.1 CEQA Checklist Analysis – Transportation & Traffic

CEQA XVIIa. Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle, and pedestrian facilities?

Standard of Significance. Inconsistency with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities constitutes a significant impact.

The Project proposal has considered and is consistent with existing policies, plans, and programs that encourage the promotion and use of alternative modes of transportation, because the Project would create alternative transportation options for pedestrian and non-motorized transportation and would support policies, plans, and programs for alternative transportation, as listed in **Table 32**.

Table 32. Applicable Transportation, Parking, and Circulation Standards

Jurisdiction/ Plan/Policy	Standard/Criteria
Tahoe Regional Planning Compact	The goal of transportation planning shall be: (A) To reduce the dependency on the automobile by making more effective use of existing transportation modes and public transit to move people and goods within the region; and (B) To reduce to the extent feasible air pollution which is caused by motor vehicles.
Mobility 2030: Lake Tahoe Basin RTP (Mobility 2030)	The Goals and Policies of Mobility 2030 reflect the consideration of environmental, social and economic factors in making transportation-related decisions. Specific goals of Mobility 2030 include the following: (1) reduce reliance on the private automobile; (2) provide for alternative modes of transportation; (3) serve the basic transportation needs of the citizens of Lake Tahoe; (4) support the economic base of the region; and (5) minimize adverse impacts on man and the environment.
Federal Planning Guidelines	In 1999, the Lake Tahoe Basin became a federal Metropolitan Planning Organization. Federal regulations, pertaining to transportation, require that the Metropolitan Planning Organization planning process provide for the consideration of projects and strategies that will: • increase the safety and security of the transportation system for motorized and non-motorized users; • enhance the integration and connectivity of the transportation system, across and between modes, for people and freight; • promote efficient system management and operation; and • emphasize the preservation of the existing transportation system.
TRPA Goals and Policies	Establish level of service (LOS) criteria for various roadway categories and signalized intersections. LOS criteria during peak periods shall be: • LOS C on rural recreational/scenic roads; • LOS D on rural developed area roads; • LOS D on urban developed area roads; • LOS D for signalized intersections; • LOS E may be acceptable during peak periods in urban areas, not to exceed four hours/day. The policies and objectives of this document also place high priority on constructing pedestrian and bicycle facilities in urbanized areas and encouraging waterborne transportation measures.

Table 32. Applicable Transportation, Parking, and Circulation Standards

Jurisdiction/ Plan/Policy	Standard/Criteria
TRPA Thresholds	TRPA has nine threshold categories: water quality, air quality, noise, scenic, vegetation, soils, wildlife, recreation, and fisheries. There is no threshold for transportation; however transportation system projects in the Lake Tahoe Basin cannot degrade any of the thresholds. Rather, TRPA must make findings that the proposed projects attain or maintain existing thresholds.
TRPA Thresholds: Air Quality	Air Quality has two transportation related standards: VMT and traffic volumes on US Hwy 50. • AQ-5 US Hwy 50 Traffic Volumes – 7% reduction in traffic volume on the US Hwy 50 corridor from 1981 base year values, winter, 4 p.m. to 12 a.m. (25,173 vehicles at the US Hwy 50/Park Ave intersection.) • AQ-7 VMT – 10% reduction in VMT in the Lake Tahoe Basin from 1981 base year values. (1,648,466 VMT for a peak summer day.)
TRPA Code of Ordinances	Adherence to: Code Chapter 12 requirements for traffic considerations, including VMT reduction policies and level of service goals for street and highway traffic, and Code Chapter 65 requirements for traffic analyses; the Code sections require reducing significant impacts to a less than significant level.
City of South Lake Tahoe General Plan	The Circulation Element of the City's General Plan provides transportation objectives and policies associated with areas within the City. The objectives and policies are generally consistent with other applicable plans.
American Association of State Highway and Transportation Officials (AASHTO)	The AASHTO Guide for the Development of Bicycle Facilities specifies design recommendations and standards for the width, horizontal alignment, sight distance, separation distance from roadways, grades and graded shoulders of trails. Design recommendations and standards are also specified for signage and striping, sight distance, and crossing angles at all location where paths cross a roadway.
Caltrans District 3 Thresholds	Requires that measures be identified to mitigate significant impacts caused by project traffic on state highways. The following are considered to be significant impacts: • Vehicle queues at intersections exceeding the existing storage lane length; • Project impacts that cause the highway or intersection LOS to deteriorate beyond LOS D. If LOS is already "E" or "F," then quantitative measure of increased queue lengths and delay should be used to determine appropriate mitigation measures.
Other	Signal warrant criteria as established by the Federal Highway Administration Manual on Uniform Traffic Control Devices.

The Project would not conflict with the TRPA Code or the City General Plan, as related to traffic, transportation, or circulation and would not impede the long-term use of streets, highways, or intersections for pedestrians, bicycle users, mass transit, or personal/commercial vehicles. Improvements would be constructed at-grade or contained underground and would not impede flow of transportation users or compromise facilities. The Project would instead implement the goals and policies identified in the City General Plan, TRPA RPU, TRPA EIP, RTP, and Mobility 2035 (TRPA 2012) and would be consistent with TVAP goals and policies, and incorporating bike and pedestrian facilities along Lake Tahoe Boulevard is consistent with goals and policies in the Transportation and Circulation element of the City's General Plan.

The Project would provide a well-maintained roadway system that accommodates vehicular travel and alternative modes of transportation consistent with City General Plan Goal TC-1. The Project would also be consistent with the TVAP Goal T-4, Bikeways, and the associated policies to develop the City's bikeway system, effectively linking residential neighborhoods, employment centers, commercial areas, public uses, and recreational and educational centers, both within and outside of the Tahoe Valley area. The Project would enhance bicycle and pedestrian facilities by providing additional access to south shore residential communities and by providing connections to existing facilities and key destinations and would encourage walking and cycling as modes of transportation within the Lake Tahoe Basin.

The intersection LOS currently achieves standards and through Project implementation would continue to achieve standards at Lake Tahoe Boulevard/Vikings Way and Lake Tahoe Boulevard/South Y Center's Main Driveway. The Project improves the intersection LOS at Lake Tahoe Boulevard/South Y Center's main driveway due to the addition of the median refuge lane for northbound left turning vehicles. Roadway LOS is acceptable under existing conditions and would remain acceptable under the Project's lane reductions. In terms of safety, a significant percent (20 percent) of crashes in the Project area involve a bicyclist. Additionally the "fatal + injury" crash rate is higher than the statewide average. The Project would reduce crashes and conflicts between vehicles, pedestrians, and bicyclists. Studies have shown that this type of roadway modification reduces crash rates by 37 percent (LSC Transportation Consultants, Inc. 2018 [**Appendix G]**). Intersection LOS would remain or would be improved and pedestrian and bicyclist safety would improve following Project construction. The Project would not result in any increase in travel demand and would not have an impact on congestion on local or regional roads or highways.

The Project would comply with applicable goals and policies, and would increase the performance and safety of pedestrian and traffic facilities, and therefore, the level of impact to circulation systems would be less than significant.

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

Required Mitigation: **None.**

CEQA XVIIb. Would the Project conflict with or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?

Standard of Significance. Conflict or inconsistency with CEQA Guidelines section 15064.3, subdivision (b), which outlines the criteria for analyzing transportation impacts, constitutes a significant impact.

The Project would result in no new VMT. Per CEQA Guidelines section 15064.3, subdivision (b), transportation projects that reduce, or have no impact on, VMT should be presumed to cause a less-than-significant transportation impact.

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

Required Mitigation: **None.**

CEQA XVIIc. Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Standard of Significance. Substantial increases in hazards resulting from the Project proposal or incompatible use of the trail create a significant impact.

The Project would result in improvements to roadway configurations, ingress, and egress and would not include transportation design features that would impact the safety of users or change the compatibility of use. The Project has been designed to more safely facilitate bicyclists and pedestrians in the Project area, consistent with trail design standards for Class 1 shared-use trails in the *Caltrans Highway Design Manual*

(Chapter 1003, Design Criteria) (Caltrans 2017). The City's South Lake Tahoe Public Improvements and Engineering Standards (PIES) are the secondary design standard being followed. Project compliance with Caltrans and City PIES design standards would ensure the Project would not have potential to increase hazards due to a design feature.

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

Required Mitigation: **None.**

CEQA XVIId. Would the Project substantially result in inadequate emergency access?

Standard of Significance. Inadequate access for emergency responders during Project construction and operations constitutes a significant impact.

The Project would not create a significant impact to emergency access. There would be minor, temporary impact during construction. As discussed in the analysis for CEQA IXf, the Project area would remain open to emergency vehicles during construction activities and would result in less than significant impacts to emergency access. Though implementation of the Traffic Control Plan, construction impacts would be less than significant because safe access would be maintained during the construction period. Compliance measures as described in Section 1.10.10 would also be implemented to further reduce impacts to less than significant. In addition, the Project operations would not require revisions to the City's Emergency Operation Plan or Emergency Management Plan.

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

Required Mitigation: **None.**

19.2 TRPA Checklist Analysis – Traffic & Circulation

TRPA 13a. Will the proposal result in generation of 100 or more new Daily Vehicle Trip Ends (DVTE)?

Standard of Significance. If the Project results in the generation of 200 or more new Daily Vehicle Trip Ends (DVTE), a significant impact results.

The Project would not result in the generation of additional trips. The Project would be expected to eliminate some existing vehicle trips in the vicinity of the Project by trail users bicycling/walking to the trail and on to their final destination instead of using a vehicle to make the trip. The level of potential impact to DVTE would be less than significant.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 13b. Will the proposal result in changes to existing parking facilities, or demand for new parking?

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.

The Project does not propose new development or density that would create the need for additional or expansion of existing parking. No changes to existing parking facilities would occur as a result of the Project and no additional parking would be required.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None.**

TRPA 13c. Will the proposal result in substantial impact upon existing transportation systems, including highway, transit, bicycle or pedestrian facilities?

Standard of Significance. If the Project causes delay that degrades the LOS 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.

Refer to the analyses for CEQA XVIIa through CEQA XVIIc, which conclude that the Project would not result in substantial negative impact upon existing transportation systems but would instead enhance and improve bicycle and pedestrian access and safety. The Project would be beneficial to the regional shared-use trail system, increasing connectivity to existing trails and installing standard City pathway lighting, which would increase safety.

Environmental Analysis: **No; Beneficial Impact.**

Required Mitigation: **None.**

TRPA 13d. Will the proposal result in alterations to present patterns of circulation or movement of people and/or goods?

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.

The Project improvements for bike and pedestrian trails and paths would retain and enhance linkages and connectivity to the existing bike and pedestrian network identified by the RTP and TVAP and provide for a connection to existing bike trails maintained by El Dorado County. The minor realignment of Class 2 bike lanes would not have potential to significantly alter the pattern of circulation or movement of people or goods. The Project would result in a benefit of enhanced transportation/circulation to areas within and adjacent to the Project area.

Environmental Analysis: **No; Beneficial Impact.**

Required Mitigation: **None.**

TRPA 13e. Will the proposal result in alterations to waterborne, rail, or air traffic?

Standard of Significance. Alterations to waterborne, rail, or air traffic by Project construction or operations that result in service disruptions constitute a significant impact.

The Project provides a new facility for bicycle and pedestrian traffic and would not change air traffic, waterborne traffic, or rail traffic.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None.**

TRPA 13f. Will the proposal increase in traffic hazards to motor vehicles, bicyclists, or pedestrians?

Standard of Significance. Increases to traffic hazards at trail crossing locations constitutes a significant impact.

Refer to the analysis for CEQA XVIIc, which concludes that the level of impact from the Project to traffic hazards to vehicles, bicyclists, and pedestrians would be less than significant. Trail signage and installation

of standard City pathway lighting would result in increased safety of the trail system. This would be a beneficial impact.

Environmental Analysis: **No; Beneficial Impact.**

Required Mitigation: **None.**

20.0 TRIBAL CULTURAL RESOURCES (CEQA)

This section evaluates the Project's impacts on transportation and traffic during construction and operations **Table 33** identifies the level of significance of the impacts based on the CEQA Guidelines Appendix G: Environmental Checklist Form and the TRPA Initial Environmental Checklist Form and indicates whether additional mitigation measures would be required to avoid, reduce, minimize, or otherwise mitigate potential impacts to a level of less than significant.

Table 33. Tribal Resources Impacts

Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resource 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:				
CEQA Environmental Checklist Item	**Potentially Significant Impact**	**Less than Significant with Mitigation Incorporated**	**Less than Significant Impact**	**No Impact**
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); or	☐	☐	☒	☐
A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe? (CEQA XVIIIB)	☐	☐	☒	☐

CEQA XVIIIa and CEQA XVIIIb. Would the Project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resource Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code section 5024.1?

Standard of Significance. A substantial adverse change in the significance of a tribal cultural resource, as defined in PRC Section 21074, would constitute a significant impact.

On January 2, 2018, Cardno archaeologists submitted a request to the NAHC for a search of the Sacred Lands File and for a contact list of potentially interested Native American parties. The NAHC responded on January 8, 2018, with results of the Sacred Lands File search and provided a contact list. The Sacred Lands File search did not indicate the presence of a place or places of importance to any Native American

parties within the vicinity of the Project APE. **Appendix C** contains the cultural resource reports prepared for the Project area and APE.

In accordance with AB 52, Cardno sent letters to the parties listed on the NAHC response on February 21, 2018. As of August 23, 2018, no responses to these outreach letters had been received:

- Ms. Pamela Cubbler, Treasurer, Colfax-Todds Valley Consolidated Tribe
- Ms. Crystal Martinez-Alire, Chairperson, Ione Band of Miwok Indians
- Mr. Randy Yonemura, Cultural Committee Chair, Ione Band of Miwok Indians
- Mr. Cosme Valdez, Chairperson, Nashville-Eldorado Miwok
- Mr. Nicholas Fonseca, Chairperson, Shingle Springs Band of Miwok Indians
- Mr. Grayson Coney, Cultural Director, T'Si-Akim Maidu
- Mr. Don Ryberg, Chairperson, T'Si-Akim Maidu
- Mr. Gene Whitehouse, Chairperson, United Auburn Indian Community of the Auburn Rancheria
- Mr. Darrel Cruz, Tribal Historic Preservation Officer for the Washoe Tribe of Nevada and California

Due to the Washoe Tribe of Nevada and California's traditional ties to the APE and surrounding region, Cardno placed a follow-up call to Mr. Darrel Cruz (Tribal Historic Preservation Officer) on July 7, 2018. Mr. Cruz noted that he was unaware of any Native American cultural resources or significant properties or locations within or near the APE. Mr. Cruz also did not express any concerns regarding the Project.

Based on cultural resource investigations for the APE, the assumption is made that no known tribal cultural resources are sited with the Project area. Tribal representatives will be sent the Notice of Availability (NOA) during the public review process to again solicit comments on the Project.

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

Required Mitigation: **None**.

21.0 UTILITIES & SERVICE SYSTEMS (CEQA) AND UTILITIES (TRPA)

This section evaluates the Project's impacts on utilities and service systems during construction and operations. **Table 34** identifies the level of significance of the impacts based on the CEQA Guidelines Appendix G: Environmental Checklist Form and the TRPA Initial Environmental Checklist Form and indicates whether additional mitigation measures would be required to avoid, reduce, minimize, or otherwise mitigate potential impacts to a level of less than significant.

Table 34. Utilities and Service Systems

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
CEQA Environmental Checklist Item – Utilities & Service Systems				
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 of which could cause significant environmental effects? (CEQA XIXa)	☐	☐	☒	☐
Have sufficient water supplies available to serve the project and reasonably foreseeable future developments during normal, dry and multiple dry years? (CEQA XIXb)	☐	☐	☐	☒
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)	☐	☐	☐	☒
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)	☐	☐	☒	☐
Comply with federal, state, and local management and reduction statutes and regulations related to solid waste? (CEQA XIXe)	☐	☐	☒	☐
Will the Proposal:	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
TRPA Environmental Checklist Item – Utilities				
Except for planned improvements, will the proposal result in a need for new systems, or substantial alterations to the following utilities:				
Power or natural gas? (TRPA 16a)	☐	☐	☐	☒
Communication systems? (TRPA 16b)	☐	☐	☐	☒
Utilize additional water which amount will exceed the maximum permitted capacity of the service provider? (TRPA 16c)	☐	☐	☐	☒

Utilize additional sewage treatment capacity which amount will exceed the maximum permitted capacity of the sewage treatment provider? (TRPA 16d)	☐	☐	☐	☒
Storm water drainage? (TRPA 16e)	☐	☐	☐	☒
Solid waste disposal (TRPA 16f)	☐	☐	☐	☒

21.1 CEQA Checklist Analysis – Utilities & Service Systems

CEQA XIXa. 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?

Standard of Significance. Construction of new service 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.

The Project would provide for transportation improvements and install stormwater improvements to better capture and convey stormwater runoff from the City ROW. As discussed Section 16.0, the Project would not create population growth. The Project would construct no new housing that could increase resident populations in need of new or relocated facilities and would not install fixtures or features (e.g., restrooms, permanent irrigation, water fountains) that require new service connections. TRPA Code Chapter 32 provides regulations for new utilities and services. The Project would comply with these regulations, as no new utilities would be required to operate the improvements. Some existing utilities (i.e., stormwater drop inlets) within the City ROW would be relocated within the City ROW, which would avoid potential environmental effects resulting from new areas of disturbance and development. The Project would create no impact to water supply, wastewater treatment, natural gas and telecommunication systems, and the minor changes to stormwater drainage and electrical conduit locations that are dictated by Project area conditions within the City ROW would result in no new permanent disturbance and would be less than significant.

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

Required Mitigation: **None.**

CEQA XIXb. Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Standard of Significance. A significant impact occurs if the Project creates a demand in water supply that requires new or expanded entitlements or resources to ensure continuation of sufficient water supply to the public.

As discussed Section 16.0, the Project would not create population growth. The Project would construct no new housing that could increase resident populations in need of new or relocated facilities and would not install fixtures or features (e.g., restrooms, permanent irrigation, water fountains) that require new service connections. The Project would require temporary water during construction for dust control. Water trucks would be filled using designated fire hydrants located in the vicinity of the Project area. Temporary water use during construction would be minimal and would be served through the existing entitlements. The Project, once built, would not require additional wastewater resources, but would require temporary water for vegetation establishment (native vegetation). Once vegetation is established, the Project would not require additional water resources.

Refer to the analysis for CEQA XIXa, which concludes that the Project would require no new or expanded utilities or service systems, and therefore, would create no impact to water supplies, entitlements, or resources.

Environmental Analysis: **No Impact.**

Required Mitigation: **None.**

CEQA XIXc. Would the Project 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?

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.

Refer to the analysis for CEQA XIXa, which concludes that the Project would require no new or expanded utilities or service systems, and therefore, would create no impact to wastewater treatment capacity or STPUD's existing commitments.

Environmental Analysis: **No Impact.**

Required Mitigation: **None.**

CEQA XIXd. 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?

Standard of Significance. A significant impact results if the Project generates solid waste in excess of state or local standards or the capacity of local infrastructure or would otherwise impair the attainment of solid waste reduction goals.

Construction activities, including the removal of roadway asphalt, concrete, earthen soils, and vegetation debris, may require the use of a solid waste facility, though Project designs and contract documents would encourage balancing of earthwork within the Project area and recycling of asphalt/concrete materials for incorporation with new construction materials, as well as grinding/chipping of vegetation waste for use in revegetation/planting for the Project. The Project would use the services of South Tahoe Refuse to collect and dispose of solid waste generated by the Project. The main facility, located in the City, consists of a transfer station, a materials recovery facility, and the Tahoe Basin Container Service. Solid waste could also be disposed of at the Lockwood Regional Landfill in Sparks, Nevada. This landfill has a total capacity of approximately 43 million tons and is expected to reach capacity by the year 2025. However, multiple large-scale expansions to the facility are expected before this capacity is reached.

Both the South Tahoe Refuse main facility and the Lockwood Regional Landfill have sufficient capacity to manage the growth anticipated under the City General Plan EIR update, which considered the Project in the environmental analysis. The Project, once constructed, would not generate solid waste requiring disposal. Because the Project is not expected to generate solid waste for disposal at a landfill and potential impact would be temporary during the 4-month construction period, potential impacts from the generation of solid waste would be less than significant.

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

Required Mitigation: **None.**

CEQA XIXe. Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Standard of Significance. Noncompliance with statutes and regulations regarding solid waste results in a significant impact as defined by TRPA RPU Goals and Policies, the City General Plan, and state (Title 14 and 27 of the California Code of Regulations) and federal solid waste handling and disposal regulations.

Refer to the analysis for CEQA XIXd, which concludes that the Project would create a less-than-significant impact to solid waste disposal. Refer to the analysis for CEQA IXa, which concludes that the Project would not involve the transportation of explosives, inhalation hazards, or radioactive materials and that the amount of hazardous materials necessary for the Project would not be substantial enough to create a significant hazard from routine transport, use, or disposal of hazardous materials during Project construction or maintenance. Potential impacts during Project construction would be reduced to a level of less than significant through compliance with federal, state, and local statutes and regulations related to solid waste.

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

Required Mitigation: **None.**

21.2 TRPA Checklist Analysis – Utilities

TRPA 16a. Except for planned improvements, will the proposal result in a need for new systems, or substantial alterations to power or natural gas?

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 RPU Conservation Element.

The Project area is located within close proximity to existing electric and gas infrastructure, and therefore Project implementation would not require new or altered power or natural gas systems. Underground facilities exist within the Project area, typically located at the edge of existing pavement, buried at a depth of 3 to 4 feet. Costs associated with the relocation of facilities would be the responsibility of the Project. Coordination with utility companies would follow accepted practice. To avoid significant grade changes for maintenance of minimum coverage depths for safety and compliance, during final plan preparation, utilities would be located on the civil plan sheets and depth to conduit, pipeline, or other facility would be confirmed. If necessary, the Project would relocate utility infrastructure, including underground or aboveground connections. Prior to construction, the contractor would contact Underground Service Alert to ensure buried lines are properly located and marked and would provide utility companies with an accurate schedule noting when construction occurs in the vicinity of their facilities.

The City contractor would coordinate with law enforcement and fire protection agencies, utility companies, and businesses and residents within and adjacent to the construction corridor prior to and during construction activities. This coordination would inform affected parties of the construction schedule and further identify measures to maintain access and service in the Project area to result in less-than-significant impacts to power and natural gas systems.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 16b. Except for planned improvements, will the proposal result in a need for new systems, or substantial alterations to communication systems?

Standard of Significance. The need for new systems or substantial alteration to communication systems as a result of the Project constitutes a significant impact, if new construction creates significant and immitigable environmental effects.

Communication lines within the Project area are below ground. Since facilities are below ground, detection and relocation in coordination with AT&T and Charter Communications is necessary. The Project would not result in additional commercial, tourist, or residential development, and would, therefore, create no impact to existing communication systems or result in the need for new communication systems. The Project would include no new communication facilities.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None.**

TRPA 16c. Except for planned improvements, will the proposal 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?

Standard of Significance. Demand for service systems or expansion of existing facilities as a result of the Project constitutes a significant impact if maximum permitted capacities would be exceeded and new construction would create significant and immitigable environmental effects.

Refer to the analyses for CEQA XIXa, XIXb, XIXc, and XIXd, which analyze utilities and public service systems and conclude that the Project would create either no impact or that the Project includes appropriate and adequate compliance measures to reduce potential impacts to a level of less than significant. The Project would create no demand to water or wastewater systems requiring alterations to STPUD systems. The Project would not require the use of water resources with the exception of what is necessary for dust control and initial vegetation establishment. Project operations would create no impact to the maximum permitted capacity of service providers.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None.**

TRPA 16d. Except for planned improvements, will the proposal 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?

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.

Refer to the analyses for CEQA XIXa, XIXb, XIXc, and XIXd, which analyze utilities and public service systems and conclude that the Project would create either no impact or that the Project would include appropriate and adequate compliance measures to reduce potential impacts to a level of less than significant. Specifically, there would be no impact to sewage treatment facilities.

Environmental Analysis: **No; No Impact.**

Required Mitigation: **None.**

TRPA 16e. Except for planned improvements, will the proposal result in a need for new systems, or substantial alterations to storm water drainage?

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.

Refer to the analysis for CEQA XIXa, which concludes that the Project would result in a less-than-significant impact to stormwater systems. The Project would improve the existing area-wide stormwater system, and therefore, would not result in the need for new stormwater facilities.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 16f. Except for planned improvements, will the proposal result in a need for new systems, or substantial alterations to solid waste and disposal?

Standard of Significance. Construction of new solid waste systems or disposal sites constitutes a significant impact, if new construction creates significant and immitigable environmental effects.

Refer the analysis for CEQA XIXd and XIXe, which conclude that significant quantities of trash or solid waste would not be generated. The Project would not initiate the development of new landfills nor the need for additional collection equipment, personnel, or infrastructure.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

22.0 WILDFIRE

This section evaluates the Project's impacts on wildfire risk during construction and operations. **Table 35** identifies the level of significance of the impacts based on the CEQA Guidelines Appendix G: Environmental Checklist Form and indicates whether additional mitigation measures would be required to avoid, reduce, minimize, or otherwise mitigate potential impacts to a level of less than significant.

Table 35. Wildfire Impacts

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
CEQA Environmental Checklist Item – Wildfire				
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	☐	☐	☐	☐
Substantially impair an adopted emergency response plan or emergency evacuation plan? (CEQA XXa)	☐	☐	☒	☐
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)	☐	☐	☐	☒
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)	☐	☐	☐	☒
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)	☐	☐	☐	☒

22.1 CEQA Checklist Analysis

CEQA XXa. Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Standard of Significance. A project that would substantially impair the execution of an adopted emergency response plan or emergency evacuation plan would result in a significant impact.

Refer to the analysis for CEQA IXf, which concludes that the Project would not result in increased density, and therefore would not adversely affect emergency response described in local, regional, and state emergency response and/or evacuation plans, including but not limited to the El Dorado County Emergency Operations Plan, the City of South Lake Tahoe Emergency Operations Plan, and the South Lake Tahoe Fire Department Fire Planning Process. Refer to the analysis for CEQA IXg, which concludes that the Project would not expose people or structures to a significant risk involving wildfires because the Project would not construct new aboveground structures or increase residential land-use densities.

Project construction and operations would result in a less-than-significant impact on emergency response or evacuation plans.

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

Required Mitigation: **None.**

CEQA XXb. Would the project 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?

Standard of Significance. Project actions that exacerbate wildlife risk and contribute to exposure of project occupants to pollutant concentration from wildfire or the uncontrolled spread of wildlife constitute a significant impact.

The Project would implement transportation and stormwater improvements within the City ROW, which by nature contain no permanent occupants. The Project would have no impact to wildfire risk.

Environmental Analysis: **No Impact.**

Required Mitigation: **None.**

CEQA XXc. 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?

Standard of Significance. Exacerbation of fire risk that may result in temporary or ongoing environmental impacts from project-associated infrastructure constitutes a significant impact.

The Project would implement transportation and stormwater improvements within the City ROW. Some underground utilities would be relocated; however, the Project would not necessitate the construction of new access roads, fuels breaks, emergency water sources, powerlines, or utilities. As a result, the Project would result in no impact to wildfire risk.

Environmental Analysis: **No Impact.**

Required Mitigation: **None.**

CEQA XXd. Would the project 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?

Standard of Significance. Exposure of people or structures to significant risks of flooding or landslide, as a result of runoff, post-fire instability, or drainage changes, constitutes a significant impact.

Refer to the analysis for CEQA VIIc, which concludes that the Project would not increase the potential for on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse, and the level of impact associated with the unstable soil conditions would be less than significant.

Environmental Analysis: **No Impact.**

Required Mitigation: **None.**

23.0 MANDATORY FINDINGS OF SIGNIFICANCE

This section presents the analyses for mandatory findings of significance. **Table 36** identifies the applicable impacts, anticipated level of impact, and whether mitigation measures are required to reduce impacts to a less than significant level.

Table 36. Mandatory Findings of Significance

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
CEQA Environmental Checklist Item				
Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? (CEQA XXIa)	☐	☐	☒	☐
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)	☐	☐	☒	☐
Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? (CEQA XXIc)	☐	☐	☒	☐
Will the Proposal:	**Yes**	**No, With Mitigation**	**Data Insufficient**	**No**
TRPA Initial Environmental Checklist Item				
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)	☐	☒	☐	☐
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)	☐	☐	☐	☒

Will the Proposal:	Yes	No, With Mitigation	Data Insufficient	No
TRPA Initial Environmental Checklist Item				
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)	☐	☐	☐	☒
Does the Project have environmental impacts which will cause substantial adverse effects on human being, either directly or indirectly? (TRPA 21d)	☐	☐	☐	☒

23.1 CEQA Checklist Analysis

CEQA XXIa. Does the Project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Standard of Significance. Substantial degradation of the quality of the environment constitutes a significant impact.

Impacts to the environment, including habitat for fish and wildlife species, populations of plants and animals, rare and endangered species, sensitive habitats, historical and cultural resources, hydrology, geology, and soils, have been evaluated as part of this IS/IEC. Analyses conclude that the Project would not substantially degrade the quality of the environment. The Project would not have the potential to degrade the quality of the environment substantially; reduce the habitat of fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; reduce the number or restrict the range of a rare or endangered plant or animal; or eliminate important examples of the major periods of California history or prehistory.

Potential environmental impacts would be temporary, intermittent and localized, and would cease after construction. The Project would implement adequate compliance measures, as identified in Section 1.10 of the Project description, that would minimize the potential for cumulative impacts by installing appropriate measures to minimize stormwater runoff, minimize impacts to water quality and vegetation, protect against hazards and hazardous materials, and protect the safety of the public during construction activities.

The Project location, design and compliance measures would ensure that the Project's individual contribution to any significant cumulative impacts would not be cumulatively considerable. The purpose of the Project is to make improvements to the Project area and meet the various goals of the City's General Plan, TVAP, TRPA RPU and RTP. Improvements include stormwater management, SEZ restoration and enhancement, trail safety and connectivity improvements, reduction of vehicle-based transportation, and increased pedestrian and cyclist access throughout the area. The anticipated effects from the Project are expected to be overall beneficial to the environment.

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

Required Mitigation: **None.**

CEQA XXIb. 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)?

Standard of Significance. When the Project's incremental contribution is "cumulatively considerable" to the environmental resource, a significant impact could result. 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."

Two approaches to a cumulative impact analysis are provided in CEQA Guidelines. Section 15130(b)(1): (1) the analysis can be based on a list of past, present, and reasonably foreseeable probable future projects producing closely related impacts that could combine with those of a project, and (2) a summary of projections contained in a general plan or related planning document can be used to determine cumulative impacts. The following factors were used to determine an appropriate list of individual projects to be considered in this cumulative analysis:

- Similar Environmental Impacts—A relevant project contributes to effects on resources that are also affected by the project. A relevant future project is defined as one that is "reasonably foreseeable," such as a project for which an application has been filed with the approving agency or whose funding has been approved.
- Geographic Scope and Location—A relevant project is one within the geographic area where effects could combine. The geographic scope varies on a resource-by-resource basis. For example, the geographic scope for evaluating cumulative effects on air quality consists of the affected air basin.
- Timing and Duration of Implementation—Effects associated with activities for a relevant project (e.g., short-term construction or long-term operations) would likely coincide with the related effects of the project

Table 37 identifies a list of past, present, and reasonably foreseeable future projects that have occurred or are planned to occur in the vicinity of the Project area. The table identifies the name of the related project, a brief description, project status, agencies contacted, and documents referenced. The present or reasonably foreseeable, probable future projects considered in this cumulative analysis are those projects located in the southern portion of the Lake Tahoe Basin in El Dorado Counties and that have been identified as having potential effects on environmental resources that could also be affected by the Project. **Table 37** identifies the related projects in the cumulative effects analysis based on these following criteria:

- The project is reasonably foreseeable, because it has an identified lead agency, and has initiated CEQA, TRPA, and/or National Environmental Policy Act environmental review or other regulatory procedures.
- The information available defines the project in adequate detail to allow meaningful analysis.
- The project could affect resources potentially affected by the Project.

Table 37. List of Related Projects in Vicinity of the Project Area – South Lake Tahoe Basin Area

Agency	Project Title	Description	Status
City of South Lake Tahoe	D Street Public Works Facility	The City acquired a parcel located at 1740 D Street to create an office and industrial facility for the City's Public Works Department staff and equipment currently located at the Rufus Allen Corporation Yard and the Tata Lane Offices. By relocating the staff and equipment at the Rufus Allen location, the City realizes potential for increased recreational opportunities and facilities	Design, 2018

Table 37. List of Related Projects in Vicinity of the Project Area – South Lake Tahoe Basin Area

Agency	Project Title	Description	Status
		at that location in conjunction with the proposed recreation center rehabilitation and future 56-acre project.	
City of South Lake Tahoe	Tahoe Valley Greenbelt and Stormwater Improvement Project	The project includes multi-benefit stormwater, SEZ, bicycle and pedestrian improvements and recreational amenities. Water quality and SEZ enhancements will include improving existing drainage ways and drainage systems to spread, treat, infiltrate, and retain flows from roadways, commercial areas, and other high priority, directly connected urban areas. Pedestrian and bicycle will include improving connectivity within the project area and to regional networks.	Design, 2019
City of South Lake Tahoe	Sierra Blvd Streetscape	The primary intent of the project is the rehabilitation of the 0.6-mile stretch of Sierra Blvd from Palmira Avenue to Barbara Ave. The rehabilitation of Sierra Blvd will include redesign of the roadway section, the addition of bike lane(s), paths, pedestrian sidewalks, and the addition of streetscape improvements such as pedestrian lighting, hardscape, and landscape improvements in conjunction with a Rule 20 Utility undergrounding project that occurred in 2011. The project will also provide corridor water quality improvements and tie-in with the erosion control improvements surrounding the project area. The Complete Streets project would provide a major link.	Implementation, 2019
City of South Lake Tahoe	Bijou Park Creek SEZ/Watershed Restoration	The project aims to address water quality and flooding issues in the Lower Bijou Park Creek area (Phase 1), which currently discharges runoff from roadways, commercial, and residential areas directly into the Ski Run Marina. The area is subject to historic flooding due to undersized and deteriorating infrastructure in the lower watershed area. The project will include restoration of SEZ and associated water quality improvements to reduce sediment and nutrient loads in urban runoff discharged to Lake Tahoe.	Implementation, 2018
City of South Lake Tahoe	Upper Bijou Park Creek Restoration	Bijou Park Creek watershed is one of the most urbanized within the Lake Tahoe Basin, including encroachment of impervious coverage (buildings, parking lots, and roads) into historic stream environment zones (SEZs). The watershed-scale effort will address fine sediment particle and nutrient loading associated with urban and roadway runoff while seeking to alleviate flooding with SEZ restoration. The planning and design will consider opportunities to address the alteration of the upper watershed when large amount of fill that	2020

Table 37. List of Related Projects in Vicinity of the Project Area – South Lake Tahoe Basin Area

Agency	Project Title	Description	Status
		created the Heavenly California Lodge parking lot inadvertently altered drainage patterns in the watershed, routing new runoff into the constrained conveyance system.	
El Dorado County	South Tahoe Greenway	The South Tahoe Greenway Shared Use Trail will connect residents and visitors to community and recreation destinations from Meyers to the Stateline.	Planning and design completion in 2019 with Construction in 2020
City of South Lake Tahoe	Bike Path Rehabilitation	This project focused on rehabilitation and laid new asphalt on an existing Class 1 bike path that runs from Trout Creek to the South Wye intersection.	Completed 2014
Caltrans	US 50 Airport to "Y" Junction Water Quality Improvement Project	The project collects and treats runoff along US 50. The project will provide a 3- to 4-foot shoulder for a Class 2 bike lane, and will provide curb, gutter, and sidewalk.	Completed in 2014
Caltrans	US 50 "Y" to Trout Creek Water Quality Improvement Project	The project will collect and treat stormwater runoff from the "South Wye" junction to Trout Creek. It will include 6-foot shoulders for Class 2 bike lanes, and replace traffic signals, curbs, gutters, and sidewalks.	Existing capital project. Begin construction 2016, completed by 2019.
Caltrans	SR 89 "Y" to Cascade Road Water Quality Improvement Project:	The project will collect and treat runoff along SR 89 from the "Y" junction to Cascade Road. The project will provide curbs, gutters, and sidewalks, and a 4-foot shoulder for a Class 2I bike route.	Existing capital project construction began in the Fall of 2014, completed in 2015.
Caltrans	RTP #74	US 50 Signal Synchronization and Adaptive Signals Project. Upgrade signal timing equipment at signalized intersections along US 50 to improve traffic flow.	Existing capital project
TRPA	Shoreline Plan	TRPA has prepared a set of policy concepts to guide resource management and development within the shorezone and lakezone of Lake Tahoe. These concepts and Code provisions are referred to as the Shoreline Plan. The Shoreline Plan would involve amendments to sections of the TRPA Code that address uses and development in the shorezone of Lake Tahoe, and related amendments to TRPA Code Chapters.	Planning, Future
Tahoe Douglas Visitor Authority	Tahoe South Events Center Project	The Events Center will be a publically owned assembly event and entertainment venue located in Stateline, Douglas County, Nevada. The project area would consist of portions of two parcels currently owned by Edgewood Companies. One is the site of the MontBleu Resort Casino and Spa and the other is an adjacent undeveloped parcel located immediately east of the existing surface parking area. Although both parcels have been	Planning, Future

Table 37. List of Related Projects in Vicinity of the Project Area – South Lake Tahoe Basin Area

Agency	Project Title	Description	Status
		used to define the project area, the improvements associated with the Events Center will be situated within a 13.3-acre boundary that fits almost entirely within the existing MontBleu surface parking lots.	
TRPA/TTD	Draft U.S. 50/South Shore Community Revitalization Project EIR/EIS	The project would realign US 50, enabling the creation of a pedestrian-oriented "Main Street" through the middle of the existing tourist core, where the highway is not located. Walking, bicycling, and reliable transit would be attractive and safe transportation options, and community gathering places would be available in the tourist core.	Planning, Future
LTCC	Lake Tahoe Community College Master Plan and University Center	The Lake Tahoe Community College is preparing a Facilities Master Plan to plan for campus growth over the next 10-15 years. Completion and certification of the Facilities Master Plan EIR/EIS will allow the College Board to officially adopt the Facilities Master Plan and the TRPA Governing Board to approve a public service application for the University Center Project and a cumulative impacts review of the remaining Facilities Master Plan projects.	Planning, Future
Vail Resorts	FINAL Heavenly Epic Discovery EIR/EIS/EIS	The Proposed Action is designed to expand and diversify year-round, non-skiing recreational opportunities at Heavenly, primarily for summer time users. Proposed projects would utilize existing infrastructure and guest service facilities to provide a wide variety of new summer daytime activities for guests. All activities would be accessed using the existing gondola from the base station at Heavenly Village.	Planning, Future
California Tahoe Conservancy	Upper Truckee River Restoration and Golf Course Reconfiguration Project	The primary purpose of the project is to restore natural geomorphic and ecological processes along this reach of river and to reduce the river's suspended sediment discharge to Lake Tahoe. The restoration project would require reconfiguration of the Lake Tahoe Golf Course to allow for restoration of the river, reduce the area of stream environment zone occupied by the golf course, and allow for establishment of a buffer area between the golf course and the river.	Future
Edgewood Companies	Edgewood Lodge	The approximately 231-acre project site is located within the Edgewood Tahoe Golf Course and includes a small area to the east across US 50. The Edgewood Lodge and Golf Course Improvement Project would include construction of a new lodge complex with associated parking, and other improvements.	Approved/historical

Table 37. List of Related Projects in Vicinity of the Project Area – South Lake Tahoe Basin Area

Agency	Project Title	Description	Status
Vail Resorts	Draft Heavenly Epic Discovery EIR/EIS/EIS	The purpose of the Epic Discovery proposal at Heavenly Mountain Resort is to diversify summer and year-round activities pursuant to the Ski Area Recreational Opportunity Enhancement Act to engage a larger segment of summer and non-ski/ride visitors seeking more managed recreation opportunities.	Approved/historical
Vail Resorts/LTBMU	Heavenly Mountain Resort Master Plan and Monitoring	The primary purpose of this report is to present trend analysis, with respect to watershed health, as measured through data collected in water years 2012 through 2016 at Heavenly and as defined by the Lahontan Board Order Waste Discharge Requirements. The secondary purpose of this report is to provide input and consideration to direction on Heavenly and Forest Service management activities on the ability of the program to meet the monitoring objectives.	Approved/historical
TRPA	Community Enhancement Program (CEP)	The focus of the CEP is to encourage revitalization projects in downtown and recreation areas that demonstrate substantial environmental, as well as social and economic benefits. The program provides incentives for mixed-use development projects on existing disturbed or underutilized sites. The CEP is competitive and is designed to encourage the "best" projects that will demonstrate the desires of the community captured in the Regional Vision. The Community Enhancement Program is a collaboration between the Tahoe Regional Planning Agency, the community, and local government partners. The program provides a means to demonstrate implementation of the Regional Vision through the implementation of selective projects.	Approved/historical
Beach Club Developments, LLC	Beach Club	The Beach Club on Lake Tahoe project was approved by the TRPA Governing Board in August 2008. The project applicant, Beach Club, Inc., proposed to redevelop the existing Tahoe Shores Mobile Home Park located at the end of Kahle Drive in Stateline, Nevada. The Draft EIS evaluated the potential environmental impacts associated with the proposed project (Alternative A), two separate development alternatives (Alternatives B and C), and two variations on the no-project alternative (Alternatives D and E).	Approved/historical
	Boulder Bay	At its April 2011 meeting, the TRPA Governing Board voted to approve the Boulder Bay Community Enhancement Project. Four years in the planning, the project will replace the aging Tahoe Biltmore Casino in Crystal Bay, Nevada,	Approved/historical

Table 37. List of Related Projects in Vicinity of the Project Area – South Lake Tahoe Basin Area

Agency	Project Title	Description	Status
		with an eco-friendly, mixed-use resort that will significantly reduce stormwater pollution and vehicle emissions associated with the site.	
LTBMU Forest Service	Heavenly Mountain Resort 2017 Capital Improvements Project Environmental Assessment	Capital improvements projects at Heavenly Mountain Resort including selective widening of existing ski trails as well as implementation of the Easy Street Run Hazard Reduction prescription and relocating snow making equipment.	4/2018
	Kahle Water Quality Basin CE	The project proposes to increase the size of the existing stormwater basin located on National Forest Service lands at the end of Kahle Road in the Lam Watah area. The project would improve capacity for stormwater treatment.	8/2018
	SR 28 Corridor Plan Environmental Assessment	Continuation of Stateline to Stateline bike path from Sand Harbor to Spooner Summit. The project will remove highway parking, co-locate utilities with bikeway, improve existing parking lots, and create new parking, highway pull-outs, and water quality BMPs.	4/2019
	South Tahoe Fuels Treatment Project CE	Hazardous fuels reduction and healthy forest activities in the urban defense zone on 3,800 acres. Mechanical treatments up to 3,000 acres. Thinning, aspen and meadow health, prescribed fire, forest health activities, re-entry in past treatment areas.	5/2019
California Tahoe Conservancy	Upper Truckee River and Marsh Restoration Project	In the last 150 years development has eliminated more than half of the original 1,300-acre marsh. The Conservancy has acquired 600 acres to restore the river's natural cleansing function and subsequently increase habitat quality for plant, wildlife, and fish species.	Future

Refer to the analysis for CEQA XXIa, which concludes that the Project is expected to be cumulatively beneficial through improved stormwater management and quality of runoff ultimately entering Lake Tahoe. The expanded bike and pedestrian system would also be beneficial in the long term to the residents and visitors of the Lake Tahoe's south shore, providing for alternative routes of transportation for non-motorized travel throughout the south shore. Additionally, the Project location and design and the implementation of adequate and appropriate compliance measure would avoid and minimize the potential for Project contribution to any significant cumulative impacts.

The Project would result in no impacts that are individually limited but that would be cumulatively considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects in the vicinity of the Project area. Other projects may occur in the City and El Dorado County; however, impacts would not be cumulatively considerable when evaluated in the context of the proposed Project's limited environmental effects and the short duration of construction activities.

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

Required Mitigation: **None.**

CEQA XXIc. Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Standard of Significance. Project environmental effects that cause direct or indirect substantial adverse effects to humans create a significant impact.

As analyzed in this IS/IEC, the Project would not result in environmental effects that would case substantial adverse direct or indirect effects on human beings. The Project would positively affect humans through improvement of the non-automobile transportation network, providing safer and more convenient alternatives to the automobile, and installing stormwater improvements for removal of fine sediments and other water quality pollutants. The Project's resultant impacts would be considered less than significant under the provisions of CEQA.

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

Required Mitigation: **None.**

23.2 TRPA Checklist Analysis

TRPA 21a. Will the proposal 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 Nevada or California history or prehistory?

Standard of Significance. Substantial degradation of the quality of the environment constitutes a significant impact.

Refer to the analysis for CEQA XXIa, which concludes that the Project would not substantially degrade the quality of the environment. The Project would not significantly degrade the quality of the environment substantially; reduce the habitat of fish or wildlife species; cause a fish or wildlife population to drop below self-sustaining levels; threaten to eliminate a plant or animal community; reduce the number or restrict the range of a rare or endangered plant or animal; or eliminate important examples of the major periods of California or Nevada history or prehistory.

Environmental Analysis: **No; Beneficial Impact.**

Required Mitigation: **None.**

TRPA 21b. Will the proposal 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).

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.

Short-term impacts would be related to construction activities. Long-term impacts would be beneficial because the Project would result in stormwater, transportation, and bike and pedestrian system connectivity and safety. Refer to the analysis for CEQA XXI and TRPA 21a, which conclude that the Project would not significantly degrade the quality of the environment substantially, neither in the short nor long-term.

Environmental Analysis: **No; Less than Significant Impact.**

Required Mitigation: **None.**

TRPA 21c. Will the proposal 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?)

Standard of Significance. Individually limited project impacts that may overlap or combine to create a cumulative impact constitute a significant impact.

No cumulatively considerable impacts resulting from the Project were identified during analyses. Refer to the analysis for CEQA XXIb, which concludes the level of impact would be less than significant. The Project would result in no impacts that are individually limited but that would be cumulatively considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects in the vicinity of the Project area. Other projects may occur in the City and El Dorado County; however, impacts would not be cumulatively considerable when evaluated in the context of the proposed Project's limited environmental effects and the short duration of construction activities.

Environmental Analysis**: No; Beneficial Impact.**

Required Mitigation: **None.**

TRPA 21d. Will the proposal have environmental impacts which will cause substantial adverse effects on human being, either directly or indirectly?

Standard of Significance.

Refer to the analysis for CEQA XXIc, which concludes the level of impact to humans would be less than significant. No significant effects to the environment or persons were identified in the IS/IEC analyses. Direct and indirect effects on the environment would be beneficial to both humans and environmental health.

Environmental Analysis: **No; Beneficial Impact.**

Required Mitigation: **None.**

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Lake Tahoe Boulevard Class 1
Bicycle Trail Project
Initial Study/Negative Declaration/
Initial Environmental Checklist

APPENDIX A

60% PLAN SET DRAWINGS

CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

* CALL BEFORE YOU DIG *
CONTACT UNDERGROUND SERVICE ALERT (USA)
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

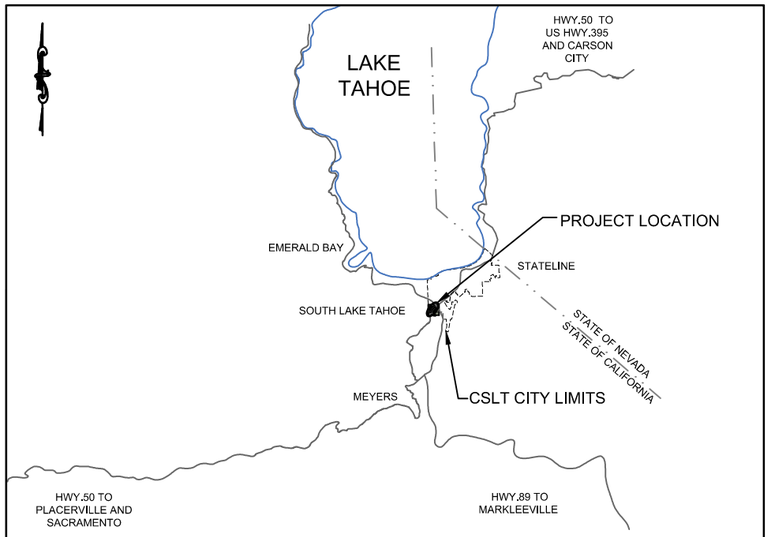
CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150
PH: (530) 542-6033 FAX: (530) 541-3051

CITY OF SOUTH LAKE TAHOE, PUBLIC WORKS DEPARTMENT

LAKE TAHOE BOULEVARD CLASS 1 BICYCLE TRAIL

60% DESIGN
JUNE 2019
CITY PROJECT #: 301-50026-01
FEDERAL PROJECT #: CML-5398(013)

PROJECT LOCATION MAP
SCALE: 1" = 200'



VICINITY MAP
N.T.S

60% DESIGN

Cardno
LAKE TAHOE
2561 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588 - 9069 FAX: (775) 588 - 9219
www.cardno.com

TITLE SHEET
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

BY	DESCRIPTION	DATE

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700
SHEET TITLE	i
SHEET NUMBER	1
LAND USE #	N/A

Plot Stamp: 6/19/2019 3:18:44 PM • Ivan Trujillo
File: R:\Projects\E317202700 - Lake Tahoe Blvd Bike Trail_Cardno\AutoCAD\Sheets\LTB_Bike_Trail - TITLE.dwg, Tab: i

CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

** CALL BEFORE YOU DIG **
CONTACT UNDERGROUND SERVICE ALERT (USA)
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150
PH: (530) 542-6033 FAX: (530) 541-3051

1. UNLESS OTHERWISE DEFINED OR NOTED, "ENGINEER" SHALL MEAN THE PUBLIC WORKS DIRECTOR, DEPUTY PUBLIC WORKS DIRECTOR OR THEIR DESIGNEE; 'ENGINEER OF RECORD" SHALL MEAN CARDNO; "OWNER" SHALL MEAN THE CITY OF SOUTH LAKE TAHOE.

2. THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH ACCEPTED ENGINEERING PROCEDURES AND GUIDELINES, AND ARE IN SUBSTANTIAL COMPLIANCE WITH APPLICABLE STATUTES, CITY ORDINANCES OR STANDARDS. IN THE EVENT OF CONFLICT BETWEEN ANY PORTION OF THESE PLANS AND THE CITY OF SOUTH LAKE TAHOE PUBLIC IMPROVEMENT AND ENGINEERING STANDARDS, THESE PLANS SHALL APPLY AND THE ENGINEER SHALL BE CONTACTED IMMEDIATELY.

3. THE CONTRACTOR SHALL COMPARE ALL PLANS FOR CONFORMANCE AS TO THE LAYOUT OF FEATURES AND DIMENSIONS. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK. IF DISCREPANCIES BETWEEN THE PLANS AND THE SPECIFICATIONS OCCUR, THE ENGINEER SHALL BE NOTIFIED PRIOR TO PROCEEDING WITH THE WORK.

4. CONTRACTOR SHALL BE RESPONSIBLE FOR ARRANGING A PRE-CONSTRUCTION JOB SITE CONFERENCE WITH GOVERNING AGENCIES, ALL UTILITY COMPANIES, AND OWNER'S REPRESENTATIVES PRIOR TO COMMENCING WORK. THIS MEETING WILL VERIFY SCHEDULES, METHODS, AND MATERIALS TO BE USED IN THE CONSTRUCTION OF THE PROJECT.

5. THE CONTRACTOR SHALL OBTAIN AND HAVE AVAILABLE COPIES OF APPLICABLE GOVERNING AGENCY STANDARDS AND PERMITS AT THE JOB SITE DURING THE RELATED CONSTRUCTION OPERATIONS.

6. CONTRACTOR SHALL MAINTAIN IN A SAFE, PLACE ONE RECORD COPY OF ALL DRAWINGS, SPECIFICATIONS, ADDENDA, CHANGE ORDERS, WORK CHANGE DIRECTIVES, FIELD ORDERS, AND WRITTEN INTERPRETATIONS AND CLARIFICATIONS IN GOOD ORDERS AND ANNOTATED TO SHOW CHANGES MADE DURING CONSTRUCTION.

7. THE CONTRACTOR SHALL SEQUENCE, COORDINATE, AND CONDUCT DEMOLITION AND CONSTRUCTION OPERATIONS SUCH AS TO MAINTAIN CONTINUOUS PUBLIC SAFETY, ACCESS, DRAINAGE, AND UTILITY SERVICES TO EXISTING FACILITIES REQUIRING THESE SERVICES. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST SEVEN (7) DAYS IN ADVANCE OF INTERRUPTION OF ANY OF THESE SERVICES.

8. ANY CONSTRUCTION ACTIVITIES CREATING NOISE IN EXCESS TO THE TRPA NOISE STANDARDS MAY BE CONSIDERED EXEMPT BETWEEN THE HOURS OF 8:00 A.M. AND 6:30 P.M. EXCEPT AS DESCRIBED WITHIN NOTE #9.

9. CONSTRUCTION NOISE EMANATING FROM ANY CONSTRUCTION ACTIVITIES FOR WHICH A CONSTRUCTION PERMIT OR GRADING PERMIT IS REQUIRED IS PROHIBITED ON SUNDAYS AND FEDERAL HOLIDAYS, AND SHALL ONLY OCCUR BETWEEN THE HOURS OF 8:00 A.M. AND 6:30 P.M. MONDAY THROUGH SATURDAY. SEE TRPA CODE OF ORDINANCES.

10. THE CONTRACTOR SHALL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITIONS AT THE JOB SITE AT ALL TIMES INCLUDING SAFETY OF PERSONS AND PROPERTY, AND FOR ALL INDEPENDENT ENGINEERING REVIEWS OF THESE CONDITIONS. THE ENGINEER'S JOB SITE REVIEW DOES NOT INCLUDE THE ADEQUACY OF THE CONTRACTOR'S SAFETY MEASURES.

11. THE TYPES, LOCATIONS, SIZES, EXTENT AND/OR DEPTHS OF EXISTING UNDERGROUND IMPROVEMENTS THAT ARE SHOWN, MAY NOT BE EXACT. CARDNO AND THE CITY OF SOUTH LAKE, ASSUMES NO RESPONSIBILITY FOR ANY UNDERGROUND FACILITIES OR OTHER BURIED OBJECTS WHICH MAY BE ENCOUNTERED, BUT WHICH ARE NOT SHOWN ON THESE PLANS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONTACTING APPROPRIATE UTILITY AGENCIES TO DETERMINE LOCATIONS OF UNDERGROUND FACILITIES PRIOR TO ANY EXCAVATIONS AND FOR THE PROTECTION OF AND REPAIR OF ANY DAMAGE TO THEM. THE CONTRACTOR SHALL VERIFY THE EXACT LOCATION OF THESE UTILITIES AND IMMEDIATELY NOTIFY THE ENGINEER IF THE ACTUAL LOCATION IS SIGNIFICANTLY DIFFERENT FROM THAT SHOWN ON THESE PLANS.

12. AS PART OF THIS WORK, THE CONTRACTOR IS TO VERY CAREFULLY PROTECT ALL EXISTING IMPROVEMENTS, VEGETATION, TREES AND OTHER FACILITIES WHICH ARE WITHIN THE PROJECT AREA BUT OUTSIDE THE SCOPE OF THIS PROJECT. WHERE THE REMOVAL OF ANY SUCH FEATURES ARE IN QUESTION, THE CONTRACTOR SHALL PROTECT THAT AREA UNTIL A DECISION CAN BE MADE BY THE ENGINEER. WHERE THE POSSIBILITY OF DAMAGE TO ANY TREE OR VEGETATION THAT IS DESIGNATED TO REMAIN ON SITE EXISTS, THE CONTRACTOR SHALL ERECT A TEMPORARY FENCE OR BARRIER TO PROTECT THE TREE OR VEGETATION (SEE DETAILS). IF ANY TREES ARE SCARRED DURING CONSTRUCTION THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY INVESTIGATION TO DETERMINE EXTENT OF DAMAGE AND RECOMMENDED REMEDIAL MEASURES. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE REMEDIAL MEASURES.

13. THE REQUIREMENTS OF ANY PERMITS ISSUED FOR THIS PROJECT BY ANY LOCAL, COUNTY, STATE OR FEDERAL AGENCY SHALL BE STRICTLY OBSERVED BY THE CONTRACTOR.

14. NO CONSTRUCTION SHALL BE DONE BETWEEN OCTOBER 15 AND MAY 1 WITHOUT AN APPROVED SEDIMENT AND EROSION CONTROL PLAN TO PREVENT SOIL EROSION AND A GRADING EXCEPTION FROM TRPA, THE CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD – LAHONTAN REGION, AND APPROVAL OF THE ENGINEER. ALL WORK PERFORMED BETWEEN OCTOBER 15 AND MAY 1 MUST BE PERFORMED IN SUCH A MANNER THAT THE PROJECT CAN BE WINTERIZED WITHIN TWENTY-FOUR (24) HOURS.

15. ALL AREAS DISTURBED BY CONSTRUCTION SHALL BE REVEGETATED PURSUANT TO THE SPECIAL PROVISIONS TO THE STANDARD SPECIFICATIONS.

16. IF THERE ARE ANY SOILS THAT, IN THE OPINION OF THE ENGINEER, ARE NOT STABILIZED PRIOR TO OCTOBER 15, THE SITE SHALL BE COMPLETELY WINTERIZED. THE WINTERIZATION SHALL INCLUDE (BUT NOT BE LIMITED TO) REPAIR OF SEDIMENT BARRIERS AND FILTER BERMS AS NECESSARY, APPLICATION OF A PINE NEEDLE MULCH TO DISTURBED AREAS TO BE REVEGETATED, APPLICATION OF ASPHALTIC TACKING AGENTS TO AREAS TO BE PAVED AND INSTALLATION OF FILTER INLETS AROUND STORM DRAINAGE INLETS AND PROTECTION OF WATER BODIES INCLUDING SEZ.

17. THERE SHALL BE NO GRADING, FILLING, CLEARING OF VEGETATION (WHICH DISTURBS SOIL), OR OTHER DISTURBANCE OF THE SOIL DURING INCLEMENT WEATHER AND FOR THE RESULTING PERIOD OF TIME WHEN THE SITE IS IN A SATURATED, MUDDY OR UNSTABLE CONDITION. CLEARING, EARTH-MOVING, AND EXCAVATION OPERATIONS AND OTHER GRADING ACTIVITIES SHALL CEASE WHEN WIND SPEED EXCEEDS 20 MPH AVERAGED OVER 1 HOUR.

18. SOIL AND CONSTRUCTION MATERIAL SHALL NOT BE TRACKED OFF THE CONSTRUCTION SITE. GRADING OPERATIONS SHALL CEASE IN THE EVENT THAT A DANGER OF VIOLATING THIS CONDITION EXISTS. THE SITE SHALL BE CLEANED UP AND ROAD RIGHT-OF-WAY SWEPT CLEAN WHEN NECESSARY. THE PROJECT SHALL BE TREATED AS NECESSARY TO PREVENT OFF-SITE MIGRATION AND ACCUMULATION OF DIRT, SOIL OR OTHER MATERIALS WHICH CAN SUBSEQUENTLY BE ENTRAINED IN AMBIENT AIR. CONTRACTOR SHALL PROVIDE PERIODIC WATERING TO CONTROL AIRBORNE PARTICLES. TRACKING CONTROL MEASURES SHALL BE IN PLACE AT ALL TIMES AT ALL LOCATIONS OF GRADING.

19. DURING CONSTRUCTION, ENVIRONMENTAL PROTECTION DEVICES SUCH AS ADEQUATE EROSION CONTROL DEVICES, DUST CONTROL AND VEGETATION PROTECTION BARRIERS SHALL BE MAINTAINED.

20. REHABILITATION AND CLEANUP OF THE SITE FOLLOWING CONSTRUCTION MUST INCLUDE REMOVAL OF ALL CONSTRUCTION WASTE AND DEBRIS.

21. NO CLEANING OF EQUIPMENT, INCLUDING CEMENT MIXERS, SHALL BE PERMITTED ANYWHERE WITHIN THE PROJECT AREA EXCEPT AS AUTHORIZED BY THE ENGINEER.

22. NO VEHICLES OR HEAVY EQUIPMENT SHALL BE ALLOWED IN ANY RIPARIAN OR WET AREA, EXCEPT AS SPECIFICALLY AUTHORIZED BY THE ENGINEER.

23. LOOSE SOIL MOUNDS OR SURFACES SHALL BE PROTECTED FROM WIND OR WATER EROSION BY BEING APPROPRIATELY COVERED WHEN CONSTRUCTION IS NOT IN ACTIVE PROGRESS OR WHEN REQUIRED BY THE ENGINEER.

24. SEWER SERVICE AND SEWER MAIN HORIZONTAL LOCATIONS AND DEPTHS SHOWN ON THESE PLANS ARE APPROXIMATE ONLY (SEE NOTE 11). CONTRACTOR SHALL ASSUME THAT EACH PARCEL IS SERVED BY A SEWER SERVICE. EXISTING SEWER SERVICES THAT CONFLICT WITH STORM DRAIN INSTALLATION WILL REQUIRE RELOCATION. CONTRACTOR SHALL RELOCATE SEWER SERVICES PER DETAIL SHOWN ON THE PLANS. ALL SEWER RELATED CONSTRUCTION MATERIALS, METHODS, TESTING AND INSPECTION SHALL CONFORM TO THE REQUIREMENTS OF THE SOUTH TAHOE PUBLIC UTILITY DISTRICT. THE SEWER LATERALS RELOCATED BY THE CONTRACTOR SHALL BE AIR TESTED PURSUANT TO STPUD STANDARDS AND APPROVED BEFORE BACKFILING THE TRENCH.

25. CONTRACTOR SHALL NOTIFY SOUTH TAHOE PUBLIC UTILITY DISTRICT IN WRITING 48 HOURS IN ADVANCE OF WORK AFFECTING SEWER LINES. CONTRACTOR SHALL COORDINATE DISRUPTIONS TO SERVICE WITH SOUTH TAHOE PUBLIC UTILITY DISTRICT AND THE AFFECTED PROPERTY OWNER'S AND RESIDENTS.

26. WHERE PROPOSED STORMDRAIN PIPE AND EXISTING SEWER PIPE CROSS, AS SHOWN ON PLANS OR AS MARKED BY USA, CONTRACTOR SHALL POTHOLE SEWER LINES TO A MINIMUM DEPTH OF 12" BELOW BOTTOM OF STORMDRAIN PIPE. POTHOLING SHALL BE PERFORMED A MINIMUM OF TWO WORKING DAYS PRIOR TO THE BEGINNING OF STORM DRAIN CONSTRUCTION OR PAVEMENT SAWCUTTING ANYWHERE IN THE PROJECT. IF CONFLICT EXISTS AND IS NOT SHOWN ON PLANS, CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY. ANY DAMAGED SEWER MUST BE REPORTED TO THE SOUTH TAHOE PUBLIC UTILITY DISTRICT. SEWER CONSTRUCTION WILL REQUIRE TESTING PER THE SOUTH TAHOE PUBLIC UTILITY DISTRICT STANDARDS.

27. WATER SERVICE AND WATER MAIN HORIZONTAL LOCATIONS AND DEPTHS SHOWN ON THESE PLANS ARE APPROXIMATE ONLY (SEE NOTE 11). EXISTING WATER LINES MAY BE STEEL, IRON OR PVC OR OTHER MATERIAL. IF POLYBUTYLENE WATERLINE IS DISCOVERED CONTRACTOR SHALL NOTIFY ENGINEER. CONTRACTOR SHALL ASSUME THAT EACH PARCEL IS SERVED BY A WATER SERVICE. EXISTING WATER SERVICES AND MAINS THAT CONFLICT WITH STORM DRAIN INSTALLATION SHALL REQUIRE RELOCATION. CONTRACTOR SHALL RELOCATE WATER SERVICES AND MAINS PER DETAILS SHOWN ON THE PLANS. ALL WATER RELATED CONSTRUCTION MATERIALS AND METHODS AND TESTING AND INSPECTION SHALL CONFORM TO THE REQUIREMENTS OF THE SOUTH TAHOE PUBLIC UTILITY DISTRICT AND TITLE 22 OF THE WATER CODE.

28. CONTRACTOR SHALL NOTIFY SOUTH TAHOE PUBLIC UTILITY DISTRICT IN WRITING 48 HOURS IN ADVANCE OF WORK AFFECTING WATER LINES. CONTRACTOR SHALL COORDINATE DISRUPTIONS TO SERVICE WITH SOUTH TAHOE PUBLIC UTILITY DISTRICT AND THE AFFECTED PROPERTY OWNERS AND RESIDENTS.

29. WHERE PROPOSED STORMDRAIN PIPE AND EXISTING WATER PIPE CROSS, AS SHOWN ON PLANS OR AS MARKED BY USA, CONTRACTOR SHALL POTHOLE WATER LINES TO A MINIMUM DEPTH OF 12" BELOW BOTTOM OF STORMDRAIN PIPE. POTHOLING SHALL BE PERFORMED A MINIMUM OF TWO WORKING DAYS PRIOR TO THE BEGINNING OF STORM DRAIN CONSTRUCTION OR PAVEMENT SAWCUTTING ANYWHERE IN THE PROJECT AREA. IF CONFLICT EXISTS AND IS NOT SHOWN ON PLANS CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY. ANY DAMAGED WATER LINES MUST BE REPORTED TO THE SOUTH TAHOE PUBLIC UTILITY DISTRICT. WATER CONSTRUCTION WILL REQUIRE TESTING PER THE SOUTH TAHOE PUBLIC UTILITY DISTRICT STANDARDS.

30. WATER, SEWER AND STORM DRAIN SEPARATIONS SHALL CONFORM TO THE "CRITERIA FOR THE SEPARATION OF WATER MAINS AND SANITARY SEWERS" OF THE STATE OF CALIFORNIA DEPARTMENT OF HEALTH SERVICES.

31. GAS SERVICE AND GAS MAIN HORIZONTAL LOCATIONS AND DEPTHS SHOWN ON THESE PLANS ARE APPROXIMATE ONLY (SEE NOTE 11). CONTRACTOR SHALL ASSUME THAT EACH PARCEL IS SERVED BY A GAS SERVICE. EXISTING GAS SERVICES AND MAINS THAT CONFLICT WITH STORM DRAIN INSTALLATION SHALL REQUIRE RELOCATION. CONTRACTOR SHALL EXPOSE EXISTING PIPE AND PROVIDE ALL TRENCHING AND SHORING AS REQUIRED. THE GAS UTILITY COMPANY WILL CONSTRUCT THE PIPE RELOCATION AND INITIAL BACKFILL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING AND COORDINATING THIS WORK WITH THE GAS UTILITY COMPANY. CONTRACTOR SHALL CONSTRUCT TRENCH RESURFACING PER THE APPLICABLE DETAIL. ALL GAS RELATED CONSTRUCTION MATERIALS AND METHODS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT GOVERNING GAS UTILITY.

32. WHERE PROPOSED STORMDRAIN PIPE AND EXISTING GAS PIPE CROSS, AS SHOWN ON PLANS OR AS MARKED BY USA, CONTRACTOR SHALL POTHOLE GAS LINES TO A MINIMUM DEPTH OF 12" BELOW BOTTOM OF STORMDRAIN PIPE. POTHOLING SHALL BE PERFORMED A MINIMUM OF TWO WORKING DAYS PRIOR TO THE BEGINNING OF STORM DRAIN CONSTRUCTION OR PAVEMENT SAWCUTTING ANYWHERE IN THE PROJECT. IF CONFLICT EXISTS AND IS NOT SHOWN ON PLANS CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY.

33. ELECTRICAL SERVICE AND ELECTRICAL TRANSMISSION HORIZONTAL LOCATIONS AND DEPTHS SHOWN ON THESE PLANS ARE APPROXIMATE ONLY (SEE NOTE 11). CONTRACTOR SHALL ASSUME THAT EACH PARCEL IS SERVED BY A ELECTRICAL SERVICE. EXISTING ELECTRICAL SERVICES AND TRANSMISSION LINES THAT CONFLICT WITH STORM DRAIN INSTALLATION SHALL REQUIRE RELOCATION. CONTRACTOR SHALL EXPOSE EXISTING PIPE AND PROVIDE ALL TRENCHING AND SHORING AS REQUIRED. THE ELECTRICAL UTILITY COMPANY WILL CONSTRUCT THE PIPE RELOCATION AND INITIAL BACKFILL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING AND COORDINATING THIS WORK WITH THE ELECTRICAL UTILITY COMPANY. CONTRACTOR SHALL CONSTRUCT TRENCH RESURFACING PER THE APPLICABLE DETAIL. ALL ELECTRICAL RELATED CONSTRUCTION MATERIALS AND METHODS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT GOVERNING ELECTRICAL UTILITY.

34. WHERE PROPOSED STORMDRAIN PIPE AND EXISTING ELECTRICAL CONDUITS CROSS, AS SHOWN ON PLANS OR AS MARKED BY USA, CONTRACTOR SHALL POTHOLE ELECTRICAL LINES TO A MINIMUM DEPTH OF 12" BELOW BOTTOM OF STORMDRAIN PIPE. POTHOLING SHALL BE PERFORMED A MINIMUM OF TWO WORKING DAYS PRIOR TO THE BEGINNING OF STORM DRAIN CONSTRUCTION OR PAVEMENT SAWCUTTING ANYWHERE IN THE PROJECT. IF CONFLICT EXISTS AND IS NOT SHOWN ON PLANS CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY.

35. TELEPHONE SERVICE AND TELEPHONE TRANSMISSION HORIZONTAL LOCATIONS AND DEPTHS SHOWN ON THESE PLANS ARE APPROXIMATE ONLY (SEE NOTE 11). CONTRACTOR SHALL ASSUME THAT EACH PARCEL IS SERVED BY A TELEPHONE SERVICE. EXISTING TELEPHONE SERVICES AND TRANSMISSION LINES THAT CONFLICT WITH STORM DRAIN INSTALLATION SHALL REQUIRE RELOCATION. CONTRACTOR SHALL EXPOSE EXISTING PIPE AND PROVIDE ALL TRENCHING AND SHORING AS REQUIRED. THE TELEPHONE UTILITY COMPANY WILL CONSTRUCT THE PIPE RELOCATION AND INITIAL BACKFILL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING AND COORDINATING THIS WORK WITH THE TELEPHONE UTILITY COMPANY. CONTRACTOR SHALL CONSTRUCT TRENCH RESURFACING PER THE APPLICABLE DETAIL. ALL TELEPHONE RELATED CONSTRUCTION MATERIALS AND METHODS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT GOVERNING TELEPHONE UTILITY.

36. WHERE PROPOSED STORMDRAIN PIPE AND EXISTING TELEPHONE CONDUITS CROSS, AS SHOWN ON PLANS OR AS MARKED BY USA, CONTRACTOR SHALL POTHOLE TELEPHONE LINES TO A MINIMUM DEPTH OF 12" BELOW BOTTOM OF STORMDRAIN PIPE. POTHOLING SHALL BE PERFORMED A MINIMUM OF TWO WORKING DAYS PRIOR TO THE BEGINNING OF STORM DRAIN CONSTRUCTION OR PAVEMENT SAWCUTTING ANYWHERE IN THE PROJECT. IF CONFLICT EXISTS AND IS NOT SHOWN ON PLANS CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY.

37. CABLE SERVICE AND CABLE TRANSMISSION HORIZONTAL LOCATIONS AND DEPTHS SHOWN ON THESE PLANS ARE APPROXIMATE ONLY (SEE NOTE 11). CONTRACTOR SHALL ASSUME THAT EACH PARCEL IS SERVED BY A CABLE SERVICE. EXISTING CABLE SERVICES AND TRANSMISSION LINES THAT CONFLICT WITH STORM DRAIN INSTALLATION SHALL REQUIRE RELOCATION. CONTRACTOR SHALL EXPOSE EXISTING PIPE AND PROVIDE ALL TRENCHING AND SHORING AS REQUIRED. THE CABLE UTILITY COMPANY WILL CONSTRUCT THE PIPE RELOCATION AND INITIAL BACKFILL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR SCHEDULING AND COORDINATING THIS WORK WITH THE CABLE UTILITY COMPANY. CONTRACTOR SHALL CONSTRUCT TRENCH RESURFACING PER THE APPLICABLE DETAIL. ALL CABLE RELATED CONSTRUCTION MATERIALS AND METHODS SHALL CONFORM TO THE REQUIREMENTS OF THE CURRENT GOVERNING CABLE UTILITY.

38. WHERE PROPOSED STORMDRAIN PIPE AND EXISTING CABLE CONDUITS CROSS, AS SHOWN ON PLANS OR AS MARKED BY USA, CONTRACTOR SHALL POTHOLE CABLE LINES TO A MINIMUM DEPTH OF 12" BELOW BOTTOM OF STORMDRAIN PIPE. POTHOLING SHALL BE PERFORMED A MINIMUM OF TWO WORKING DAYS PRIOR TO THE BEGINNING OF STORM DRAIN CONSTRUCTION OR PAVEMENT SAWCUTTING ANYWHERE IN THE PROJECT. IF CONFLICT EXISTS AND IS NOT SHOWN ON PLANS CONTRACTOR SHALL NOTIFY ENGINEER IMMEDIATELY.

39. CONSTRUCTION EQUIPMENT SHALL BE MAINTAINED IN GOOD CONDITION AND IN PROPER TUNE IN COMPLIANCE WITH MANUFACTURER'S SPECIFICATIONS AND NOT ALLOWED TO IDLE FOR LONG PERIODS OF TIME. ALL WHEELED AND TRACK CONSTRUCTION EQUIPMENT SUCH AS BACKHOES, EXCAVATORS, TRUCKS, TRACTORS, COMPACTOR ROLLERS, ETC. SHALL BE STEAM CLEANED TO REMOVE ALL DIRT, WEEDS AND GREASE BEFORE ARRIVAL AT THE PROJECT SITE. IF EQUIPMENT IS TO BE BROUGHT INTO THE TAHOE BASIN, STEAM CLEANING MUST OCCUR OUTSIDE THE TAHOE BASIN.

40. LAND DISTURBING ACTIVITIES SHALL BE DONE IN INCREMENTS AS DETERMINED ON THE APPROVED PROJECT SCHEDULE TO MINIMIZE THE AMOUNT OF AREA DISTURBED, AND UNTREATED, AT ANY ONE TIME.

41. NO OPEN BURNING OF DEBRIS SHALL OCCUR WITHIN THE PROJECT LIMITS, DURING AND AFTER CONSTRUCTION.

42. ADEQUATE MUFFLERS AND ENCLOSURES FOR POWERED EQUIPMENT ARE REQUIRED.

43. CONTRACTOR SHALL INSTALL DOUBLE 4" YELLOW CENTER LINE REFLECTORIZED TRAFFIC PAINT AT ALL LOCATIONS WHERE THE EXISTING DOUBLE YELLOW CENTERLINE PAINT HAS BEEN DISTURBED, DEFACED, OBLITERATED OR WHERE THE LOCATION OF THE CENTERLINE HAS SIGNIFICANTLY CHANGED DURING CONSTRUCTION. "STOP" PAINT AND "STOP BAR" PAINT SHALL BE INSTALLED AT ALL LOCATIONS WHERE THE EXISTING "STOP BAR" PAINT HAS BEEN DISTURBED, DEFACED, OBLITERATED OR WHERE THE LOCATION OF THE EXISTING "STOP BAR" PAINT HAS CHANGED DURING CONSTRUCTION. CONTRACTOR SHALL REMOVE THE EXISTING DISTURBED, DEFACED, OBLITERATED "STOP BAR" OR DOUBLE YELLOW CENTERLINE PAINT.

44. PAYMENT FOR AC PATCHING WILL BE LIMITED TO WHAT IS SHOWN ON THE PLANS UNLESS APPROVAL FOR REMOVAL AND REPLACEMENT OF ADDITIONAL PAVEMENT IS APPROVED BY THE ENGINEER.

45. ANY CONSTRUCTION OCCURRING WITHIN 36" OF THE EXISTING SANITARY SEWER FORCE MAIN SHALL BE EXCAVATED BY HAND. NO MACHINE EXCAVATION WILL BE ALLOWED WITHIN 36" OF THE EXISTING SANITARY SEWER FORCE MAIN.

46. CONTRACTOR SHALL OBTAIN APPROVAL FROM ENGINEER ON SUITABLE BEDDING AND BACKFILL MATERIAL. IF MATERIAL IS DEEMED UNSUITABLE BY THE ENGINEER, THE CONTRACTOR SHALL BE RESPONSIBLE FOR OFF-HAUL OF UNSUITABLE MATERIAL AND THE IMPORT OF SUITABLE BEDDING AND BACKFILL MATERIAL.

47. INSTALLATION AND MAINTENANCE OF EROSION CONTROL MEASURES ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PREVENTION OF SIGNIFICANT EROSION AND SILTATION FROM ENTERING THE STORM DRAIN SYSTEM, NATURAL DRAINAGE COURSES, AND/OR INTRUDING UPON ADJACENT ROADWAYS AND PROPERTIES. EROSION CONTROL MEASURES ON THESE PLANS ARE INTENDED AS A GUIDE. ADDITIONAL EROSION CONTROL MEASURES MAY BE REQUIRED AS DETERMINED IN THE FIELD AND AS APPROVED BY THE ENGINEER. THIS RESPONSIBILITY SHALL APPLY THROUGHOUT THE COURSE OF CONSTRUCTION AND UNTIL ALL DISTURBED AREAS HAVE BECOME STABILIZED AND SHALL NOT BE LIMITED TO WET WEATHER PERIODS. THE CONTRACTOR IS RESPONSIBLE FOR SWPPP UPDATES.

48. IF ANY UNKNOWN SUBSURFACE STRUCTURE OR CONTAMINATION IS DISCOVERED DURING CONSTRUCTION, IT SHALL IMMEDIATELY BE BROUGHT TO THE ATTENTION OF THE ENGINEER PRIOR TO PROCEEDING WITH THE WORK.

49. ALL EXCAVATED MATERIAL FROM THE SITE NEEDS TO BE INSPECTED BY THE ENGINEER PRIOR TO OFF HAUL. THE CONTRACTOR SHALL NOTIFY THE ENGINEER AT LEAST FORTY-EIGHT (48) HOURS PRIOR TO EXCAVATION FOR INSPECTION.

50. ALL SURPLUS EXCAVATED MATERIAL SHALL BE DISPOSED OF OUTSIDE THE TAHOE BASIN, AT A SITE APPROVED BY TRPA, OR AS NOTED IN THE SPECIAL PROVISIONS.

51. ONLY EQUIPMENT OF A SIZE AND TYPE THAT, UNDER PREVAILING SITE CONDITIONS, AND CONSIDERING THE NATURE OF THE WORK TO BE PERFORMED AND WILL DO THE LEAST AMOUNT OF DAMAGE, SHALL BE USED.

52. ASPHALT PAVEMENT AND BASE THICKNESS ARE SHOWN ON THE PLANS. IN PLACE COMPACTED THICKNESS THEREOF SHALL BE WITHIN THE FOLLOWING TOLERANCES:
AGGREGATE BASE COURSE: $\frac{1}{2}$" PLUS OR MINUS
ASPHALT SURFACE: $\frac{1}{8}$" PLUS OR MINUS

53. ALL ASPHALT CONCRETE SURFACES SHALL BE SAWCUT THREE FEET MINIMUM INSIDE THE EDGE OF PAVEMENT TO A NEAT, STRAIGHT LINE AND REMOVED FOR CURB AND GUTTER CONSTRUCTION. THE EXPOSED EDGE SHALL BE SEALED WITH EMULSION PRIOR TO PAVING. THE EXPOSED BASE MATERIALS SHALL BE GRADED AND RECOMPACTED PRIOR TO PAVING.

54. MANUFACTURER'S MATERIAL AND WEIGHT TICKETS SHALL BE FURNISHED TO THE ENGINEER.

LEGEND

*NOTE: LEGEND PROVIDED ON SHEET SUPERCEDES THIS LEGEND

EXISTING	PROPOSED
PROPERTY BOUNDARY	PROPOSED MAJOR CONTOUR
EDGE OF PAVEMENT	PROPOSED MINOR CONTOUR
EXISTING FENCELINE	PROPOSED FLOWLINE
EXISTING BUILDING	PROPOSED STORM DRAIN PIPE
EXISTING CONCRETE	PROPOSED LANDSCAPING BUFFER
EXISTING SEWER LINES	PROPOSED ASPHALT BIKE PATH
EXISTING WATER LINES	PROPOSED STORM DRAIN MANHOLE
EXISTING GAS LINES	PROPOSED BIKEPATH SHOULDER
EXISTING ELEC. LINES	PROPOSED BIKEPATH STRIPING
EXISTING TELE. LINES	PROPOSED LANE STRIPING
EXISTING STORM DRAIN	DETAIL NUMBER SHEET NUMBER
EXISTING UTILITES (VARIES)	PROPOSED STORM DRAIN DRAINAGE INLET
EXISTING LANE STRIPING	PROPOSED STORM DRAIN INLET PROTECTION
EXISTING MAJOR CONTOUR	PROPOSED SIGN
EXISTING MINOR CONTOUR	PROPOSED GRAVEL BAG CHECK DAM
EXISTING DRAIN INLET	

PROPOSED

- PROPOSED DRIVEWAY TIE IN
- PROPOSED CURB AND GUTTER
- PROPOSED CONSTRUCTION LIMIT FENCE
- PROPOSED FILTER FENCE
- PROPOSED CURB AND GUTTER
- TBR PROPOSED TREE REMOVAL

UTILITIES

CABLE TELEVISION	CHARTER COMMUNICATIONS, (775) 850-1290
NATURAL GAS	SOUTHWEST GAS CO., (775) 887-2872
ELECTRIC	LIBERTY ENERGY, (530) 541-2040
SEWER & WATER	SOUTH TAHOE PUD, (530) 543-5247
TELEPHONE	AT&T, (916) 453-6136
STORM DRAIN	CITY OF SOUTH LAKE TAHOE, DPW (530) 542-6030
TRAFFIC SIGNALS	CALTRANS, (530) 582-8133

ABBREVIATIONS

AB	AGGREGATE BASE	E	EAST	PCC	POINT OF COMPOUND CURVATURE
ABAN	ABANDONED	EA	EACH	PL	PROPERTY LINE
AC	ASPHALT CONCRETE	EC	EROSION CONTROL	PP	POWER/UTILITY POLE
AHW	AVERAGE HIGH WATER	EG	EXISTING GRADE	PRC	POINT OF REVERSE CURVATURE
APN	ASSESSOR'S PARCEL NUMBER	ELEV	ELEVATION	PR	PROPOSED
APPROX	APPROXIMATE	ELEC	ELECTRIC	PSI	POUNDS PER SQUARE INCH
BGN	BEGIN	EP	EDGE OF PAVEMENT	PUE	PUBLIC UTILITY EASEMENT
BLDR	BOULDER	EX	EXISTING	PVC	POLYVINYL CHLORIDE
BLVD	BOULEVARD	F	FIR	RC	RELATIVE COMPACTION
BMP	BEST MANAGEMENT PRACTICE	FES	FLARED END SECTION	RCP	REINFORCED CONCRETE PIPE
CA	CALIFORNIA	FF	FILTER FENCE	RD	ROAD
CALC'S	CALCULATIONS	FG	FINISHED GRADE	REF	REFERENCE
CF	CUBIC FEET OR CURB FACE	FH	FIRE HYDRANT	RT	RIGHT
CFS	CUBIC FEET PER SECOND	FL	FLOWLINE	R/W	RIGHT-OF-WAY
CLF	CONSTRUCTION LIMIT FENCE	FM	FORCE MAIN	S	SOUTH OR SLOPE
CLR	CLEAR	FS	FINISH SURFACE	SD	STORM DRAIN
CMP	CORRUGATED METAL PIPE	G	GAS	SDR	STANDARD DIMENSION RATIO
CO.	COUNTY	GB	GRADE BREAK	SEZ	STREAM ENVIRONMENT ZONE
CONC	CONCRETE	HDPE	HIGH DENSITY POLYETHYLENE	SF	SQUARE FEET
CONST	CONSTRUCT	H	HORIZONTAL	SHT	SHEET
CP	CONTROL POINT	HWY	HIGHWAY	SS	SANITARY SEWER
CSLT	CITY OF SOUTH LAKE TAHOE	I.E.	INVERT ELEVATION	ST	SEDIMENT TRAP OR STREET
CT	CALTRANS OR COURT	INST	INSTALL	STA	STATION
CTC	CALIFORNIA TAHOE CONSERVANCY	INV	INVERT	STPUD	SOUTH TAHOE PUBLIC UTILITY DISTRICT
CY	CUBIC YARD	LF	LINEAR FEET	TBC	TOP BACK OF CURB
C&G	CURB AND GUTTER	LT	LEFT	TEC	TEMPORARY EROSION CONTROL
C/L	CENTERLINE	MAX	MAXIMUM	TEL	TELEPHONE
DBL	DOUBLE	MH	MANHOLE	TN	TON
DET	DETAIL	MIN	MINIMUM	TOT	TOTAL
DI	DRAINAGE INLET	MISC	MISCELLANEOUS	TOB	TOP OF BANK
DIAM/ø	DIAMETER	N	NORTH	TRPA	TAHOE REGIONAL PLANNING AGENCY
DIP	DUCTILE IRON PIPE	NTS	NOT TO SCALE	TYP	TYPICAL
DISS	DISSIPATOR	OC	ON CENTER	USFS	UNITED STATES FOREST SERVICE
DR D/W	DRIVE DRIVEWAY	OFF	OFFSET	V	VERTICAL
		P	PINE	W	WEST OR WATER
		PC	POINT OF CURVATURE	WFB	WATER FILLED BARRIER
				WL	WATER LINE
				W/	WITH
				W/O	WITHOUT

60% DESIGN

Cardno
LAKE TAHOE
295 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588 - 9069 FAX: (775) 588 - 9219
www.cardno.com

NOTES
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
ii

SHEET NUMBER
2

LAND USE # N/A

SHEET LIST TABLE

SHEET LIST TABLE

CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

** CALL BEFORE YOU DIG **
CONTACT UNDERGROUND SERVICE ALERT (USA)
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

CONTROL POINT TABLE

POINT #	ELEVATION	NORTHING	EASTING	DESCRIPTION
90	6292,29	2098346,70	7127070,62	CP MAG/WASHER
91	6276,56	2099395,14	7127726,60	CP NAIL
92	6273,91	2099943,00	7128125,18	CP MAG/WASHER
93	6271,27	2100453,63	7128797,76	CP MAG
101	6273,47	2100625,46	7129324,75	CONTROL
96	6275,94	2099625,28	7127778,34	60D
104	6302,20	2098759,19	7127014,86	FND IP/CAP LS3275
102	6281,38	2098826,74	7127330,08	CONTROL
103	6288,15	2098706,34	7127184,62	CONTROL
105	6315,00	2098903,58	7127009,33	FND 2" IP/CAP 1/4 SEC COR

BMP-7, DEM-7, P-7, G-7, E-8, REVEG-7
BMP-6, DEM-6, P-6, G-6, E-7, REVEG-6
BMP-5, DEM-5, P-5, G-5, E-6, REVEG-5
BMP-4, DEM-4, P-4, G-4, E-5, REVEG-4
BMP-3, DEM-3, P-3, G-3, E-4, REVEG-3
BMP-2, DEM-2, P-2, G-2, E-3, REVEG-2
BMP-1, DEM-1, P-1, G-1, REVEG-1

CONTROL
CP MAG
CP MAG/WASHER
60D
CP NAIL
FND 2" IP/CAP 1/4 SEC COR
CONTROL
FND IP/CAP LS3275
CONTROL
CP MAG/WASHER

SCALE: 1"=200'
200 100 0 200

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#	DATE	DESCRIPTION	BY

INDEX AND CONTROL

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE

SOUTH LAKE TAHOE, CA

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
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CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
iii

SHEET NUMBER
3

LAND USE # N/A

NOTES:

1. THE CONTRACTOR SHALL PROVIDE, PLACE, AND MAINTAIN ALL LIGHTS, SIGNS, BARRICADES, FLAG PERSONS, PILOT CAR, OR OTHER DEVICES NECESSARY TO CONTROL TRAFFIC THROUGH THE CONSTRUCTION AREA; AND FOR PUBLIC SAFETY IN ACCORDANCE WITH THESE PLANS, THE CITY OF SOUTH LAKE TAHOE PUBLIC IMPROVEMENT AND ENGINEERING STANDARDS, THE FEDERAL HIGHWAY ADMINISTRATION (FHWA) MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) 2009 EDITION AND THE 2014 CALIFORNIA MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (CA MUTCD), REVISION 3.
2. LANE MARKINGS SHOWN ON THIS SHEET ARE FOR REFERENCE ONLY AND ARE NOT REPRESENTATIVE OF ACTUAL FIELD CONDITIONS.

THE FOLLOWING TABLE SUMMARIZES THE PLACEMENT OF ADVANCED WARNING SIGNS FOR THE LANE CLOSURE ON THIS SHEET:

PLACEMENT OF ADVANCED WARNING SIGNS	
SIGN	DISTANCE OFFSET FROM START OF LANE-CLOSURE (FT)
START CHANNELIZING DEVICES	0
SIGN - W4-2 (RT)	250
SIGN - C20 (RT)(2)	500
SIGN - W20-1	750

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PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=50'
50 25 0 50

NOTE
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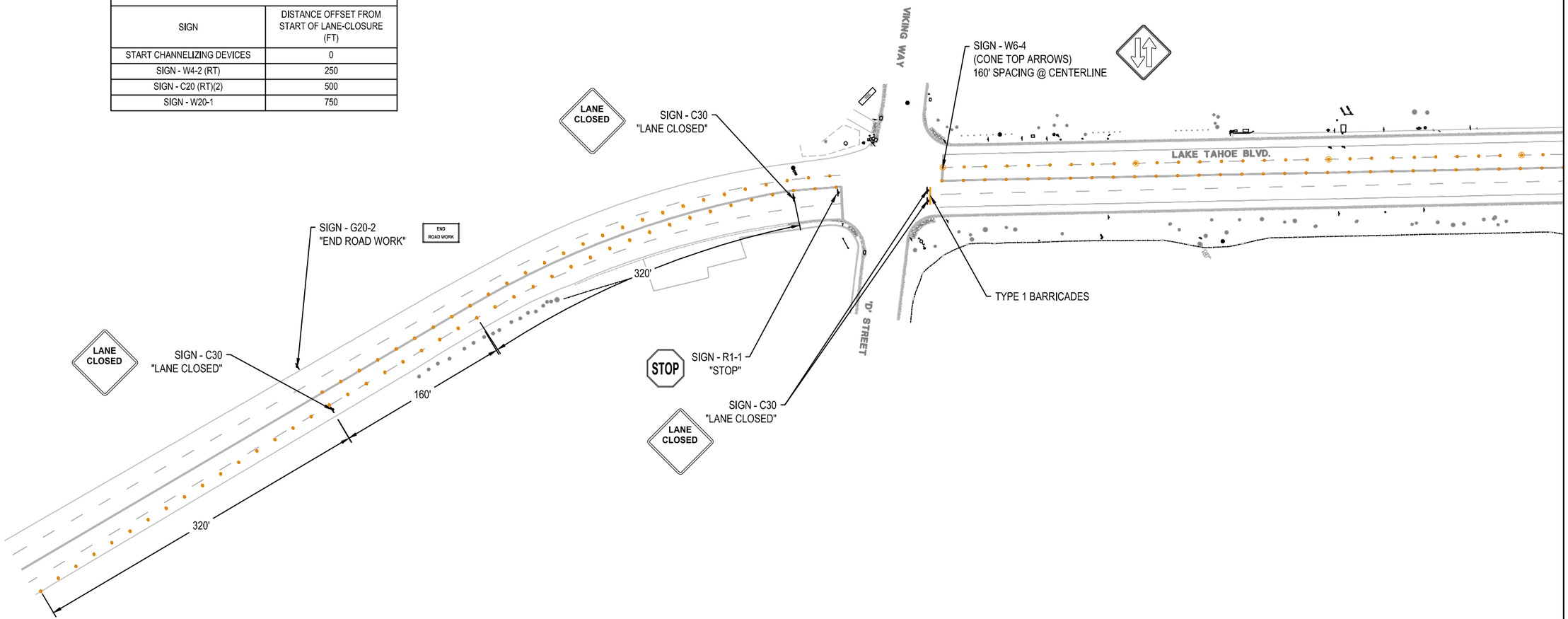

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TRAFFIC CONTROL SHEET 1
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

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DATE	06/2019
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SHEET TITLE
TC-1

SHEET NUMBER
4

LAND USE # N/A

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1052 TATA LANE
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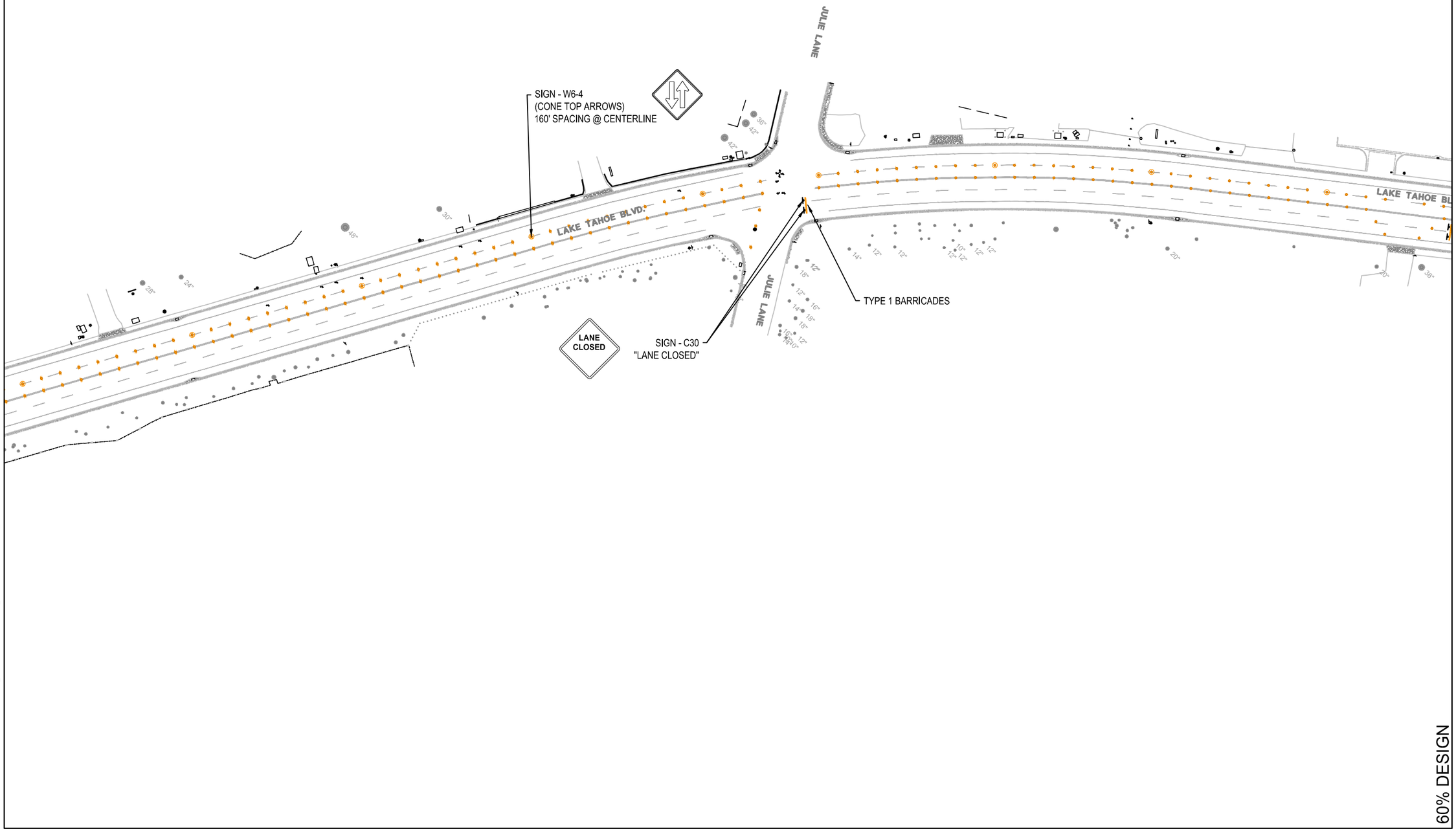
NOTE
THIS PLAN SHEET IS FOR REFERENCE ONLY. ALL TRAFFIC CONTROL DEVICES AND FENCING ARE THE RESPONSIBILITY OF THE CONTRACTOR AND SHALL BE MODIFIED AS NECESSARY PER PROGRESSION OF THE WORK TO REFLECT EACH DAILY ACTIVE WORKING AREA; TO PROTECT PUBLIC SAFETY AND MAINTAIN EMERGENCY, BUSINESS, AND PRIVATE RESIDENTIAL ACCESS, FOR THE DURATION OF THE PROJECT.



60% DESIGN

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File: R:\Projects\E317202700 - Lake Tahoe Blvd Bike Trail_Cardno\AutoCAD\Sheets\LTB_Bike Trail - Traffic Control.dwg, Tab: TC-2

Cardno
LAKE TAHOE
2561 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588 - 9069 FAX: (775) 588 - 9219
www.cardno.com

TRAFFIC CONTROL SHEET 2
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
TC-2

SHEET NUMBER
5

LAND USE # N/A

CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

* CALL BEFORE YOU DIG *
CONTACT UNDERGROUND SERVICE ALERT (USA)
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=50'
50 25 0 50

NOTE
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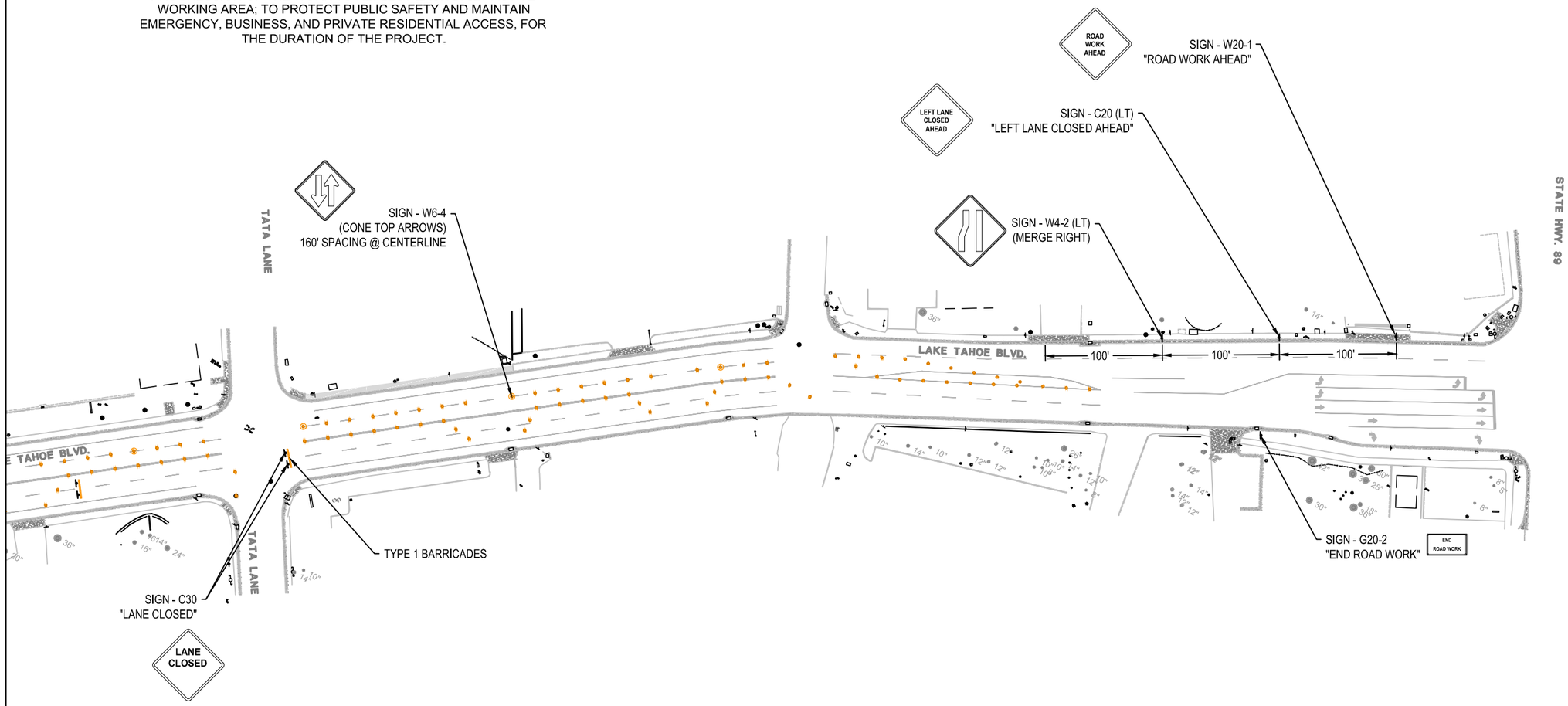

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256 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588 - 9069 FAX: (775) 588 - 9219
www.cardno.com

TRAFFIC CONTROL SHEET 3
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
TC-3

SHEET NUMBER
6

LAND USE # N/A

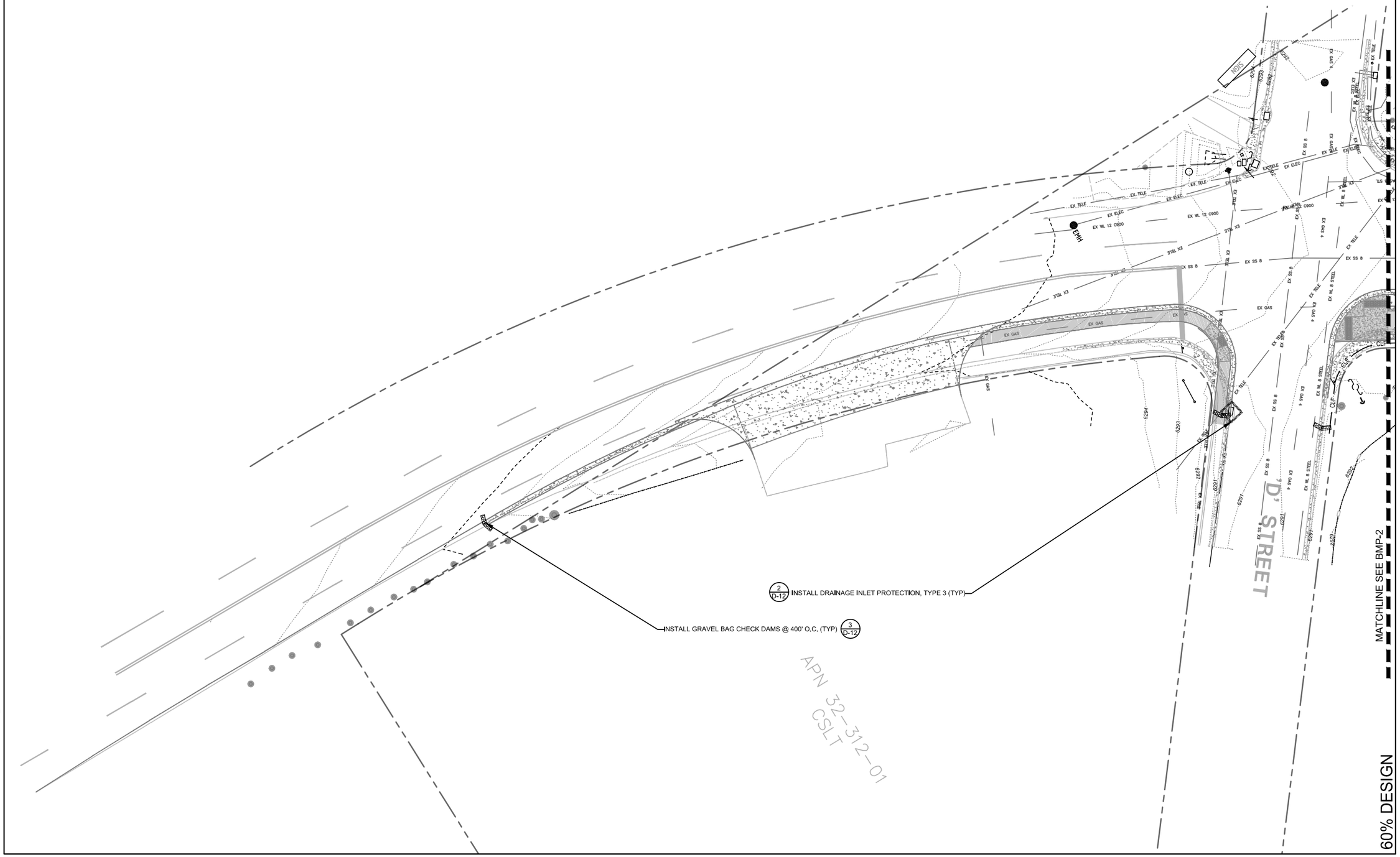
CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

** CALL BEFORE YOU DIG **

CONTACT UNDERGROUND SERVICE ALERT (USA)
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20



Cardno
LAKE TAHOE
256 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588 - 9069 FAX: (775) 588 - 9219
www.cardno.com

BMPs SHEET 1
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
BMP-1

SHEET NUMBER
7

LAND USE # N/A

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CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

** CALL BEFORE YOU DIG **
CONTACT UNDERGROUND SERVICE ALERT (USA)
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

VIKING WAY

APN 32-291-19
DONMAR DEV. CORP
G E M DEV. CORP

LAKE TAHOE BLVD.

NO PARKING

15.00'

'D' STREET

MATCHLINE SEE BMP-1

MATCHLINE SEE BMP-3

APN 32-301-11
TAHOE VERDE

4 D-12 INSTALL CONSTRUCTION LIMIT FENCE FOR TREE PROTECTION

3 D-12 INSTALL GRAVEL BAG CHECK DAMS @ 400' O.C. (TYP)

60% DESIGN

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BMPs SHEET 2

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE

SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
BMP-2

SHEET NUMBER
8

LAND USE # N/A

CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

*** CALL BEFORE YOU DIG ***

CONTACT UNDERGROUND SERVICE ALERT (USA)
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

APN 32-291-34
SLTSG APARTMENT
INVESTORS

LAKE TAHOE BLVD.

APN 32-301-11
TAHOE VERDE

3/D-12 INSTALL GRAVEL BAG CHECK DAMS @ 400' O.C. (TYP.)

2/D-12 INSTALL DRAINAGE INLET PROTECTION, TYPE 3 (TYP.)

4/D-12 INSTALL CONSTRUCTION LIMIT FENCE FOR TREE PROTECTION

MATCHLINE SEE BMP-2

MATCHLINE SEE BMP-4

60% DESIGN

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BMPs SHEET 3

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
BMP-3

SHEET NUMBER
9

LAND USE # N/A

CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

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CONTACT UNDERGROUND SERVICE ALERT (USA)
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

APN 32-291-33
TAHOE SIERRA VISTA APTS

APN 32-291-15
CARDINALE JOSEPH A TRUST, ET AL

LAKE TAHOE BLVD.

JULIE LANE

APN 32-301-10
TAHOE VERDE

APN 32-291-28
CTC

MATCHLINE SEE BMP-3

MATCHLINE SEE BMP-5

4 D-12 INSTALL CONSTRUCTION LIMIT FENCE FOR TREE PROTECTION

2 D-12 INSTALL DRAINAGE INLET PROTECTION, TYPE 3 (TYP)

3 D-12 INSTALL GRAVEL BAG CHECK DAMS @ 400' O.C. (TYP)

60% DESIGN

Cardno
LAKE TAHOE
256 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588-9069 FAX: (775) 588-9219
www.cardno.com

BMPs SHEET 4

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE

SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
BMP-4

SHEET NUMBER
10

LAND USE # N/A

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CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

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CONTACT UNDERGROUND SERVICE ALERT (USA)
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

APN 32-291-27
1875 LAKE TAHOE CA LLC

APN 32-291-25
SFP-B AN OREGON LP

APN 32-291-28
CTC

APN 32-291-21
ANDERIO CA LLC

LAKE TAHOE BLVD.

TATA LANE

MATCHLINE SEE BMP-4

MATCHLINE SEE BMP-6

3 / D-12 INSTALL GRAVEL BAG CHECK DAMS @ 400' O.C. (TYP)

INSTALL CONSTRUCTION LIMIT FENCE FOR TREE PROTECTION 4 / D-12

2 / D-12 INSTALL DRAINAGE INLET PROTECTION, TYPE 3 (TYP)

60% DESIGN

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Cardno
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256 HIGHWAY 50, ZEPHYR COVE, NV 89448
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www.cardno.com

BMPs SHEET 5

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
BMP-5

SHEET NUMBER
11

LAND USE # N/A

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*** CALL BEFORE YOU DIG ***
CONTACT UNDERGROUND SERVICE ALERT (USA)
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

APN 23-481-16
RAMOS M E TRUST

APN 23-481-17
CTC

APN 32-291-01
MOHADDESS SEYED E

APN 23-351-18
TAHOE SUPPLY COMPANY

APN 23-351-20
EL DORADO COUNTY

APN 23-351-29
CORNELL H TRUST

APN 32-291-17
CORNELL H TRUST

APN 32-291-16
CORNELL H TRUST

APN 32-291-30
BILL & LORI LIV TRUST

APN 23-430-32
SEVEN SPRINGS LTD PTN

TATA LANE

RENE AVE

LAKE TAHOE BLVD

3 D-12 INSTALL GRAVEL BAG CHECK DAMS @ 400' O.C. (TYP)

2 D-12 INSTALL DRAINAGE INLET PROTECTION, TYPE 3 (TYP)

MATCHLINE SEE BMP-6

MATCHLINE SEE BMP-7

60% DESIGN

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Cardno
LAKE TAHOE
256 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588-9069 FAX: (775) 588-9219
www.cardno.com

BMPs SHEET 6

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
BMP-6

SHEET NUMBER
12

LAND USE # N/A

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** CALL BEFORE YOU DIG **
CONTACT UNDERGROUND SERVICE ALERT (USA)
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

APN 23-523-11
1959 LAKE TAHOE BLVD LLC

APN 23-523-08
CAD ENTERPRISES LLC

APN 23-523-02
RUNNELS AUTOMOTIVE

APN 23-523-13
RUNNELS JOHN W

3/D-12 INSTALL GRAVEL BAG CHECK DAMS @ 400' O.C. (TYP)

2/D-12 INSTALL DRAINAGE INLET PROTECTION, TYPE 3 (TYP)

4/D-12 INSTALL CONSTRUCTION LIMIT FENCE AS TREE PROTECTION (TYP)

LAKE TAHOE BLVD.

APN 23-411-19
CSLT

APN 23-411-17
STATE OF CALIFORNIA

MATCHLINE SEE BMP-6

APN 23-430-32
SPRINGS LTD
TN

APN 23-430-32
SEVEN SPRINGS LTD
PTN

APN 23-411-24
SALVO & ZESSIN TRUST

APN 23-411-25
CSLT

60% DESIGN

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Cardno
LAKE TAHOE
256 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588 - 9069 FAX: (775) 588 - 9219
www.cardno.com

BMPs SHEET 7
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
BMP-7

SHEET NUMBER
13

LAND USE # N/A

CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

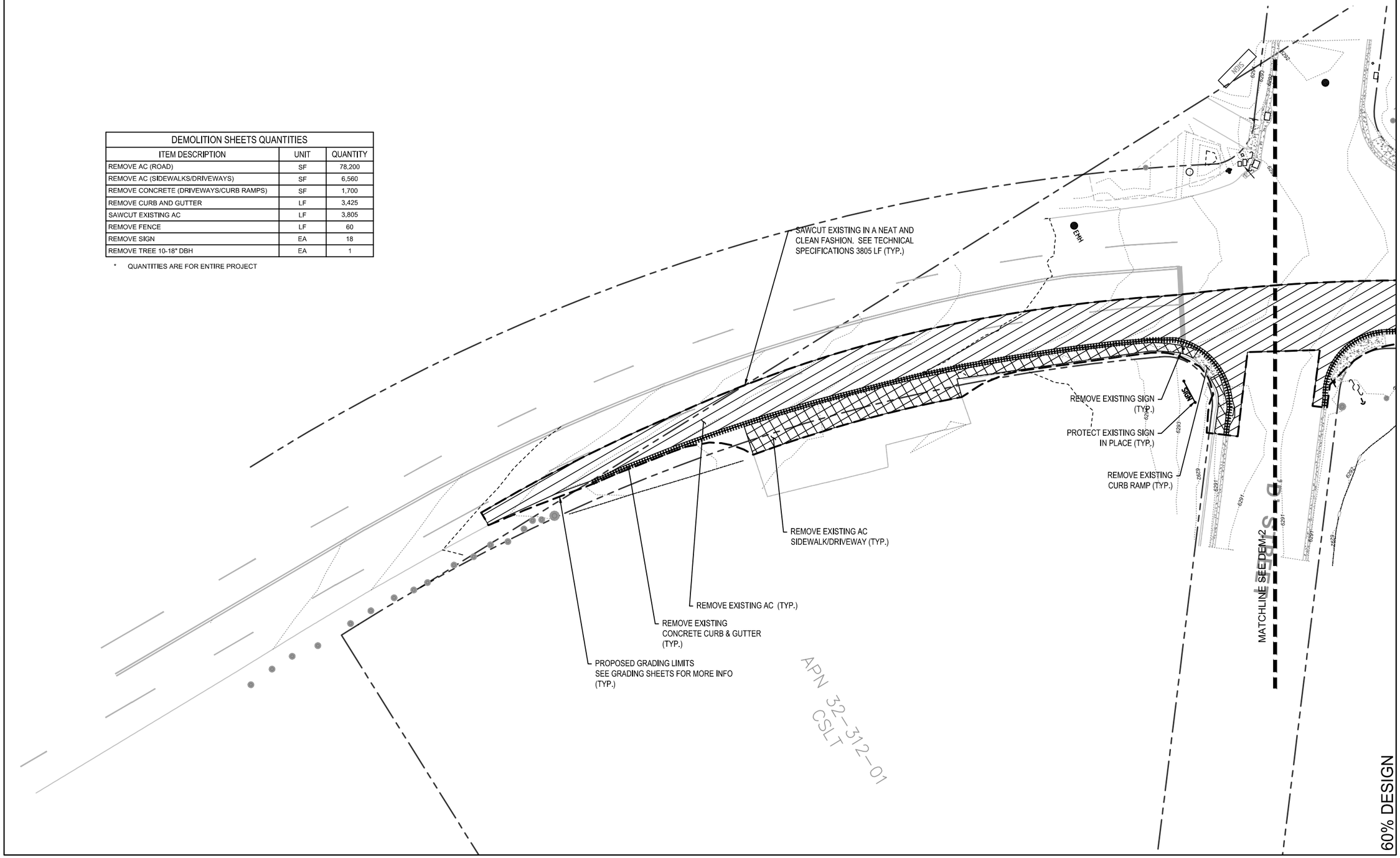
** CALL BEFORE YOU DIG **
CONTACT UNDERGROUND SERVICE ALERT (USA)
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

DEMOLITION SHEETS QUANTITIES		
ITEM DESCRIPTION	UNIT	QUANTITY
REMOVE AC (ROAD)	SF	78,200
REMOVE AC (SIDEWALKS/DRIVEWAYS)	SF	6,560
REMOVE CONCRETE (DRIVEWAYS/CURB RAMPS)	SF	1,700
REMOVE CURB AND GUTTER	LF	3,425
SAWCUT EXISTING AC	LF	3,805
REMOVE FENCE	LF	60
REMOVE SIGN	EA	18
REMOVE TREE 10-18" DBH	EA	1

* QUANTITIES ARE FOR ENTIRE PROJECT



60% DESIGN

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256 HIGHWAY 50, ZEPHYR COVE, NV 89448
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DEMO SHEET 1
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

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DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE: DEM-1

SHEET NUMBER: 14

LAND USE # N/A

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CONTACT UNDERGROUND SERVICE ALERT (USA)
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

VIKING WAY

APN 32–291–19
DONMAR DEV. CORP
G E M DEV. CORP

LAKE TAHOE BLVD.

SAWCUT EXISTING AC IN A NEAT AND CLEAN FASHION. SEE TECHNICAL SPECIFICATIONS 3805 LF (TYP.)

REMOVE EXISTING CONCRETE CURB AND GUTTER (TYP.)

REMOVE EXISTING SIGN (TYP.)

REMOVE AND EXISTING CURB RAMP (TYP.)

REMOVE EXISTING AC (TYP.)

PROPOSED GRADING LIMITS SEE GRADING SHEETS FOR MORE INFO (TYP.)

REMOVE EXISTING SIGN (TYP.)

REMOVE EXISTING SIGN (TYP.)

REMOVE EXISTING SIGN (TYP.)

APN 32–301–11
TAHOE VERDE

MATCHLINE SEE DEM-4

MATCHLINE SEE DEM-3

60% DESIGN

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2561 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588 - 9069 FAX: (775) 588 - 9219
www.cardno.com

DEMO SHEET 2

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE

SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
DEM-2

SHEET NUMBER
15

LAND USE # N/A

CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

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CONTACT UNDERGROUND SERVICE ALERT (USA)
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

APN 32-291-34
SLTSG APARTMENT
INVESTORS

SAWCUT EXISTING AC IN A NEAT AND CLEAN FASHION. SEE TECHINICAL SPECIFICATIONS 3805 LF (TYP.)

LAKE TAHOE BLVD.

REMOVE EXISTING SIGN (TYP.)

REMOVE EXISTING AC (TYP.)

REMOVE EXISTING CONCRETE CURB & GUTTER (TYP.)

PROPOSED GRADING LIMITS SEE GRADING SHEETS FOR MORE INFO (TYP.)

APN 32-301-11
TAHOE VERDE

CONVERT DI TO SDMH SEE UTILITY SHEETS FOR MORE INFO (TYP.)

MATCHLINE SEE DEM-2

MATCHLINE SEE DEM-4

60% DESIGN

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TEL: (775) 588 - 9069 FAX: (775) 588 - 9219
www.cardno.com

DEMO SHEET 3

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
DEM-3

SHEET NUMBER
16

LAND USE # N/A

CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

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PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

APN 32-291-33
TAHOE SIERRA VISTA APTS

LAKE TAHOE BLVD.

APN 32-291-15
CARDINALE JOSEPH A TRUST, ET AL

APN 32-301-10
TAHOE VERDE

APN 32-291-28
CTC

JULIE LANE

REMOVE AND REPLACE EXISTING CURB RAMPS SEE PLAN SHEET P-4 FOR MORE INFO (TYP.)

SAWCUT EXISTING AC IN A NEAT AND CLEAN FASHION. SEE TECHNICAL SPECIFICATIONS 3805 LF (TYP.)

REMOVE EXISTING SIGN (TYP.)

CONVERT DI TO SDMH SEE UTILITY SHEETS FOR MORE INFO (TYP.)

REMOVE EXISTING CURB RAMPS

REMOVE EXISTING AC (TYP.)

REMOVE EXISTING CONCRETE CURB & GUTTER (TYP.)

REMOVE EXISTING SIGN (TYP.)

PROPOSED GRADING LIMITS SEE GRADING SHEETS FOR MORE INFO (TYP.)

MATCHLINE SEE DEM-3

MATCHLINE SEE DEM-5

60% DESIGN

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LAKE TAHOE
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TEL: (775) 588-9069 FAX: (775) 588-9219
www.cardno.com

DEMO SHEET 4

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
DEM-4

SHEET NUMBER
17

LAND USE # N/A

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1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

APN 32-291-27
1875 LAKE TAHOE CA LLC

APN 32-291-25
SFP-B AN OREGON LP

LAKE TAHOE BLVD.

SAWCUT EXISTING AC IN A NEAT AND CLEAN FASHION. SEE TECHNICAL SPECIFICATIONS 3805 LF (TYP.)

MATCHLINE SEE DEM-4

REMOVE EXISTING SIGN (TYP.)

CONVERT DI TO SDMH SEE UTILITY SHEETS FOR MORE INFO (TYP.)

APN 32-291-28
CTC

PROPOSED GRADING LIMITS SEE GRADING SHEETS FOR MORE INFO (TYP.)

REMOVE EXISTING CONCRETE CURB & GUTTER (TYP.)

REMOVE EXISTING AC (TYP.)

REMOVE EXISTING CONCRETE DRIVEWAY

REMOVE EXISTING AC SIDEWALK (TYP.)

APN 32-291-21
ANDERIO CA LLC

MATCHLINE SEE DEM-6

TATA LANE

60% DESIGN

Cardno
LAKE TAHOE
256 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588 - 9069 FAX: (775) 588 - 9219
www.cardno.com

DEMO SHEET 5

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
DEM-5

SHEET NUMBER
18

LAND USE # N/A

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NOTE
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CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

TATA LANE
APN 23-481-17
CTC
APN 32-291-01
MOHADDESS SEYED E
APN 23-351-18
TAHOE SUPPLY COMPANY
RENE AVE.
APN 23-[illegible]
1959 LAKE TA[illegible]
LLC
LAKE TAHOE BLVD.
APN 23-351-20
EL DORADO COUNTY
APN 23-351-29
CORNELL H TRUST
APN 32-291-30
BILL & LORI LIV TRUST
APN 32-291-17
CORNELL H TRUST
APN 23-430-32
SEVEN SPRINGS LTD PTN
APN 32-291-16
CORNELL H TRUST
TATA LANE

REMOVE AND REPLACE EXISTING CURB RAMPS SEE PLAN SHEET P-6 FOR MORE INFO (TYP.)
SAWCUT EXISTING AC IN A NEAT AND CLEAN FASHION. SEE TECHNICAL SPECIFICATIONS 3805 LF (TYP.)
REMOVE EXISTING CONCRETE CURB & GUTTER (TYP.)
REMOVE EXISTING AC DRIVEWAY
CONVERT DI TO SDMH SEE UTILITY SHEETS FOR MORE INFO (TYP.)
PROPOSED GRADING LIMITS SEE GRADING SHEETS FOR MORE INFO (TYP.)
REMOVE EXISTING AC (TYP.)
REMOVE EXISTING AC SIDEWALK/DRIVEWAYS (TYP.)
PROTECT SIGN IN PLACE (TYP.)
REMOVE EXISTING CURB RAMPS
PROTECT EXISTING DI IN PLACE
MATCHLINE SEE DEM-6
MATCHLINE SEE DEM-7
6271 6272 6273 6274

60% DESIGN

Cardno
LAKE TAHOE
2351 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588-9069 FAX: (775) 588-9219
www.cardno.com

DEMO SHEET 6
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
DEM-6

SHEET NUMBER
19

LAND USE # N/A

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1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

APN 23-523-11
1959 LAKE TAHOE BLVD LLC

APN 23-523-08
CAD ENTERPRISES LLC

APN 23-523-02
RUNNELS AUTOMOTIVE

APN 23-523-13
RUNNELS JOHN W

APN 23-411-15 - CALTRANS

APN 23-523-12 - CALTRANS

LAKE TAHOE BLVD.

APN 23-411-19
CSLT

APN 23-411-17
STATE OF CALIFORNIA

SAWCUT EXISTING AC IN A NEAT AND CLEAN FASHION. SEE TECHNICAL SPECIFICATIONS 3805 LF (TYP.)

REMOVE EXISTING AC (TYP.)

REMOVE CONCRETE CURB & GUTTER (TYP.)

SAWCUT EXISTING AC PATHWAY IN A NEAT AND CLEAN FASHION. SEE TECHNICAL SPECIFICATION.

MATCHLINE SEE DEM-6

REMOVE PORTION OF EXISTING AC SIDEWALK/DRIVEWAYS (TYP.)

REMOVE EXISTING CURB & GUTTER (TYP.)

CONVERT DI TO SDMH SEE UTILITY SHEETS FOR MORE INFO (TYP.)

APN 23-430-32
SEVEN SPRINGS LTD
PTN

APN 23-411-24
SALVO & ZESSIN TRUST

REMOVE FENCE (TYP.)

APN 23-411-25
CSLT

TRANSIT CENTER SITE PROTECT IN PLACE

60% DESIGN

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DEMO SHEET 7

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE

SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
DEM-7

SHEET NUMBER
20

LAND USE # N/A

NOTES:

1. ADVANCED WARNING SIGNS AND MARKINGS SHALL CONFORM TO THE CA MUTCD (3rd EDITION), REFER TO FIGURE 3B-14 (CA) ON SHEET D-4 FOR AN EXAMPLE OF LANE-REDUCTION TRANSITION MARKINGS.

   THE FOLLOWING TABLE SUMMARIZES THE PLACEMENT OF ADVANCED WARNING SIGNS AND MARKINGS FOR THE LANE REDUCTION ON THIS SHEET:

PLACEMENT OF ADVANCED WARNING SIGNS AND MARKINGS	
SIGN/MARKING	DISTANCE OFFSET FROM START OF LANE-REDUCTION (FT)
TYPE I ARROW (1)	0
TYPE I ARROW (2)	125
TYPE 1 ARROW (3)	250
SIGN - W4-2	250
SIGN - W9-1	500

PLAN SHEETS QUANTITIES		
ITEM DESCRIPTION	UNIT	QUANTITY
26" CURB AND GUTTER	LF	3,615
HMA (AC) BIKE PATH PAVING (3" AC / 8" CLASS 2 AB)	SY	3,085
PCC PEDESTRIAN CURB RAMPS	SF	1,630
PCC COMMERCIAL DRIVEWAY (6" PCC / 8" AB)	SF	5,760
SIDEWALK CONSTRUCTION (AC)	SF	1,550
STORM DRAINAGE INLETS	EA	10
HMA PATCH PAVING (AC)	SF	18,520
ROADWAY TRAFFIC STRIPING	LF	8,350
ROADWAY TRAFFIC MARKINGS - STOP BAR, TURN ARROWS, BIKE SYMBOLS	EA	39

* QUANTITIES ARE FOR ENTIRE PROJECT

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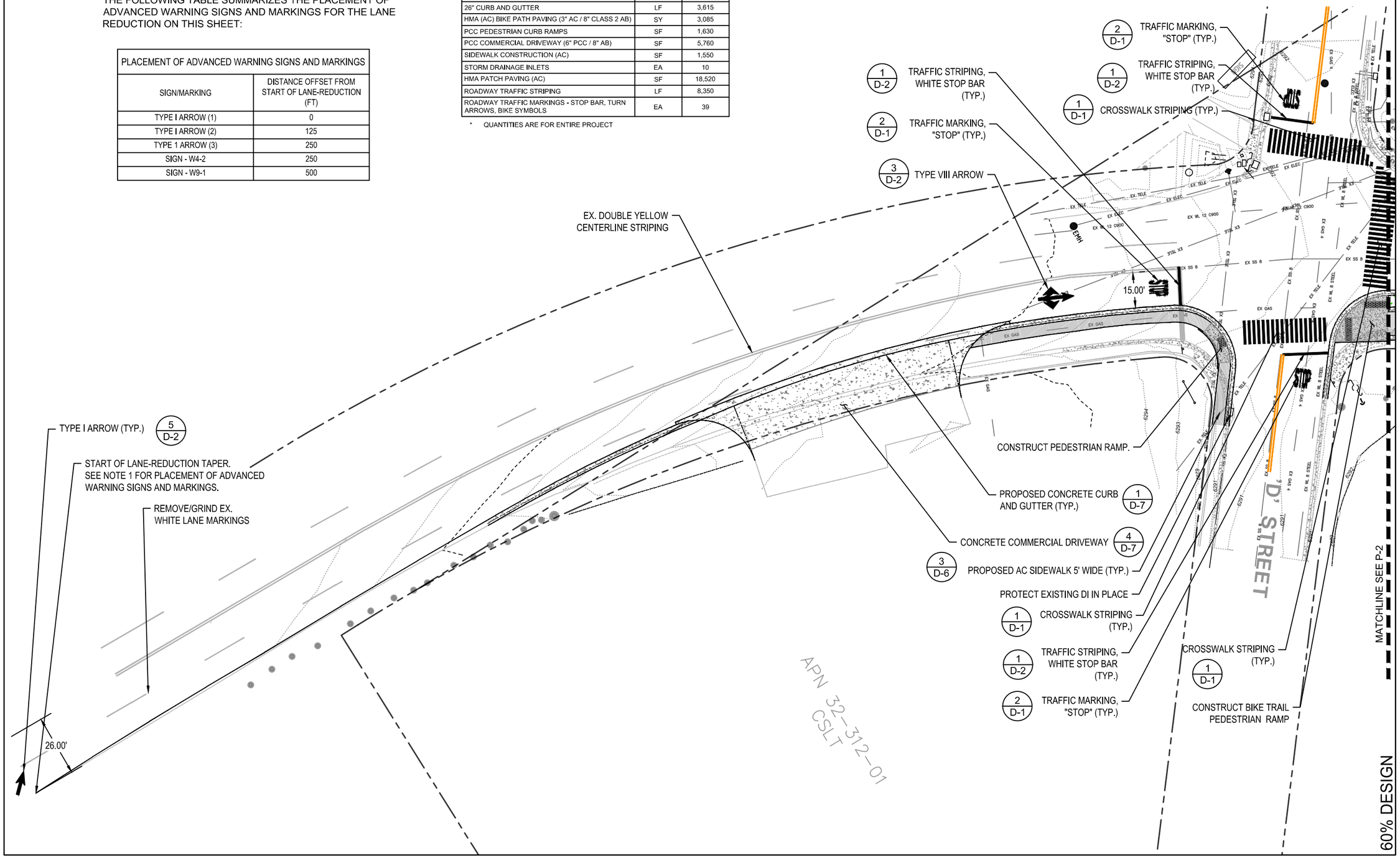
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20



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PLAN SHEET 1
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

BY	DESCRIPTION	DATE
2		
1		

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE: P-1

SHEET NUMBER: 21

LAND USE # N/A

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PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

VIKING WAY

APN 32-291-19
DONMAR DEV. CORP
G E M DEV. CORP

TRAFFIC MARKING, "STOP" (TYP.) 2/D-1

TRAFFIC SIGN, "RIGHT LANE **MUST** TURN RIGHT" (R3-7)

TRAFFIC STRIPING, LANE LINES 6/D-2

CLASS II BIKE TRAIL 5' WIDE MIN.

ADVANCED WARNING SIGN, "RIGHT LANE TURNS RIGHT AHEAD" W73A (CA)

TRAFFIC STRIPING, DOUBLE YELLOW CENTERLINE 2/D-2

TRAFFIC STRIPING, WHITE EDGE LINE 6/D-2

ADVANCED WARNING SIGN, "THRU TRAFFIC MERGE LEFT" W73A (CA)

INSTALL BIKE LANE SYMBOL WITH PERSON. CALTRANS STANDARD PLAN A24C AT __ FT O.C. (TYP.)

EX. CURB AND GUTTER PROTECT IN PLACE (TYP)

1/D-3 TRAFFIC STRIPING, TWO WAY LEFT TURN YELLOW STRIPING

LAKE TAHOE BLVD.

100.00' 100.00' 8.22' 12.00' 12.00' 15.00' 7.17' 10.00' 14.00' 6.38'

TYPE I ARROW 5/D-2

TYPE VII ARROW (L) 4/D-3

TYPE IV ARROW (R) 3/D-3

PROPOSED LANDSCAPE BUFFER AREA. SEE REVEG SHEETS FOR ADDITIONAL INFO (TYP)

APN 32-301-11
TAHOE VERDE

1/D-7 PROPOSED CONCRETE CURB AND GUTTER

2/D-6 10' WIDE BIKE TRAIL + 2' SHOULDERS 14' TOTAL WIDTH

2' SHOULDER (TYP)

R.O.W. / PROPERTY LINE (TYP.)

EX. FENCE PROTECT IN PLACE (TYP.)

'D' STREET

MATCHLINE SEE P-1

MATCHLINE SEE P-3

60% DESIGN

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PLAN SHEET 2

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE

SOUTH LAKE TAHOE, CA

BY	DESCRIPTION	DATE
5		

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
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PROJECT #	E317202700

SHEET TITLE
P-2

SHEET NUMBER
22

LAND USE # N/A

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PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

APN 32-291-34
SLTSG APARTMENT INVESTORS

CLASS II BIKE TRAIL
5' WIDE MIN.

TURNING LANE
12' WIDE

TRAFFIC STRIPING,
WHITE EDGE LINE

TYPE I ARROW
(TYP.)
5 / D-2

1 / D-3
TRAFFIC STRIPING,
TWO WAY LEFT TURN YELLOW STRIPING

EX. CONCRETE CURB AND GUTTER
PROTECT IN PLACE (TYP)

6 / D-2

8.09'
12.00'
12.00'
7.17'
10.00'
14.00'
5.89'

LAKE TAHOE BLVD.

EX. FENCE PROTECT IN
PLACE (TYP.)

TYPE I ARROW
(TYP.)
5 / D-2

PROPOSED STORM DRAIN
IMPROVEMENTS. SEE UTILITY
SHEETS FOR ADDITIONAL INFO
(TYP.)

1 / D-7
PROPOSED CONCRETE
CURB AND GUTTER (TYP.)

2 / D-6
10' WIDE BIKE TRAIL + 2' SHOULDERS
14' TOTAL WIDTH (TYP.)

2' SHOULDER (TYP)

R.O.W. / PROPERTY LINE (TYP.)

PROPOSED LANDSCAPED
BUFFER AREA. SEE REVEG
SHEETS FOR ADDITIONAL INFO
(TYP.)

APN 32-301-11
TAHOE VERDE

MATCHLINE SEE P-2

MATCHLINE SEE P-4

60% DESIGN

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PLAN SHEET 3

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700
SHEET TITLE	P-3
SHEET NUMBER	23
LAND USE #	N/A

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PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

APN 32-291-33
TAHOE SIERRA VISTA APTS

APN 32-291-15
CARDINALE JOSEPH A TRUST, ET AL

APN 32-301-10
TAHOE VERDE

APN 32-291-28
CTC

LAKE TAHOE BLVD.

JULIE LANE

1 D-9 CONSTRUCT PEDESTRIAN SIDEWALK RAMP (TYP.)
2 D-1 TRAFFIC MARKING, "STOP" (TYP.)
1 D-2 TRAFFIC STRIPING, WHITE STOP BAR (TYP.)
5 D-2 TYPE I ARROW (TYP.)
6 D-2 TRAFFIC STRIPING, WHITE EDGE LINE (TYP.)
CLASS II BIKE TRAIL 5' WIDE MIN.
TURNING LANE 12' WIDE
EX. CONCRETE CURB AND GUTTER PROTECT IN PLACE (TYP)
1 D-1 CROSSWALK STRIPING (TYP)
1 D-9 CONSTRUCT PEDESTRIAN SIDEWALK RAMP (TYP.)
1 D-3 TRAFFIC STRIPING, TWO WAY LEFT TURN YELLOW STRIPING (TYP.)
1 D-9 PROPOSED CONCRETE CURB AND GUTTER (TYP.)
2 D-6 10' WIDE BIKE TRAIL + 2' SHOULDERS 14' TOTAL WIDTH (TYP.)
2' SHOULDER (TYP)
R.O.W. / PROPERTY LINE (TYP.)
1 D-9 CONSTRUCT BIKE TRAIL PEDESTRIAN RAMP (TYP.)
PROPOSED STORM DRAIN IMPROVEMENTS. SEE UTILITY SHEETS FOR ADDITIONAL INFO (TYP.)
RESET UTILITY VAULT TO FINISHED GRADE
PROTECT EX. DI IN PLACE
PROPOSED LANDSCAPED BUFFER AREA. SEE REVEG SHEETS FOR ADDITIONAL INFO (TYP.)
4 D-6 AC PAVEMENT PATCH FOR PROPOSED ELECTRICAL TRENCH. SEE ELECTRICAL SHEETS FOR MORE INFO.
1 D-2 TRAFFIC STRIPING, WHITE STOP BAR
2 D-1 TRAFFIC MARKING, "STOP" (TYP.)
1 D-1 CROSSWALK STRIPING (TYP)

8.27' 12.00' 12.00' 12.00' 7.17' 14.00' 10.00' 5.90' 10.00' 4.92' 14.00'

MATCHLINE SEE P-3
MATCHLINE SEE P-5

60% DESIGN

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256 HIGHWAY 50, ZEPHYR COVE, NV 89448
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PLAN SHEET 4
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
P-4

SHEET NUMBER
24

LAND USE # N/A

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1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

APN 32-291-27
1875 LAKE TAHOE CA LLC

APN 32-291-25
SFP-B AN OREGON LP

APN 32-291-28
CTC

APN 32-291-21
ANDERIO CA LLC

LAKE TAHOE BLVD.

TATA LANE

TRAFFIC STRIPING, WHITE EDGE LINE (6/D-2)

TYPE I ARROW (TYP.) (5/D-2)

CLASS II BIKE TRAIL 5' WIDE MIN.

TURNING LANE 12' WIDE (TYP.)

EX. CONCRETE CURB AND GUTTER PROTECT IN PLACE (TYP)

TRAFFIC STRIPING, TWO WAY LEFT TURN YELLOW STRIPING (1/D-3)

8.83'
12.00'
12.00'
12.00'
7.18'
10.00'
14.00'
4.00'

MATCHLINE SEE P-4

MATCHLINE SEE P-6

PROPOSED STORM DRAIN IMPROVEMENTS. SEE UTILITY SHEETS FOR ADDITIONAL INFO (TYP.)

PROPOSED LANDSCAPED BUFFER AREA. SEE REVEG SHEETS FOR ADDITIONAL INFO (TYP.)

1/D-7 PROPOSED CURB AND GUTTER (TYP.)

10' WIDE BIKE TRAIL + 2' SHOULDERS 14' TOTAL WIDTH (TYP.) (2/D-6)

2' SHOULDER (TYP.)

R.O.W. / PROPERTY LINE (TYP.)

4/D-7 PROPOSED DRIVEWAY IMPROVEMENTS

PROTECT EX. SIGN IN PLACE

AC DRIVEWAY TIE-IN (5/D-6)

60% DESIGN

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PLAN SHEET 5

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
P-5

SHEET NUMBER
25

LAND USE # N/A

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NOTE
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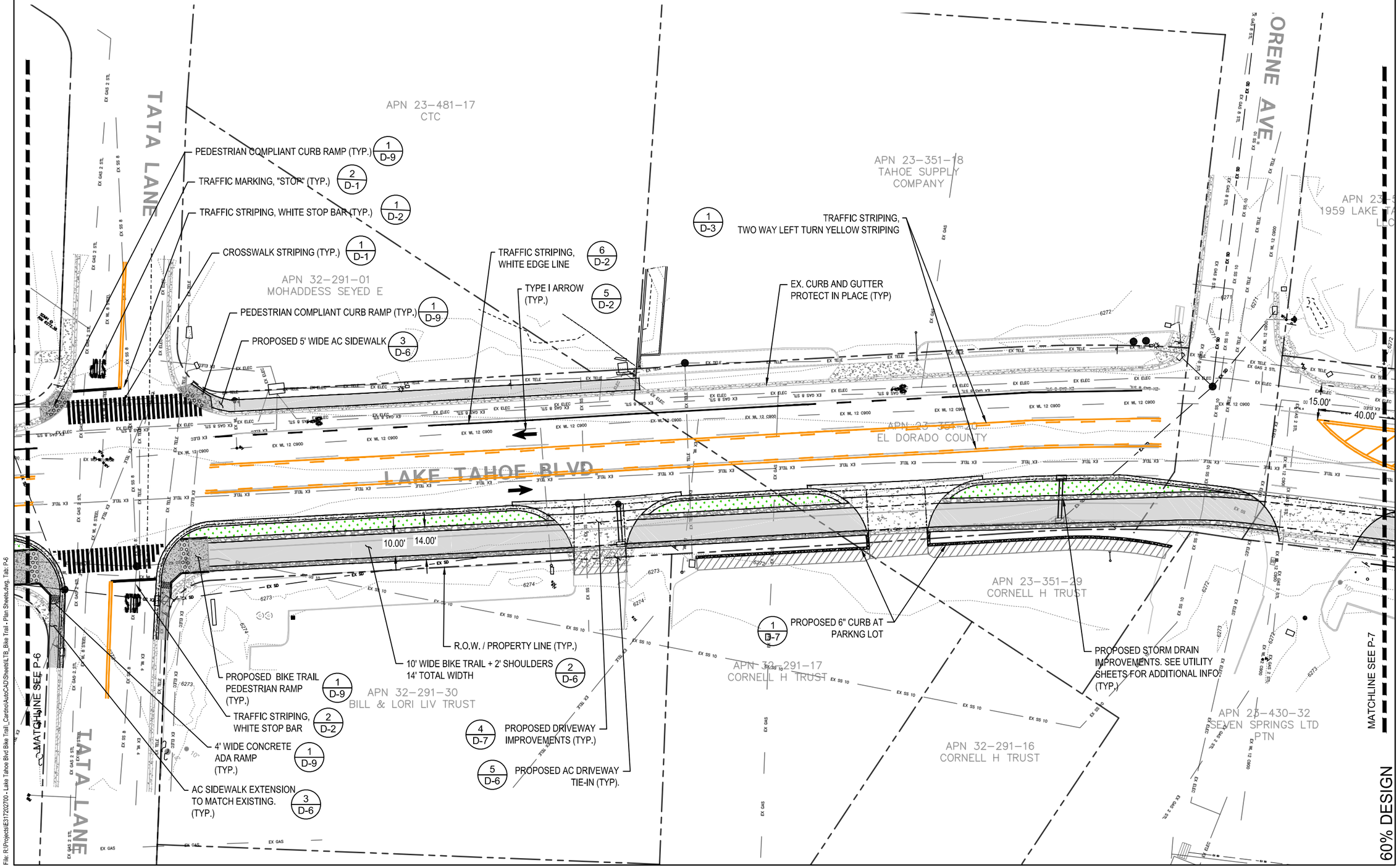
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20



60% DESIGN

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TEL: (775) 588-9069 FAX: (775) 588-9219
www.cardno.com

PLAN SHEET 6 OF 6
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DESCRIPTION	DATE	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700
SHEET TITLE	P-6
SHEET NUMBER	26
LAND USE #	N/A

NOTE
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PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

APN 23-523-11
1959 LAKE TAHOE BLVD LLC

APN 23-523-08
CAD ENTERPRISES LLC

APN 23-523-02
RUNNELS AUTOMOTIVE

APN 23-523-13
RUNNELS JOHN W

YELLOW TRAFFIC STRIPING, 45° ANGLE, 10' O.C. BETWEEN EDGE LINES

TYPE I ARROW (TYP.) 5 / D-2

3 / D-3 TYPE IV ARROW (L)

TRAFFIC STRIPING, YELLOW EDGE LINE 6 / D-2

NO REVISIONS TO TRAFFIC STRIPING ON CALTRANS PARCELS

APN 23-411-15 CALTRANS

APN 23-411-16 CALTRANS

APN 23-523-12 CALTRANS

15.00'
40.00'
80.00'
12.00'
12.00'
40.00'

LAKE TAHOE BLVD.

APN 23-411-19
CSLT

APN 23-411-17
STATE OF CALIFORNIA

3:1 LANE MERGE

14.00'
10.00'
5.00'

EX DI, PROTECT IN PLACE

MATCHLINE SEE P-6

2 / D-6 10' WIDE BIKE TRAIL + 2' SHOULDERS 14' TOTAL WIDTH

1 / D-7 PROPOSED CURB AND GUTTER (TYP.)

PROPOSED STORM DRAIN IMPROVEMENTS. SEE UTILITY SHEETS FOR ADDITIONAL INFO. (TYP.)

4 / D-7 PROPOSED DRIVEWAY IMPROVEMENTS

4 / D-7 PROPOSED DRIVEWAY IMPROVEMENTS

APN 23-430-32
SEVEN SPRINGS LTD PTN

APN 23-411-24
SALVO & ZESSIN TRUST

RESET UTILITY VAULT, LIDS, GRATE, ETC TO FINISHED GRADE

"END BIKE LANE" SIGN (R81B (CA) & R81 (CA))

AC TIE-IN PAVING TO EXISTING PATHWAY

APN 23-411-25
CSLT

TIE-IN TO EXISTING TRANSIT CENTER SIDEWALK

60% DESIGN

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Cardno
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2561 HIGHWAY 50, ZEPHYR COVE, NV 89448
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www.cardno.com

PLAN SHEET 7
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

BY	DESCRIPTION	DATE
A		

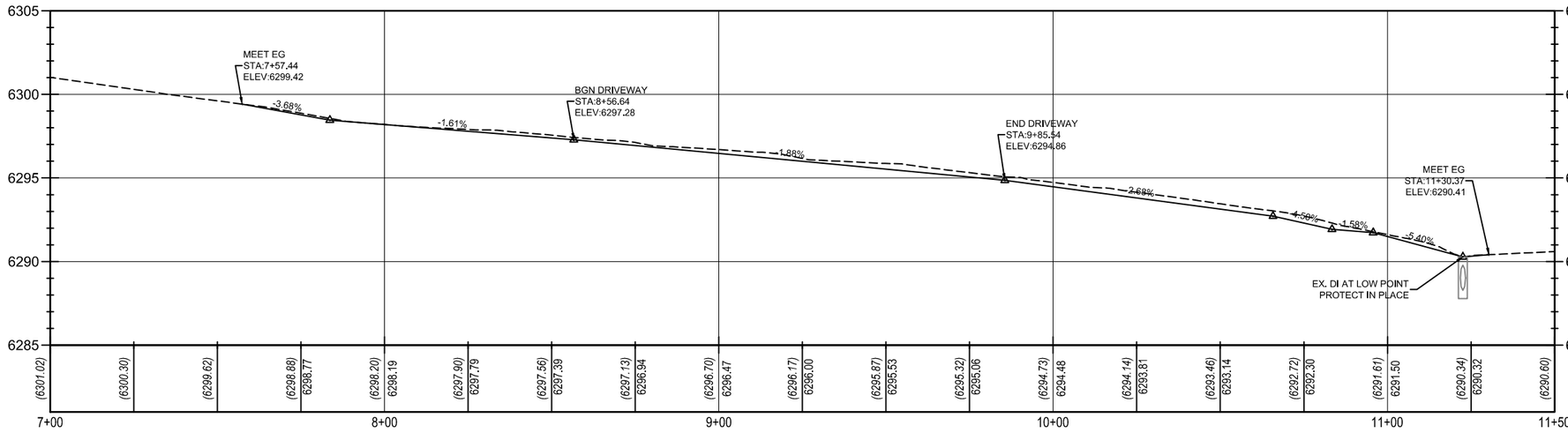
60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
P-7

SHEET NUMBER
27

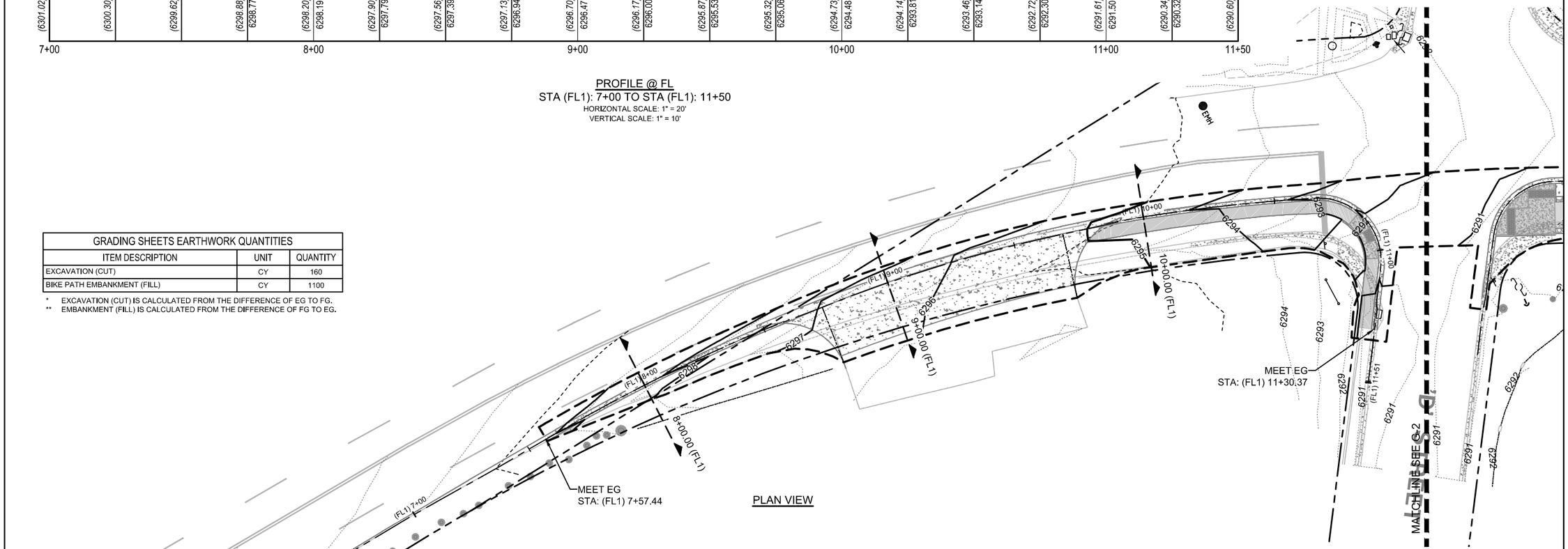
LAND USE # N/A



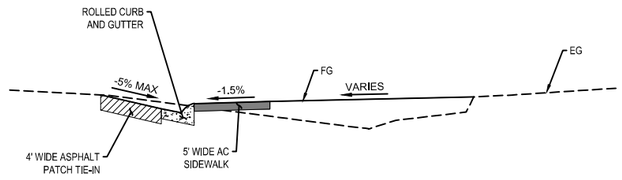
PROFILE @ FL
STA (FL1): 7+00 TO STA (FL1): 11+50
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 10'

GRADING SHEETS EARTHWORK QUANTITIES		
ITEM DESCRIPTION	UNIT	QUANTITY
EXCAVATION (CUT)	CY	160
BIKE PATH EMBANKMENT (FILL)	CY	1100

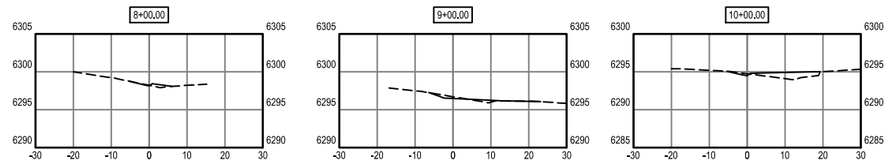
* EXCAVATION (CUT) IS CALCULATED FROM THE DIFFERENCE OF EG TO FG.
** EMBANKMENT (FILL) IS CALCULATED FROM THE DIFFERENCE OF FG TO EG.



PLAN VIEW



TYPICAL SECTION
STA (TBC): 9+95 TO STA (TBC): 10+75
NOT TO SCALE



SECTION VIEWS
STA (FL1): 7+00 TO STA (FL1): 11+00
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 10'

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

* CALL BEFORE YOU DIG *
CONTACT UNDERGROUND SERVICE ALERT (USA)
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

60% DESIGN

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GRADING SHEET 1
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700
SHEET TITLE	G-1
SHEET NUMBER	28
LAND USE #	N/A

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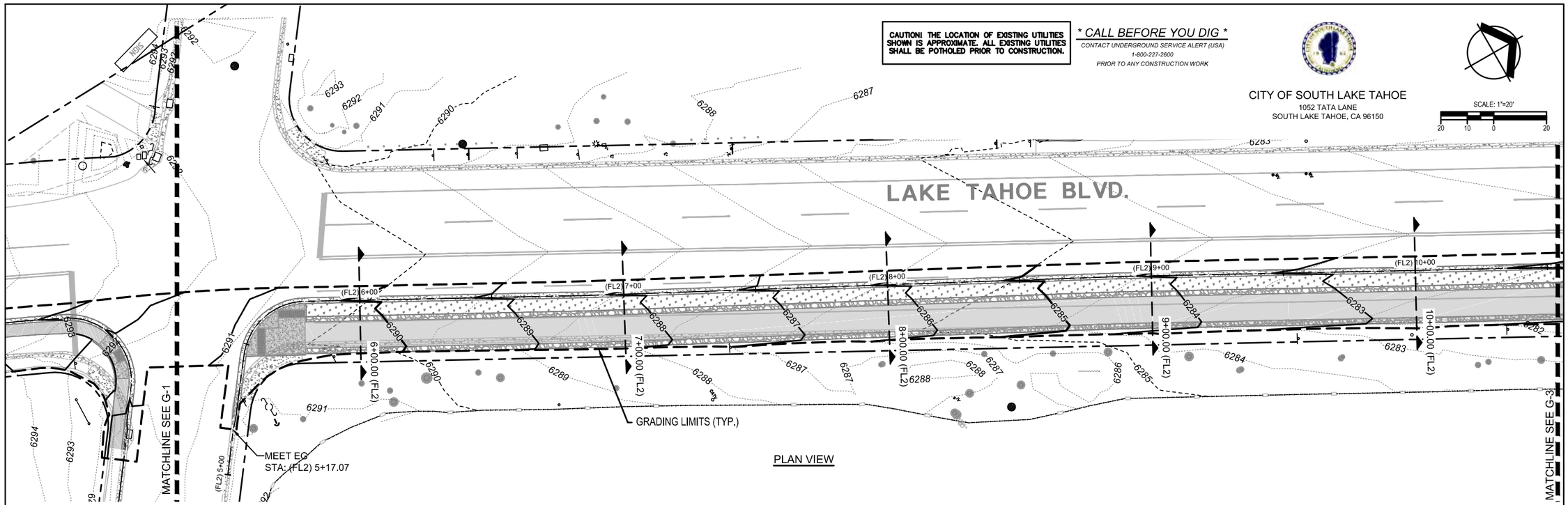
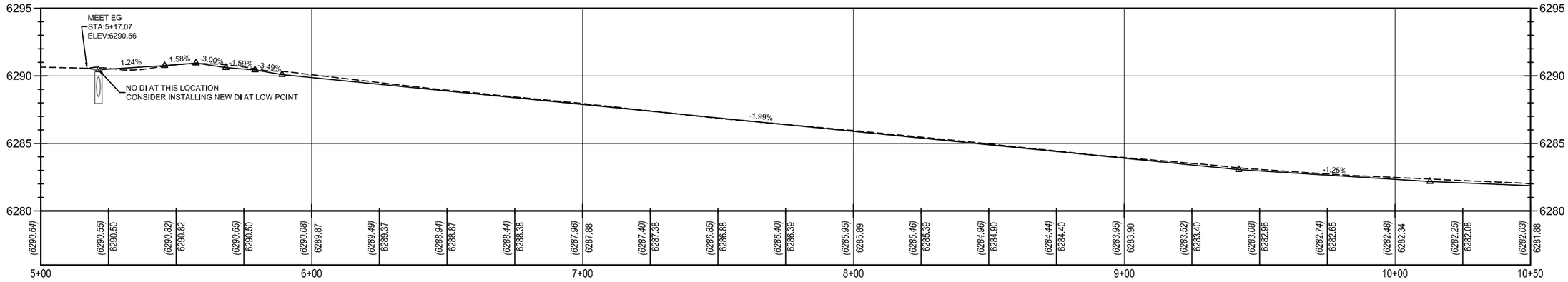
CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

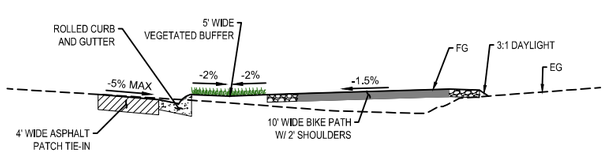
SCALE: 1"=20'
20 10 0 20



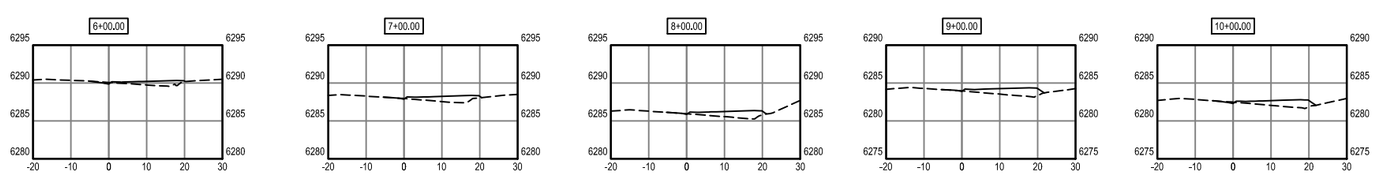
PLAN VIEW



PROFILE @ FL
STA (FL2): 5+00 TO STA (FL2): 10+50
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 10'



TYPICAL SECTION
STA (TBC): 11+50 TO STA (TBC): 38+50
NOT TO SCALE



SECTION VIEWS
STA (FL2): 5+00 TO STA (FL2): 10+50
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 10'

60% DESIGN

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GRADING SHEET 2
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
G-2

SHEET NUMBER
29

LAND USE # N/A

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CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

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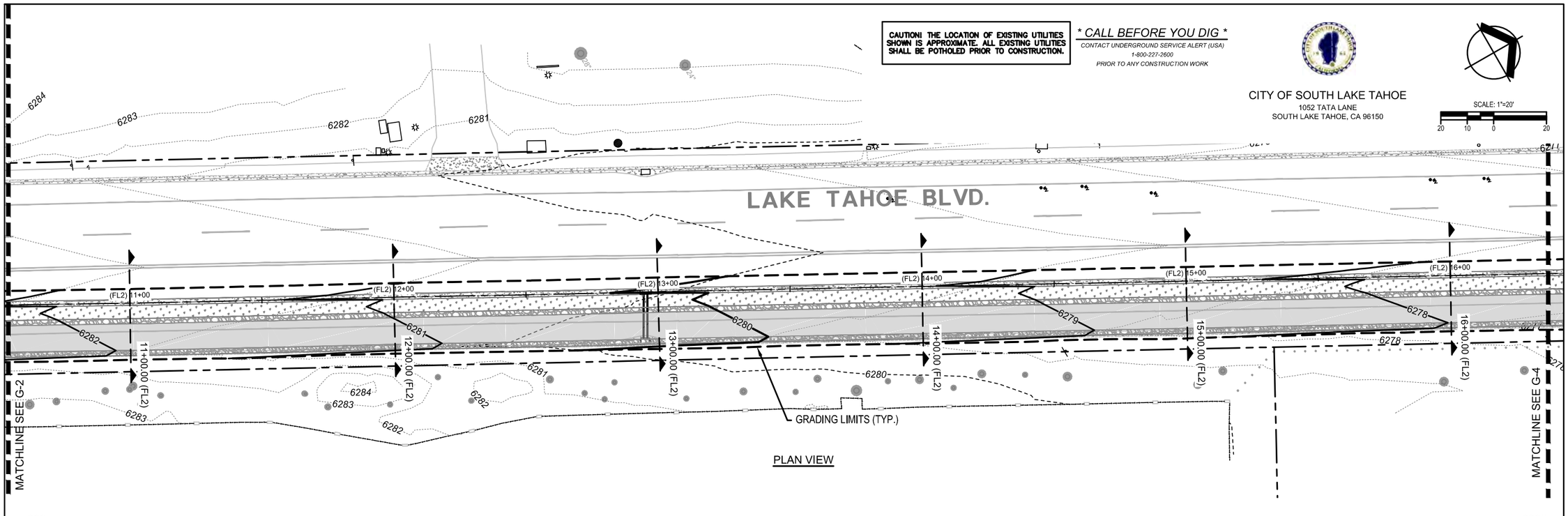
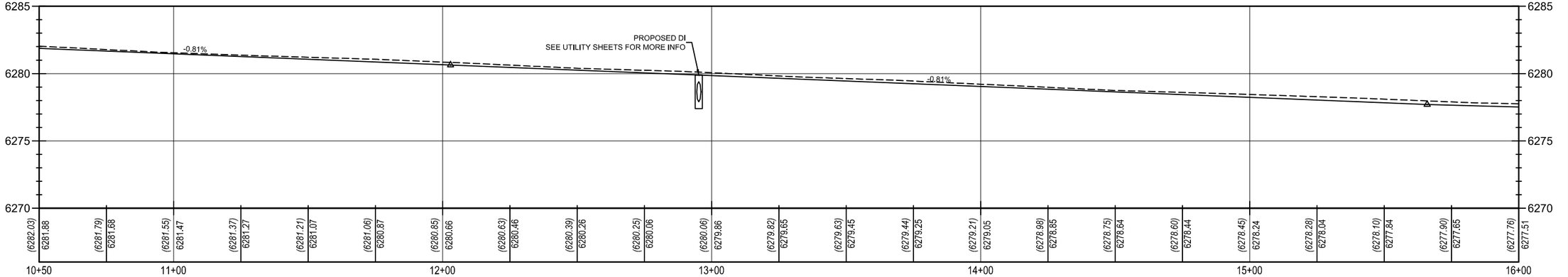
CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

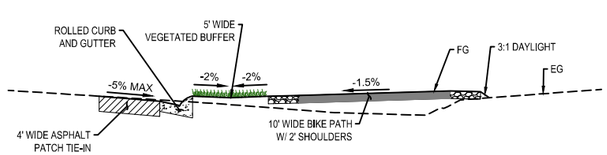
SCALE: 1"=20'
20 10 0 20



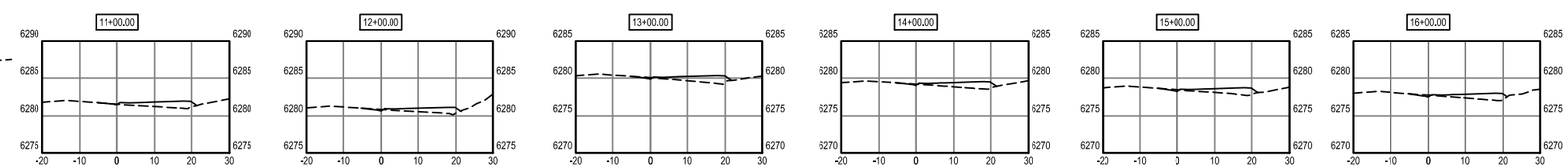
PLAN VIEW



PROFILE @ FL
STA (FL2): 10+50 TO STA (FL2): 16+00
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 10'



TYPICAL SECTION
STA (TBC): 11+50 TO STA (TBC): 38+50
NOT TO SCALE



SECTION VIEWS
STA (FL2): 10+50 TO STA (FL2): 16+50
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 10'

60% DESIGN

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LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

GRADING SHEET 3

BY	DESCRIPTION	DATE	Δ

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
G-3

SHEET NUMBER
30

LAND USE # N/A

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CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

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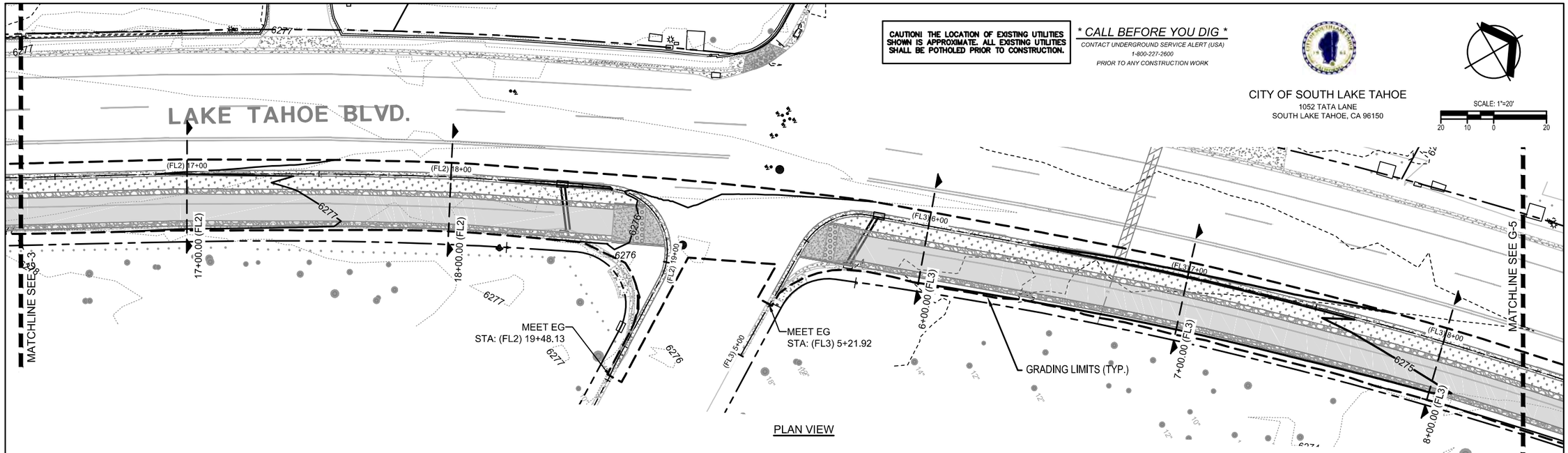
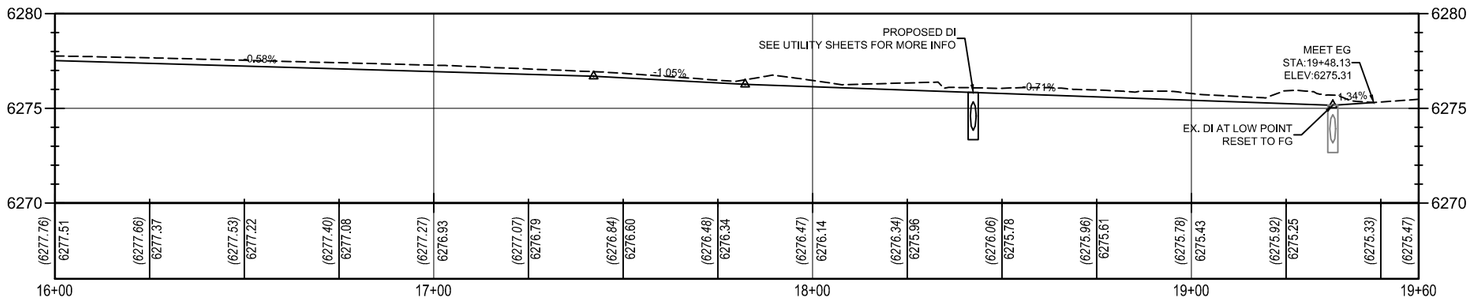
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

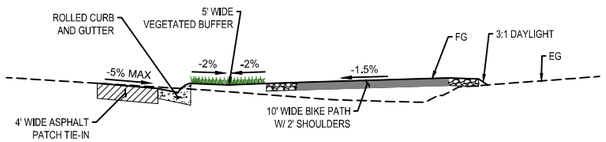
SCALE: 1"=20'
20 10 0 20



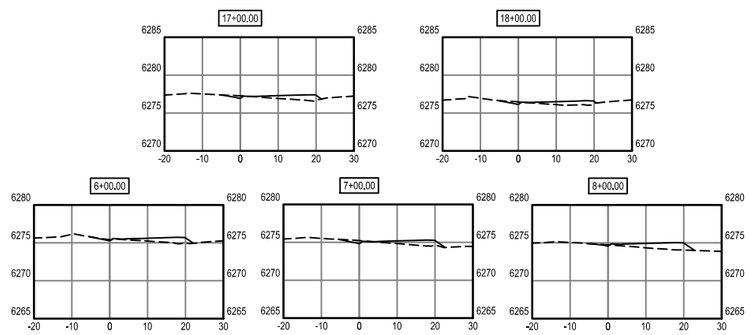
PLAN VIEW



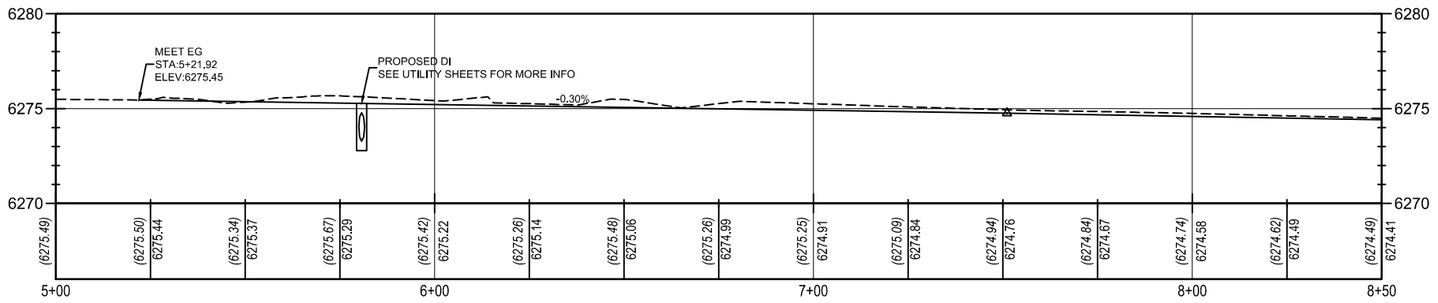
PROFILE @ FL
STA (FL2): 16+00 TO STA (FL2): 19+60
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 10'



TYPICAL SECTION
STA (TBC): 11+50 TO STA (TBC): 38+50
NOT TO SCALE



SECTION VIEWS
STA (FL2): 16+50 TO STA (FL2): 19+50
STA (FL3): 5+00 TO STA (FL3): 8+50
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 10'



PROFILE @ FL
STA (FL3): 5+00 TO STA (FL3): 8+50
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 10'

60% DESIGN

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GRADING SHEET 4
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
G-4

SHEET NUMBER
31

LAND USE # N/A

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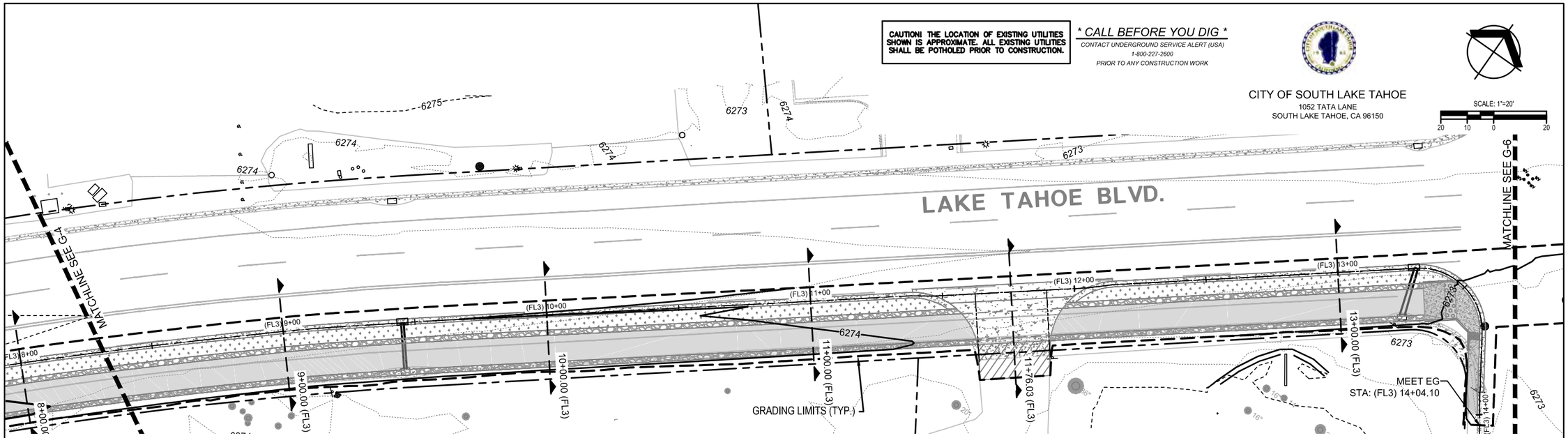
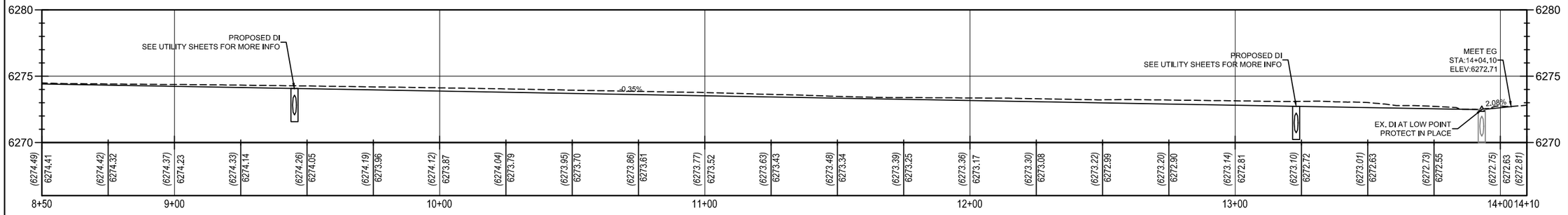
CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

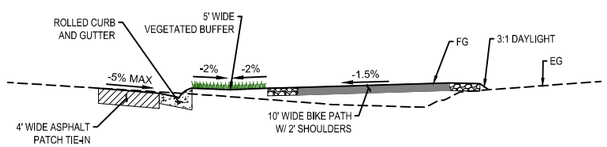
SCALE: 1"=20'
20 10 0 20



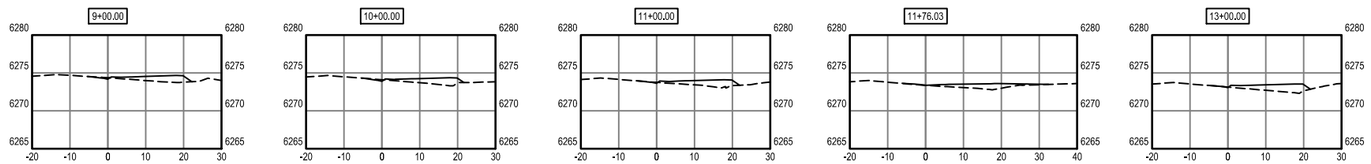
PLAN VIEW



PROFILE @ FL
STA (FL3): 8+50 TO STA (FL3): 14+10
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 10'



TYPICAL SECTION
STA (TBC): 11+50 TO STA (TBC): 38+50
NOT TO SCALE



SECTION VIEWS
STA (FL3): 8+50 TO STA (FL3): 14+00
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 10'

60% DESIGN

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700
SHEET TITLE	G-5
SHEET NUMBER	32
LAND USE #	N/A

#	DATE	DESCRIPTION	BY

GRADING SHEET 5
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

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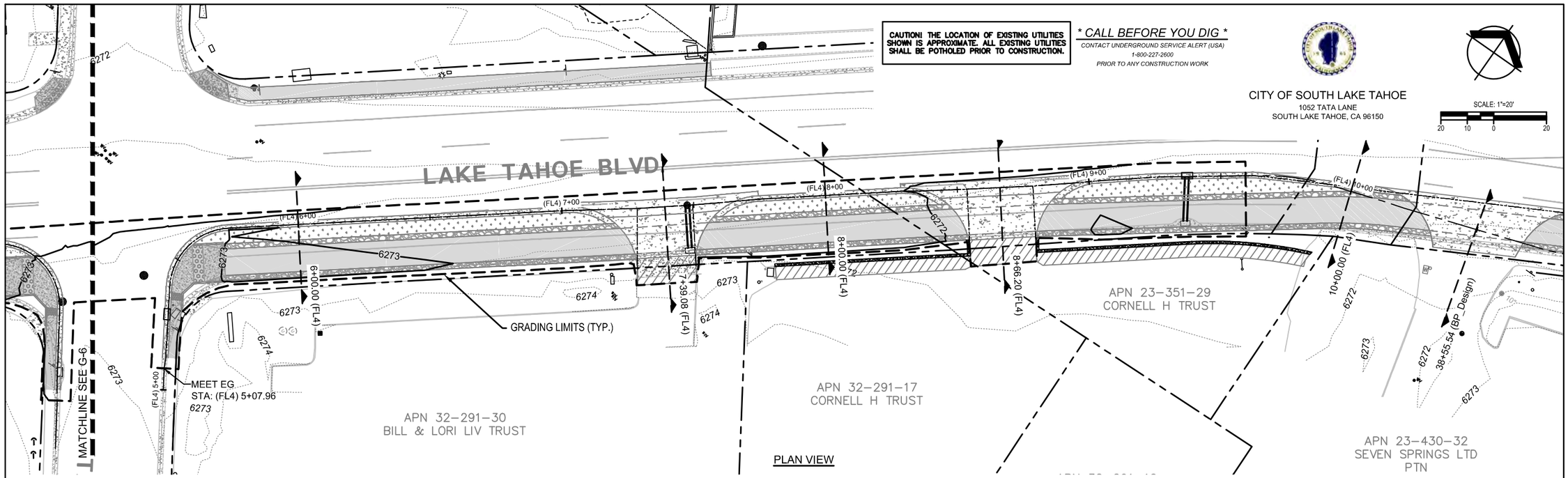
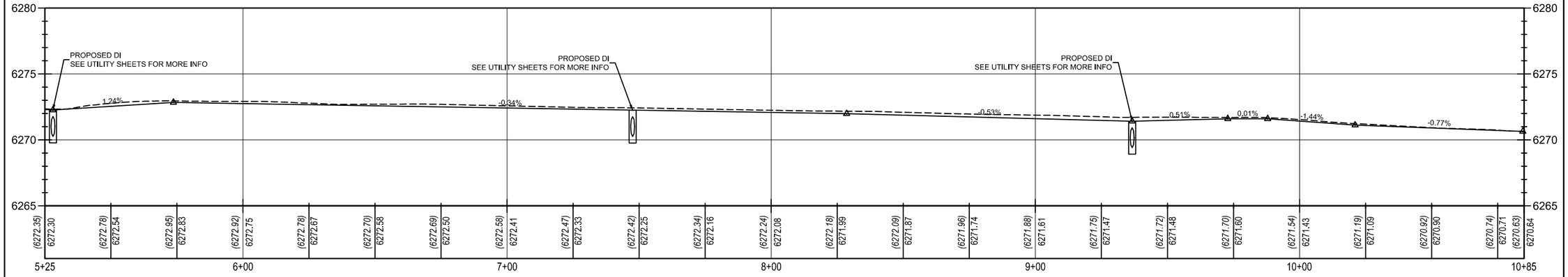
CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

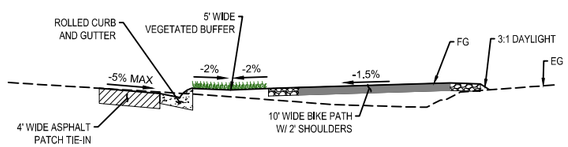
SCALE: 1"=20'
20 10 0 20



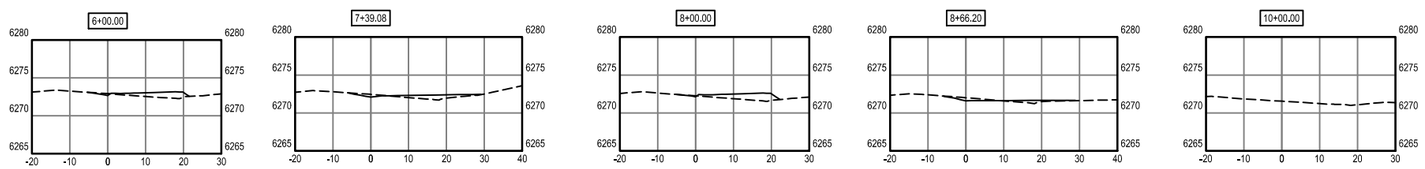
PLAN VIEW



PROFILE @ FL
STA (FL4): 5+25 TO STA (FL4): 10+85
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 10'



TYPICAL SECTION
STA (TBC): 11+50 TO STA (TBC): 38+50
NOT TO SCALE



SECTION VIEWS
STA (FL4): 5+00 TO STA (FL4): 11+00
HORIZONTAL SCALE: 1" = 20'
VERTICAL SCALE: 1" = 10'

60% DESIGN

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GRADING SHEET 6
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

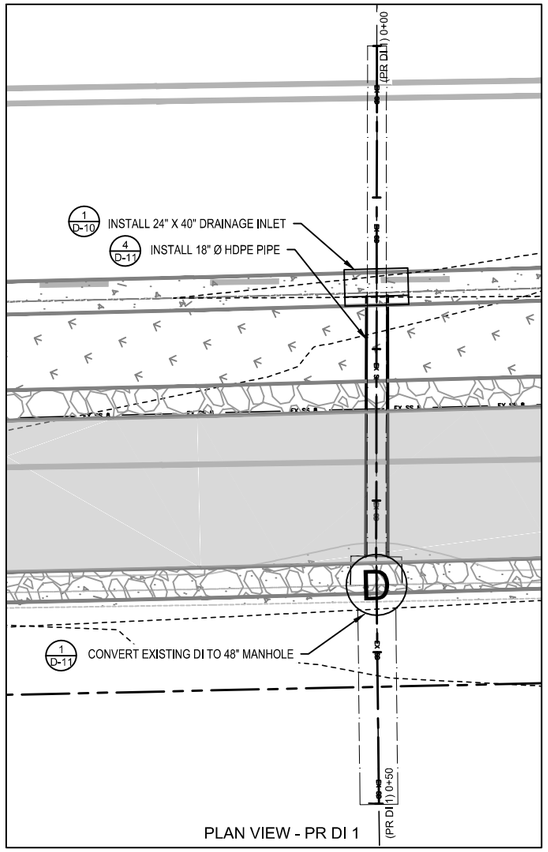
DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
G-6

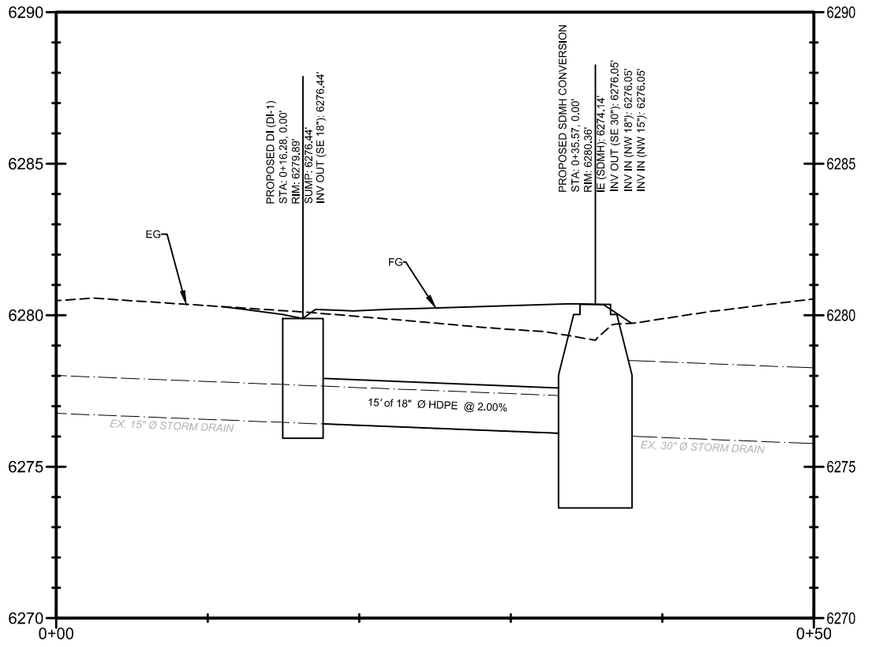
SHEET NUMBER
33

LAND USE # N/A

UTILITY SHEETS QUANTITIES		
ITEM DESCRIPTION	UNIT	QUANTITY
CONVERT DI TO SDMH	EA	8
INSTALL DI	EA	9
INSTALL 18" Ø HDPE PIPE	LF	130



PLAN VIEW - PR DI 1



PROFILE VIEW - PR DI 1
SCALE 1H:2V

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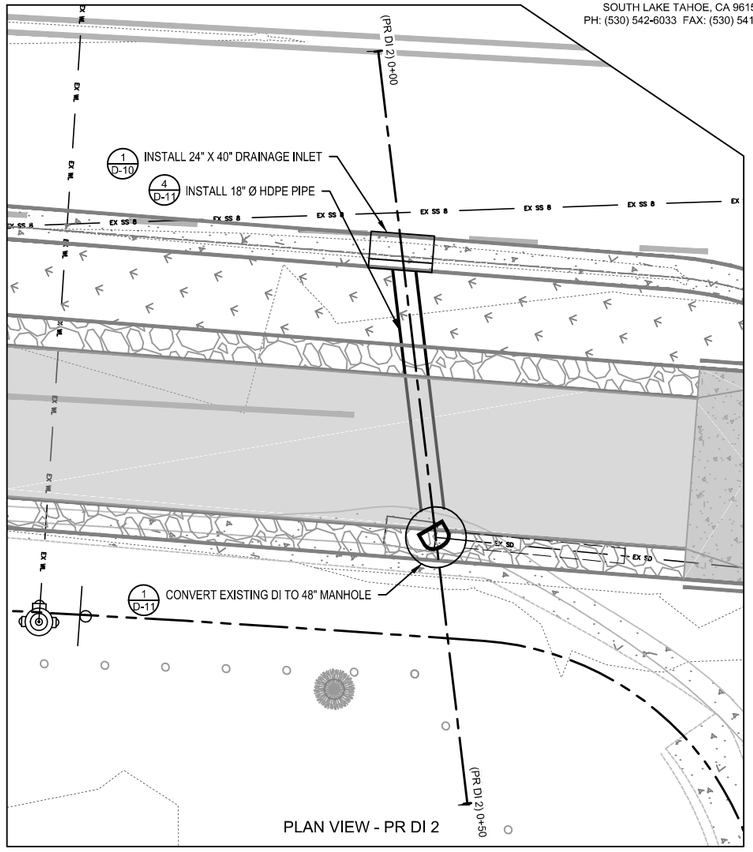
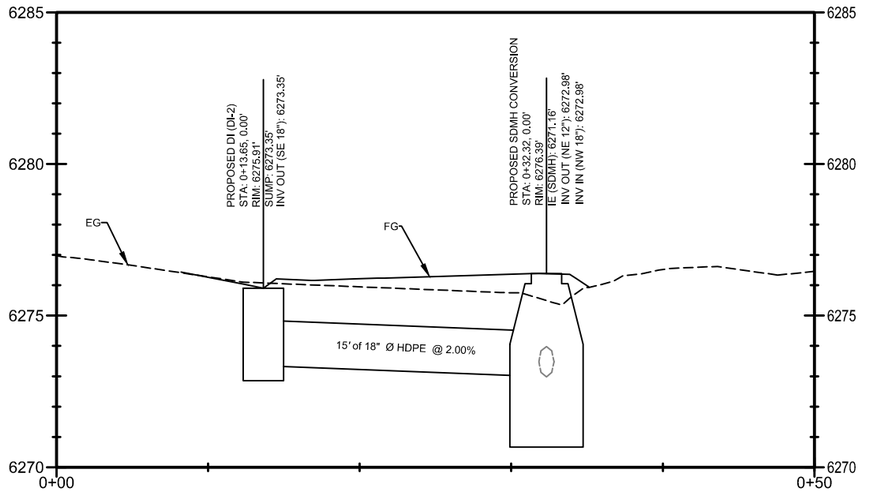
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150
PH: (530) 542-6033 FAX: (530) 541-3051

SCALE: 1"=5'
5 2.5 0 5



PLAN VIEW - PR DI 2



PROFILE VIEW - PR DI 2
SCALE 1H:2V

60% DESIGN

Cardno
LAKE TAHOE
256 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588 - 9069 FAX: (775) 588 - 9219
www.cardno.com

UTILITY SHEET 1
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
U-1

SHEET NUMBER
35

LAND USE # N/A

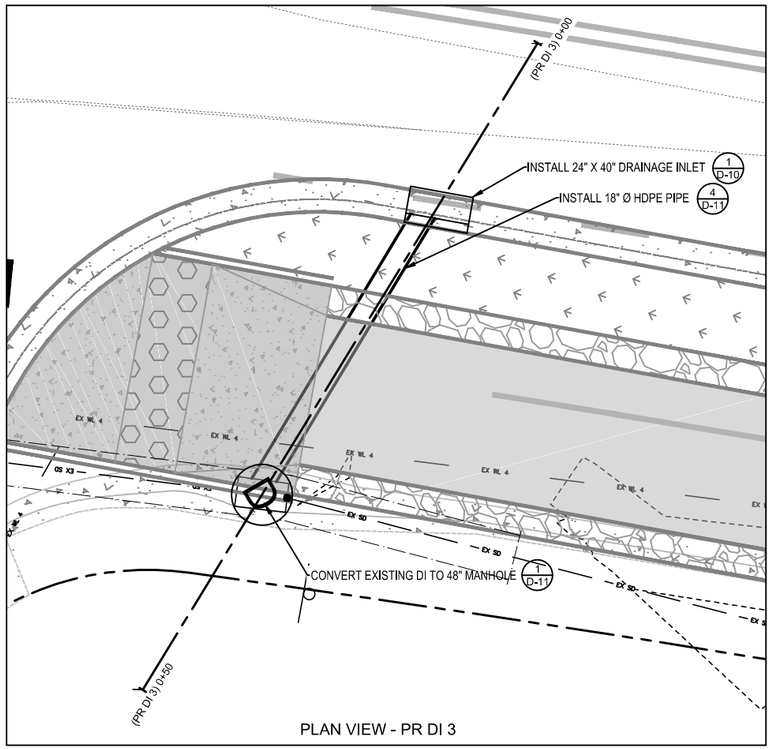
Plot Stamp: 6/19/2019 3:22:51 PM • Ivan Trujillo
File: R:\Projects\E317202700 - Lake Tahoe Blvd Bike Trail_Cardno\AutoCAD\Sheets\LTB_Bike Trail - UTILITY.dwg, Tab: U-1

CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

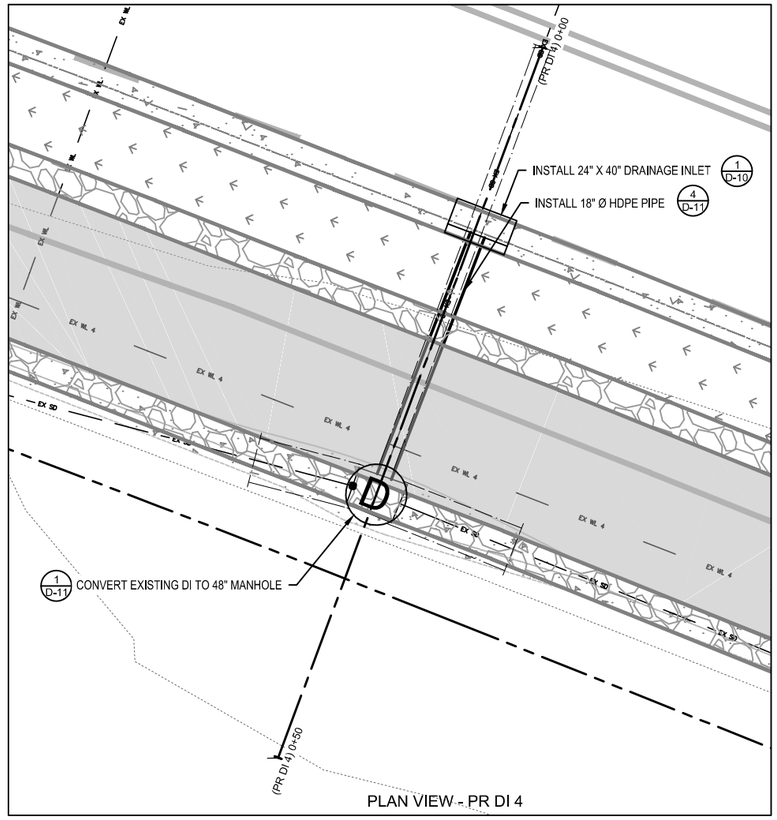
* CALL BEFORE YOU DIG *
CONTACT UNDERGROUND SERVICE ALERT (USA)
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150
PH: (530) 542-6033 FAX: (530) 541-3051

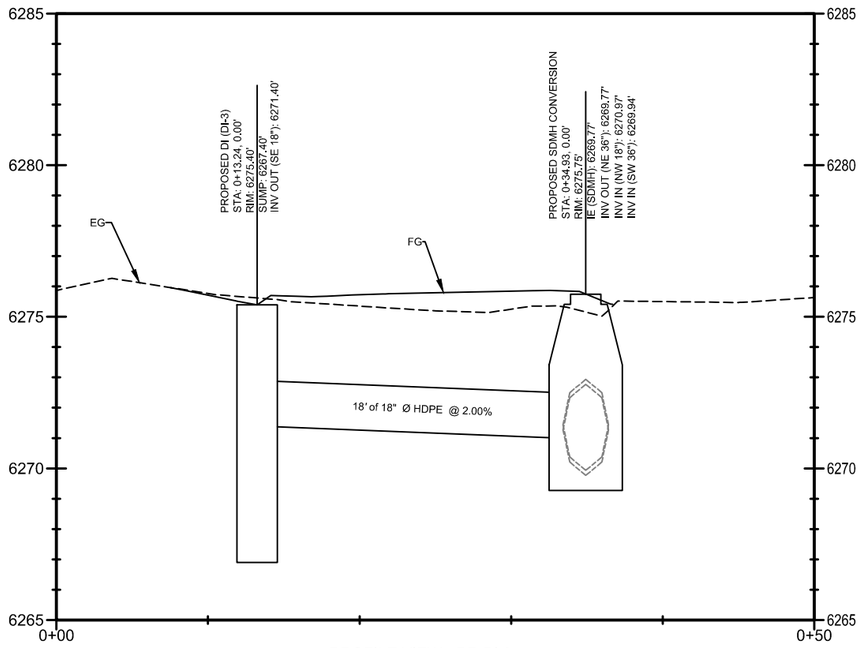
SCALE: 1"=5'
5 2.5 0 5



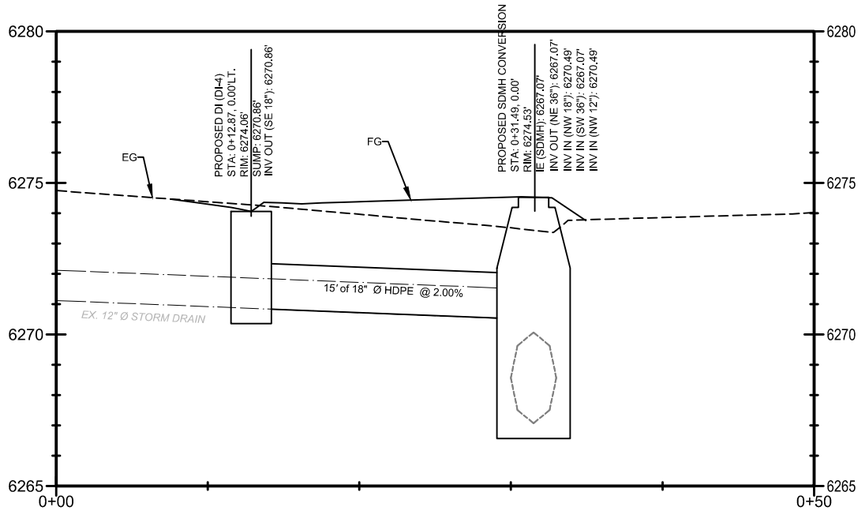
PLAN VIEW - PR DI 3



PLAN VIEW - PR DI 4



PROFILE VIEW - PR DI 3
SCALE 1H:2V



PROFILE VIEW - PR DI 4
SCALE 1H:2V

60% DESIGN

Cardno
LAKE TAHOE
256 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588 - 9069 FAX: (775) 588 - 9219
www.cardno.com

UTILITY SHEET 2
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
U-2

SHEET NUMBER
36

LAND USE # N/A

Plot Stamp: 6/19/2019 3:23:02 PM - Ivan Trujillo
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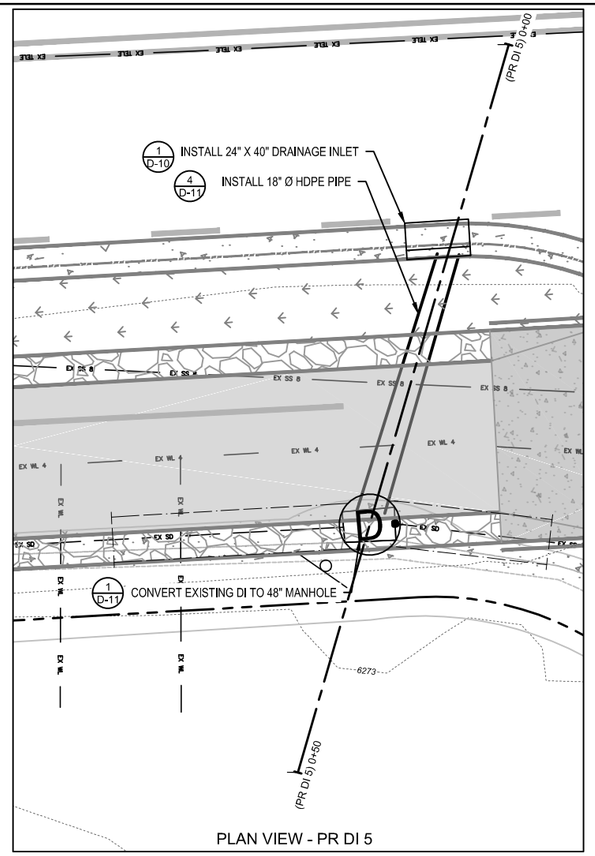
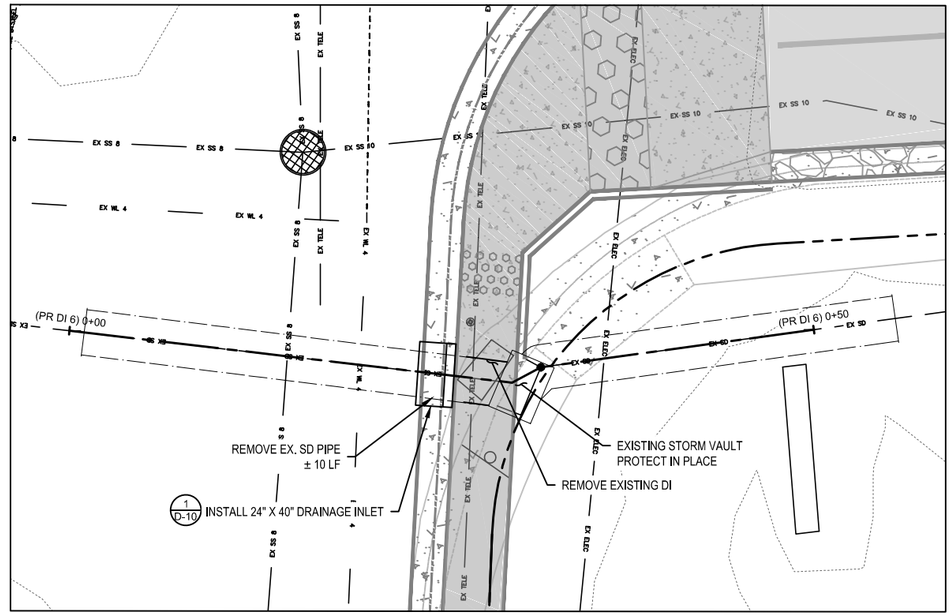
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150
PH: (530) 542-6033 FAX: (530) 541-3051

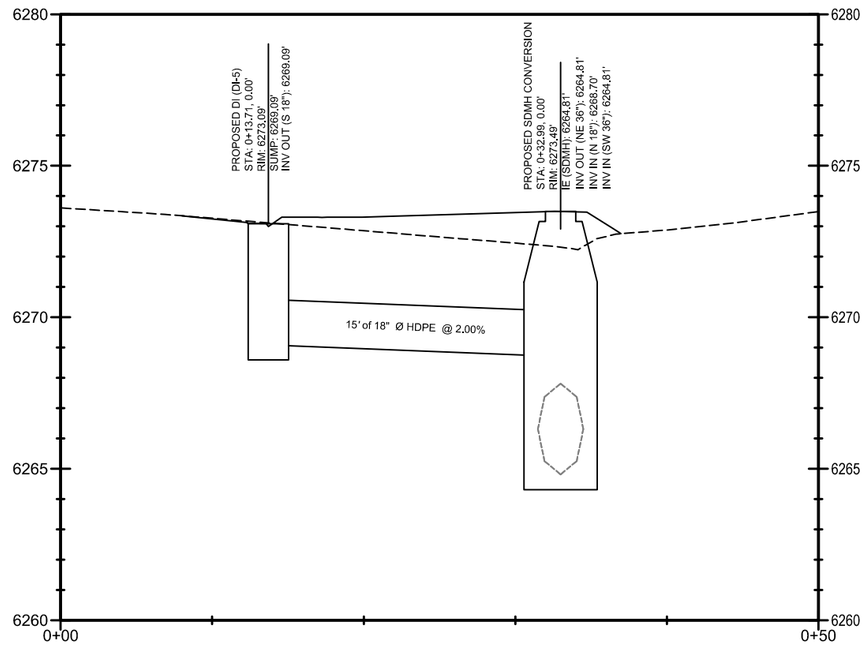
SCALE: 1"=20'
20 10 0 20



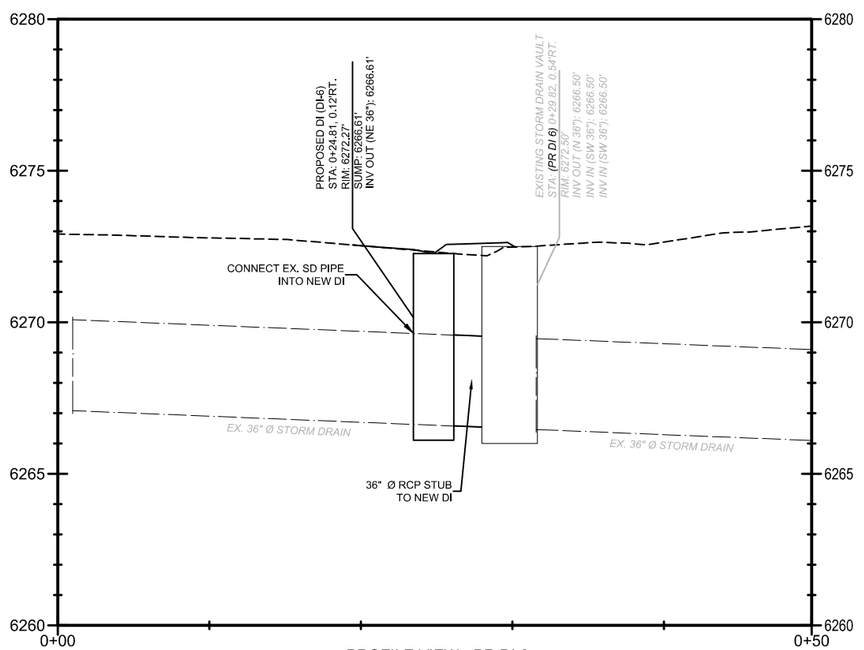
PLAN VIEW - PR DI 5



PLAN VIEW - PR DI 6



PROFILE VIEW - PR DI 5
SCALE 1H:2V



PROFILE VIEW - PR DI 6
SCALE 1H:2V

60% DESIGN

Cardno
LAKE TAHOE
256 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588 - 9069 FAX: (775) 588 - 9219
www.cardno.com

UTILITY SHEET 3
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

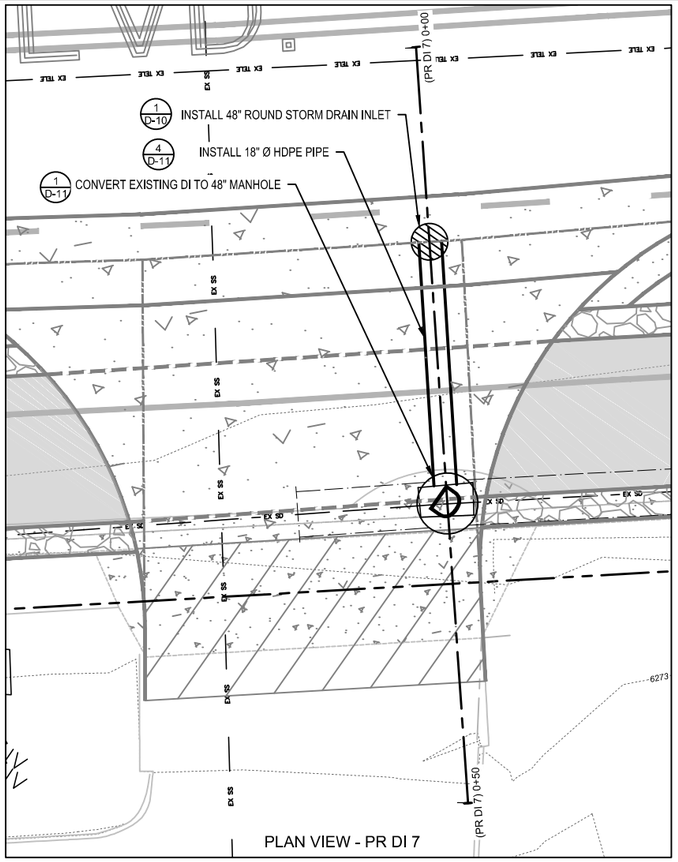
DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
U-3

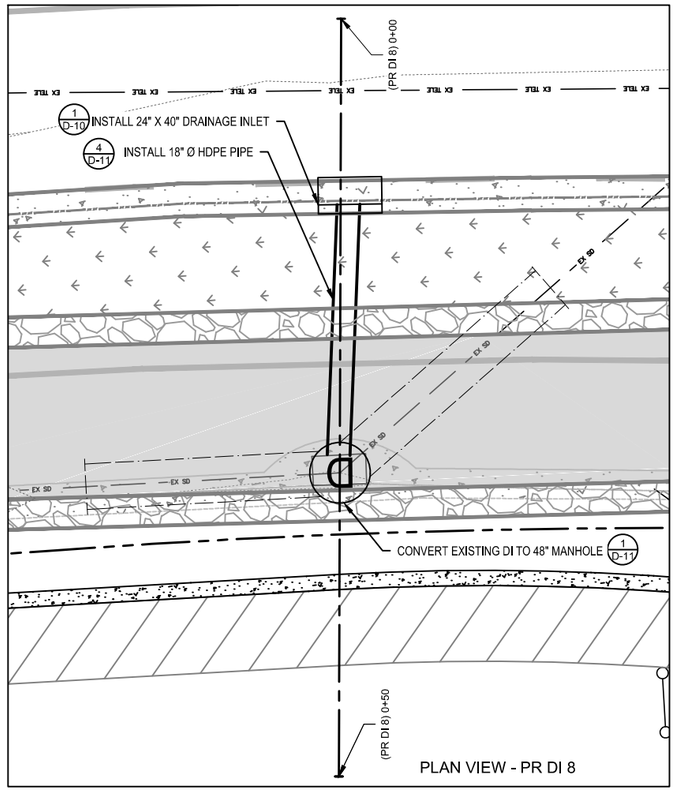
SHEET NUMBER
37

LAND USE # N/A

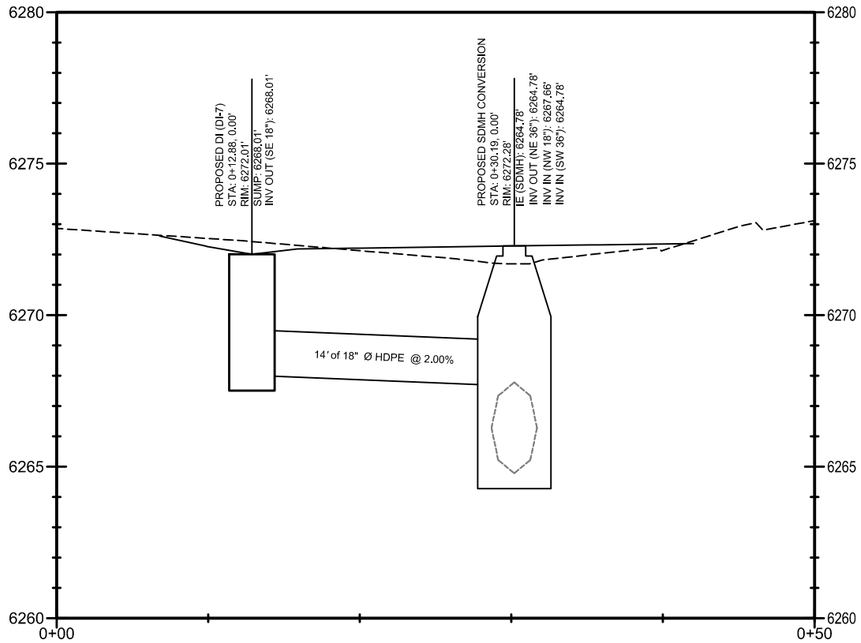
Plot Stamp: 6/19/2019 3:23:13 PM - Ivan Trujillo
File: R:\Projects\E317202700 - Lake Tahoe Blvd Bike Trail_Cardno\AutoCAD\Sheets\LTB_Bike Trail - UTILITY.dwg, Tab: U-3



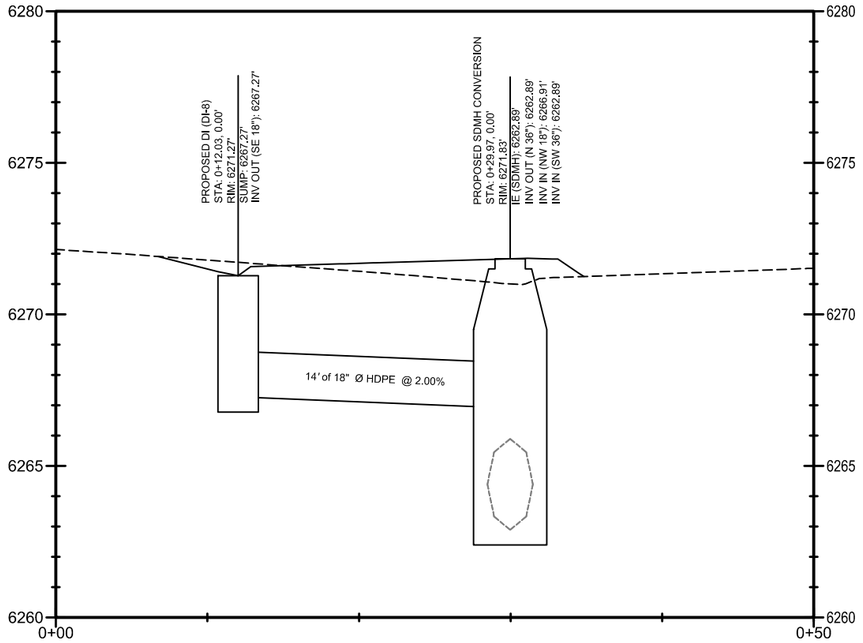
PLAN VIEW - PR DI 7



PLAN VIEW - PR DI 8



PROFILE VIEW - PR DI 7
SCALE 1H:2V



PROFILE VIEW - PR DI 8
SCALE 1H:2V

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PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150
PH: (530) 542-6033 FAX: (530) 541-3051

SCALE: 1"=20'
20 10 0 20

Cardno
LAKE TAHOE
256 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588 - 9069 FAX: (775) 588 - 9219
www.cardno.com

UTILITY SHEET 4
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

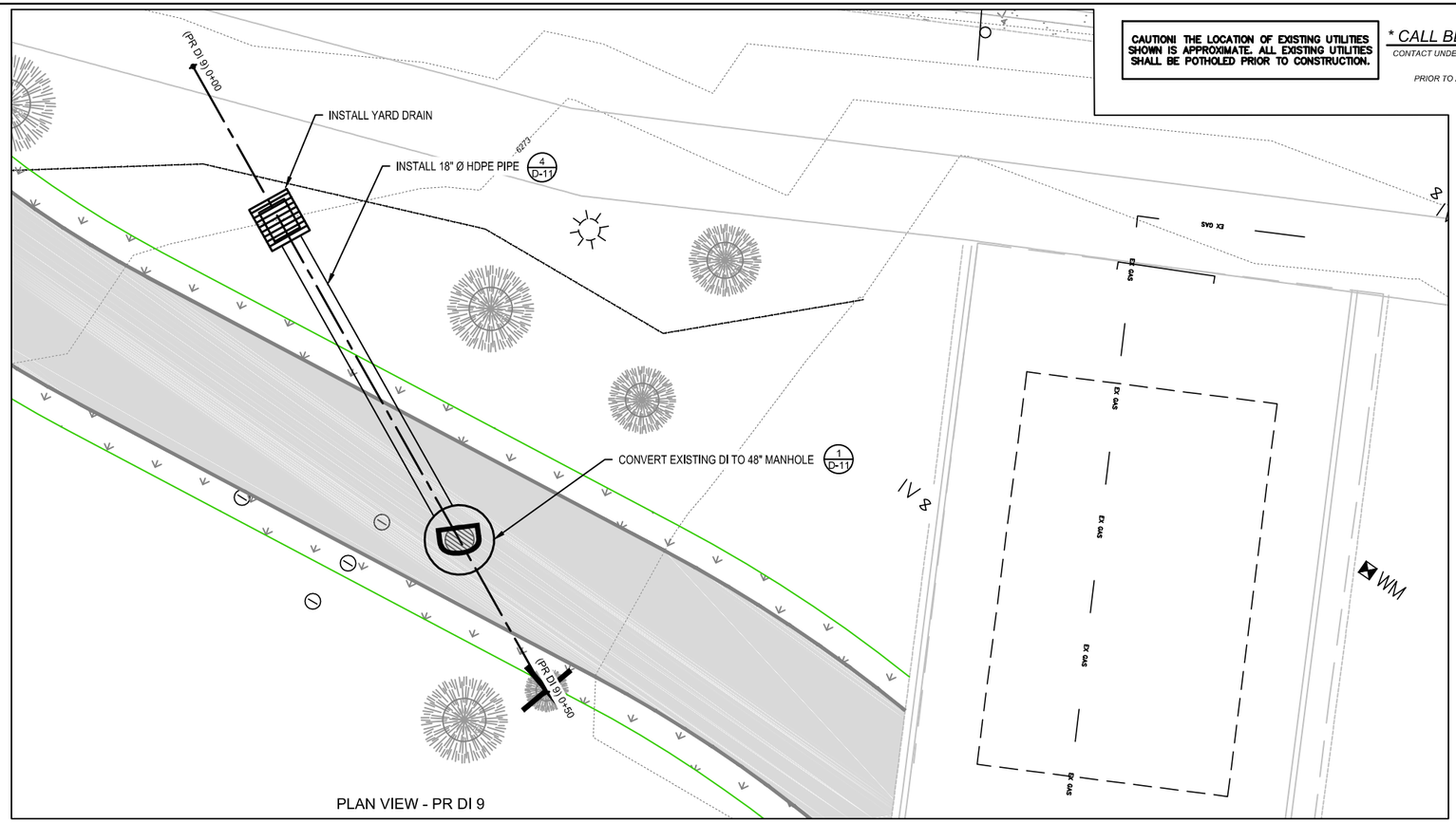
SHEET TITLE
U-4

SHEET NUMBER
38

LAND USE # N/A

60% DESIGN

Plot Stamp: 6/19/2019 3:23:24 PM - Ivan Trujillo
File: R:\Projects\E317202700 - Lake Tahoe Blvd Bike Trail_Cardno\AutoCAD\Sheets\LTB_Bike Trail - UTILITY.dwg, Tab: U-4



PLAN VIEW - PR DI 9

CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

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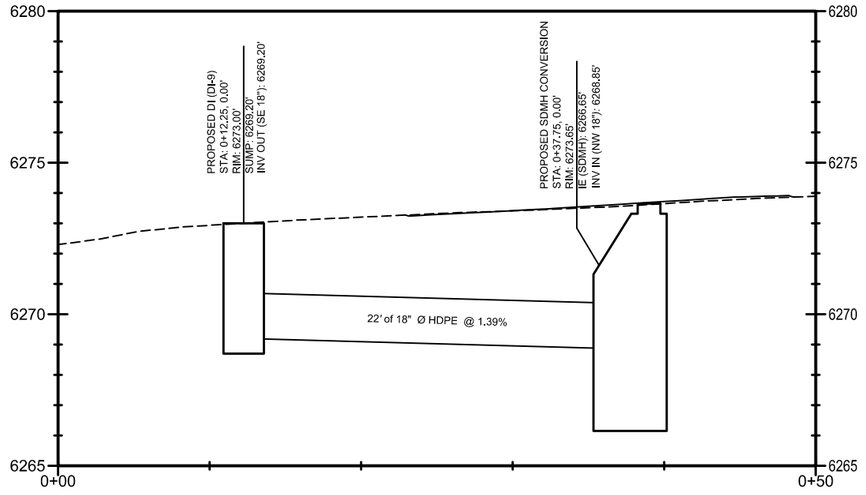
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150
PH: (530) 542-6033 FAX: (530) 541-3051

SCALE: 1"=20'
20 10 0 20



PROFILE VIEW - PR DI 9
SCALE 1H:2V

60% DESIGN

Cardno
LAKE TAHOE
256 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588 - 9069 FAX: (775) 588 - 9219
www.cardno.com

UTILITY SHEET 5
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
U-5

SHEET NUMBER
39

LAND USE # N/A

Plot Stamp: 6/19/2019 3:23:30 PM • Ivan Trujillo
File: R:\Projects\E317202700 - Lake Tahoe Blvd Bike Trail_Cardno\AutoCAD\Sheets\LTB_Bike Trail - UTILITY.dwg, Tab: U-5

DRAWING SCHEDULE

SHEET	DESCRIPTION	60% DESIGN 25 JUNE 2019
E1	ELECTRICAL LEGEND & LIGHT FIXTURE SCHEDULE	●
E2	ELECTRICAL SPECIFICATIONS	●
E3	LIGHTING PLAN 1	●
E4	LIGHTING PLAN 2	●
E5	LIGHTING PLAN 3	●
E6	LIGHTING PLAN 4	●
E7	LIGHTING PLAN 5	●
E8	LIGHTING PLAN 6	●
E9	ELECTRICAL DETAILS	●
	TOTAL SHEETS IN ISSUE:	9

LIGHTING FIXTURE SCHEDULE

PK ELECTRICAL, INC. @ 2007

LIGHTING FIXTURE CATALOG NUMBERS ARE SERIES TYPE ONLY. PROVIDE TRIMS, BALLASTS, MOUNTING EQUIPMENT, FITTINGS AND LAMPS AS REQUIRED BY THE SPECIFICATIONS AND PROJECT CONDITIONS FOR A COMPLETE INSTALLATION. THIS IS NOT A STANDALONE SCHEDULE AND FIXTURES MUST INCORPORATE ALL WORK INDICATED OR IMPLIED THROUGHOUT THE DRAWINGS AND SPECIFICATIONS.

SUBSTITUTION: DEFINITIONS

- ◉ OR EQUAL = EQUAL OR SUPERIOR TO SPECIFIED IN ALL RESPECTS WILL BE ALLOWED. ENGINEER'S PRE-BID APPROVAL IS NOT REQUIRED. PROPOSED EQUAL FIXTURES ARE SUBJECT TO REVIEW DURING THE STANDARD SUBMITTAL PROCESS.
- ◉ NO EQUAL = PROVIDE SPECIFIED FIXTURE. SUBSTITUTIONS ARE NOT ALLOWED.
- ◉ SUBJECT TO REVIEW = EQUAL OR SUPERIOR TO SPECIFIED IN ALL RESPECTS MAY BE ALLOWED ONLY WITH ENGINEER'S APPROVAL. ALL SUBSTITUTIONS MUST BE SUBMITTED AS REQUIRED BY SPECIFICATIONS AND ACCOMPANIED WITH POINT BY POINT LIGHTING CALCULATIONS. DETERMINATION OF EQUAL IS ENGINEER'S SOLE DISCRETION.

TYPE	SYMBOL	DESCRIPTION AND MANUFACTURER
60	LI	SOUTH LAKE TAHOE BELL STYLE LED ON SQUARE CONCRETE POLE. CUSTOM RAL COLOR. (BLACK GREEN). TYPE 2 OPTICS SEE DETAIL A/E7. LAMP: LED, 4000K VOLTAGE: 240V MANUFACTURER: CYCLONE SY2IPI-FSG-2M-60W-4K-240--DS-SM-CP3670 SUBSTITUTIONS: ○ OR EQUAL ○ SUBJECT TO REVIEW ◉ NO EQUAL

LIGHTING SYSTEM FOOTCANDLE LEVELS ARE BASED ON THE UTILIZATION OF STANDARD REFLECTANCES OF 80-50-20 (CEILING-WALL-FLOOR) PER I.E.S. (ILLUMINATED ENGINEERING SOCIETY). THE ROOM SURFACES ARE USED AS AN INTEGRAL COMPONENT OF THE LIGHTING SYSTEMS. THE REFLECTANCE OF THE SURFACE PAINT COLOR, MATERIAL, AND OTHER ROOM SURFACES, DIRECTLY AFFECTS THE DELIVERY OF LIGHT TO THE WORK PLANE. A SIGNIFICANT DROP IN OVERALL LIGHTING LEVELS WILL OCCUR IF REFLECTANCES ARE LOWERED. THE ARCHITECT/OWNER SHALL NOTIFY THE ENGINEER IMMEDIATELY IF FINISHES DO NOT FALL INLINE WITH THE REFLECTANCES MENTIONED ABOVE.

ELECTRICAL LEGEND

AUGUST 2011

- PANELBOARD: SURFACE MOUNTED
- PANELBOARD: FLUSH MOUNTED
- SWITCHBOARD OR DISTRIBUTION PANEL
- XF TRANSFORMER
- PULLBOX / VAULT
- MOTOR STARTER
- COMBINATION MOTOR STARTER
- COMBINATION MOTOR STARTER PROVIDED BY OTHERS
- F DISCONNECT SWITCH - FUSIBLE (FUSED PER EQUIP. NAMEPLATE)
- N DISCONNECT SWITCH - NON-FUSIBLE
- DISCONNECT SWITCH PROVIDED BY OTHERS
- VARIABLE FREQUENCY DRIVE
- VARIABLE FREQUENCY DRIVE PROVIDED BY OTHERS
- GB ENCLOSED CIRCUIT BREAKER
- GROUND ROD
- SHUNT TRIP STATION OR EMERGENCY PUSHBUTTON
- M REMOTE METER

- S SINGLE POLE SWITCH 48" AFF (UNO)
- S_3 THREE WAY SWITCH 48" AFF (UNO)
- S_4 FOUR WAY SWITCH 48" AFF (UNO)
- S_K KEY OPERATED SWITCH 48" AFF (UNO)
- S_L SWITCH WITH LIGHTED HANDLE
- S_M MANUAL MOTOR STARTER
- S_P SWITCH WITH PILOT LIGHT 48" AFF (UNO)
- S_T TIME WALL SWITCH 48" AFF (UNO)
- D DIMMER OPERATED SWITCH 48" AFF (UNO)
- OCCUPANCY SENSOR - WALL MOUNTED 48" AFF (UNO)
- OS = 360°
- OS = 180°
- OS = 90°

  OCCUPANCY SENSOR - CEILING MOUNTED. ARROWS INDICATE COVERAGE, DIRECTION & PATTERN. PROVIDE WITH POWER PACK PER MFG REQUIREMENTS.
- CONTROL STATION
- CONTACTOR OR RELAY
- PC PHOTOELECTRIC CELL (ON ROOF FACING NORTH UNO)
- TC TIMECLOCK

- CONDUIT/RACEWAY IN WALL OR ABOVE CEILING
- CONDUIT/RACEWAY BELOW GRADE OR BELOW FLOOR
- CONDUIT/RACEWAY UP
- CONDUIT/RACEWAY DOWN
- BREAK OR RUN CONTINUES
- —OH— OVERHEAD SERVICE
- — P — PRIMARY
- — S — SECONDARY
- — C — COMMUNICATIONS OR SIGNAL
- — T — TELEPHONE
- —TV— TELEVISION
- — • — LOW VOLTAGE AND/OR CONTROL WIRING
- –✳–✳– EMERGENCY CIRCUIT
- CONDUIT/RACEWAY STUB OUT: MARK AND CAP (SITE)
- CONDUIT/RACEWAY SLEEVE

- SINGLE RECEPTACLE: 20A, 125V, NEMA 5-20, +18" AFF (UNO)
- DUPLEX RECEPTACLE: 20A, 125V, NEMA 5-20, +18" AFF (UNO)
- DUPLEX RECEPTACLE: HALF SWITCHED
- DUPLEX RECEPTACLE: FLOOR MOUNTED
- QUAD RECEPTACLE: 20A, 125V, NEMA 5-20, +18" AFF (UNO)
- QUAD RECEPTACLE: FLOOR MOUNTED
- ISOLATED GROUND TYPE RECEPTACLE (ORANGE TRIANGLE) - 20A, 125V, NEMA 5-20IG, +18" AFF (UNO)
- DUPLEX RECEPTACLE GFI TYPE - 20A, 125V, NEMA 5-20 GFI +18" AFF (UNO)
- DUPLEX RECEPTACLE: ABOVE COUNTER (VERIFY HEIGHT)
- SPECIAL PURPOSE RECEPT.: SEE DWGS FOR NEMA CONFIG.
- DUPLEX RECEPTACLE: CEILING MOUNTED
- MULTI-OUTLET ASSEMBLY: SPACING PER DWGS

- DATA / VOICE OUTLET: 18" AFF (UNO) - 1 VOICE, 1 DATA JACK, 2 BLANKS
- DATA / VOICE OUTLET: FLOOR MOUNTED
- DATA / VOICE OUTLET: ABOVE COUNTER (VERIFY HEIGHT)
- MULTI-OUTLET ASSEMBLY: SPACING PER DWGS
- TELEPHONE OUTLET: 18" AFF (UNO)
- DATA OUTLET: 18" AFF (UNO)
- S SPEAKER
- TV TELEVISION OUTLET: 18" AFF (UNO)
- TELEPHONE TERMINAL BOARD (TTB)
- VC VOLUME CONTROL
- GROUNDING BAR

- a b LIGHTING FIXTURE - LOWERCASE LETTER DENOTES SWITCHING (a = CENTER LAMP, b = OUTER LAMPS)
- WALL MOUNTED FIXTURE
- RECESSED DOWNLIGHT
- SURFACE LUMINAIRE
- POLE MOUNTED LIGHT (# OF HEADS INDICATED ON DRAWING)
- FLUORESCENT STRIP FIXTURE
- BOLLARD
- RECESSED DOWNLIGHT (WALL WASH)
- TRACK LIGHTING
- EMERGENCY LIGHTING UNIT
- EXIT SIGN FIXTURE - SHADED AREA DENOTES LIGHTED FACE - ARROWS DENOTE DIRECTION
- EMERGENCY FIXTURE

- T THERMOSTAT (PROVIDED BY MECH. CONTRACTOR UNO)
- J JUNCTION BOX (SIZE AS REQUIRED UNO)
- 3 SHEET NOTE DESIGNATION
- FI FIXTURE DESIGNATION: FI=TYPE (SEE FIXTURE SCH.)
- 3 REVISION DELTA: NUMBER REPRESENTS REVISION
- 1255 FEEDER DESIGNATION
- AHU 2 EQUIPMENT CONNECTION

20	SINGLE POLE CIRCUIT BREAKER
20/2	TWO POLE CIRCUIT BREAKER
20/3	THREE POLE CIRCUIT BREAKER
20A	ARC FAULT CIRCUIT BREAKER
20C	CONTROLLABLE CIRCUIT BREAKER
20G	GFI CIRCUIT BREAKER

L	= LIGHTING
R	= RECEPTACLES
E	= EQUIPMENT
M	= MOTOR
MI	= LARGEST MOTOR
K	= KITCHEN EQUIP
H	= ELECTRIC HEAT

- GFI GROUND FAULT INTERRUPTER DEVICE
- M METERING DEVICE
- M REMOTE METER
- ST SHUNT TRIP DEVICE
- TRANSFORMER
- CURRENT TRANSFORMER
- G GENERATOR
- # MOTOR - # INDICATES HP
- INTERRUPTER SWITCH
- GFI GROUND FAULT RELAY W/ CT OR SENSOR
- FUSE
- CIRCUIT BREAKER
- DRAWOUT CIRCUIT BREAKER
- A B TRANSFER SWITCH (A=AUTOMATIC, M=MANUAL) # FOR POLES 2, 3 OR 4
- SPD SURGE PROTECTION DEVICE

- NORMALLY OPEN (NO) CONTACT
- NORMALLY CLOSED (NC) CONTACT
- C COIL - VOLTAGE PER CONTROL DIAGRAMS
- R PILOT LIGHT (LED) PUSH-TO-TEST. LETTER INDICATES COLOR (R=RED, G=GREEN, A=AMBER, Y=YELLOW)
- R PILOT LIGHT (LED) NON PUSH-TO-TEST
- THERMAL OVERLOAD
- MAGNETIC OVERLOAD
- PUSH BUTTON NORMALLY OPEN (NO)
- PUSH BUTTON NORMALLY CLOSED (NC)
- O H A HAND-OFF-AUTO (HOA) SELECTOR SWITCH
- LIMIT SWITCH NORMALLY OPEN (NO)
- LIMIT SWITCH NORMALLY CLOSED (NC)
- R PUSH BUTTON ILLUMINATED (LED)

- TICS = NO. OF #12 WIRES (UNO) IF MORE THAN TWO WITHIN RACEWAY. GROUNDING CONDUCTOR (NOT SHOWN) ALWAYS REQUIRED.
  - ISOLATED GROUNDING CONDUCTOR
  - NEUTRAL CONDUCTOR
  - PHASE CONDUCTOR(S)
- BRANCH CIRCUIT (WHEN TIC MARKS ARE NOT SHOWN) = (1) PHASE, (1) NEUTRAL AND (1) GROUNDING CONDUCTOR
- HOMERUN TO PANELBOARD OR DEVICE
- HA-(1,3,5,3N)G HOMERUN CIRCUIT DESIGNATION
  - GROUNDING CONDUCTOR
  - NEUTRAL CONDUCTOR (N=1, 2N=2 NEUTRALS, 3N=3 NEUTRALS)
  - PHASE CONDUCTOR(S)
  - PANELBOARD DESIGNATION
- HA-(1,3,5)G HOMERUN CIRCUIT DESIGNATION (3 PHASE CIRCUIT SHOWN)
  - GROUNDING CONDUCTOR
  - PHASE CONDUCTOR(S)
  - PANELBOARD DESIGNATION

A	AMPS
ADA	AMERICANS WITH DISABILITIES ACT
AFC	ABOVE FINISHED CEILING
AFCI	ARC-FAULT CIRCUIT INTERRUPTER
AFF	ABOVE FINISHED FLOOR
AFG	ABOVE FINISHED GRADE
AHJ	AUTHORITY HAVING JURISDICTION
AIC	AMP INTERRUPTING CAPACITY
AL	ALUMINUM
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BC	BARE COPPER
BKR	BREAKER
C	CONDUIT/RACEWAY
CEC	CALIFORNIA ENERGY COMMISSION
CKT	CIRCUIT
CLG	CEILING
CO	CONDUIT/RACEWAY ONLY
CT	CURRENT TRANSFORMER
CU	COPPER
DB	DISTRIBUTION BOARD
DDC	DIRECT DIGITAL CONTROLLER
DPDT	DOUBLE-POLE, DOUBLE-THROW
DPST	DOUBLE-POLE, SINGLE-THROW
DWG	DRAWING
(E)	EXISTING TO REMAIN
ELEC	ELECTRICAL
EM	EMERGENCY
EMT	ELECTRICAL METALLIC TUBING
(F)	FUTURE
FLA	FULL LOAD AMPS
FMC	FLEXIBLE METAL CONDUIT (STEEL)
FPEN	FUSE PER EQUIP. NAMEPLATE
GFI	GROUND FAULT INTERRUPT
GFR	GROUND FAULT RELAY
GND	GROUND
HID	HIGH INTENSITY DISCHARGE
HOA	HAND-OFF-AUTO SWITCH
HP	HORSEPOWER
HSKP	HOUSEKEEPING
IMC	INTERMEDIATE METAL CONDUIT
J-BOX	JUNCTION BOX
K	kcmil (300K = 300 kcmil)
KVA	KILOVOLT AMPS
KW	KILOWATT
LTG	LIGHTING
IG	ISOLATED GROUND
MCB	MAIN CIRCUIT BREAKER
MCM	THOUSAND CIRCULAR MILS
MFG	MANUFACTURER
MLO	MAIN LUGS ONLY
MS	MOTOR STARTER
MSB	MAIN SWITCHBOARD
MTS	MANUAL TRANSFER SWITCH
NC	NORMALLY CLOSED
NEC	NATIONAL ELECTRICAL CODE
NEMA	NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION
NIC	NOT IN CONTRACT
NL	NIGHTLIGHT
NO	NORMALLY OPEN
NTS	NOT TO SCALE
NVE	NV ENERGY
P	POLE
PH/Φ	PHASE
PV	PHOTOVOLTAIC
PNL	PANEL
PTC	PV USA TEST CONDITIONS
PWR	POWER
(R)	RELOCATED
RAC	RIGID ALUMINUM CONDUIT
RFC	RIGID FIBERGLASS CONDUIT
RSC	RIGID STEEL CONDUIT
SE	SERVICE ENTRANCE
SPD	SURGE PROTECTION DEVICE
SPDT	SINGLE-POLE, DOUBLE-THROW
SPST	SINGLE-POLE, SINGLE-THROW
STC	STANDARD TEST CONDITIONS
SW	SWITCH
TE	TELECOM
TTB	TELEPHONE TERMINATION BOARD
TYP	TYPICAL
UL	UNDERWRITER'S LABORATORY
UNO	UNLESS NOTED OTHERWISE
UNSW	UNSWITCHED
UPS	UNINTERRUPTED POWER SUPPLY
V	VOLTS
VA	VOLT AMPS
VFD	VARIABLE FREQUENCY DRIVE
W	WATTS
WP	WEATHER PROOF
(X)	EXISTING TO BE REMOVED
XFMR OR XF	TRANSFORMER

NOTE: THIS IS A MASTER SYMBOL LIST. IT MAY BE THAT NOT ALL SYMBOLS SHOWN ARE USED WITHIN THIS SET OF PLANS. HEIGHTS GIVEN ARE TO CENTER LINE OF DEVICE.

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ELEC SYMBOLS & FIXTURE SCHEDULE
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CALIFORNIA

#	DATE	DESCRIPTION	BY

PRELIMINARY NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	PKE
DESIGNED	BD/NA
CHECKED	KDP
PROJECT #	E317202700

SHEET TITLE: LIGHTING PLANS

SHEET NUMBER: E1

LAND USE # N/A

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SECTION 260000 ELECTRICAL SPECIFICATIONS

PART 1 - GENERAL

1.1 <u>SUMMARY</u>
- THE WORK UNDER THIS DIVISION SHALL CONSIST OF ALL LABOR, MATERIALS, EQUIPMENT, SERVICES AND RELATED ACCESSORIES, ETC. NECESSARY AND REQUIRED TO COMPLETE ALL WORK AS SHOWN OR INFERRED ON THE DRAWINGS AND IN THE SPECIFICATIONS (CONTRACT DOCUMENTS).
- PROVIDE FIXED ELECTRICAL EQUIPMENT, EXCEPT WHERE SPECIFICALLY NOTED OTHERWISE.
- PROVIDE EQUIPMENT AND/OR WIRING NORMALLY FURNISHED OR REQUIRED FOR COMPLETE ELECTRICAL SYSTEMS BUT NOT SPECIFICALLY SPECIFIED ON THE DRAWINGS AND/OR IN SPECIFICATIONS, AS THOUGH SPECIFIED BY BOTH.
- ALL EQUIPMENT AND WIRING SHALL BE NEW, EXCEPT WHERE SPECIFICALLY SHOWN OR SPECIFIED OTHERWISE.

1.2 <u>RELATED WORK SPECIFIED ELSEWHERE</u>
COORDINATION: THE CIVIL, AND LANDSCAPE DRAWINGS CONTAIN DETAIL DESCRIPTIONS, CIRCUITING AND CONNECTION REQUIREMENTS WHICH ARE PART OF DIVISION 26 RESPONSIBILITIES. ELECTRICAL CONTRACTOR SHOULD NOT SUBMIT BIDS ON THIS PROJECT BEFORE REVIEWING ALL PROJECT DRAWINGS, SPECIFICATIONS AND ADDENDA.

1.3 <u>STANDARDS AND CODES</u>: ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE 2014 EDITION OF THE NATIONAL ELECTRICAL CODE (NEC), AS WELL AS IN ACCORDANCE WITH STATE OF CALIFORNIA CODE OF REGULATIONS TITLE 24 BUILDING STANDARDS, INCLUDING THE FOLLOWING:
- CALIFORNIA CODE OF REGULATIONS (C.C.R.), TITLE 24 - A PORTION OF CALIFORNIA BUILDING STANDARDS CODE, INCLUDING THE FOLLOWING PARTS:
- 2016 CALIFORNIA BUILDING CODE (C.B.C.); INCORPORATING BY REFERENCE THE 2012 INTERNATIONAL BUILDING CODE, WITH CALIFORNIA AMENDMENTS - TITLE 24, PART 2, C.C.R.
- 2016 CALIFORNIA ELECTRICAL CODE: INCORPORATING BY REFERENCE THE 2011 NATIONAL ELECTRICAL CODE, WITH CALIFORNIA AMENDMENTS - TITLE 24, PART 3, C.C.R.
- 2016 CALIFORNIA FIRE CODE: INCORPORATING BY REFERENCE THE 2012 INTERNATIONAL FIRE CODE, WITH CALIFORNIA AMENDMENTS - TITLE 24, PART 9, C.C.R.
- CALIFORNIA CODE OF REGULATIONS (C.C.R.), TITLE 22 - SOCIAL SECURITY, DIVISION 5 - LICENSING AND CERTIFICATION OF HEALTH FACILITIES, HOME HEALTH AGENCIES, CLINICS, AND REFERRAL AGENCIES (INCLUDING LATEST AMENDMENTS).
- CALIFORNIA CODE OF REGULATIONS (C.C.R.), TITLE 8 - INDUSTRIAL RELATIONS, SUBCHAPTER 4, CONSTRUCTION SAFETY ORDERS.
- CALIFORNIA CODE OF REGULATIONS (C.C.R.), TITLE 19 - PUBLIC SAFETY VOLUME 25, ARTICLE 14, SECTION 18958, HEALTH AND SAFETY CODE.
- LATEST CALTRANS ADOPTED STANDARDS.
- LATEST CITY OF SOUTH LAKE TAHOE LOCAL ORDINANCES.
- LATEST TAHOE REGIONAL PLANNING AGENCY ORDINANCES.

THIS DOES NOT RELIEVE THE CONTRACTOR FROM FURNISHING AND INSTALLING WORK SHOWN OR SPECIFIED WHICH MAY EXCEED THE REQUIREMENTS OF SUCH ORDINANCES, LAWS, REGULATIONS AND CODES.

1.4 <u>DEFINITIONS</u>

PROVIDE	FURNISH, INSTALL, CONNECT AND TEST UNTIL COMPLETE
WIRE	FURNISH ALL NECESSARY WIRING, CONNECT AND TEST UNTIL COMPLETE
INSTALL	FURNISH, SET IN PLACE, WIRE AND TEST UNTIL COMPLETE
WORK	MATERIALS COMPLETELY INSTALLED, CONNECTED, AND TESTED UNTIL COMPLETE
EQUAL	ACCEPTABLE EQUAL AS DETERMINED BY THE ENGINEER

1.5 <u>REQUIREMENTS OF REGULATORY AGENCIES</u>
- OBTAIN AND PAY FOR ALL PERMITS AND INSPECTIONS REQUIRED FOR THE WORK. COMPLY WITH ALL ORDINANCES PERTAINING TO WORK DESCRIBED HEREIN. PAY ALL EXPENSES ARISING FROM THE PROCUREMENT OF THESE CERTIFICATES AND INCLUDE IN THE BASE CONTRACT PRICE.
- INSTALL WORK UNDER THIS DIVISION PER DRAWINGS, SPECIFICATIONS, LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE, (NFPA-70) INCLUDING LOCAL AMENDMENTS AND INTERPRETATIONS, LOCAL ADOPTED BUILDING CODES, AND ANY SPECIAL CODES HAVING JURISDICTION OVER SPECIFIC PORTIONS OF WORK WITHIN COMPLETE INSTALLATION. IN EVENT OF CONFLICT, INSTALL WORK PER MOST STRINGENT CODE REQUIREMENTS DETERMINED BY ENGINEER. THIS DOES NOT RELIEVE THE CONTRACTOR FROM FURNISHING AND INSTALLING WORK SHOWN OR SPECIFIED WHICH MAY EXCEED THE REQUIREMENTS OF SUCH ORDINANCES, LAWS, REGULATIONS AND CODES.
- ALL MATERIALS, PRODUCTS, DEVICES, FIXTURES, FORMS OR TYPES OF CONSTRUCTION INCLUDED IN THIS PROJECT SHALL MEET OR EXCEED THE PUBLISHED REQUIREMENTS OF NATIONAL ELECTRICAL CODE (NEC), AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI), INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) AND NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATIONS (NEMA). ALL EQUIPMENT SHALL BEAR THE UNDERWRITER'S LABORATORIES (UL) LABEL OR EQUIVALENT FROM APPROVED INDEPENDENT TESTING LABORATORY.
- ARRANGE, PAY FEES FOR AND COMPLETE WORK TO PASS REQUIRED TESTS BY AGENCIES HAVING AUTHORITY OVER WORK. DELIVER TO ENGINEER COPIES OF THE CERTIFICATES OF INSPECTION AND APPROVAL ISSUED BY AUTHORITIES AND PROVIDE ORIGINAL COPY OF EACH CERTIFICATE TO OWNER.
- WHEN REQUIRED BY LAW OR REGULATIONS, THE GOVERNMENTAL AGENCY HAVING JURISDICTION FOR INSPECTIONS SHALL BE GIVEN REASONABLE NOTICE AND OPPORTUNITY TO INSPECT THE WORK. ANY WORK THAT IS ENCLOSED OR COVERED UP BEFORE SUCH INSPECTION AND TEST SHALL BE UNCOVERED AT THE CONTRACTOR'S EXPENSE; AFTER IT HAS BEEN INSPECTED, THE CONTRACTOR SHALL RESTORE THE WORK TO ITS ORIGINAL CONDITION AT HIS OWN EXPENSE.

1.6 <u>DRAWINGS AND SPECIFICATIONS</u>
- DRAWINGS AND SPECIFICATIONS ARE COMPLEMENTARY. WORK CALLED FOR BY ONE IS BINDING AS IF CALLED FOR BY BOTH. ANY DISCREPANCIES BETWEEN DRAWINGS AND SPECIFICATIONS SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR CLARIFICATION DURING THE BIDDING PERIOD. NO ALLOWANCE SHALL SUBSEQUENTLY BE MADE TO THE CONTRACTOR BY REASON OF HIS FAILURE TO HAVE BROUGHT SAID DISCREPANCIES TO THE ATTENTION OF THE CONSULTANT DURING THE BIDDING PERIOD OR BY REASON OF ANY ERROR ON THE CONTRACTOR'S PART.
- DRAWINGS ARE SCHEMATIC AND DIAGRAMMATIC IN NATURE. DRAWINGS SHOW GENERAL RUN OF CIRCUITS AND APPROXIMATE LOCATION OF EQUIPMENT. THE CONTRACTOR SHALL REVIEW DRAWINGS OF ALL TRADES TO ASSURE COORDINATION PRIOR TO PLACEMENT OF WORK. RIGHT IS RESERVED TO CHANGE LOCATION OF EQUIPMENT AND DEVICES, AND ROUTING OF CONDUITS WITHIN 10 FEET, WITHOUT EXTRA COST TO OWNER (PRIOR TO ROUGH-IN).
- USE DIMENSIONS IN FIGURES, SHOP DRAWINGS, ETC. AND ACTUAL SITE MEASUREMENTS IN PREFERENCE TO SCALED DIMENSIONS. DO NOT SCALE DRAWINGS FOR EXACT SIZES OR LOCATIONS - USE DIMENSIONED DETAILS OR ACTUAL FIELD CONDITIONS. VERIFY ITEM MOUNTING HEIGHTS AS REQUIRED BY PROJECT CONDITIONS PRIOR TO ROUGH-IN.
- THE CIVIL DRAWINGS SHALL TAKE PRECEDENCE OVER ALL OTHER DRAWINGS IN MATTERS OF DIMENSIONS. DISCREPANCIES BETWEEN DIFFERENT DRAWINGS OR BETWEEN DRAWINGS AND SPECIFICATIONS, OR REGULATIONS AND CODES GOVERNING THE INSTALLATION SHALL BE BROUGHT TO THE ATTENTION OF THE ENGINEER IN WRITING FOR DETERMINATION.
- LAYOUT EQUIPMENT AS SHOWN ON DRAWINGS AS CLOSE AS POSSIBLE. VERIFY ACCESS REQUIREMENTS FOR EQUIPMENT ACTUALLY FURNISHED,AND ADJUST LAYOUT TO COMPLY WITH NEC 110. RIGHT IS RESERVED TO CHANGE LAYOUT WITHIN 10 FEET WITHOUT ADDITIONAL COST (PRIOR TO ROUGH-IN).
- EXECUTION OF CONTRACT IS EVIDENCE THAT CONTRACTOR HAS EXAMINED ALL EXISTING CONDITIONS, DRAWINGS AND SPECIFICATIONS RELATED TO WORK, AND IS INFORMED AS TO EXTENT AND CHARACTER OF WORK. LATER CLAIMS FOR LABOR AND MATERIALS REQUIRED DUE TO DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD EXAMINATION BEEN MADE, WILL NOT BE RECOGNIZED.
- ALL WORK CALLED FOR IN THIS SECTION OF THE PLANS AND SPECIFICATIONS SHALL BE PERFORMED UNDER THIS SECTION, REGARDLESS OF WHETHER SUCH WORK MAY ALSO HAVE BEEN CALLED FOR IN OTHER SECTION(S). DISCREPANCIES IN OR CONFLICTS AMONG THE VARIOUS PARTS OF THE CONTRACT DRAWINGS SHALL NOT RELIEVE CONTRACTOR OF HIS OBLIGATION TO PERFORM.
- CHARGES FOR EXTRA WORK ARE NOT ALLOWED UNLESS WORK IS AUTHORIZED BY WRITTEN ORDER FROM THE OWNER'S REPRESENTATIVE APPROVING CHARGES FOR WORK.
- CHECK ALL DOOR SWINGS SO LIGHTING CONTROL DEVICES ARE NOT LOCATED BEHIND DOORS. RELOCATE DEVICES AS REQUIRED WITH THE CONSULTANT'S REVIEW.

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1.8 <u>SUBMITTALS</u>
BEFORE ORDERING ANY EQUIPMENT, CONTRACTOR SHALL SUBMIT ELECTRONIC COPIES OF FACTORY SHOP DRAWINGS FOR ALL LIGHTING FIXTURES, LIGHTING CONTROLS, SWITCHGEAR, PANELS, CIRCUIT BREAKERS, MOTOR CONTROLLERS, DISCONNECTS WIRING DEVICES, PLATES, RACEWAYS AND FITTINGS, ETC. PROPOSED FOR THIS PROJECT.

1.9 <u>SUBSTITUTIONS</u>
PROPOSED SUBSTITUTIONS SHALL BE EQUAL OR SUPERIOR TO SPECIFIED ITEMS IN ALL RESPECTS. DETERMINATION OF EQUALITY RESTS SOLELY WITH ENGINEER. SUBSTITUTIONS MUST BE SUBMITTED A MINIMUM OF 10 WORKING DAYS PRIOR TO BID FOR CONSIDERATION. PROPOSED SUBSTITUTIONS PROVIDED LATER WILL NOT BE REVIEWED OR ALLOWED. BID SUBSTITUTED MATERIAL WILL ONLY BE ALLOWED IF ACCEPTED IN WRITING BY ENGINEER.

1.10 <u>EXAMINATION OF SITE AND EXISTING CONDITIONS</u>
BEFORE SUBMITTING A PROPOSAL, CONTRACTOR SHALL EXAMINE THE SITE AND FAMILIARIZE HIMSELF WITH THE EXISTING CONDITIONS AND LIMITATIONS. NO EXTRAS WILL BE ALLOWED BECAUSE OF THE CONTRACTOR'S MISUNDERSTANDING OF THE AMOUNT OF WORK INVOLVED OR HIS LACK OF KNOWLEDGE OF ANY SITE CONDITIONS WHICH MAY AFFECT HIS WORK. ANY APPARENT VARIANCE OF THE DRAWINGS OR SPECIFICATIONS FROM THE EXISTING CONDITIONS AT THE SITE SHALL BE CALLED TO ATTENTION OF THE ENGINEER BEFORE SUBMITTING A PROPOSAL.

PART 2 - PRODUCTS

2.1 <u>MATERIALS</u>
- ALL MATERIAL SHALL BE NEW, AND HAVE A UL LABEL WHERE AVAILABLE. IF UL LABEL IS NOT AVAILABLE, MATERIAL SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE NEMA, IEEE AND FEDERAL STANDARDS. USE UL LABELED COMPONENTS IN ASSEMBLIES THAT DO NOT HAVE OVERALL UL LABEL. ALL EQUIPMENT SHALL COMPLY WITH THE TERMS "LISTED AND LABELED" AS DEFINED IN THE NEC 70, ARTICLE 100. SUBMIT LETTER STATING COMPLIANCE WITH THESE REQUIREMENTS.
- UTILIZE ONE OF THE MANUFACTURERS LISTED TO FURNISH ALL OF THE MAJOR EQUIPMENT (I.E. PANELS, TRANSFORMERS, BUS DUCT, SWITCHGEAR, CIRCUIT BREAKERS, ETC.) REQUIRED FOR THIS PROJECT.
- ALL MATERIAL AND EQUIPMENT SHALL BE NEW AND OF THE HIGHEST QUALITY AVAILABLE ("SPECIFICATION GRADE"). SERVICE EQUIPMENT SHALL BE FACTORY-ASSEMBLED COMMERCIAL-GRADE, CONFIGURED PER SERVING UTILITY STANDARDS. WIRING DEVICES SHALL BE SPECIFICATION GRADE WITH NYLON PLATES, WHITE UNLESS OTHERWISE NOTED, RAISED STEEL BOX COVERS MAY BE USED IN UTILITY AREAS.
- ALL EQUIPMENT AND CIRCUITING ACCESSIBLE BY THE PUBLIC SHALL BE TAMPER-PROOF AND VANDAL RESISTANT. OPENABLE DEVICES AND EQUIPMENT SHALL BE PADLOCKABLE.

2.2 <u>DISTRIBUTION EQUIPMENT</u>
DISTRIBUTION EQUIPMENT SHALL BE DEAD-FRONT, PANELBOARD OR SWITCHBOARD TYPE AS INDICATED, UL-LABELED AND ENCLOSED IN A NEMA HOUSING APPROPRIATE TO ITS LOCATION AND APPLICATION WITH HINGED WIREWAY COVERS. BUSSING, DEVICE FINGERS AND LUGS SHALL BE COPPER UNLESS INDICATED ON DRAWINGS. AIC RATINGS SHOWN ON PLANS ARE MINIMUM RATINGS; CIRCUIT BREAKERS SHALL BE IN EXCESS OF THE AVAILABLE FAULT CURRENT. SERIES-RATING OF UPSTREAM AND DOWNSTREAM CIRCUIT BREAKERS TO ACHIEVE REQUIRED FAULT CURRENT RATINGS IS PROHIBITED UNLESS APPROVED BY ENGINEER IN WRITING.

2.3 <u>PANELBOARDS</u>
PANELS SHALL HAVE FLUSH MONO-FLAT TRIM, LOCKING DOOR-IN-DOOR HINGED COVERS AND BOLT-ON CIRCUIT BREAKERS. BUSSING SHALL BE COPPER UNLESS INDICATED ON DRAWINGS. FLUSH-MOUNTED PANELS SHALL HAVE EMPTY CONDUITS STUBBED TO ACCESSIBLE ATTIC SPACE: ONE 1" CONDUIT FOR EACH FOUR SPARE/SPACE CIRCUITS. PROVIDE ONE TYPED AND ONE SPARE PANEL SCHEDULE FOR OWNER'S USE. SCHEDULES SHALL BE TWO COLUMN TYPE WITH ODD CIRCUIT NUMBERS ON THE LEFT AND EVEN NUMBERS ON THE RIGHT.

2.4 <u>CIRCUITING</u>
ALL WIRING SHALL BE IN CONDUIT, CONCEALED EXCEPT WHERE NOTED. EMT WITH STEEL SET SCREW INSULATED-THROAT FITTINGS SHALL BE USED IN DRY, PROTECTED INTERIOR LOCATIONS. PVC SCHEDULE 40 SHALL BE USED BELOW GRADE AT MINIMUM-24". WRAPPED RIGID ELBOWS AND RISERS SHALL BE USED FOR ALL THROUGH-GRADE AND CONCRETE SLAB TRANSITIONS AND STUB-UPS. RGS OR IMC CONDUIT WITH THREADED FITTINGS SHALL BE USED IN ALL LOCATIONS WHERE EXPOSED TO THE ELEMENTS OR SUBJECT TO PHYSICAL DAMAGE. FMC, METAL CLAD CABLE (TYPE MC), ENT IS NOT ALLOWED. ALL CONDUIT SHALL HAVE PULL CORD IF OTHERWISE EMPTY.

2.5 <u>WIRING</u>
- WIRE SHALL BE COPPER UNLESS OTHERWISE INDICATED. MINIMUM WIRE SIZE SHALL BE #12 AWG. WHERE ALUMINUM IS NOTE ALLOWED,. INSULATION SHALL BE THWN OR THHN.
- UNLESS OTHERWISE REQUIRED BY LOCAL ORDINANCES, GROUND WIRES SHALL BE GREEN, NEUTRAL WIRES SHALL BE WHITE (120V) OR GREY (277V) AND PHASE WIRES SHALL BE BLACK (PHASE A), RED (PHASE B), AND BLUE (PHASE C) FOR A 120/208 VOLT SYSTEM AND BROWN (PHASE A), ORANGE (PHASE B), AND YELLOW (PHASE C) FOR A 277/480 VOLT SYSTEM.

PART 3 - EXECUTION

3.1 <u>VISIT TO SITE</u>
VISIT SITE, AND SURVEY EXISTING CONDITIONS AFFECTING WORK PRIOR TO BID. INCLUDE NECESSARY MATERIALS AND LABOR TO ACCOMPLISH THE ELECTRICAL WORK, INCLUDING RELOCATION OF EXISTING SERVICES AND UTILITIES ON BUILDING SITE IN BID. NO CONSIDERATION SHALL BE GIVEN TO FUTURE CLAIMS DUE TO EXISTING CONDITIONS. ANY DISCREPANCIES OR INTERFERENCES SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER.

3.2 <u>WORKMANSHIP</u>
- ALL WORK PERFORMED SHALL BE FIRST CLASS WORK IN EVERY ASPECT. THE WORK SHALL BE PERFORMED BY MECHANICS SKILLED IN THEIR RESPECTIVE TRADES, WHO SHALL AT ALL TIMES BE UNDER THE SUPERVISION OF COMPETENT PERSONS. ALL WORK SHALL BE INSTALLED TO COMPLY WITH NECA'S "STANDARD OF INSTALLATION."
- IN ADDITION TO THE MATERIALS SPECIFIED ELSEWHERE, FURNISH AND INSTALL ALL OTHER MISCELLANEOUS ITEMS NECESSARY FOR THE COMPLETION OF THE WORK TO THE EXTENT THAT ALL SYSTEMS ARE COMPLETE AND OPERATIVE.
- ALL WORK UNDER THIS SECTION SHALL BE PERFORMED IN COOPERATION WITH THE WORK PERFORMED UNDER ALL OTHER SECTIONS OF THE SPECIFICATIONS FOR THE PROJECT IN ORDER TO AVOID INTERFERENCE WITH OTHER WORK AND TO SECURE THE PROPER INSTALLATION OF ALL WORK. REFER THE DRAWINGS AND SPECIFICATIONS COVERING THE WORK TO BE PERFORMED UNDER ALL SECTIONS, SO THAT THE RELATION AND EXTENT OF THE WORK OF THIS SECTION WITH RESPECT TO THE WORK OF ALL OTHER SECTIONS IS UNDERSTOOD. GIVE RIGHT OF WAY TO RACEWAYS AND PIPING SYSTEMS INSTALLED AT A REQUIRED SLOPE.
- CONDUIT SYSTEMS MUST BE COMPLETE PRIOR TO INSTALLATION OF WIRING.

3.3 <u>CHANGE ORDERS</u>
- ADDITIONAL WORK MAY BE REQUIRED ON THE PROJECT WHICH IS OUTSIDE THE SCOPE OF THE CONTRACT. SUCH ADDITIONAL WORK WILL BE DESCRIBED IN SUPPLEMENTAL INSTRUCTIONS AND/OR CLARIFICATIONS, TO BE ESTIMATED AND PRICED BY THE CONTRACTOR, AND ACCEPTED BY THE OWNER, PRIOR TO COMMENCING WORK. PROPOSALS SHALL INCLUDE A LIST OF QUANTITIES OF ALL MATERIAL BEING USED WITH UNIT COSTS BROKEN DOWN INTO MATERIAL AND LABOR COSTS PER UNIT. CONTRACTOR SHALL PROVIDE ACTUAL EQUIPMENT QUOTES WHEN REQUESTED BY ENGINEER.
- MATERIAL COSTS AND LABOR UNITS SHALL NOT EXCEED THE LATEST EDITION OF RS MEANS ELECTRICAL COST DATA.

3.4 <u>GUARANTEE</u>
- FURNISH THE OWNER A WRITTEN GUARANTEE, STATING THAT IF THE WORKMANSHIP AND/OR MATERIAL EXECUTED UNDER THIS DIVISION IS PROVEN DEFECTIVE WITHIN (1) YEAR AFTER THE FINAL ACCEPTANCE BY THE OWNER, SUCH DEFECTS AND OTHER WORK DAMAGED WILL BE REPAIRED AND/OR REPLACED. SUBMIT WITH OPERATION AND MAINTENANCE MANUALS.
- OBTAIN FROM THE VARIOUS MANUFACTURERS OR VENDORS GUARANTEES OR WARRANTIES FOR THEIR PARTICULAR EQUIPMENT OR COMPONENTS, AND DELIVER THEM TO THE OWNER. ALL GUARANTEES AND WARRANTIES PROVIDED SHALL BE REFERENCED TO THIS PROJECT.
- IN EVENT THAT SYSTEMS ARE PLACED IN OPERATION IN SEVERAL PHASES AT THE OWNER'S REQUEST, GUARANTEE WILL BEGIN ON DATE EACH SYSTEM OR ITEM OF EQUIPMENT IS ACCEPTED FOR SERVICE BY THE OWNER. PROVIDE O&M MANUALS FOR ALL EQUIPMENT WHEN EQUIPMENT IS ACCEPTED FOR SERVICE BY THE OWNER.
- ALL GUARANTEES AND WARRANTIES SHALL INCLUDE LABOR AND MATERIAL AT THE SITE OF INSTALLATION FOR THE DURATION OF THE GUARANTEE PERIOD.

3.5 <u>OBSERVATIONS OF WORK AND DEMONSTRATION OF OPERATION (ACCEPTANCE)</u>
- AT ALL OBSERVATIONS OF WORK, OPEN PANEL COVERS, JUNCTION BOX COVERS, PULL BOX COVERS, DEVICE COVERS, AND OTHER EQUIPMENT WITH REMOVABLE PLATES FOR OBSERVATION AS REQUESTED BY AHJ OR ENGINEER. PROVIDE SUFFICIENT PERSONNEL TO EXPEDITE COVER REMOVAL AND REPLACEMENT.
- CONTRACTOR TO DEMONSTRATE OPERATION OF NEW EQUIPMENT AND/OR SYSTEMS TO SATISFACTION OF OWNER/ENGINEER. CONTRACTOR TO HAVE MANUFACTURER AVAILABLE FOR DEMONSTRATION OF EQUIPMENT AND/OR SYSTEMS WHERE REQUESTED BY OWNER/ENGINEER. FURNISH AFFIDAVIT SIGNED BY OWNER'S REPRESENTATIVE INDICATING THAT DEMONSTRATION OF OPERATION HAS BEEN PERFORMED.

3.6 <u>COOPERATION</u>
- CAREFULLY COORDINATE WORK WITH OTHER CONTRACTORS AND SUBCONTRACTORS. REFER CONFLICTS BETWEEN TRADES TO ENGINEER. PROVIDE NECESSARY INFORMATION TO OTHER TRADES FOR SUCH COORDINATION. SUCH INFORMATION SHALL INCLUDE SHOP DRAWINGS, PRODUCT DATA AND ALL OTHER REQUIRED DATA. PROVIDE A SYSTEM ERECTION/COORDINATION DRAWING SHOWING ELECTRICAL, DRY UTILTIES (POWER, PHONE, CABLE, ETC), AND WET UTILITIES (SEWER, WATER, GAS, ETC) FOR INSTALLATION IN CONGESTED AREAS, WHEN REQUESTED.
- WHENEVER SUCH INFORMATION IS NOT PROVIDED IN A TIMELY MANNER OR WHENEVER SUCH INFORMATION IS INCORRECT, THIS CONTRACTOR SHALL BEAR ALL COSTS FOR PROVIDING OR CORRECTING AFFECTED WORK OF RELATED TRADES WITH NO CHANGE TO THE CONTRACT PRICE OR CONSTRUCTION SCHEDULE.
- WORK TO BE INSTALLED AS PROGRESS OF PROJECT WILL ALLOW. SCHEDULE OF WORK DETERMINED BY GENERAL CONTRACTOR, OWNER, AND/OR ENGINEER.

3.7 <u>COORDINATION OF UTILITY SERVICES</u>
- DRAWINGS INDICATE PROPOSED SERVICE LAYOUTS. THE CONTRACTOR SHALL PROVIDE ALL CONCRETE STRUCTURES, PULLBOXES, VAULTS, TRENCHING, RACEWAYS, PROTECTIVE BOLLARDS, ETC., AS REQUIRED PER LOCAL ELECTRICAL UTILITY, TELEPHONE COMPANY AND CATV UTILITY STANDARDS.
- CONTRACTOR IS RESPONSIBLE FOR SUBMITTING PROJECT DRAWINGS, APPLICATION, AND EQUIPMENT SHOP DRAWINGS TO THE UTILITY. UTILITY FEES TO BE PAID BY PROJECT OWNER.

3.8 <u>DELIVERY, STORAGE AND HANDLING</u>
- DELIVER EQUIPMENT AND MATERIALS TO JOB SITE IN ORIGINAL, UNOPENED, LABELED CONTAINER. PRODUCTS SHALL BE PROPERLY IDENTIFIED WITH NAMES, MODEL NUMBERS, TYPES, GRADES, COMPLIANCE LABELS AND OTHER INFORMATION NEEDED FOR IDENTIFICATION. STORE TO PREVENT DAMAGE AND INJURY. STORE MATERIALS TO PREVENT CORRODING. STORE FINISHED MATERIALS AND EQUIPMENT TO PREVENT STAINING AND DISCOLORING. STORE MATERIALS AFFECTED BY CONDENSATION IN WARM DRY AREAS. PROVIDE HEATERS. CONTRACTOR SHALL VERIFY THE AVAILABILITY OF ON SITE STORAGE SPACE, IF NO ON SITE STORAGE SPACE IS AVAILABLE THEN THE CONTRACTOR SHALL COVER THE COST FOR OFF SITE STORAGE. MATERIALS STORED AT THE PROJECT SITE THAT BECOMES SOILED WITH CONSTRUCTION DIRT, CONCRETE, OR MOISTURE SHALL BE REMOVED FROM THE SITE AND REPLACED WITH NEW. DO NOT INSTALL SOILED MATERIAL.
- INSTALL EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS. CONFLICTS BETWEEN CONTRACT DOCUMENTS AND THESE RECOMMENDATIONS SHALL BE REFERRED TO ENGINEER FOR REMEDY.
- ELECTRICAL OR ELECTRONIC EQUIPMENT THAT HAS BEEN DAMAGED, EXPOSED TO WEATHER OR IS, IN THE OPINION OF THE ENGINEER, OTHERWISE UNSUITABLE BECAUSE OF IMPROPER FABRICATION, STORAGE OR INSTALLATION SHALL BE REMOVED AND REPLACED BY THIS CONTRACTOR AT HIS EXPENSE.

3.9 <u>ANCHORS</u>
- PROVIDE ANCHORS FOR ALL EQUIPMENT, RACEWAYS, HANGERS, ETC. TO SAFELY SUPPORT WEIGHT OF ITEM INVOLVED PLUS 100% FOR DEAD LOADS. LIVE LOADS SHALL BE CONSIDERED IN ADDITION TO DEAD LOADS.
- ANCHORS TO CONSIST OF EXPANSION TYPE DEVICES SIMILAR TO "REDHEAD" OR LEAD EXPANSION ANCHORS. PLASTIC ANCHORS ARE NOT ACCEPTABLE.
- USE PRESET ANCHOR STEEL INSERTS IN CONCRETE SLABS. PROVIDE PRESET ANCHOR SIZE AND TYPE FOR ANTICIPATED OR SPECIFIED ROD/BOLT SIZE AND LIVE/DEAD LOAD.

3.10 <u>HOUSEKEEPING PADS</u>
FURNISH 2500 # CONCRETE PADS, 4" HIGH (INTERIOR LOCATIONS) OR 6" HIGH (EXTERIOR LOCATIONS) UNLESS OTHERWISE NOTED, FOR ALL FREESTANDING EQUIPMENT, I.E. SWITCHBOARDS, PANELS, CONTROL PANELS, MOTOR CONTROL CENTERS, TRANSFORMERS, ETC. PADS SHALL HAVE 1" X 45° CHAMFERED EDGES, AND SHALL EXTEND 2" TO 4" BEYOND EQUIPMENT MOUNTINGS.

3.11 <u>CLEANING AND PAINTING</u>
- CLEAN EQUIPMENT FURNISHED IN THIS DIVISION AFTER COMPLETION OF WORK. CLEAN WIPE THE INTERIOR OF ALL CONDUIT, PULLBOXES, JUNCTION BOXES, OUTLET BOXES, AND PANELBOARD BACKBOXES SOILED WITH DIRT AND DEBRIS PRIOR TO INSTALLATION OF WIRING.
- TOUCH-UP OR RE-PAINT DAMAGED PAINTED FINISHES AS DETERMINED BY THE ENGINEER.

3.12 <u>RECORD DRAWINGS</u>
- CONTRACTOR SHALL PROVIDE, PRIOR TO FINAL ACCEPTANCE AND OBSERVATION, ONE-SET OF REVISED RECORD ELECTRICAL CONSTRUCTION DOCUMENTS ON REPRODUCIBLE MEDIUM. ALSO INCLUDE THE FOLLOWING INFORMATION:
  - EXACT ROUTING OF ALL CONDUITS LARGER THAN ONE INCH.
  - EXACT LOCATION OF ALL SERVICE GROUNDING/ BONDING CONNECTIONS.
  - CONTRACTORS NAME, ADDRESS, AND TELEPHONE NUMBER.
- RECORD NOTATIONS SHALL BE CLEARLY DRAWN AT A DRAFTING APPEARANCE EQUAL TO THE ORIGINAL DRAWINGS. CONTRACTOR SHALL ALSO PROVIDE ALL OPERATING AND MAINTENANCE MANUALS PRIOR TO FINAL PAYMENT.

3.13 <u>TESTING</u>
PRIOR TO PLACING IN SERVICES, ALL ELECTRICAL SYSTEMS SHALL BE TESTED FOR OPENS, GROUNDS, AND PHASE ROTATION. THE MAIN SERVICE GROUND AND ALL LOCAL TRANSFORMER MADE GROUNDS SHALL BE MEGGER-TESTED. PROVIDE GFI TESTING FOR SERVICE SWITCHBOARD.

3.14 <u>IDENTIFICATION</u>
- PROVIDE ENGRAVED NAMEPLATES FOR ALL SWITCHBOARDS, PANELS, TRANSFORMERS, DISCONNECTS, MOTOR STARTERS, CONTACTORS, TIME SWITCHES AND CABINETS. NAMEPLATES SHALL BE WHITE LETTERS ON BLACK FOR NORMAL EQUIPMENT AND WHITE LETTERS ON RED FOR EMERGENCY EQUIPMENT. NAMEPLATES SHALL INCLUDE THE FOLLOWING INFORMATION AS APPLICABLE:
  DESIGNATION (I.E. PANEL A); FUNCTION (I.E. AIR HANDLER AH-1); VOLTAGE, PHASE, WIRE (I.E. 480 VOLT, 3 PHASE, 4W); FEEDER SIZE (I.E. 4-#4/0 THWN CU IN 2" C); SOURCE (I.E. SWITCHBOARDS MSB).
- JUNCTION, PULL AND CONNECTION BOXES: IDENTIFICATION OF SYSTEMS AND CIRCUITS SHALL INDICATE SYSTEM VOLTAGE AND CONTAINED CIRCUITS ON OUTSIDE OF BOX COVER. USE SELF-ADHESIVE MARKING TAPE LABELS AT EXPOSED LOCATIONS AND INDELIBLE BLACK MARKER AT CONCEALED BOXES. ALL FIRE ALARM BOXES SHALL HAVE COVERS PAINTED RED. ALL TEMPERATURE CONTROL BOXES SHALL HAVE COVERS PAINTED BLUE.
- BRANCH CIRCUIT CONDUCTORS SHALL BE IDENTIFIED IN EACH JUNCTION BOX AND PULL BOX WITH WIRE MARKERS AS MANUFACTURED BY T&B, PANDUIT, 3M, OR IDEAL TO INDICATE PANEL/CIRCUIT NUMBER.
- JUNCTION BOX COVERS IN BRANCH CIRCUIT WIRING SHALL BE LABELED WITH PANEL AND CIRCUIT NUMBERS. JUNCTION BOX COVERS FOR SPECIAL SYSTEMS SHALL BE LABELED WITH SYSTEM NAME AND OTHER IDENTIFICATION AS DIRECTED; FOR EXAMPLE, "FIRE ALARM-ZONE 1". WHERE BOXES ARE INSTALLED FLUSH MOUNTED IN FINISHED AREAS OR SURFACE MOUNTED IN UNFINISHED AREAS, LABELING SHALL BE WITH ENGRAVED PLASTIC NAMEPLATE AS SPECIFIED HEREIN. WHERE BOXES ARE INSTALLED ABOVE ACCESSIBLE CEILINGS, LABELING MAY BE NEAT HAND WRITTEN LETTERING WITH INDELIBLE MARKER.
- DEVICE PLATES - SWITCHES AND RECEPTACLES: IDENTIFY THE PANELBOARD AND BRANCH CIRCUIT NUMBER FROM WHICH SERVED ON THE FRONT OF THE DEVICE PLATE WITH PERMANENT POLYESTER TAPE. LOCATE ALL LABELS AT THE BOTTOM OF THE PLATE IN THE SAME LOCATION THROUGHOUT.

3.15 <u>SALVAGE</u>
ALL EXISTING EQUIPMENT REMOVED DURING THE COURSE OF THIS PROJECT SHALL BE OFFERED TO OWNER FOR SALVAGE. ANY EQUIPMENT SELECTED BY OWNER SHALL BE DELIVERED TO OWNER ON SITE. ALL REMAINING EQUIPMENT BECOMES THE PROPERTY OF THIS CONTRACTOR AND SHALL BE REMOVED FROM THE SITE.

END OF SECTION 260000

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ELECTRICAL SPECIFICATIONS
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CALIFORNIA

#	DATE	DESCRIPTION	BY

PRELIMINARY NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	PKE
DESIGNED	BD/NA
CHECKED	KDP
PROJECT #	E317202700

SHEET TITLE
LIGHTING PLANS

SHEET NUMBER
E2

LAND USE # N/A

Plot Stamp: 2019-06-28 14:17:03 - Bryan Dageman
File: K:\2017\17180 - CSLT - Lake Tahoe Blvd Bike Trail\17180-E2.dwg, Tab: Plot - 22x34

SCALE: 1"=20'

20 10 0 20

SHEET NOTES

1	-

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LIGHTING PLAN 1
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CALIFORNIA

#	DATE	DESCRIPTION	BY

PRELIMINARY NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	PKE
DESIGNED	BD/NA
CHECKED	KDP
PROJECT #	E317202700

SHEET TITLE
LIGHTING PLANS

SHEET NUMBER
E3

LAND USE # N/A

Plot Stamp: 2019-06-28 14:17:10 - Bryan Dageman
File: K:\2017\17180 - CSLT - Lake Tahoe Blvd Bike Trail\17180-E3-E6.dwg, Tab: E3

SCALE: 1"=20'

20 10 0 20

SHEET NOTES

1	-

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LIGHTING PLAN 2
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CALIFORNIA

#	DATE	DESCRIPTION	BY

PRELIMINARY NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	PKE
DESIGNED	BD/NA
CHECKED	KDP
PROJECT #	E317202700

SHEET TITLE
LIGHTING PLANS

SHEET NUMBER
E4

LAND USE # N/A

Plot Stamp: 2019-06-28 14:17:11 - Bryan Dageman
File: K:\2017\17180 - CSLT - Lake Tahoe Blvd Bike Trail\17180-E3-E6.dwg, Tab: E4

SCALE: 1"=20'

20 10 0 20

SHEET NOTES

1	-

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LIGHTING PLAN 3
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CALIFORNIA

#	DATE	DESCRIPTION	BY

PRELIMINARY NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	PKE
DESIGNED	BD/NA
CHECKED	KDP
PROJECT #	E317202700

SHEET TITLE
LIGHTING PLANS

SHEET NUMBER
E5

LAND USE # N/A

Plot Stamp: 2019-06-28 14:17:12 - Bryan Dageman
File: K:\2017\17180 - CSLT - Lake Tahoe Blvd Bike Trail\17180-E3-E6.dwg, Tab: E5

SCALE: 1"=20'

20 10 0 20

SHEET NOTES

1 -

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LIGHTING PLAN 4

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE

SOUTH LAKE TAHOE, CALIFORNIA

#	DATE	DESCRIPTION	BY

PRELIMINARY NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	PKE
DESIGNED	BD/NA
CHECKED	KDP
PROJECT #	E317202700

SHEET TITLE
LIGHTING PLANS

SHEET NUMBER
E6

LAND USE # N/A

Plot Stamp: 2019-06-28 14:17:13 - Bryan Dagerman
File: K:\2017\17180 - CSLT - Lake Tahoe Blvd Bike Trail\17180-E5-E8.dwg, Tab: E6

SHEET NOTES

1	-

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LIGHTING PLAN 5
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CALIFORNIA

#	DATE	DESCRIPTION	BY

PRELIMINARY NOT FOR CONSTRUCTION

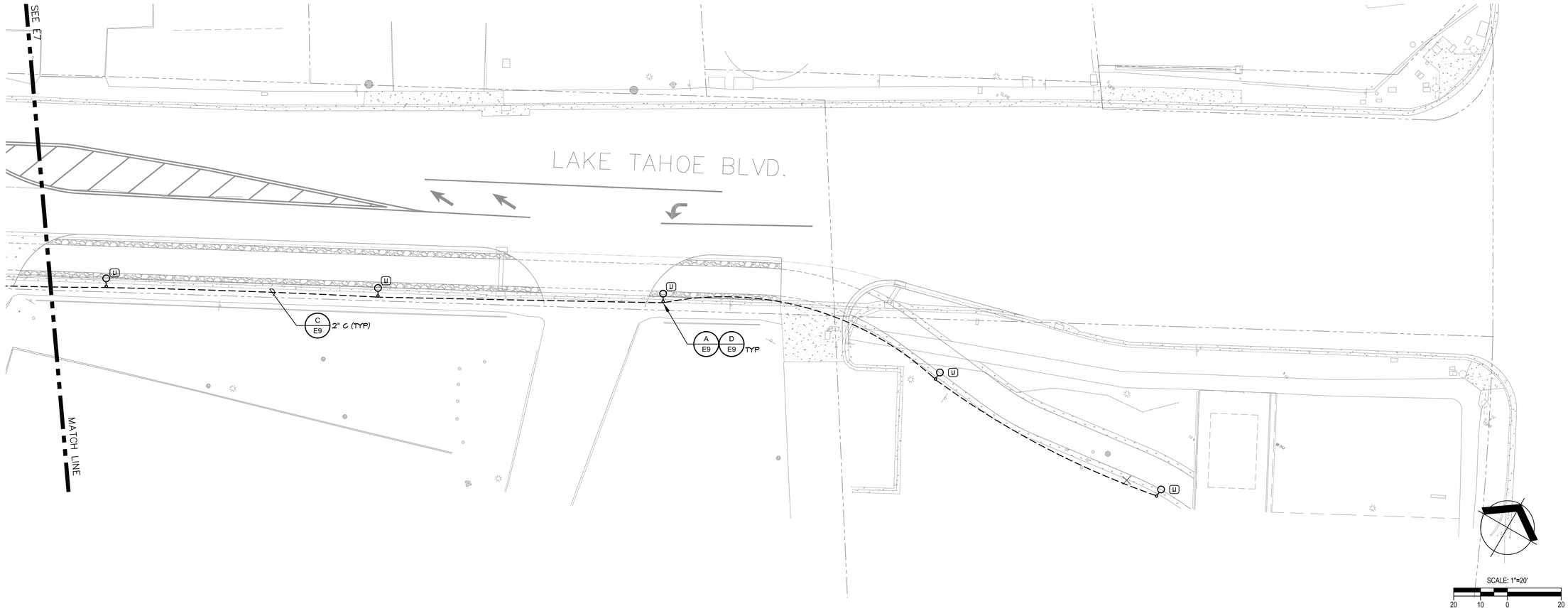
DATE	06/2019
DRAWN	PKE
DESIGNED	BD/NA
CHECKED	KDP
PROJECT #	E317202700

SHEET TITLE
LIGHTING PLANS

SHEET NUMBER
E7

LAND USE # N/A

Plot Stamp: 2019-06-28 14:17:14 - Bryan Dagerman
File: K:\2017\17180 - CSLT - Lake Tahoe Blvd Bike Trail\17180-E3-E8.dwg, Tab: E7



SHEET NOTES

1	-

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LIGHTING PLAN 6

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE

SOUTH LAKE TAHOE, CALIFORNIA

#	DATE	DESCRIPTION	BY

PRELIMINARY NOT FOR CONSTRUCTION

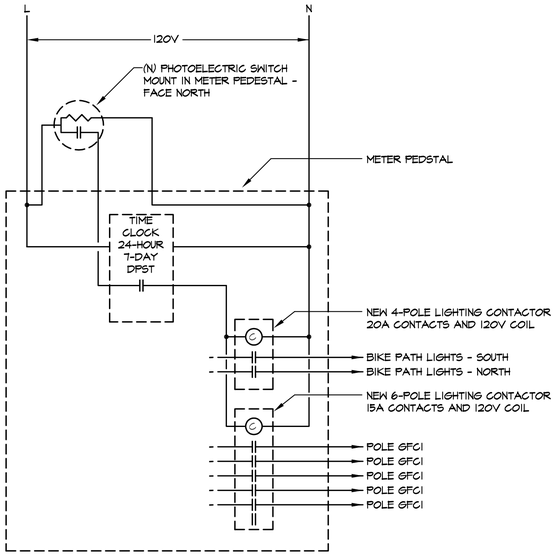
DATE	06/2019
DRAWN	PKE
DESIGNED	BD/NA
CHECKED	KDP
PROJECT #	E317202700

SHEET TITLE
LIGHTING PLANS

SHEET NUMBER
E8

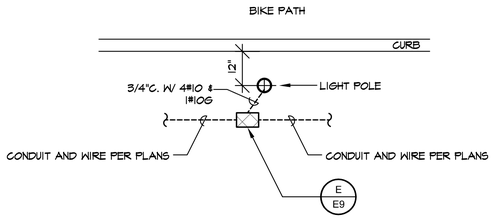
LAND USE # N/A

Plot Stamp: 2019-06-28 14:16:28 - Bryan Dageman
File: K:\2017\17180 - CSLT - Lake Tahoe Blvd Bike Trail\17180-E3-E8.dwg, Tab: E8



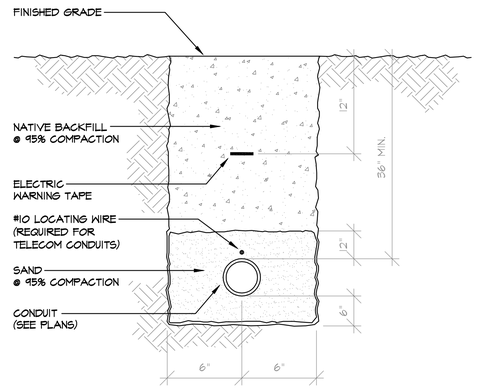
F E9 **LIGHTING CONTROL DETAIL**

SCALE: NONE



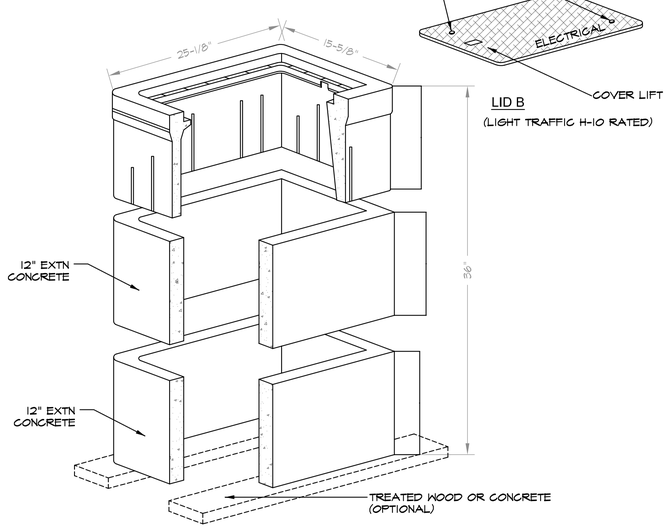
D E9 **TYPICAL LIGHT POLE INSTALLATION**

SCALE: NONE



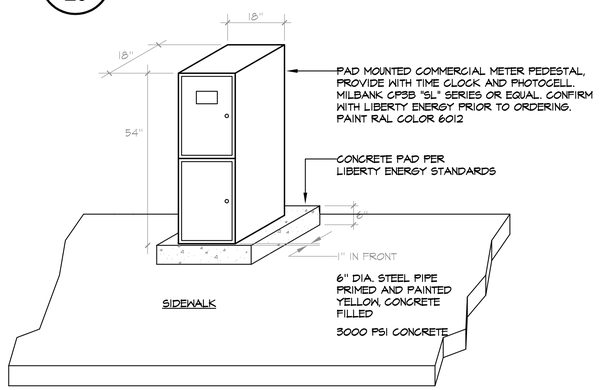
C E9 **TYP 12" TRENCH DETAIL**

SCALE: NONE



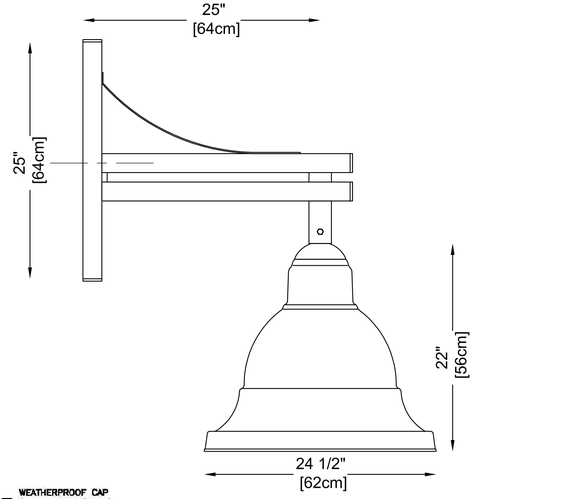
E E9 **N-16 PRECAST CONCRETE BOX**

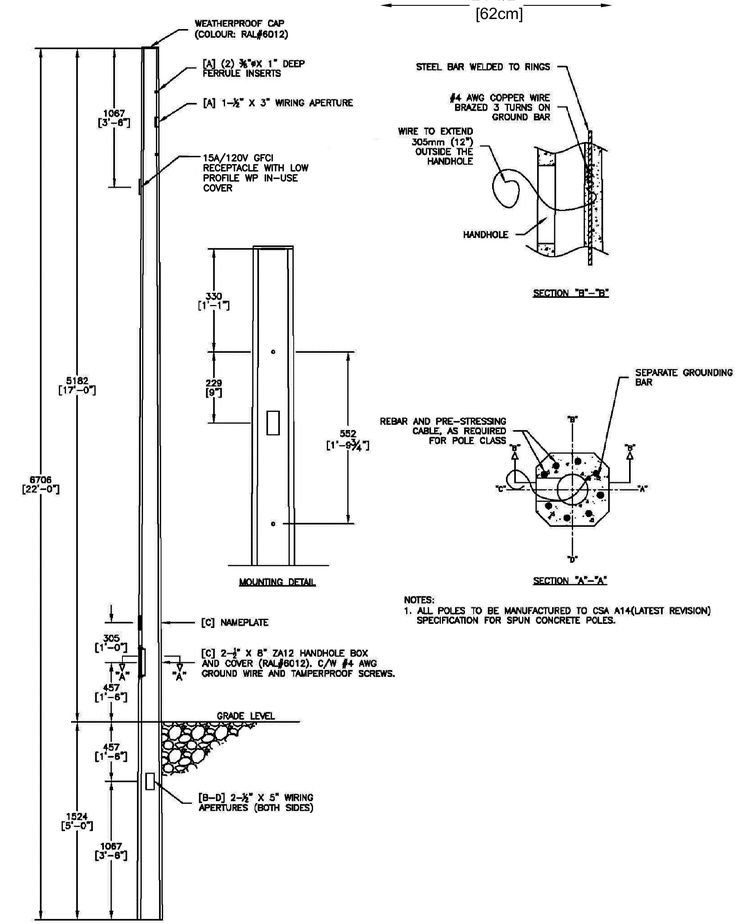
SCALE: NONE



B E9 **MPED METER/ MAIN PEDESTAL DETAIL**

SCALE: NONE





A E9 **LIGHT POLE AND FIXTURE DETAIL**

SCALE: NONE

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ELECTRICAL DETAILS
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CALIFORNIA

#	DATE	DESCRIPTION	BY

PRELIMINARY NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	PKE
DESIGNED	BDINA
CHECKED	KDP
PROJECT #	E317202700

SHEET TITLE
LIGHTING PLANS

SHEET NUMBER
E9

LAND USE # N/A

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File: K:\2017\17180 - CSLT - Lake Tahoe Blvd Bike Trail\17180-E9.dwg, Tab: Plot - 24x36

REVEGETATION TREATMENT TYPE 1 (TT1): MATCH EXISTING LANDSCAPING

REVEGETATION TREATMENT TYPE 2 (TT2): BIKE TRAIL SHOULDER
SEE REVEGETATION SEED MIX (TABLE 1 ON SHEET 49) FOR ADDITIONAL INFO

REVEGETATION TREATMENT TYPE 3 (TT3): SOD REPLACEMENT

TABLE 1: REVEGETATION SEED MIX

Botanical Name	Common Name/Variety	PLS lbs./acre
Achillea millefolium	Yarrow	0.10
Achnatherum occidentalis	Western needlegrass	1.00
Bromus carintaus	California brome	2.00
Elymus elymoides	Squirreltail	3.00
Elymus trachycaulus	Slender wheatgrass	2.00
Eriogonum umbellatum	Sulfur buckwheat	1.00
Ipompsis aggregata	Scarlet gilia	0.50
Lupinus lepidus	Pacific lupine	3.00
Penstemon speciosus	Showy penstemon	0.25
Poa secunda	Sandberg bluegrass 'Sherman'	1.00
	Total	13.85

CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

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1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

REPLACE DISTURBED AREA WITH SOD TO MATCH ADJACENT LANDSCAPING.

HAND BROADCAST REVEGETATION SEED MIX AND INCORPORATE WOOD CHIPS OR TUB GRINDINGS TO ACHIEVE 85% COVER. APPLY TO A DEPTH OF 1/2 INCH (ONE LAYER). APPLY RECYCLED PAPER MULCH AND TACKIFIER AT SPECIFIED RATES.

PROPOSED GRADING LIMITS
SEE GRADING SHEETS FOR MORE INFO
(TYP.)

APN 32-312-01
CSLT

MATCHLINE SEE REVEG-2

60% DESIGN

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File: R:\Projects\E317202700 - Lake Tahoe Blvd Bike Trail_Cardno\AutoCAD\Sheets\LTB_Bike Trail - REVEG.dwg, Tab: REVEG-1

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REVEG SHEET 1
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
REVEG-1

SHEET NUMBER
49

LAND USE # N/A

REVEGETATION TREATMENT TYPE 1 (TT1): MATCH EXISTING LANDSCAPING

REVEGETATION TREATMENT TYPE 2 (TT2): BIKE TRAIL SHOULDER
SEE REVEGETATION SEED MIX (TABLE 1 ON SHEET 49) FOR ADDITIONAL INFO

REVEGETATION TREATMENT TYPE 3 (TT3): SOD REPLACEMENT

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1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

APN 32-291-19
DONMAR DEV. CORP
G E M DEV. CORP

KING WAY

LAKE TAHOE BLVD.

APN 32-301-11
TAHOE VERDE

PROPOSED GRADING LIMITS
SEE GRADING SHEETS FOR MORE INFO
(TYP.)

HAND BROADCAST REVEGETATION SEED MIX AND INCORPORATE WOOD CHIPS OR TUB GRINDINGS TO ACHIEVE 85% COVER. APPLY TO A DEPTH OF 1/2 INCH (ONE LAYER). APPLY RECYCLED PAPER MULCH AND TACKIFIER AT SPECIFIED RATES.

MATCHLINE SEE REVEG-1

MATCHLINE SEE REVEG-3

60% DESIGN

Plot Stamp: 6/19/2019 3:24:56 PM - Ivan Trujillo
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REVEG SHEET 2
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
REVEG-2

SHEET NUMBER
50

LAND USE # N/A

REVEGETATION TREATMENT TYPE 1 (TT1): MATCH EXISTING LANDSCAPING

REVEGETATION TREATMENT TYPE 2 (TT2): BIKE TRAIL SHOULDER
SEE REVEGETATION SEED MIX (TABLE 1 ON SHEET 49) FOR ADDITIONAL INFO

REVEGETATION TREATMENT TYPE 3 (TT3): SOD REPLACEMENT

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1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

APN 32-291-34
SLTSG APARTMENT
INVESTORS

LAKE TAHOE BLVD.

HAND BROADCAST REVEGETATION SEED MIX AND INCORPORATE WOOD CHIPS OR TUB GRINDINGS TO ACHIEVE 85% COVER. APPLY TO A DEPTH OF 1/2 INCH (ONE LAYER). APPLY RECYCLED PAPER MULCH AND TACKIFIER AT SPECIFIED RATES.

PROPOSED GRADING LIMITS
SEE GRADING SHEETS FOR MORE INFO
(TYP.)

APN 32-301-11
TAHOE VERDE

MATCHLINE SEE
REVEG-2

MATCHLINE SEE
REVEG-4

60% DESIGN

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REVEG SHEET 3

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
REVEG-3

SHEET NUMBER
51

LAND USE # N/A

REVEGETATION TREATMENT TYPE 1 (TT1): MATCH EXISTING LANDSCAPING

REVEGETATION TREATMENT TYPE 2 (TT2): BIKE TRAIL SHOULDER
SEE REVEGETATION SEED MIX (TABLE 1 ON SHEET 49) FOR ADDITIONAL INFO

REVEGETATION TREATMENT TYPE 3 (TT3): SOD REPLACEMENT

CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

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1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

APN 32-291-33
TAHOE SIERRA VISTA APTS

APN 32-291-15
CARDINALE JOSEPH A TRUST, ET AL

LAKE TAHOE BLVD.

LANE

JULIE LANE

APN 32-301-10
TAHOE VERDE

APN 32-291-28
CTC

HAND BROADCAST REVEGETATION SEED MIX AND INCORPORATE WOOD CHIPS OR TUB GRINDINGS TO ACHIEVE 85% COVER. APPLY TO A DEPTH OF 1/2 INCH (ONE LAYER). APPLY RECYCLED PAPER MULCH AND TACKIFIER AT SPECIFIED RATES.

PROPOSED GRADING LIMITS
SEE GRADING SHEETS FOR MORE INFO
(TYP.)

MATCHLINE SEE REVEG-3

MATCHLINE SEE REVEG-5

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REVEG SHEET 4

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
REVEG-4

SHEET NUMBER
52

LAND USE # N/A

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REVEGETATION TREATMENT TYPE 1 (TT1): MATCH EXISTING LANDSCAPING

REVEGETATION TREATMENT TYPE 2 (TT2): BIKE TRAIL SHOULDER
SEE REVEGETATION SEED MIX (TABLE 1 ON SHEET 49) FOR ADDITIONAL INFO

REVEGETATION TREATMENT TYPE 3 (TT3): SOD REPLACEMENT

CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

** CALL BEFORE YOU DIG **
CONTACT UNDERGROUND SERVICE ALERT (USA)
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

APN 32-291-27
1875 LAKE TAHOE CA LLC

APN 32-291-25
SFP-B AN OREGON LP

LAKE TAHOE BLVD.

MATCHLINE SEE REVEG-4

MATCHLINE SEE REVEG-6

APN 32-291-28
CTC

APN 32-291-21
ANDERIO CA LLC

TATA LANE

HAND BROADCAST REVEGETATION SEED MIX AND INCORPORATE WOOD CHIPS OR TUB GRINDINGS TO ACHIEVE 85% COVER. APPLY TO A DEPTH OF 1/2 INCH (ONE LAYER). APPLY RECYCLED PAPER MULCH AND TACKIFIER AT SPECIFIED RATES.

PROPOSED GRADING LIMITS
SEE GRADING SHEETS FOR MORE INFO
(TYP.)

SALVAGE AND REPLACE SOD DISTURBED DURING CONSTRUCTION OF THE BIKE TRAIL.

60% DESIGN

Cardno
LAKE TAHOE
256 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588-9069 FAX: (775) 588-9219
www.cardno.com

REVEG SHEET 5
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
REVEG-5

SHEET NUMBER
53

LAND USE # N/A

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REVEGETATION TREATMENT TYPE 1 (TT1): MATCH EXISTING LANDSCAPING

REVEGETATION TREATMENT TYPE 2 (TT2): BIKE TRAIL SHOULDER
SEE REVEGETATION SEED MIX (TABLE 1 ON SHEET 49) FOR ADDITIONAL INFO

REVEGETATION TREATMENT TYPE 3 (TT3): SOD REPLACEMENT

CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

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1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

TATA LANE

APN 23-481-17
CTC

APN 32-291-01
MOHADDESS SEYED E

APN 23-351-18
TAHOE SUPPLY
COMPANY

ENE AVE.

APN 23-[illegible]
1959 LAKE TA[illegible]
LLC

LAKE TAHOE BLVD.

APN 23-351-20
EL DORADO COUNTY

APN 23-351-29
CORNELL H TRUST

APN 32-291-30
BILL & LORI LIV TRUST

APN 32-291-17
CORNELL H TRUST

APN 32-291-16
CORNELL H TRUST

APN 23-430-32
SEVEN SPRINGS LTD
PTN

SALVAGE AND REPLACE SOD DISTURBED DURING CONSTRUCTION OF THE BIKE TRAIL.

PROPOSED GRADING LIMITS
SEE GRADING SHEETS FOR MORE INFO (TYP.)

HAND BROADCAST REVEGETATION SEED MIX AND INCORPORATE WOOD CHIPS OR TUB GRINDINGS TO achieve 85% COVER. APPLY TO A DEPTH OF 1/2 INCH (ONE LAYER). APPLY RECYCLED PAPER MULCH AND TACKIFIER AT SPECIFIED RATES.

MATCHLINE SEE REVEG-5

MATCHLINE SEE REVEG-7

60% DESIGN

Cardno
LAKE TAHOE
2561 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588-9069 FAX: (775) 588-9219
www.cardno.com

REVEG SHEET 6
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
REVEG-6

SHEET NUMBER
54

LAND USE # N/A

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REVEGETATION TREATMENT TYPE 1 (TT1): MATCH EXISTING LANDSCAPING

REVEGETATION TREATMENT TYPE 2 (TT2): BIKE TRAIL SHOULDER
SEE REVEGETATION SEED MIX (TABLE 1 ON SHEET 49) FOR ADDITIONAL INFO

REVEGETATION TREATMENT TYPE 3 (TT3): SOD REPLACEMENT

CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

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CONTACT UNDERGROUND SERVICE ALERT (USA)
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150

SCALE: 1"=20'
20 10 0 20

APN 23-523-11
1959 LAKE TAHOE BLVD
LLC

APN 23-523-08
CAD ENTERPRISES LLC

APN 23-523-02
RUNNELS AUTOMOTIVE

APN 23-523-13
RUNNELS JOHN W

APN 23-411-15 - CALTRANS

APN 23-523-12 - CALTRANS

LAKE TAHOE BLVD.

APN 23-411-19
CSLT

APN 23-411-17
STATE OF CALIFORNIA

MATCHLINE SEE
REVEG-6

-430-32
PRINGS LTD
PTN

APN 23-430-32
SEVEN SPRINGS LTD
PTN

APN 23-411-24
SALVO & ZESSIN TRUST

SALVAGE AND REPLACE SOD DISTURBED DURING CONSTRUCTION OF THE BIKE TRAIL.

APN 23-411-25
CSLT

60% DESIGN

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LAKE TAHOE
256 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588-9069 FAX: (775) 588-9219
www.cardno.com

REVEG SHEET 7
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
REVEG-7

SHEET NUMBER
55

LAND USE # N/A

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CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

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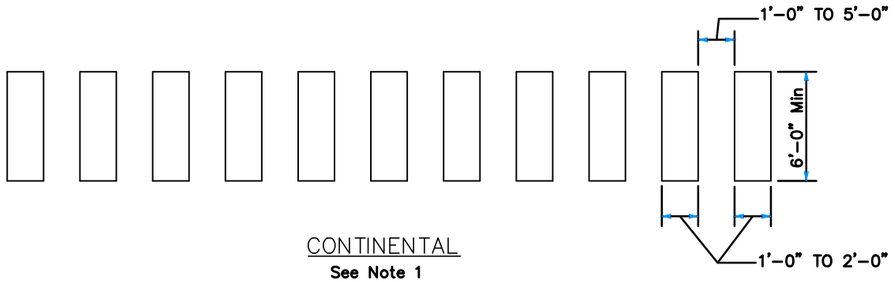
CONTACT UNDERGROUND SERVICE ALERT (USA)
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150
PH: (530) 542-6033 FAX: (530) 541-3051

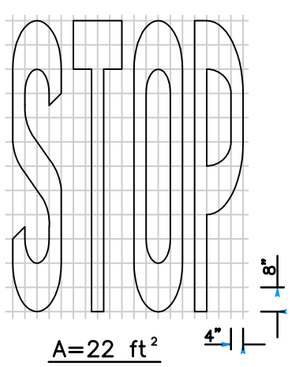


CONTINENTAL
See Note 1

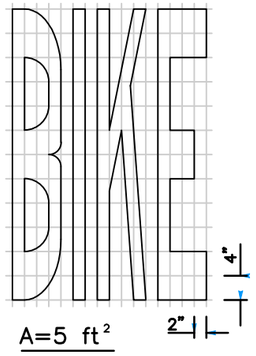
CROSSWALK STRIPING
NTS
1
D-1

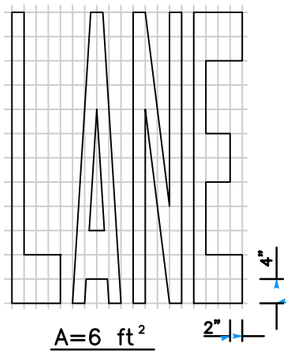
NOTES:

1. Spaces between markings must be placed in wheel tracks of each lane.
2. All crosswalk markings must be white except those near schools must be yellow.



TRAFFIC MARKING, "STOP"
NTS
2
D-1





TRAFFIC MARKING, "BIKE LANE"
NTS
3
D-1

MARKING NOTES:

1. If a message consists of more than one word, it must read "UP", i.e., the first word must be nearest the driver.
2. The space between words must be at least four times the height of the characters for low speed roads, but not more than ten times the height of the characters. The space may be reduced appropriately where there is limited space because of local conditions.
3. Minor variations in dimensions may be accepted by the Engineer.
4. Portions of a letter, number or symbol may be separated by connecting segments not to exceed 2" in width.

60% DESIGN

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DETAIL SHEET 1
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
D-1

SHEET NUMBER
56

LAND USE # N/A

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1-800-227-2600
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CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150
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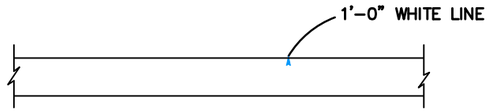
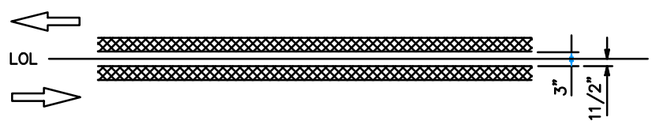


LIMIT LINE (STOP LINE)

NO PASSING ZONES–TWO DIRECTION

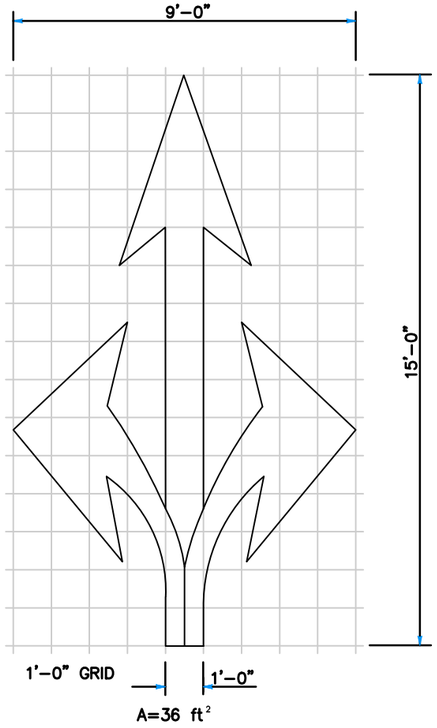
DETAIL 21



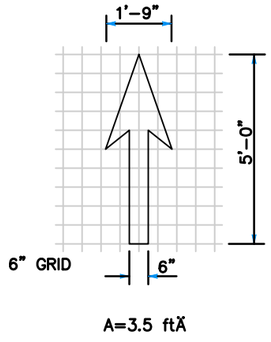
LINES
6" WHITE
6" YELLOW

TRAFFIC STRIPING, STOP BAR — NTS — 1 / D-2

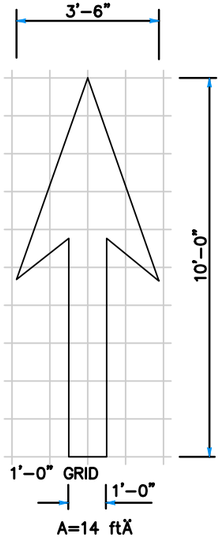
TRAFFIC STRIPING, DOUBLE YELLOW — NTS — 2 / D-2



TYPE VIII ARROW — NTS — 3 / D-2



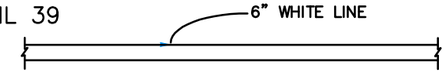
BIKE LANE ARROW — NTS — 4 / D-2



TYPE I ARROW — NTS — 5 / D-2

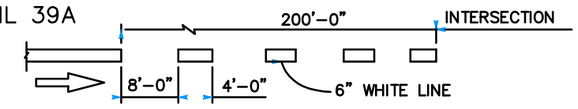
BIKE LANE LINE

DETAIL 39



INTERSECTION LINE
BIKE LANE

DETAIL 39A



TRAFFIC STRIPING, LANE LINES — NTS — 6 / D-2

60% DESIGN

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DETAIL SHEET 2
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
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CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE: D-2

SHEET NUMBER: 57

LAND USE # N/A

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CAUTION! THE LOCATION OF EXISTING UTILITIES SHOWN IS APPROXIMATE. ALL EXISTING UTILITIES SHALL BE POTHOLED PRIOR TO CONSTRUCTION.

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1-800-227-2600
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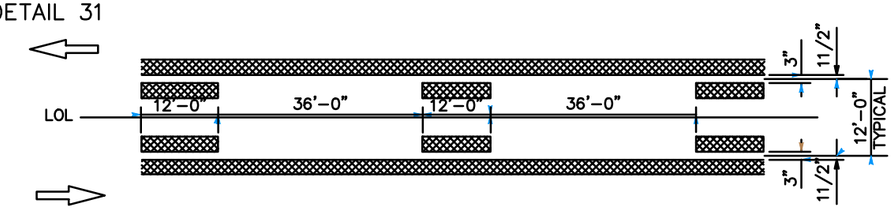
CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150
PH: (530) 542-6033 FAX: (530) 541-3051

TWO–WAY LEFT TURN LANES

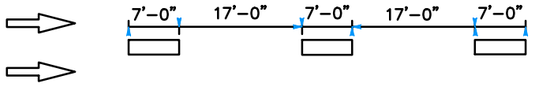
DETAIL 31



TRAFFIC STRIPING, TWO-WAY LEFT TURN LANE — 1 / D-3
NTS

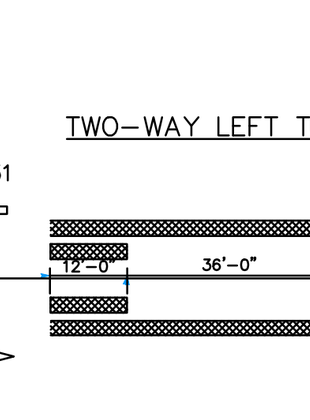
LANELINES
(MULTILANE HIGHWAYS)

DETAIL 8



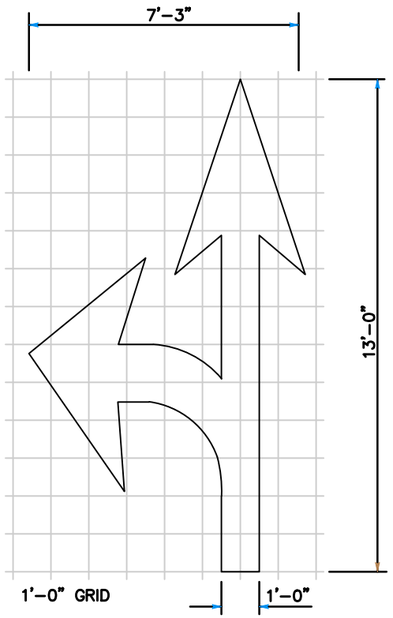
LINES
6" WHITE
6" YELLOW

TRAFFIC STRIPING, DASHED LANE LINES — 2 / D-3
NTS



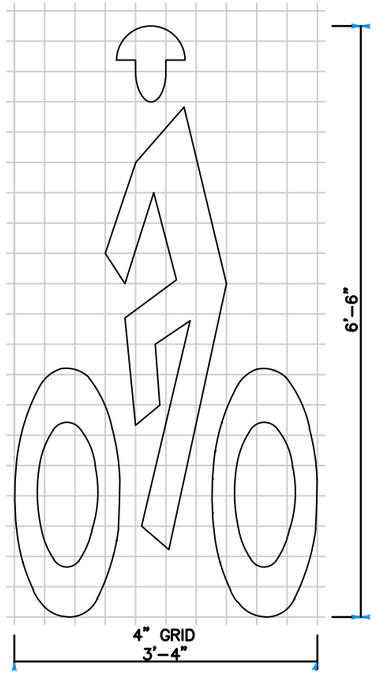
(For Type IV (R) arrow, use mirror image)

TYPE IV ARROW (L) — 3 / D-3
NTS



(For Type VII (R) arrow, use mirror image)

TYPE VII ARROW (L) — 4 / D-3
NTS



TRAFFIC MARKING, BIKE LANE SYMBOL — 5 / D-3
NTS

60% DESIGN

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DETAIL SHEET 3
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
D-3

SHEET NUMBER
58

LAND USE # N/A

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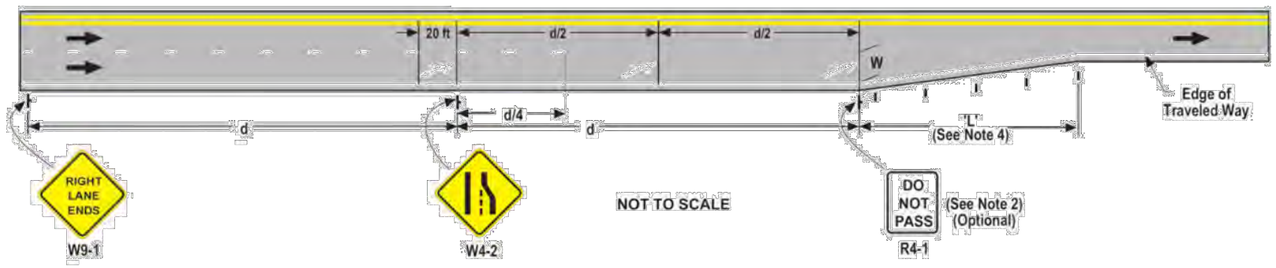
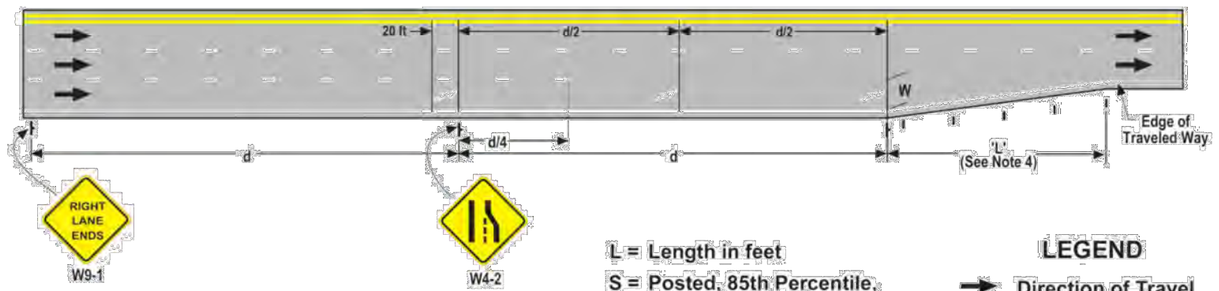
California MUTCD 2014 Edition
(FHWA's MUTCD 2009 Edition, including Revisions 1 & 2, as amended for use in California)

Figure 3B-14 (CA). Examples of Applications of Lane-Reduction Transition Markings (Sheet 1 of 3)

Example for Speed 35 mph:



Example for Speed 60 mph:



L = Length in feet
S = Posted, 85th Percentile, statutory speed, or design speed for new construction in mph
W = Offset in feet
d = Advance Placement Distance (see Section 2C.05)

LEGEND
- Direction of Travel
- Lane Reduction Arrow
- Delineators (Type F)

For speeds 45 mph or more:
$L = WS$

For speeds 40 mph or less:
$L = WS^2 / 60$

NOTES:

1. A W9-1 sign should be used in conjunction with the W4-2 sign.
2. The R4-1 sign should not be used on a freeway or expressway, etc., where two or more lanes remain after a lane is dropped. See Section 2B.28.
3. Lane Reduction Arrows are placed in groups of three. They are optional on highways where speeds are 40 mph or less. Where speeds are 45 mph or more or a W9-1 sign is used, an additional group of arrows may be placed in advance of the W9-1 sign. See also Note 4.
4. Delineators should be spaced approximately 200 ft apart. There should be a minimum of 3 delineators throughout the entire length of a lane reduction transition. See Section 3F.04.
5. A left lane drop should be avoided on undivided roadways because of the difficulty in placing signs to warn motorists in the left lane.

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150
PH: (530) 542-6033 FAX: (530) 541-3051

Cardno
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2561 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588-9069 FAX: (775) 588-9219
www.cardno.com

DETAIL SHEET 4
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
D-4

SHEET NUMBER
59

LAND USE # N/A

60% DESIGN

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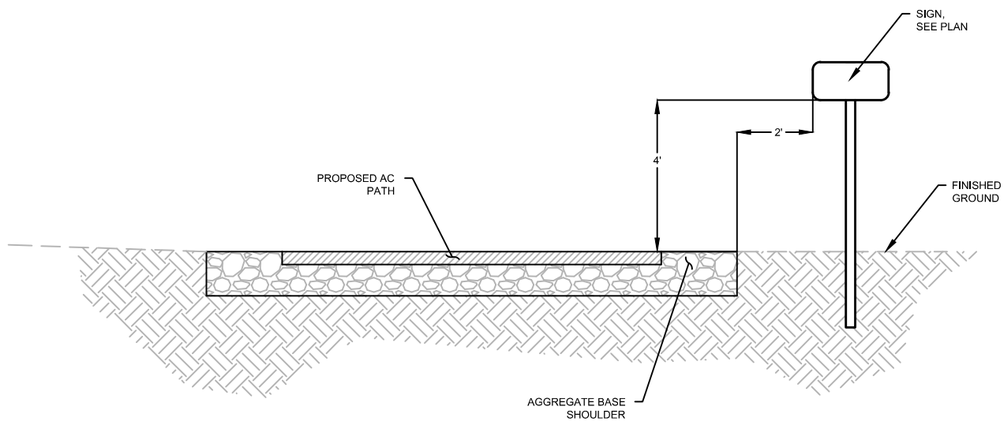
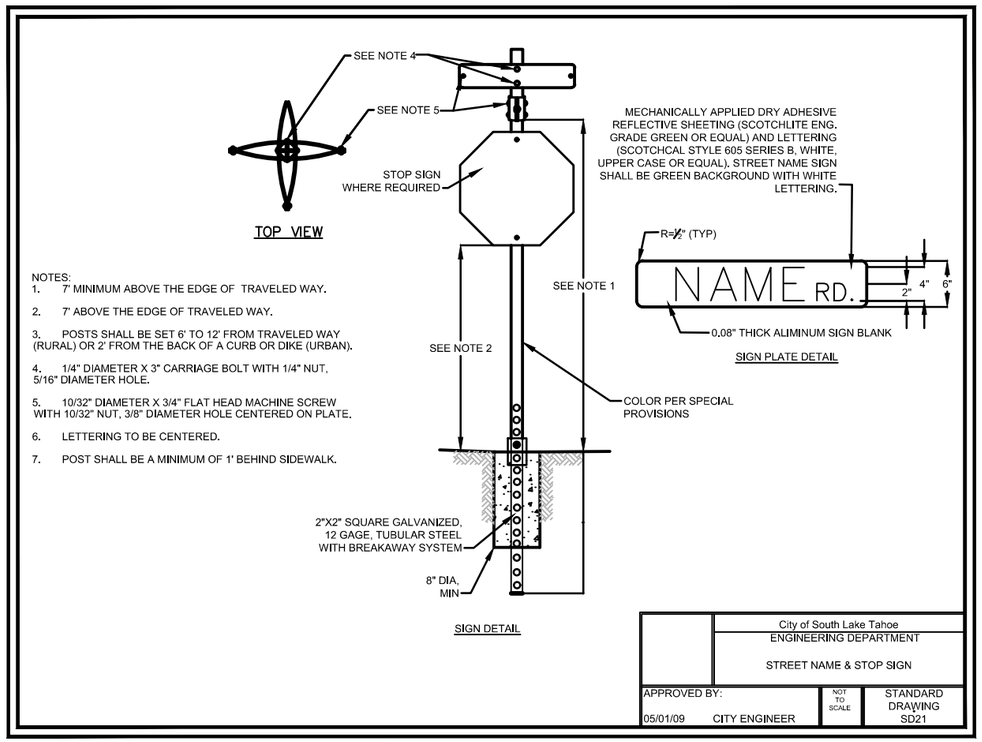


NOTE:
1. BACKS OF SIGNS AND SIGN POSTS TO BE COLORED. SEE PROJECT MANUAL.

PATH/TRAIL SIGN LOCATION (1 / D-5)
NTS



NOTES:
1. 7' MINIMUM ABOVE THE EDGE OF TRAVELED WAY.
2. 7' ABOVE THE EDGE OF TRAVELED WAY.
3. POSTS SHALL BE SET 6' TO 12' FROM TRAVELED WAY (RURAL) OR 2' FROM THE BACK OF A CURB OR DIKE (URBAN).
4. 1/4" DIAMETER X 3" CARRIAGE BOLT WITH 1/4" NUT. 5/16" DIAMETER HOLE.
5. 10/32" DIAMETER X 3/4" FLAT HEAD MACHINE SCREW WITH 10/32" NUT, 3/8" DIAMETER HOLE CENTERED ON PLATE.
6. LETTERING TO BE CENTERED.
7. POST SHALL BE A MINIMUM OF 1' BEHIND SIDEWALK.

	City of South Lake Tahoe ENGINEERING DEPARTMENT STREET NAME & STOP SIGN		
APPROVED BY: 05/01/09 CITY ENGINEER		NOT TO SCALE	STANDARD DRAWING SD21

SIGN INSTALLATION (2 / D-5)
NTS

NOTES:
1. SIGN POSTS SHALL BE 4"X6" DOUGLAS FIR
2. SIGN POSTS SHALL BE BURIED 4' MINIMUM INTO THE GROUND
3. SIGN POSTS SHALL HAVE A CONCRETE FOOTING ALL AROUND THE BURIED PORTION OF THE POSTS, 6" MINIMUM THICKNESS IN ALL DIRECTIONS
4. CONCRETE SHALL BE 4,000 PSI IN CONFORMANCE WITH THE PROJECT MANUAL
5. SIGN MATERIAL SHALL BE 1" ADX PLYWOOD BOARD PAINTED WITH ENAMEL, 2 COATS, OFF WHITE
6. ALL SIGN LOGOS WILL BE PROVIDED BY THE OWNER IN ".JPG" FORMAT TO THE CONTRACTOR
7. SEE PROJECT MANUAL FOR ADDITIONAL INFORMATION.

PROJECT SIGN (3 / D-5)
NTS

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DETAIL SHEET 5
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700
SHEET TITLE	D-5
SHEET NUMBER	60
LAND USE #	N/A

60% DESIGN

Plot Stamp: 6/19/2019 3:25:39 PM - Ivan Trujillo
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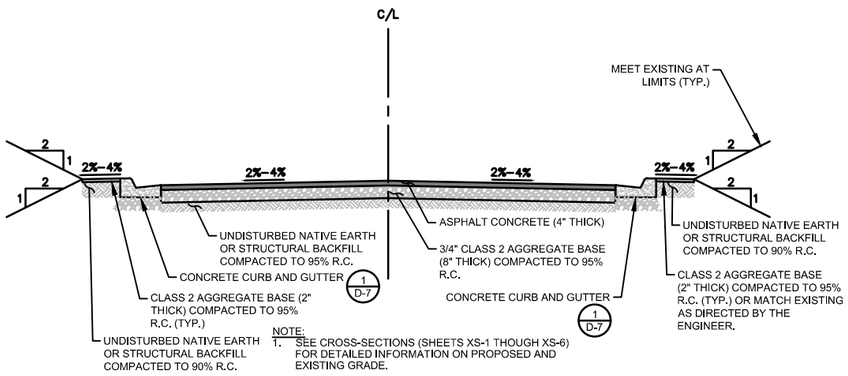
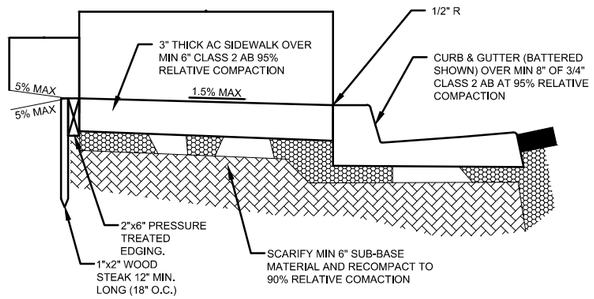


ROADWAY SECTION WITH CURB AND GUTTER — 1 / D-6

NTS



NOTES:
1. ALL WORK AND ALL MATERIALS SUPPLIED SHALL CONFORM TO THE STANDARD SPECIFICATIONS LATEST EDITION.
2. PCC CURB RAMPS SHALL BE A MINIMUM OF 4 INCHES THICK.
3. IN ALL AREAS WHERE ROLLED CURB TRANSITIONS TO VERTICAL CURB OR CATCH BASINS, SIDEWALK SHALL BE A MINIMUM OF 4 INCHES THICK.
4. ALL BROOMING SHALL BE PERPENDICULAR TO THE CURB.
5. 1/2-INCH THICK PRE-MOLDED JOINT FILLER SHALL BE INSTALLED IN EXPANSION JOINTS AT 18 FOOT INTERVALS.
6. CONTROL JOINTS SHALL BE 1.5 INCHES DEEP AND AT 6 FOOT INTERVALS.
7. ALL EXISTING STREET SIGNS SHALL BE RELOCATED AND ALL REQUIRED NEW SIGNS PLACED PER THE STANDARD SPECIFICATIONS.
8. CONCRETE FOR CURB AND GUTTER SHALL BE IN CONFORMANCE WITH SECTION 10-1.39, "PORTLAND CEMENT CONCRETE STRUCTURES" OF THE SPECIAL PROVISIONS.

AC SIDEWALK DETAIL

NOT TO SCALE

AC SIDEWALK — 3 / D-6

NTS

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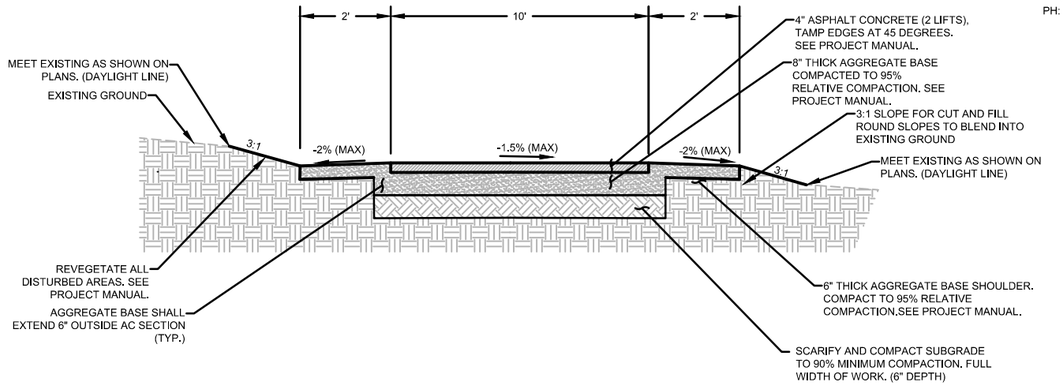
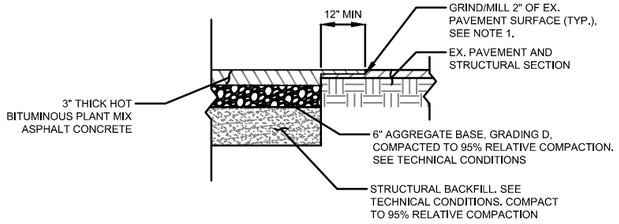


AC BIKE TRAIL — 2 / D-6

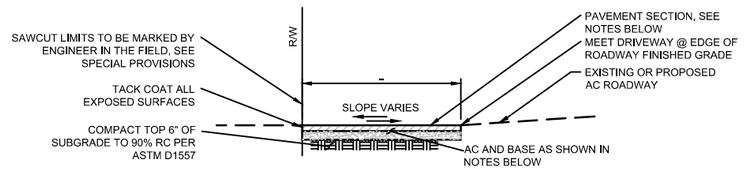
NTS

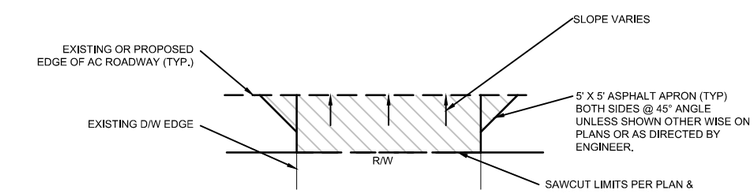


NOTE:
1. GRIND/MILL EXISTING PAVEMENT SURFACE MINIMUM 1.5" DEPTH OR TOP LIFT; AND MINIMUM OF 2 FOOT BEYOND AC TIE-IN JOINT.

T-PATCH — 4 / D-6

NTS





NOTES:
1. DRIVEWAY PAVEMENT REPLACEMENT TO BE 2 1/2" AC OVER 4" AB @ 95% RC.
2. MATCH WIDTH OF EXISTING DRIVEWAY UNLESS NOTED OTHERWISE ON PLANS.
3. THE ENGINEER SHALL MARK THE SAWCUT LIMITS AT EACH DRIVEWAY.
4. DRIVEWAY PAVING SHALL BE WARPED TO MAINTAIN A SMOOTH TRANSITION AND PREVENT PONDING.
5. FINISHED DRIVEWAY GRADES SHALL BE UNIFORM FROM SAWCUT TO EXISTING PAVEMENT.

ASPHALT DRIVEWAY PATCH — 5 / D-6

NTS

60% DESIGN

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DETAIL SHEET 6

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE

SOUTH LAKE TAHOE, CA

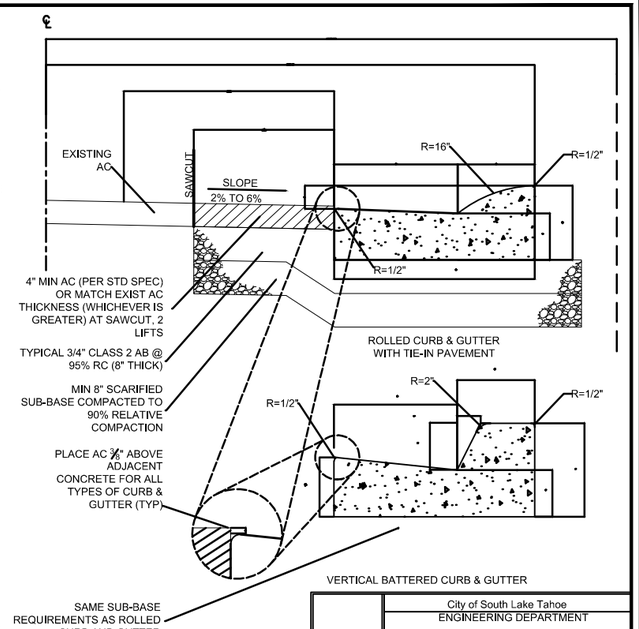
#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700
SHEET TITLE	D-6
SHEET NUMBER	61
LAND USE #	N/A

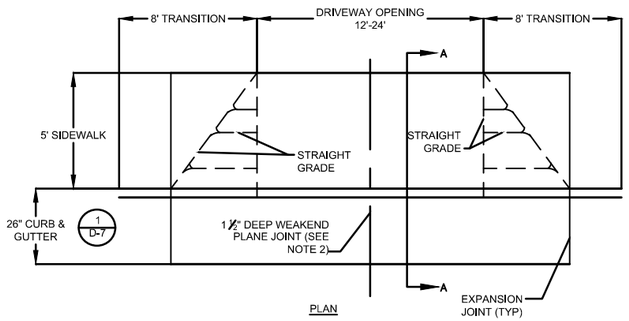
Plot Stamp: 6/19/2019 3:25:43 PM - Ivan Trujillo
File: R:\Projects\E317202700 - Lake Tahoe Blvd Bike Trail_Cardno\AutoCAD\Sheets\LTB_Bike Trail - Details.dwg, Tab: D-6

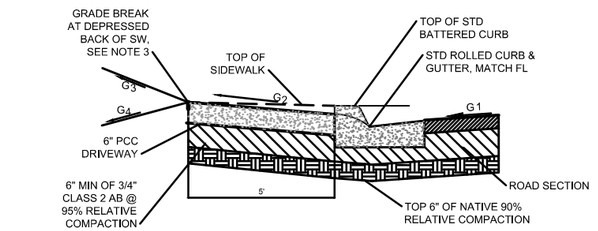
1. CONCRETE SHALL BE 7 SACK MIX AND SHALL CONFORM TO SECTION 90 OF THE CALTRANS STANDARD SPECIFICATIONS WITH 6% AIR ENTRAINMENT. CEMENT CONTENT SHALL NOT BE LESS THAN 658 LBS PER CY.
2. THE MATERIALS AND METHOD OF PLACING SHALL CONFORM TO SECTION 73 OF THE CALTRANS STANDARD SPECIFICATIONS.
3. CONCRETE SHALL HAVE A LIGHT BROOM FINISH RUNNING PARALLEL WITH THE FLOWLINE.
4. CONCRETE SHALL BE SPRAYED UNIFORMLY WITH A CLEAR PIGMENTED CURING COMPOUND IMMEDIATELY FOLLOWING BROOM FINISHING. THE MATERIAL, METHOD, AND RATE OF APPLICATION SHALL CONFORM TO SECTION 90-7018 OF THE CALTRANS STANDARD SPECIFICATIONS.
5. ALL BASE MATERIAL SHALL BE COMPACTED AND TESTED BY THE CITY OR BY A THIRD PARTY INSPECTOR AT THE CITY'S DISCRETION PRIOR TO CONCRETE POUR. NOTIFY THE CITY AT LEAST 24 HRS PRIOR TO POUR.
6. CONTRACTOR SHALL CONTACT INSPECTOR FOR SCHEDULING CURB STRINGLINE INSPECTION AT LEAST 24 HRS PRIOR TO CONCRETE POUR.
7. ALL FLOWLINES SHALL BE WATER TESTED BEFORE ACCEPTANCE FOR PAYMENT. CONTRACTOR SHALL CONTACT INPSECTOR TO SCHEDULE WATER TESTING.
8. LOCATE 2" DEEP TRANSVERSE SCORES AT 10' INTERVALS IN CURB AND GUTTERS. INSTALL EXPANSION JOINTS AT 30' INTERVALS AND AT ALL COLD JOINTS.
9. NO WASHOUT OF TRUCKS AND/OR EQUIPMENT WILL BE ALLOWED ON SITE UNLESS A BASIN IS PROVIDED AND APPROVED BY THE INSPECTOR.
10. CONTRACTOR MUST TRENCH PLATE ALL DRIVEWAYS FOR 72 HOURS AFTER CONCRETE POUR.
11. CITY HAS THE RIGHT TO REJECT CURB FOR NON-CONFORMANCE AND/OR POST CONSTRUCTION DAMAGE.
12. CONTRACTOR IS RESPONSIBLE FOR ALL TEMPORARY BMPS, AC CUTS AND REPLACEMENT, REVEGETATION AND ALL OTHER INCIDENTALS ASSOCIATED WITH CURB INSTALLATION.



City of South Lake Tahoe ENGINEERING DEPARTMENT		
CURB & GUTTER VERTICAL BATTERED & ROLLED		
APPROVED BY: 05/01/09 CITY ENGINEER	NOT TO SCALE	STANDARD DRAWING SD04

CURB AND GUTTER VERTICAL BATTERED & ROLLED — 1 / D-7
NTS





CONCRETE DRIVEWAY — 4 / D-7
NTS

NOTES:

1. CONCRETE (PCC) OR MODULAR BLOCK DRIVEWAY(S) ARE ONLY ALLOWED WHERE CURB & GUTTER IS PRESENT. ASPHAULT MUST BE USED WHEN NO CURB & GUTTER IS PRESENT.
2. MAXIMUM GRADES FOR DRIVEWAYS SHALL BE AS FOLLOWS AND ARE BASED ON A -2% (G1) ROAD CROSS SLOPE:
   - G2= +2% MAXIMUM ON SIDEWALKS
   - G3= AS DETERMINED BY A MAXIMUM 8% ALGEBRAIC GRADE DIFFERENCE FOR A GRADE BREAK OR GRADIENT OF A VERTICAL CURVE.
   - G4= AS DETERMINED BY A MAXIMUM 8% ALGEBRAIC GRADE DIFFERENCE FOR A GRADE BREAK OR GRADIENT OF A VERTICAL CURVE.
3. IF THE OPENING OF THE PCC DRIVEWAY APRON IS 18 FEET OR GREATER, THE WEAKENED PLANE JOINT(S) SHALL BECOME EXPANSION JOINT(S) AT A MINIMUM SPACING OF 18 FEET CENTER TO CENTER.
4. BACK OF DRIVEWAY MAY BE DEPRESSED 3" MAX.
5. WHERE PROPERTY BEHIND C&G IS BELOW GUTTER FLOWLINE ELEVATION, DRIVEWAY APPROACH AND DRIVEWAY FLARES SHALL BE BUILT UP TO THE ELEVATION OF THE TOP BACK OF CURB (TBC).

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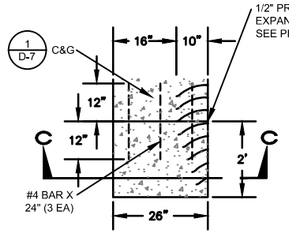
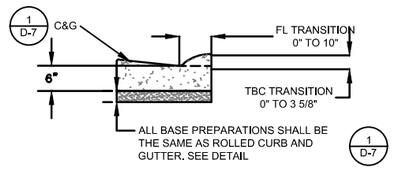
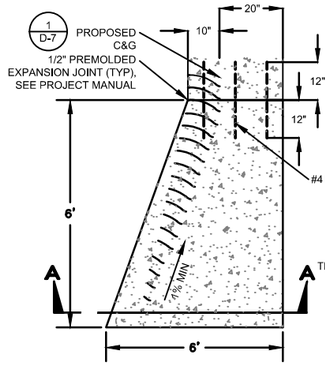


PLAN - TYPE 1



SECTION C-C

CURB END TRANSITION (TYPE 1) — 2 / D-7
NTS



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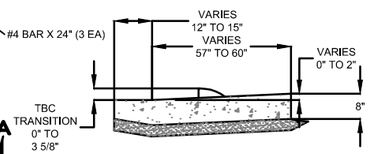

SECTION A-A

NOTE:
1. SEE ROLLED CURB & GUTTER DETAIL FOR SUBGRADE REQUIREMENTS.
2. FOR SHOULDER BACKING SEE PROJECT MANUAL.

CURB END TRANSITION (TYPE 2) — 3 / D-7
NTS

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DETAIL SHEET 7

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE

SOUTH LAKE TAHOE, CA

BY	DESCRIPTION	DATE
A		

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE: D-7

SHEET NUMBER: 62

LAND USE # N/A

60% DESIGN

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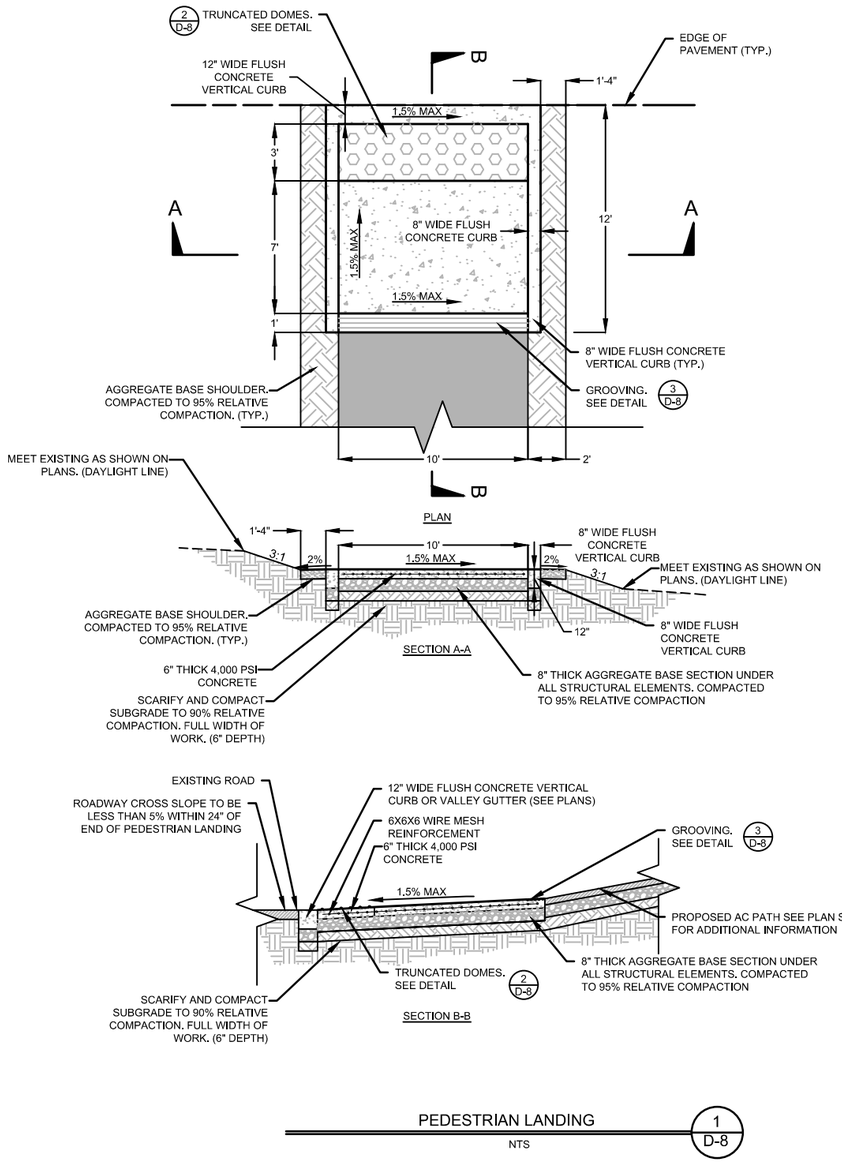

PEDESTRIAN LANDING
NTS
1
D-8

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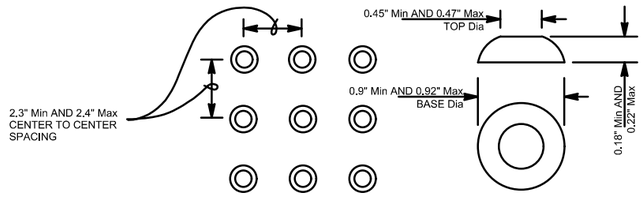
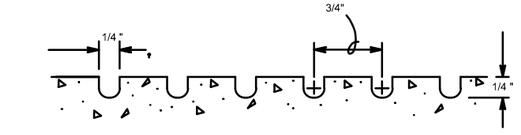
NOTES:
1. CURB RAMPS SHALL HAVE A DETECTABLE WARNING SURFACE THAT EXTENDS THE FULL WIDTH AND 3'-0" DEPTH OF THE RAMP. A 4'-0" WIDE DETECTABLE WARNING SURFACE MAY BE USED ON A 4'-2" WIDE CURB RAMP. DETECTABLE WARNING SURFACES SHALL CONFORM TO THE REQUIREMENTS IN THE PROJECT MANUAL.
2. THE EDGE OF THE DETECTABLE WARNING SURFACE NEAREST THE STREET SHALL BE BETWEEN 6" AND 8" FROM THE GUTTER FLOWLINE.
3. DETECTABLE WARNING SURFACE MAY HAVE TO BE CUT TO ALLOW REMOVAL OF UTILITY COVERS WHILE MAINTAINING FULL DETECTABLE WARNING WIDTH AND DEPTH.



TRUNCATED DOMES
NTS
2
D-8

NOTES:
1. THE CURB RAMP SHALL BE OUTLINED AS SHOWN WITH A 1'-0" WIDE BORDER WITH $\frac{1}{4}$" GROVES APPROXIMATELY $\frac{3}{4}$" ON CENTER. SEE GROOVING DETAIL.



GROOVING
NTS
3
D-8

60% DESIGN

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DETAIL SHEET 8
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

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DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700

SHEET TITLE
D-8

SHEET NUMBER
63

LAND USE # N/A

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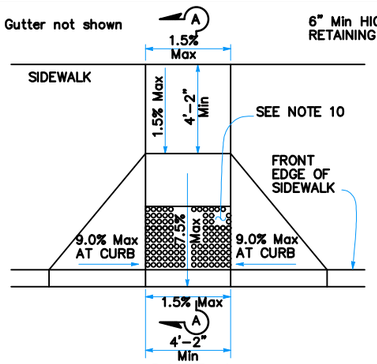
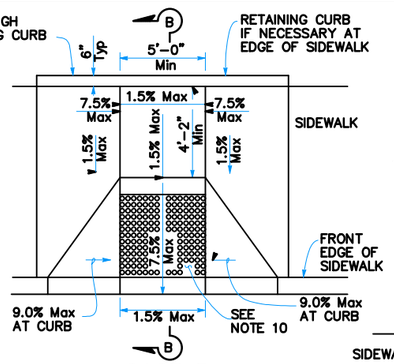


CASE A



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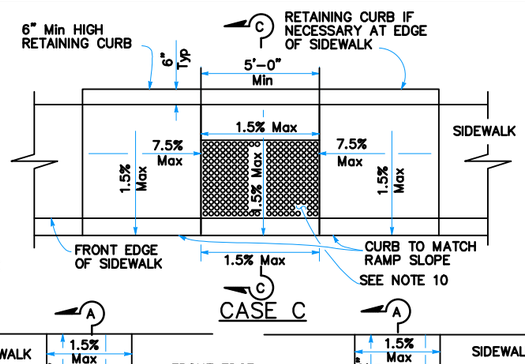
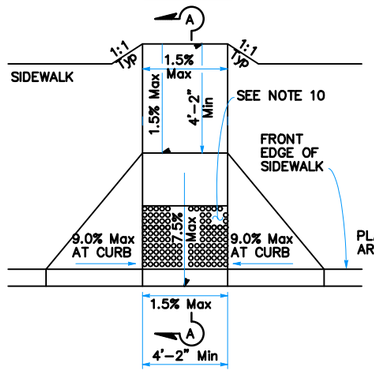
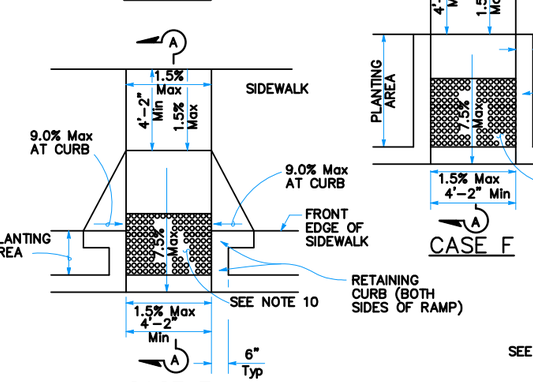


CASE C



CASE D



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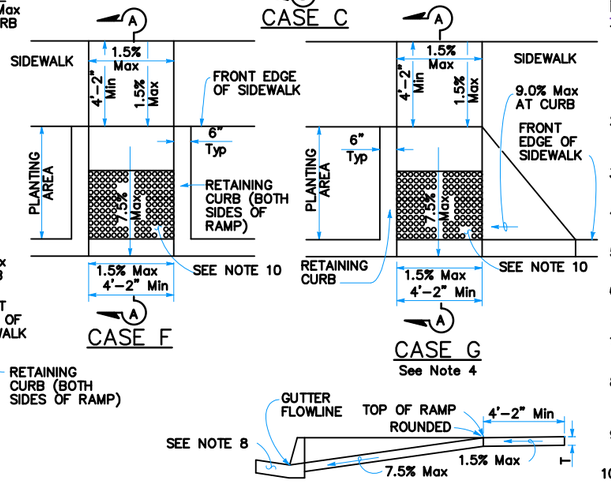
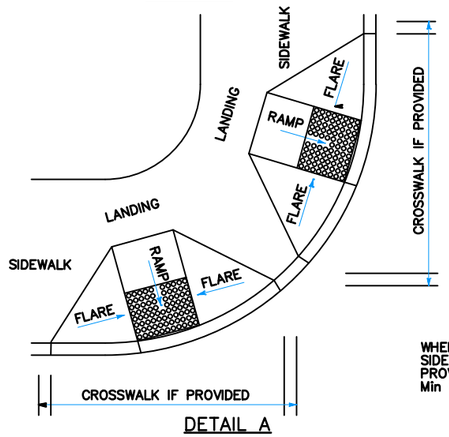
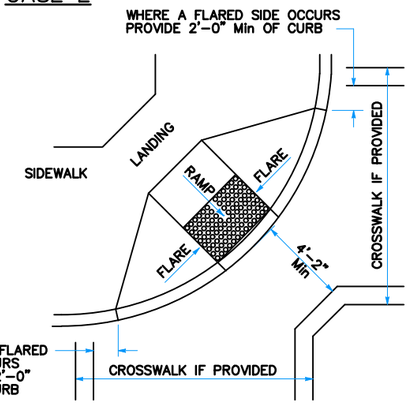


CASE F

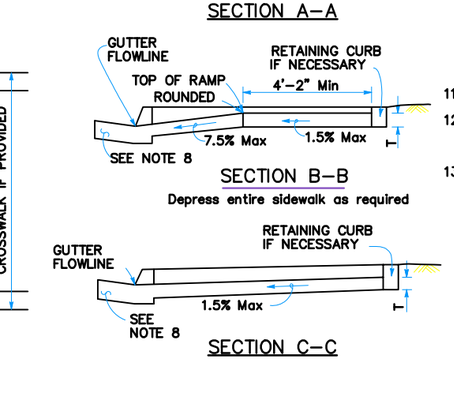
CASE G
See Note 4

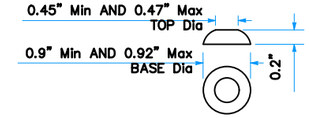


DETAIL A
TYPICAL TWO-RAMP CORNER INSTALLATION
See Note 1

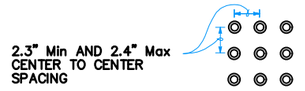


DETAIL B
TYPICAL ONE-RAMP CORNER INSTALLATION
See Notes 1 and 3





RAISED TRUNCATED DOME

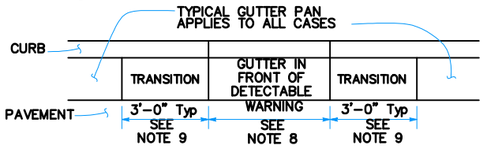


RAISED TRUNCATED DOME PATTERN (IN-LINE)

DETECTABLE WARNING SURFACE

NOTES: See Note 10

1. As site conditions dictate, Case A through Case G curb ramps may be used for corner installations similar to those shown in Detail A and Detail B. The case of curb ramps used in Detail A do not have to be the same. Case A through Case G curb ramps also may be used at mid block locations, as site conditions dictate. For specific site condition configuration, including the conform to existing sidewalk, see Project Plans.
2. If distance from curb to back of sidewalk is too short to accommodate ramp and 4'-2" platform (landing) as shown in Case A, the sidewalk may be depressed longitudinally as in Case B or C or may be widened as in Case D.
3. When ramp is located in center of curb return, crosswalk configuration must be similar to that shown for Detail B.
4. As site conditions dictate, the retaining curb side and the flared side of the Case G ramp shall be constructed in reversed position.
5. The ramp portion of the curb ramp is a typical rectangle, unless modified in the Project Plans.
6. Side slope of ramp flares vary uniformly from a maximum of 9.0% at curb to conform with longitudinal sidewalk slope adjacent to top of the ramp, except in Case C and Case F.
7. The adjacent surfaces at transitions at curb ramps to walks, gutters, and streets shall be at the same level.
8. Counter slopes of adjoining gutters and road surfaces immediately adjacent to and within 24 inches of the curb ramp shall not be steeper than 1V:20H (5.0%). Gutter pan slope shall not exceed 1" of depth for each 2'-0" of width.
9. Transition gutter pan slope from 1" of depth for each 2'-0" of width to match typical gutter pan slope per Standard Plan A87A.
10. The detectable warning surface will be a rectangle as shown at back of curb, unless modified in the Project Plans. Curb ramps shall have a detectable warning surface that extends the full width and 3'-0" depth of the ramp. Detectable warning surfaces shall extend the full width of the ramp except a maximum gap of 1 inch is allowed on each side of the ramp. Detectable warning surfaces shall conform to the requirements in the Standard Specifications.
11. Sidewalk and ramp thickness, "T", shall be 31/2" minimum.
12. Utility pull boxes, manholes, vaults and all other utility facilities within the boundaries of the curb ramp will be relocated or adjusted to grade by the owner prior to, or in conjunction with, curb ramp construction.
13. Detectable warning surface may have to be cut to allow removal of utility covers while maintaining detectable warning width and depth.



GUTTER PAN TRANSITION

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
CURB RAMP DETAILS
NO SCALE

A88A

1-29-18

CURB RAMP DETAILS
NTS
1
D-9

150

2018 STANDARD PLAN A88A

60% DESIGN

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DETAIL SHEET 9
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700
SHEET TITLE	D-9
SHEET NUMBER	64
LAND USE #	N/A

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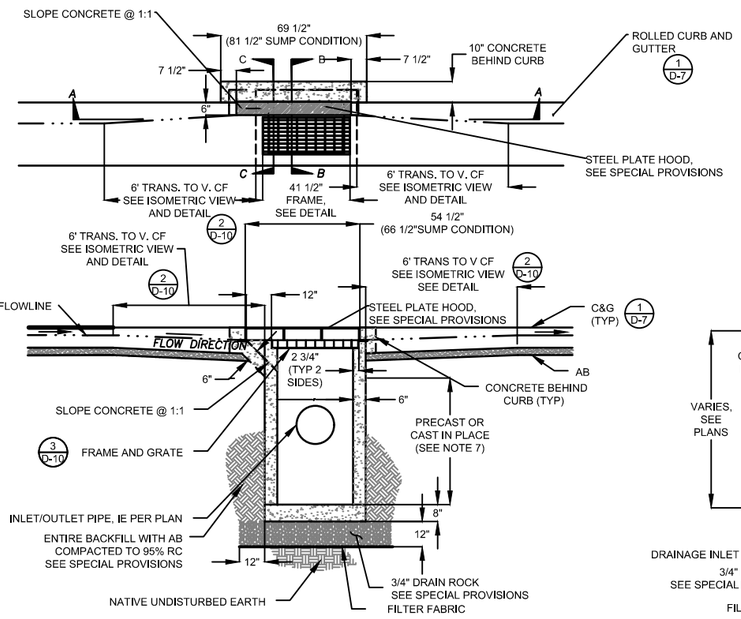
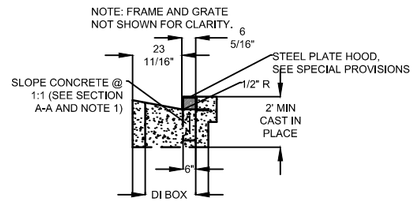
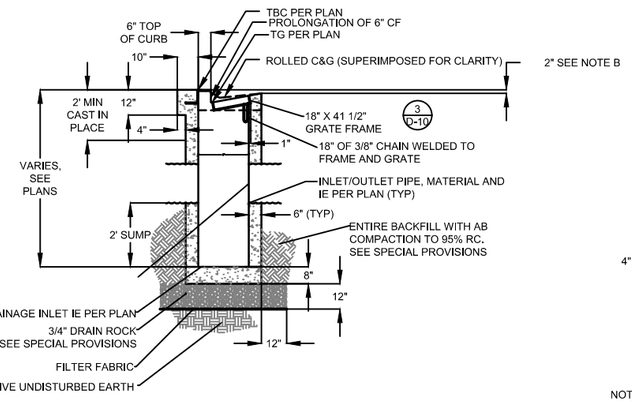
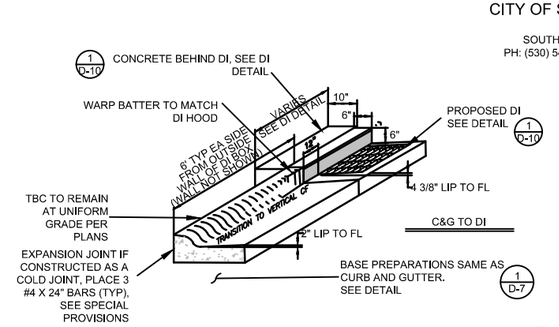
PH: (530) 542-6033 FAX: (530) 541-3051









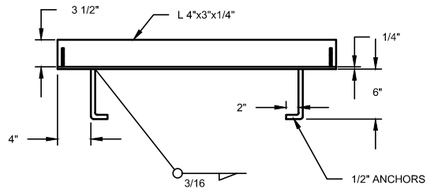
CURB AND GUTTER TRANSITION TO DRAINAGE INLET
NTS
2 D-10

DRAINAGE INLET NOTES:

1. THE 1:1 SLOPED CONCRETE SECTION IS TO BE POSITIONED ON THE UP SLOPE SIDE OF THE DRAINAGE INLET. AT SAG LOCATIONS THE 1:1 SLOPED CONCRETE SECTION IS TO BE ON BOTH SIDES OF THE DRAINAGE INLET.
2. DEPRESS GUTTER FLOWLINE FROM 3 5/8" TO 6", AS MEASURED FROM TBC, PER 6' CURB TRANSITION DETAIL.
3. FLOOR OF THE DRAINAGE INLET SHALL BE PLACED PRIOR TO OR AT THE SAME TIME AS THE SIDE WALLS, OR TIED WITH REBAR.
4. FRAME AND GRATE SHALL CONFORM TO THE FRAME AND GRATE DETAIL ON THE PLANS, D&L I-3542, OR EQUAL.
5. DRAINAGE INLET HOOD SHALL BE 1/2" MINIMUM THICKNESS STEEL PLATE.
6. WALL REINFORCING (NOT SHOWN) SHALL BE #4 BARS @ 18" OC EACH WAY, PLACED 1 1/2" CLEAR FROM INSIDE OF BOX. INLET BOTTOM REINFORCING NOT REQUIRED EXCEPT AS NOTED IN NOTE 3, ABOVE.
7. A PRECAST UNIT WITH CAST-IN-PLACE TOP SECTION TO RECEIVE GRATE, FRAME AND HOOD WILL BE AN ACCEPTABLE ALTERNATIVE TO CAST-IN-PLACE UNITS. DRAINAGE INLETS THAT ARE ENTIRELY PRECAST ARE NOT ACCEPTABLE. CAST-IN-PLACE TOP SECTIONS SHALL BE DOWLED INTO THE CURB AND GUTTER WITH 3-#4 BARS, 18" LONG, ON EACH SIDE OF DRAINAGE INLET.
8. TOP 1' OF DI SHALL BE CAST IN PLACE. NO PRE-CAST DI TOP SECTION ARE ALLOWED.

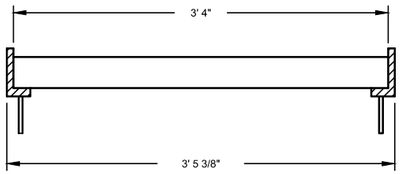
NOTE:
A. IN ORDER FOR PROPER INSTALLATION OF DETAIL A SUMP MAY BE REQUIRED. CONTRACTOR TO COORDINATE WITH THE PRECAST MANUFACTURER.
B. PLACE AC 3/8" ABOVE ADJACENT CONCRETE.

DRAINAGE INLET
NTS
1 D-10

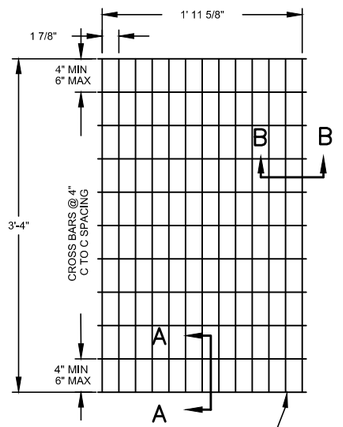


CROSS SECTION
(THRU FRAME)

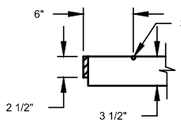
NOTE: TYPE 24-13 GRATE (WELDED STEEL) BEARING BARS TO BE 3-1/2" X 1/4" BARS ON 1-7/8" CENTERS. 3/8" DIA. CROSS BARS MAY BE FILLET WELDED RESISTANCE WELDED OR ELECTROFORGED TO BEARING BARS. WEIGHT OF 24" GRATE = 141 LBS.



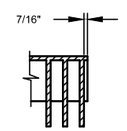
LONGITUDINAL SECTION
(THRU FRAME AND GRATE)



3/16 FILLET WELD FULL DEPTH EACH SIDE ON OUTSIDE BEARING BARS AND ON EVERY THIRD INTERNAL BEARING BAR.



SECTION A-A



SECTION B-B

STORM DRAIN INLET GRATE
NTS
3 D-10

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DETAIL SHEET 10

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700
SHEET TITLE	D-10
SHEET NUMBER	65
LAND USE #	N/A

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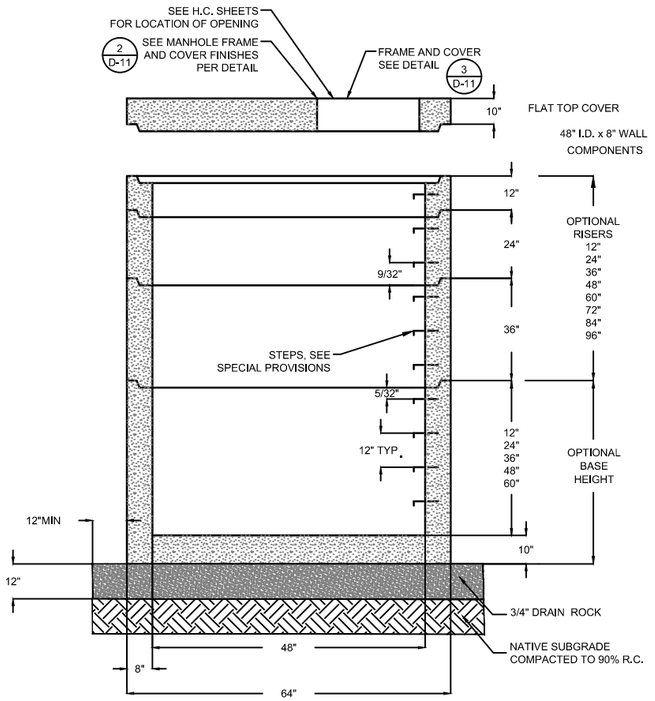
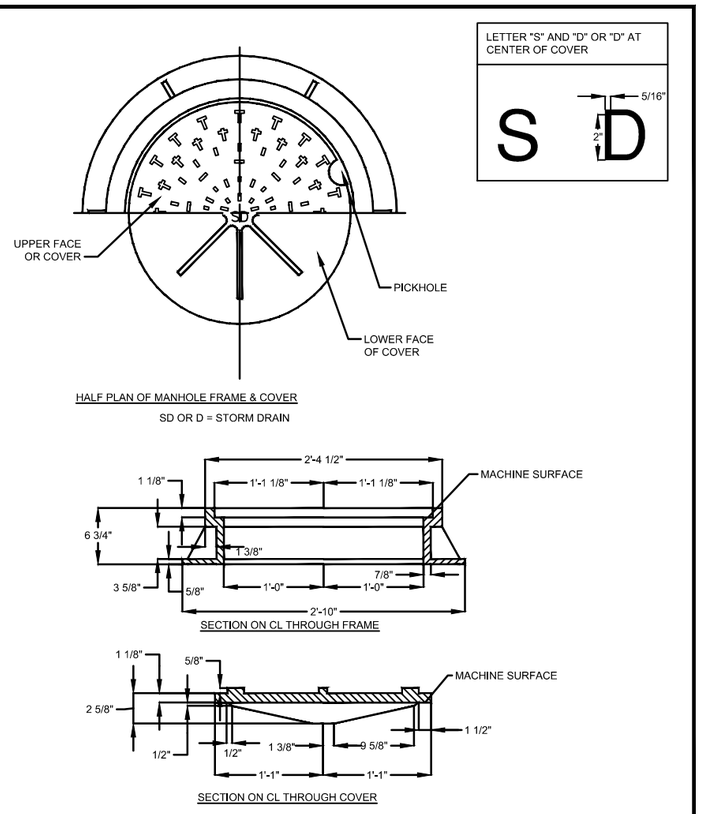
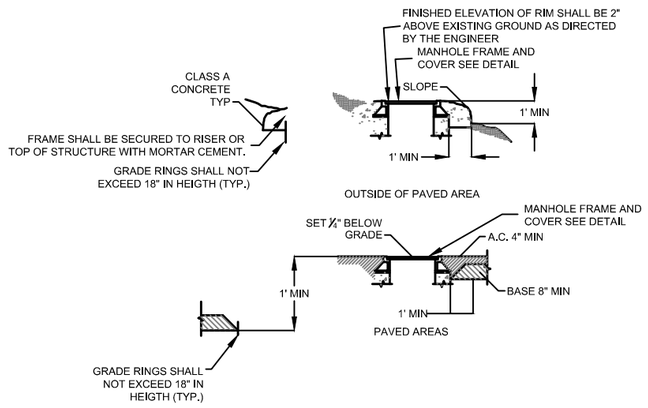


48" DIAMETER STORM DRAIN MANHOLE 1 D-11
NTS

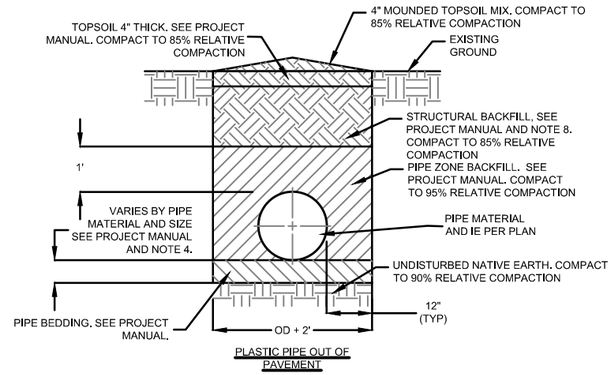


City of South Lake Tahoe	
ENGINEERING DEPARTMENT STORMDRAIN MANHOLE 24" FRAME AND COVER	
APPROVED BY: 05/01/09 CITY ENGINEER	NOT TO SCALE / STANDARD DRAWING SD43

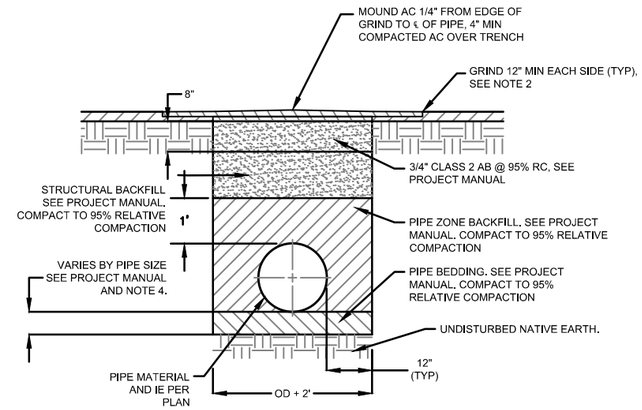
STORMDRAIN MANHOLE 24" FRAME AND COVER 3 D-11
NTS



MANHOLE FRAME AND COVER FINISHES 2 D-11
NTS



PLASTIC PIPE OUT OF PAVEMENT



PLASTIC PIPE IN PAVEMENT

NOTES:

1. MINIMUM COVER* FROM CROWN OF PIPE TO FINISH GRADE SHALL BE AS FOLLOWS:
   CULVERTS 18 INCHES
   STORM DRAINS 18 INCHES FOR RCP --- 24 INCHES FOR HDPE
   *UNLESS OTHERWISE APPROVED. FOR ADDITIONAL INFORMATION SEE CSLT STANDARD DRAWING SD64.
2. GRIND PAVEMENT A MINIMUM OF 1 FOOT BEYOND EACH SIDE OF THE LONGITUDINAL OR TRANSVERSE EXCAVATION AFTER TRENCH BACKFILL AND FIRST LIFT OF HOT MIX AC.
3. REPLACE PAVEMENT TO EDGE OF PAVEMENT (EP) IF THE EXCAVATION IS WITHIN 3 FEET OF THE EP.
4. IN WET OR ROCKY MATERIAL THE DEPTH OF THE TRENCH BEDDING SHALL BE INCREASED TO THE LARGER OF EITHER 6 IN. OR 1/4 DIA OF PIPE.
5. THE MINIMUM DISTANCE BETWEEN THE SIDE OF THE TRENCH AND THE SIDE OF THE PIPE SHALL BE 1/2 OD OR 12", WHICHEVER IS GREATER.
6. PIPES INSTALLED WITHIN FILL SHALL BE 95% RELATIVE COMPACTION UP TO A MINIMUM OF 12 INCHES ABOVE THE TOP OF PIPE.
7. IN AREAS WITH MINIMUM COVER, BACKFILL ABOVE BEDDING SHALL BE CLASS 2 AGGREGATE BASE UNLESS BACKFILLING WITH CEMENT SLURRY.
8. IN AREAS OF NATURAL VEGETATION OR LANDSCAPING, REMOVE TOP 12 INCHES OF MATERIAL, STOCKPILE & REPLACE ON TRENCH IN A MOUND. BACKFILL COMPACTED BETWEEN 80% AND 85% RELATIVE COMPACTION.
9. ALL LANDSCAPING CONDUITS WITHIN THE ROADWAY PRISM AND/OR TRAFFIC AREAS MUST HAVE MINIMUM OF 30 INCHES COVER.
10. AC PATCH SHALL BE HOTMIX ASPHALT A MINIMUM COMPACTED THICKNESS OF 4 INCHES AND PLACED IN A MINIMUM OF 2 LIFTS.
11. COLD MIX ASPHALT MAY BE PLACED TEMPORARILLY, BUT MUST BE COMPLETELY REMOVED BEFORE PLACING THE PERMANENT HOT MIX ASPHALT.
12. PLACE AGGREGATE BASE (AB) AT THE TOP OF THE EXCAVATION WHERE THE EXCAVATION IS WITHIN 2' OF EP OR IF AB PRESENTLY EXISTS ABOVE THE EXCAVATION. IF THE EXCAVATION IS AT THE BOTTOM OF A ROADSIDE DITCH, BEYOND A ROADSIDE DITCH, OR BEHIND A CURB, THE REQUIREMENT FOR AB CAN BE WAIVED.
13. TRANSVERSE EXCAVATION ON ROADWAYS PAVED WITHIN 2 YEARS ARE NOT ALLOWED AND MUST BE BORED. LONGITUDINAL EXCAVATIONS ON ROADWAYS PAVED WITHIN 5 YEARS OR ON COLLECTOR ROADS WITH A HIGH QUALITY RIDING SURFACE REQUIRE A 2" OVERLAY WHICH CONFORMS OR A 2" GRIND AND OVERLAY OF THE TRAVEL LANE.
14. BACKFILL TO BE STRUCTURAL BACKFILL. AS SHOWN IN THIS DETAIL AND AS DESCRIBED IN PROJECT MANUAL.
15. EXCESSIVE TRANSVERSE CUTS MAY REQUIRE A GRIND AND REPAVE OF ENTIRE TRAVEL LANE BETWEEN CUTS.
16. NO SAWCUTS WILL BE ALLOWED IN WHEEL PATHS. SAWCUT LINES SHALL BE PLACED AT ROAD CL, WITHIN SHOULDER OR MIDDLE OF TRAVEL LANE, AND OUTSIDE WHEEL PATHS.
17. MINIMUM PATCH WIDTH SHALL BE 3' WIDE.
18. PATCH WORK SHALL NOT RESULT IN "RIBBON" STRIPS OF PAVEMENT (LESS THAN 3 FEET WIDE). EXISTING PAVEMENT WIDTHS LESS THAN 3 FEET WIDE SHALL BE REMOVED AND PAVED WITH THE PATCH WORK.

TYPICAL PIPE TRENCH 4 D-11
NTS

60% DESIGN

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DETAIL SHEET 11
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700
SHEET TITLE	D-11
SHEET NUMBER	66
LAND USE #	N/A

Plot Stamp: 6/19/2019 3:25:58 PM • Ivan Trujillo
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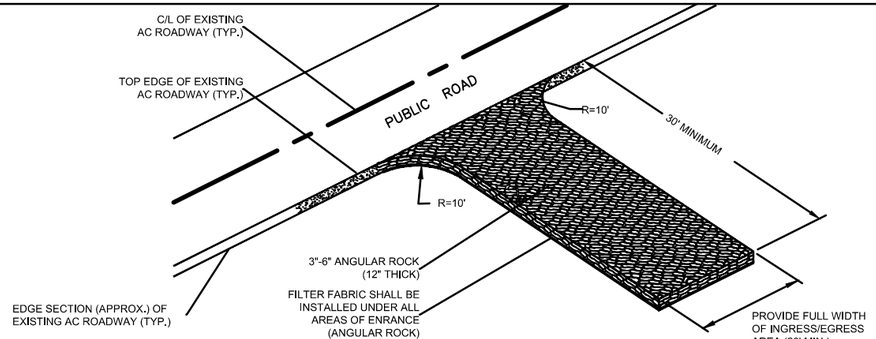
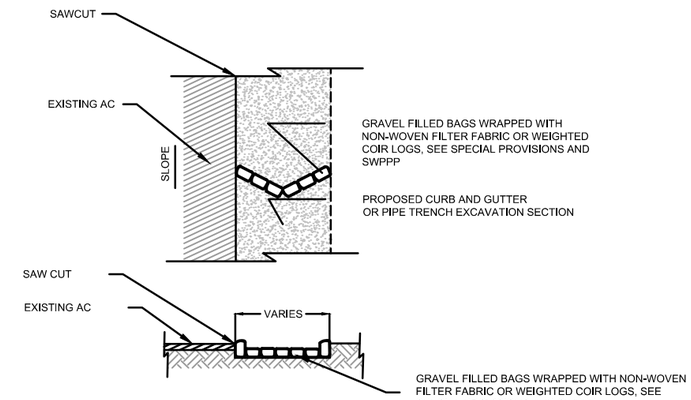


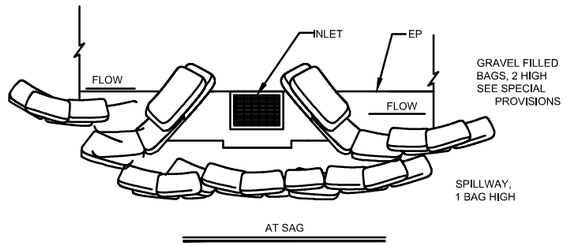
NOTES:
1. A STABILIZED CONSTRUCTION INGRESS AND EGRESS. ENTRANCE IS REQUIRED AT ALL LOCATIONS CONSTRUCTION VEHICLES WILL BE ENTERING/LEAVING NON-PAVED SURFACES. SEE PLANS.
2. THE ENTRANCE SHALL BE PROPERLY GRADED TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
3. THE ENTRANCE SHALL BE CONSTRUCTED ON LEVEL GROUND.
4. PERIODIC TOP DRESSING WITH ADDITIONAL STONE SHALL BE PROVIDED TO ENSURE THE INTEGRITY OF THE ENTRANCE DURING CONSTRUCTION.
5. THE ENTRANCE SHALL BE INSPECTED WEEKLY AND AFTER EACH RAINFALL.
6. ROCK MATERIAL SHALL BE ADDED WHEN SURFACE VOIDS ARE NOT VISIBLE.
7. ALL SEDIMENT DEPOSITS ON PAVED ROADWAYS SHALL BE REMOVED IMMEDIATELY.
8. ALL MATERIALS SHALL BE REMOVED AT COMPLETION OF CONSTRUCTION AND AREAS REVEGETATED. SEE REVEGETATION PLANS AND SPECIAL PROVISIONS.

TEMPORARY CONSTRUCTION ENTRANCE — 1 / D-12
NTS

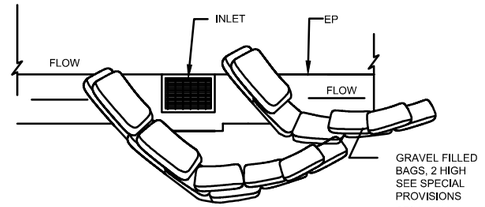


NOTE: 1. APPLY TO COMPACTED SURFACES SUCH AS SUBGRADE FOR CONCRETE WORK AND AC PAVING.

GRAVEL BAG CHECK DAMS AT C&G, AC SWALE & PIPE TRENCH EXCAVATIONS — 3 / D-12
NTS



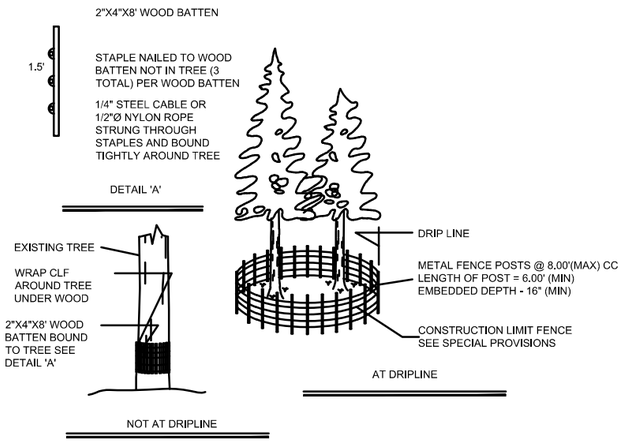
AT SAG



ON GRADE

NOTES:
1. INTENDED FOR SHORT-TERM USE ONLY.
2. USE TO INHIBIT NON-STORMWATER SUCH AS DUST CONTROL WATERING FLOW.
3. ALLOW FOR PROPER MAINTENANCE AND CLEANUP.
4. BAGS MUST BE REMOVED AFTER ADJACENT OPERATION IS COMPLETED.
5. SEE CALTRANS STANDARD DETAIL T62 FOR ADDITIONAL INFORMATION.

DRAINAGE INLET OR SEDIMENT TRAP PROTECTION - TYPE 3 — 2 / D-12
NTS

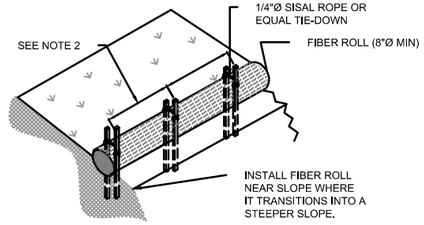


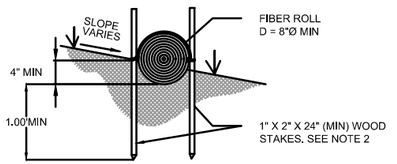
AT DRIPLINE

NOT AT DRIPLINE

NOTE:
1. DETAIL SHOWN IS FOR TREE PROTECTION FENCE, MATERIAL AND SPACING SHOWN ALSO APPLIES TO CONSTRUCTION LIMIT FENCE.
2. CLF & TREE PROTECTION FENCE SHALL BE 48" HIGH (MINIMUM).
3. FOR TREES WITH DRIPLINES THAT OVERHANG THE CONSTRUCTION AREAS, THE LOCATION OF THE TREE PROTECTION FENCE SHALL BE DETERMINED IN THE FIELD BY THE ENGINEER AND/OR TRPA AT PREGRADE MEETING.

TREE PROTECTION AND CONSTRUCTION LIMIT FENCE (CLF) — 4 / D-12
NTS





NOTE:
1. INSTALL FIBER ROLL ALONG LEVEL CONTOUR.
2. SEE CALTRANS STANDARD DETAIL T56 FOR ADDITIONAL DETAILED INFORMATION. INFORMATION ON THIS SHEET IS GENERAL AND FOR INFORMATIONAL PURPOSES ONLY

TYPICAL FIBER ROLL INSTALLATION — 5 / D-12
NTS

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DETAIL SHEET 12

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE, SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

60% SUBMITTAL NOT FOR CONSTRUCTION

DATE	06/2019
DRAWN	IT
DESIGNED	IT / SP
CHECKED	SP / RC
PROJECT #	E317202700
SHEET TITLE	D-12
SHEET NUMBER	67
LAND USE #	N/A

60% DESIGN

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Lake Tahoe Boulevard Class 1
Bicycle Trail Project
Initial Study/Negative Declaration/
Initial Environmental Checklist

APPENDIX B

TECHNICAL MEMORANDUM – REVEGETATION

WESTERN BOTANICAL SERVICES, INC.

TECHNICAL MEMORANDUM

To: Stephen Peck, P.E, Cardno

From: Julie Etra, WBS

Date: June 11, 2018

Re: **Lake Tahoe Blvd. Bike Trail Project**

Introduction

Western Botanical Services Inc. (WBS) conducted surveys for special status plants, habitat composition, noxious and invasive weeds, and jurisdictional wetlands or Water of the United Sates (WOUS) along the portion of Lake Tahoe Blvd. within in South Lake Tahoe, California (Figure 1). WBS was also tasked with making recommendations for treatment of noxious and invasive weeds within the project area if infestations were present.

Methodology

Pre-Field Analysis

Prior to initiating the survey, the California Natural Diversity Data Base (CNDDB) and the Tahoe Regional Planning Agency (TRPA) Special Status Plant Species List were consulted for occurrence records of special status plants within or near the project area. The plant species that were reported are listed in Table 1. The CNDDB data response is in Attachment A.

In addition to special status plant species, the project area was also surveyed for the noxious weed species listed on the El Dorado County Department of Agriculture's Noxious Weed list maintained by the El Dorado County Invasive Weed Management Group and accessible online at: http://www.cal-ipc.org/solutions/collaboration/wmas/el-dorado-wma/.

Field Survey

On June 4, 2018 botanists Julie Etra and Kris Kuyper thoroughly surveyed the entire site, walking parallel transects five ft. apart on both sides of Lake Tahoe Boulevard, within the project boundaries. All species were identified to the lowest taxonomic level possible. The survey was conducted at an optimum time of year for species identification. Given the location of the site and the associated urban development and lack of habitat for special status species, the survey achieved the desired objectives for this project and no additional surveys are anticipated.

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CONTACT UNDERGROUND SERVICE ALERT (USA)
1-800-227-2600
PRIOR TO ANY CONSTRUCTION WORK

CITY OF SOUTH LAKE TAHOE
1052 TATA LANE
SOUTH LAKE TAHOE, CA 96150
PH: (530) 542-6033 FAX: (530) 541-3051

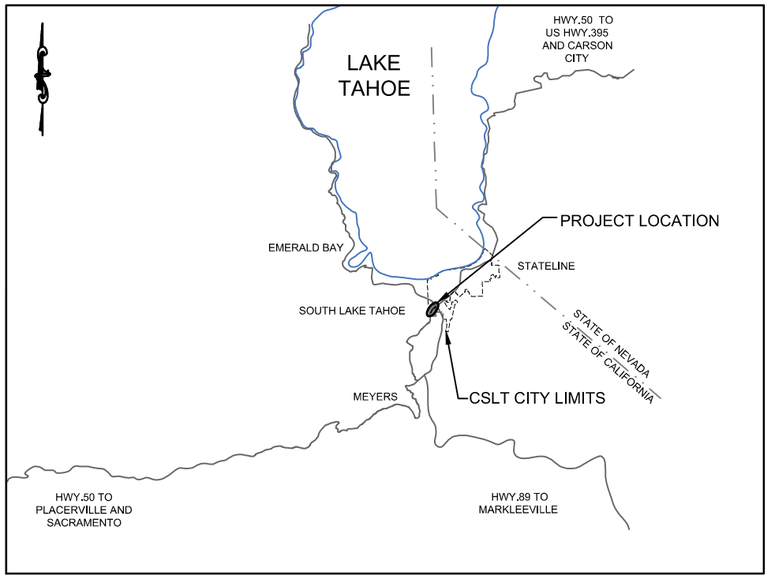
CITY OF SOUTH LAKE TAHOE, PUBLIC WORKS DEPARTMENT

LAKE TAHOE BOULEVARD BIKE TRAIL PROJECT

CONCEPT PLAN
APRIL 2018

PROJECT LOCATION MAP

SCALE: 1" = 200'



VICINITY MAP

N.T.S

CONCEPT PLANS

Cardno
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LAKE TAHOE
2561 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588 - 9069 FAX: (775) 588 - 9219
www.cardno.com

PREFERRED ALTERNATIVE - TITLE SHEET

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE

SOUTH LAKE TAHOE, CALIFORNIA

BY	DESCRIPTION	DATE	#

PRELIMINARY NOT FOR CONSTRUCTION

DATE	04/2018
DRAWN	IT / GP
DESIGNED	IT / SP
CHECKED	SP / DM
PROJECT #	E317202700

SHEET TITLE
G-1

SHEET NUMBER
1

LAND USE # N/A

Plot Stamp: 4/9/2018 4:36:43 PM • Ivan Trujillo
File: R:\Projects\E317202700 - Lake Tahoe Blvd Bike Trail_Cardno\AutoCAD\Sheets\LTB_Bike Trail - Preferred Alt Title.dwg, Tab: TITLE

Table 1. CNDDB and TRPA Occurrences of Special Status Plants

Special Status Plant Species	Federal or State Protected	Habitat Description	Habitat w/n Project Area
Arabis rectissima var. *simulans* (Washoe tall rockcress)	No	Dry, sandy, granitic or andesitic soil on mostly gentle slopes of all aspects, in full or filtered sunlight of thinly-littered openings in mature, open Pinus jeffreyi - Abies concolor forests. Densities highest on very light and recovered disturbances, excluded from areas of bare ground, deep litter, dense tree or shrub cover, or intense disturbance. 6035-7350 feet.	No
Arabis rigidissima var. *demota* (Galena Creek rockcress)	No	Sandy to rocky soils or outcrops derived from granitic or volcanic materials, mostly on moderate to steep northerly aspects, often in drainage ways, near meadow edges, or in other moisture accumulating microsites, generally in dry openings in Abies - Pinus - Populus tremuloides associations. 7020-10020 feet.	No
Boechera tiehmii (Tiehm rockcress)	No	Steep outcrops, talus, and scree of weathering andesitic volcanic and metavolcanic (and possible metasedimentary) deposits, sometimes on adjacent decomposed granite or carbonates, on ridge tops or on steep, mostly west to north aspects, frequently in dry drainages, with a sparse cover of other subalpine to alpine species. 9820-10560 feet.	No
Draba asterophora var. *asterophora* (Tahoe draba)	No	Granite rock crevices, talus, scree, or rocky decomposed granite or volcanic soils on steep slopes, mostly on north to east aspects, in the subalpine conifer zone with a very sparse understory. 8000-10200 feet.	No
Eriogonum ovalifolium var. *eximium* (Slide Mtn. buckwheat	No	Loose disintegrated granite screes at elevations of around 8500'-9600'.	No
Ivesia aperta var. *aperta* (Sierra Valley mousetails)	No	Shallow, vernally saturated, slowly draining, sandy to rocky clay soils derived from mostly andesitic volcanic rock or alluvium on benches and flats in meadows, seeps, intermittent drainages, etc., in the yellow-pine, mountain sagebrush, and mountain mahogany zones. Dependent on wetland margin areas in Nevada. 6460-7300 feet.	No
Meesia triquetra (three-ranked humpmoss)	No	Wetland sites, specifically, within wet woods in the wettest portions of what are called "extreme rich fens."	No
Meesia uliginosa (broad-nerved hump moss)	No	Damp soil on the edge of fens.	No
Bruchia bolanderi (Bolander's bruchia)	No	Damp clay soils along streambanks, meadows, fens, and springs.	No
Botrychium minganense (Mingan moonwort)	No	Creekbanks in conifer forest	No

Special Status Plant Species	Federal or State Protected	Habitat Description	Habitat w/n Project Area
Botrychium crenulatum (scalloped moonwort)	No	Moist meadows, freshwater marsh, and near creeks.	No
Botrychium ascendens (Upswept moonwort)	No	Grassy fields, coniferous woods near springs and creeks	No
Pinus albicaulis (Whitebark pine)	No	Whitebark pine is typically found in cold, windy, high elevation or high latitude sites.	No
Pinus ponderosa ssp. *Washoensis* (Washoe pine)	No	Mountain slopes (1980-2440 m elevation) with western white pine (P. monticola), lodgepole pine (P. contorta), ponderosa pine (P. ponderosa), and California red fir (Abies magnifica).	No
Rorippa subumbellata (Tahoe yellowcress)	State Endangered	Coarse sand and sandy soils of active beaches, stream inlets, beach dunes, and backshore depressions, generally within a few feet of the local water table, endemic to the shore zone of Lake Tahoe. Aquatic or wetland-dependent in Nevada.	No

Results

Dominant Plant Communities and General Site Conditions

The site is mostly urbanized with native Jeffrey pine (*Pinus jeffreyi*) and lodgepole pine (*Pinus contorta*) in the overstory, and ornamental species associated with the landscaping of various commercial, public, and private properties as well as remnant erosion control species most likely seeded in the 1980s and 1990s.

A drainage channel, seeps, and associated wetland vegetation occurred on the west side of Lake Tahoe Blvd. between Julie Lane and just south of Viking Lane. No improvements have been proposed for these areas. Therefore, wetland delineations and/or identification and mapping of potential Waters of the United States (WOUS) in these areas was not necessary.

Vegetation identified in the project area are listed in Table 2 below.

Table 2. Species Identified in the June 4 2018 Survey

Family	Scientific Name	Common Name
ASTERACEAE	*Achillea millefolium*	Yarrow
	Grindelia squarrosa	Gumweed
	Lactuca serriola	Prickly lettuce
	Taraxacum officinale	Dandelion
	Tragopogon dubius	Oyster plant
	Wyethia mollis	Mule's ears
BERBERIDACEAE	*Mahonia repens*	Oregon grape
BRASSICACEAE	*Descurainia pinnata*	Tansy mustard
CUPRESSACEAE	*Juniperus (communis)*	Creeping juniper
CYPERACEAE	*Carex douglasii*	Douglas' sedge
	Carex nebrascensis	Nebraska sedge

Family	Scientific Name	Common Name
	Eleocharis palustris	Common spikerush
ERICACEAE	*Arctostaphylos uva-ursi*	Bearberry
FABACEAE	*Astragalus cicer*	Cicer milkvetch
	Lotus corniculatus	Birdsfoot trefoil
	Lotus purshianus	Spanish clover
	Lupinus lepidus	Pacific lupine
	Melilotus sp.	Sweet-blossom clover
	Trifolium longipes	Long-stemmed clover
	Triflolium repens	White Dutch clover
	Vicia americana	American vetch
GROSSULARIACEAE	*Ribes ceruem*	Wax currant
JUNCACEAE	*Juncus balticus*	Baltic rush
	Juncus (parryi)	Parry's rush
PINACEAE	*Abies concolor*	White fir
	Pinus jeffreyi	Jeffrey pine
PLANTAGINACEAE	*Hippuris vulgaris*	Mare's Tail
	Plantago lanceolata	Narrowleaf plantain
POACEAE	*Bromus inermis*	Smooth brome
	Bromus tectorum	Cheatgrass
	Dactylis glomerata	Orchardgrass
	Hordeum brachyantherum	Meadow barely
	Poa bulbosa	Bulbous bluegrass
	Poa pratensis	Kentucky bluegrass
	Poa secunda	Sandberg bluegrass var Sherman
	Thinopyrum ponticum	Intermediate wheatgrass
PORTULACACEAE	*Claytonia perfoliata*	Miner's lettuce
RANUNCULACEAE	*Ranunculus occidentalis*	Western buttercup
ROSACEAE	*Amelanchier alnifolia*	Western serviceberry
	Potentilla glandulosa	Sticky cinquefoil
	Purshia tridentata	Bitterbrush
	Rosa woodsii	Woods rose
SALICACEAE	*Populus tremuloides*	Quaking aspen
	Salix lemmonii	Lemmon's willow

Special Status Plants

No special status plant species listed in Table 1 are known to occur within the project area, nor is there potential habitat. None were observed during the survey.

Noxious and Invasive Species

No noxious species were identified. Only cheatgrass (*Bromus tectorum*), a non-native annual gras, was noted in severl locaitons. Cheatgrass occurs throughout the Lake Tahoe Basin and is considered invasive but is not currently regulated in California.

Recommendations

There is no potential habitat for special status species. The permits, and plans and specifications, and associated documents will include a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP should reference the *TRPA Best Management Practices Handbook* (Handbook). The Handbook cites tracking controls, (e.g. limiting contamination off site through clean construction site practices. Implementation

of this Best Management Practices will limit the spread of cheatgrass and introduction of other invasive species.

References

California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California, February 1994.

Common Weeds of the United States, 1971. U.S. Department of Agriculture in conjunction with Dover Publications, Inc., New York.

Cronquist, M.L., A.H. Holmgren, N.H. Holmgren, and J. Reveal, 1977. Intermountain flora: vascular plants of the intermountain west, U.S.A. Vol. 6. Hafner Publishing Company, Inc., New York.

Environmental Laboratory. 1987. "Corps of Engineer Wetlands Delineation Manual." U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi.

Hickman, J.C. Editor, 1993. The Jepson Manual: Higher Plants of California. University of California Press, Berkeley California.

Holland, Robert F, 1986. Preliminary descriptions of the terrestrial natural communities of California. California Department of Fish and Game.

Munz, P.A. and D.D.Keck, 1968. A California Flora and Supplement. University of California Press, Berkeley California

Nevada Natural Heritage Program. 2001. Nevada Rare Plant Atlas. Edited by J. Morefield. http://heritage.nv.gov/atlas.

USDA web site: http://plants.usda.gov/

Attachment A

CNDDB Data Search Results

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (South Lake Tahoe (3811988))

WBS, Inc. c/o EM Strategies

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Accipiter gentilis northern goshawk	G5 S3	None None	BLM_S-Sensitive CDF_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	6,280 6,320	432 S:2	0	0	0	0	0	2	2	0	2	0	0
Ambystoma macrodactylum sigillatum southern long-toed salamander	G5T4 S3	None None	CDFW_SSC-Species of Special Concern	8,500 8,500	603 S:1	0	0	0	0	0	1	0	1	1	0	0
Arabis rigidissima var. demota Galena Creek rockcress	G3T3Q S1	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	8,800 9,200	7 S:2	0	0	2	0	0	0	0	2	2	0	0
Botrychium ascendens upswept moonwort	G3G4 S2	None None	Rare Plant Rank - 2B.3 USFS_S-Sensitive	6,560 6,560	45 S:1	0	0	1	0	0	0	0	1	1	0	0
Botrychium crenulatum scalloped moonwort	G4 S3	None None	Rare Plant Rank - 2B.2 USFS_S-Sensitive	6,500 6,500	125 S:1	1	0	0	0	0	0	0	1	1	0	0
Botrychium minganense Mingan moonwort	G4G5 S3	None None	Rare Plant Rank - 2B.2 USFS_S-Sensitive	6,580 6,640	115 S:2	0	1	0	0	0	1	0	2	2	0	0
Bruchia bolanderi Bolander's bruchia	G3G4 S3	None None	Rare Plant Rank - 4.2 USFS_S-Sensitive	7,800 7,800	28 S:1	0	1	0	0	0	0	0	1	1	0	0
Capnia lacustra Lake Tahoe benthic stonefly	G1 S1	None None		6,250 6,250	1 S:1	0	0	0	0	0	1	1	0	1	0	0
Draba asterophora var. asterophora Tahoe draba	G2T2? S2?	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	9,800 9,800	11 S:1	0	1	0	0	0	0	0	1	1	0	0
Empidonax traillii willow flycatcher	G5 S1S2	None Endangered	IUCN_LC-Least Concern USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	6,250 6,250	90 S:1	0	0	0	0	0	1	1	0	1	0	0
Erethizon dorsatum North American porcupine	G5 S3	None None	IUCN_LC-Least Concern	6,255 9,612	506 S:5	0	0	0	0	0	5	2	3	5	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Helisoma newberryi Great Basin rams-horn	G1 S1S2	None None	USFS_S-Sensitive	6,250 6,250	9 S:1	0	0	0	0	0	1	1	0	1	0	0
Lithobates pipiens northern leopard frog	G5 S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	6,260 6,260	22 S:1	0	0	0	0	0	1	1	0	1	0	0
Martes caurina sierrae Sierra marten	G5T3 S3	None None	USFS_S-Sensitive	9,000 9,000	149 S:1	0	1	0	0	0	0	1	0	1	0	0
Meesia uliginosa broad-nerved hump moss	G5 S3	None None	Rare Plant Rank - 2B.2 USFS_S-Sensitive	6,335 6,335	52 S:1	0	0	1	0	0	0	0	1	1	0	0
Rana sierrae Sierra Nevada yellow-legged frog	G1 S1	Endangered Threatened	CDFW_WL-Watch List IUCN_EN-Endangered USFS_S-Sensitive	9,000 9,000	665 S:1	0	0	0	0	0	1	1	0	1	0	0
Rorippa subumbellata Tahoe yellow cress	G1 S1	None Endangered	Rare Plant Rank - 1B.1 SB_BerrySB-Berry Seed Bank SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive	6,229 6,230	30 S:5	0	2	0	0	1	2	1	4	4	0	1
Stygobromus lacicolus Lake Tahoe amphipod	G1 S1	None None		6,250 6,250	1 S:1	0	0	0	0	0	1	0	1	1	0	0
Stygobromus tahoensis Lake Tahoe stygobromid	G1 S1	None None		6,250 6,250	1 S:1	0	0	0	0	0	1	0	1	1	0	0
Xanthocephalus xanthocephalus yellow-headed blackbird	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	6,200 6,200	13 S:1	0	0	0	0	0	1	1	0	1	0	0

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	73118	**EO Index:**	74049
Key Quad:	South Lake Tahoe (3811988)	**Element Code:**	NBMUS13010
Occurrence Number:	15	**Occurrence Last Updated:**	2010-04-27

Scientific Name: *Bruchia bolanderi*

Common Name: Bolander's bruchia

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 4.2

Other Lists: USFS_S-Sensitive

CNDDB Element Ranks: **Global:** G3G4

State: S3

General Habitat:

LOWER MONTANE CONIFEROUS FOREST, MEADOWS AND SEEPS, UPPER MONTANE CONIFEROUS FOREST.

Micro Habitat:

MOSS WHICH GROWS ON DAMP CLAY SOILS. SEEMS TO COLONIZE BARE SOIL ALONG STREAMBANKS, MEADOWS, FENS AND SPRINGS. THIS SPECIES HAS AN EPHEMERAL NATURE AND IS DISTURBANCE ADAPTED. 1610-3340 M.

Last Date Observed:	2009-07-27	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2009-07-27	**Occurrence Rank:**	Good
Owner/Manager:	USFS-LAKE TAHOE BMU	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

NE END OF HIGH MEADOWS, APPROXIMATELY 5 MILES SE OF SOUTH LAKE TAHOE.

Detailed Location:

MAPPED BY CNDDB IN THE NE1/4 OF THE SE1/4 OF SECTION 12 ACCORDING TO 2006 GPS COORDINATES PROVIDED BY LEVY. DIRECTLY ACROSS FROM ROAD ON EAST SIDE OF MEADOW.

Ecological:

HIGH OPEN MEADOW HABITAT. WOODED AREA SURROUNDING MEADOW HAS AN OVERSTORY DOMINATED BY PINUS CONTORTA. POPULATION FOUND HIDDEN IN CAREX SP. AT THE BASE OF A SMALL PINUS CONTORTA THAT HAS ENCROACHED INTO THE MEADOW.

Threats:

PROPOSED COLD CREEK/HIGH MEADOWS RESTORATION PROJECT.

General:

5 CLUMPS OF PLANTS SEEN IN 2006. A SAMPLE WAS COLLECTED IN 2007 AND ID OF PLANTS WAS VERIFIED AS BRUCHIA BOLANDERI. 5 CLUMPS OF PLANTS SEEN IN JULY OF 2009; SITE WAS VERY DRY AND SHOULD BE VISITED EARLIER NEXT TIME.

PLSS:	T12N, R18E, Sec. 12, SE (M)	**Accuracy:**	80 meters	**Area (acres):**	0
UTM:	Zone-11 N4309750 E248294	**Latitude/Longitude:**	38.90058 / -119.90247	**Elevation (feet):**	7,800

County Summary:	**Quad Summary:**
El Dorado	South Lake Tahoe (3811988)

Sources:

JEN09F0013	JENNINGS, M. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR BRUCHIA BOLANDERI 2009-07-27
LEV06F0001	LEVY, S. - FIELD SURVEY FORM FOR BRUCHIA BOLANDERI 2006-08-21

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	66664	**EO Index:**	66812
Key Quad:	South Lake Tahoe (3811988)	**Element Code:**	NBMUS4L030
Occurrence Number:	10	**Occurrence Last Updated:**	2017-09-22

Scientific Name: *Meesia uliginosa*

Common Name: broad-nerved hump moss

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 2B.2

Other Lists: USFS_S-Sensitive

CNDDB Element Ranks: **Global:** G5

State: S3

General Habitat:

MEADOWS AND SEEPS, BOGS AND FENS, UPPER MONTANE CONIFEROUS FOREST, SUBALPINE CONIFEROUS FOREST.

Micro Habitat:

MOSS ON DAMP SOIL. OFTEN FOUND ON THE EDGE OF FENS OR RAISED ABOVE THE FEN ON HUMMOCKS/SHRUB BASES. 1095-2805 M.

Last Date Observed:	2014-09-16	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2014-09-16	**Occurrence Rank:**	Fair
Owner/Manager:	USFS-TAHOE NF	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

JUST EAST OF THE LAKE TAHOE AIRPORT AND THE UPPER TRUCKEE RIVER, SOUTH LAKE TAHOE.

Detailed Location:

FOUND AT THE BASE OF A SALIX IN THE NE SECTION OF THE MEADOW AREA. MAPPED ACCORDING TO 2014 MCKNIGHT COORDINATES. WITHIN THE NE 1/4 OF THE NE 1/4 OF SECTION 16. THIS SITE IS LTBMU POPULATION MEUL2.

Ecological:

SALIX IS THE DOMINANT SHRUB WITH SCATTERED JUNCUS AND EQUISETUM AS THE DOMINANT GROUND COVER. SLIGHTLY RAISED ABOVE WATER, SURROUNDED BY CIRSIUM VULGARE. MEESIA TRIQUETRA IS ALSO FOUND IN THE AREA.

Threats:

LAWN MOWING ABOVE SITE. TIRE TRACKS, GARBAGE, BULL THISTLE PRESENT IN AREA. EROSION CONTROL PROJECT WILL DIVERT WATER.

General:

UNKNOWN NUMBER OF INDIVIDUALS OBSERVED IN 2005. 5% COVER OF THIS SPECIES OBSERVED IN 2009 & 2014; GROSS AREA WAS 5 X 5 FT. THE AREA APPEARED VERY DRY IN 2009 (POSSIBLY RESULTING FROM WATER DIVERSION?).

PLSS:	T12N, R18E, Sec. 16, NE (M)	**Accuracy:**	specific area	**Area (acres):**	1
UTM:	Zone-11 N4309114 E240864	**Latitude/Longitude:**	38.8927 / -119.98782	**Elevation (feet):**	6,335

County Summary:	**Quad Summary:**
El Dorado	South Lake Tahoe (3811988)

Sources:

GRO05F0007	GROSS, S. - FIELD SURVEY FORM FOR MEESIA ULIGINOSA 2005-07-26
HEA09F0002	HEARD, K. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR MEESIA ULIGINOSA 2009-07-15
MCK14F0004	MCKNIGHT, S. & G. METZLER (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR MEESIA TRIQUETRA & MEESIA ULIGINOSA 2014-09-16
USF14D0004	U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT - LAKE TAHOE BASIN MANAGEMENT UNIT 2014 RARE PLANT DATA 2014-XX-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	95692	**EO Index:**	96831
Key Quad:	South Lake Tahoe (3811988)	**Element Code:**	PDBRA061R1
Occurrence Number:	3	**Occurrence Last Updated:**	2015-03-26

Scientific Name: *Arabis rigidissima var. demota*

Common Name: Galena Creek rockcress

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: USFS_S-Sensitive

CNDDB Element Ranks: **Global:** G3T3Q

State: S1

General Habitat:

BROADLEAFED UPLAND FOREST, UPPER MONTANE CONIFEROUS FOREST.

Micro Habitat:

WELL-DRAINED, STONY SOIL UNDERLAIN BY BASIC VOLCANIC ROCK. 2270-2805 M.

Last Date Observed:	2009-07-06	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2009-07-06	**Occurrence Rank:**	Fair
Owner/Manager:	USFS-LAKE TAHOE BMU	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

HEAVENLY SKI RESORT; VICINITY OF GONDOLA JUST NORTH OF ROAD 12N40, JUST WEST OF THE CA/NV STATE LINE.

Detailed Location:

LTBMU POP ARRID 3A-C. MAPPED BY CNDDB AS 2 POLYGONS ACCORDING TO 2009 HEARD AND JENNINGS COORDINATES AND MAP. NORTHERN POLYGON NEEDS CONFIRMATION; HEARD AND JENNINGS NOTE THAT COORDINATES DO NOT MATCH WRITTEN DESCRIPTION FOR THIS SITE.

Ecological:

FORB AND GRAMINOID COVER IS SPARSE. GRANITE-SAND OPEN AREA SURROUNDED BY PINUS ALBICAULIS, P. CONTORTA, P. MONTICOLA, ERIOGONUM SP., ARABIS PLATYSPERMA, PHLOX SP., AND PERENNIAL GRASSES. PLANTS FOUND AT LOWER EDGE OF ARCTOSTAPHYLOS STAND.

Threats:

NORTHERN POLYGON: THREATENED BY TRAMPLING IN 2005, MAY HAVE SINCE BEEN EXTIRPATED FROM ZIPLINE CONSTRUCTION ACTIVITIES.

General:

NORTHERN POLYGON HAD 2 PLANTS IN 2005 BUT NO PLANTS WERE OBSERVED IN 2009; POPULATION APPEARS TO HAVE BEEN EXTIRPATED FROM CONSTRUCTION ACTIVITIES. SOUTHERN POLYGON HAD 2 PLANTS IN 2009.

PLSS:	T12N, R18E, Sec. 01, NE (M)	**Accuracy:**	specific area	**Area (acres):**	12
UTM:	Zone-11 N4313431 E247527	**Latitude/Longitude:**	38.93350 / -119.91267	**Elevation (feet):**	9,200

County Summary:	**Quad Summary:**
El Dorado	South Lake Tahoe (3811988)

Sources:

GRO10U0001	GROSS, S. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - LTBMU ELEMENT OCCURRENCE #ARRID 3A 2010-04-14
GRO10U0002	GROSS, S. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - LTBMU ELEMENT OCCURRENCE #ARRID 3C 2010-04-14
GRO10U0004	GROSS, S. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - E-MAIL REGARDING ARABIS RIGIDISSIMA VAR. DEMOTA (LTBMU EO#ARRID2B, 3A, 3C, 4A) 2010-04-14
HEA09F0043	HEARD, K. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR ARABIS RIGIDISSIMA VAR. DEMOTA 2009-07-06
JEN09F0021	JENNINGS, M. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR ARABIS RIGIDISSIMA VAR. DEMOTA 2009-07-06
JEN09F0023	JENNINGS, M. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR ARABIS RIGIDISSIMA VAR. DEMOTA 2009-07-06

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	95693	**EO Index:**	96832
Key Quad:	South Lake Tahoe (3811988)	**Element Code:**	PDBRA061R1
Occurrence Number:	4	**Occurrence Last Updated:**	2015-03-24

Scientific Name: *Arabis rigidissima var. demota*

Common Name: Galena Creek rockcress

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 1B.2

Other Lists: USFS_S-Sensitive

CNDDB Element Ranks: **Global:** G3T3Q

State: S1

General Habitat:

BROADLEAFED UPLAND FOREST, UPPER MONTANE CONIFEROUS FOREST.

Micro Habitat:

WELL-DRAINED, STONY SOIL UNDERLAIN BY BASIC VOLCANIC ROCK. 2270-2805 M.

Last Date Observed:	2009-08-07	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2009-08-27	**Occurrence Rank:**	Fair
Owner/Manager:	USFS-LAKE TAHOE BMU	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

HEAVENLY SKI RESORT; ALONG POWDERBOWL LIFT LINE NEAR END OF ROAD 13N52L, ABOUT 2 MILES WEST OF THE CA/NV STATE LINE.

Detailed Location:

LTBMU POPULATION ARRID 4A & 4B. MAPPED BY CNDDB ACCORDING TO 2009 HEARD COORDINATES, IN THE NW 1/4 OF THE SE 1/4 OF SECTION 1.

Ecological:

ASSOCIATED WITH PINUS MONTICOLA, ARCTOSTAPHYLOS NEVADENSIS (DOMINANT SHRUB), PENSTEMON SP., CERCOCARPUS LEDIFOLIUS, AND BROMUS SP. SEVERAL LARGE BOULDERS IN AREA.

Threats:

LOTS OF DISTURBANCE ASSOCIATED WITH CHAIR LIFT LINE.

General:

EAST PORTION OF POLYGON: 1 PLANT OBSERVED IN 2005, NO PLANTS OBSERVED ON AUG 27, 2009. WEST PORTION OF POLYGON: 2 PLANTS OBSERVED ON AUG 7, 2009; PLANTS LIKELY HYBRIDS SINCE THERE IS ARABIS PLATYSPERMA AROUND.

PLSS:	T12N, R18E, Sec. 01, SE (M)	**Accuracy:**	specific area	**Area (acres):**	9
UTM:	Zone-11 N4312015 E246675	**Latitude/Longitude:**	38.92050 / -119.92196	**Elevation (feet):**	8,800

County Summary:	**Quad Summary:**
El Dorado	South Lake Tahoe (3811988)

Sources:

GRO10U0003	GROSS, S. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - LTBMU ELEMENT OCCURRENCE #ARRID 4A 2010-04-14
GRO10U0004	GROSS, S. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - E-MAIL REGARDING ARABIS RIGIDISSIMA VAR. DEMOTA (LTBMU EO#ARRID2B, 3A, 3C, 4A) 2010-04-14
HEA09F0040	HEARD, K. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR ARABIS RIGIDISSIMA VAR. DEMOTA 2009-08-07
HEA09F0041	HEARD, K. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR ARABIS RIGIDISSIMA VAR. DEMOTA 2009-08-27

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 51164
EO Index: 51164
Key Quad: South Lake Tahoe (3811988)
Element Code: PDBRA110D1
Occurrence Number: 10
Occurrence Last Updated: 2016-08-26

Scientific Name: *Draba asterophora var. asterophora*
Common Name: Tahoe draba

Listing Status: **Federal:** None
State: None
Rare Plant Rank: 1B.2
Other Lists: USFS_S-Sensitive

CNDDB Element Ranks: **Global:** G2T2?
State: S2?

General Habitat:

ALPINE BOULDER AND ROCK FIELD, SUBALPINE CONIFEROUS FOREST.

Micro Habitat:

ON OPEN TALUS SLOPES, ROCK OUTCROPS, AND CREVICES. ON DECOMPOSED GRANITE. 2770-3505 M.

Last Date Observed: 2015-09-24
Occurrence Type: Natural/Native occurrence
Last Survey Date: 2015-09-24
Occurrence Rank: Good
Owner/Manager: USFS-LAKE TAHOE BMU,TOIYABE NF
Trend: Unknown
Presence: Presumed Extant

Location:

SOUTH AND EAST OF HEAVENLY SKI RESORT, CARSON RANGE, SE OF LAKE TAHOE.

Detailed Location:

MAPPED AS 12 POLYGONS ACC TO 2002 MILLER MAP, 2004 GROSS MAP, AND 2003, 2005, 2009, 2010, 2013, 2014 & 2015 COORDINATE INFO/DIGITAL DATA. SITE CONTAINS FS POP DRASA2 (SUB-POP A-F, H-K, N-P). PLANTS THRIVE ON AREAS OF DISTURBANCE.

Ecological:

WHITEBARK PINE ZONE DOMINATED BY PINUS ALBICAULIS AND POLYGONUM SHASTENSE BUT MORE COMMON ON EXPOSED, UNFORESTED, SLIDING GRANITIC SAND, OFTEN WITH NO ASSOCIATED SPECIES ON NORTH TO NORTHEAST-FACING SLOPES WHERE SNOW ACCUMULATES.

Threats:

SPILLS OF HYDRAULIC FLUID/FUEL, EROSION CONTROL, STRUCTURES, FELLED TIMBER, SKI RESORT, TRAILS/ROADS, VEHICLES.

General:

1000 PLANTS OBSERVED IN 2002 BY MILLER. >980 IN 2003, >2600 IN 2004, 502 IN 2005, ~3140-5290 IN 2009. 780 IN S-MOST POLYGON IN 2010. 183 PLANTS IN 3 SUBPOPULATIONS IN 2013. 16,342+ PLANTS ESTIMATED IN 2014, ~6,628 IN 2015.

PLSS: T12N, R18E, Sec. 1, E (M)
Accuracy: specific area
Area (acres): 111
UTM: Zone-11 N4312367 E248324
Latitude/Longitude: 38.92414 / -119.90311
Elevation (feet): 9,800

County Summary:

Alpine, El Dorado

Quad Summary:

South Lake Tahoe (3811988)

Sources:

BAR14F0001	BARNETT, E. & G. METZLER (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2014-07-28
DUR03F0001	DURHAM, G. - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2003-07-21
GRO03F0006	GROSS, S. - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2003-07-09
GRO03F0007	GROSS, S. - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2003-07-09
GRO03F0008	GROSS, S. - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2003-07-09
GRO03F0009	GROSS, S. - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2003-07-09
GRO03F0010	GROSS, S. - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2003-07-09
GRO03F0011	GROSS, S. - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2003-07-09
GRO03F0012	GROSS, S. - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2003-07-09
GRO03F0013	GROSS, S. - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2003-07-09
GRO04F0014	GROSS, S. - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2004-08-05
GRO04F0022	GROSS, S. - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2004-08-05

GRO04F0023	GROSS, S. - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2004-08-05
GRO04F0024	GROSS, S. - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2004-08-05
GRO04F0025	GROSS, S. - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2004-08-05
GRO04F0026	GROSS, S. - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2004-08-05
HEA09F0016	HEARD, K. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2009-07-01
HEA09F0017	HEARD, K. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2009-07-13
HEA09F0018	HEARD, K. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2009-07-13
HEA09F0019	HEARD, K. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2009-07-13
HEA09F0020	HEARD, K. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2009-07-13
HEA09F0021	HEARD, K. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2009-07-13
HEA09F0022	HEARD, K. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2009-07-18
HEA09F0023	HEARD, K. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2009-07-13
HEA09F0024	HEARD, K. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2009-07-13
JEN09F0011	JENNINGS, M. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2009-07-01
JEN09F0012	JENNINGS, M. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2009-07-13
MCK10F0003	MCKERNAN, C. & B. ENGELHARDT (U.S. FOREST SERVICE) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2010-08-10
MET14F0004	METZER, G. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2014-07-28
MET14F0005	METZER, G. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2014-08-28
MET14F0006	METZER, G. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2014-07-22
MET14F0007	METZER, G. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2014-07-22
MET14F0008	METZER, G. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2014-07-28
MET14F0009	METZER, G. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2014-08-28
MET14F0010	METZER, G. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2014-08-28
MET14F0011	METZER, G. & E. BARNETT (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2014-08-28
MET14F0012	METZER, G. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2014-07-28
MET14F0013	METZER, G. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2014-07-30
MET14F0014	METZLER, G. & E. BARNETT (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2014-07-28
MIL02F0004	MILLER, M. - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2002-07-18
NEI72S0001	NEILSON, J. - NEILSON #2676 DAV #150485 1972-07-19
OSB05F0002	OSBRACK, S. - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2005-09-01
OSB05F0003	OSBRACK, S. - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2005-09-22
OSB05F0004	OSBRACK, S. - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2005-08-16
PUT13U0001	PUTNAM, E. - ECOLOGY, PHYLOGENETICS AND CONSERVATION OF DRABA ASTEROPHORA COMPLEX: A RARE, ALPINE, ENDEMIC FROM LAKE TAHOE, USA 2013-12-XX

RAM13F0002	RAMBO, M. & M. SMITH (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2013-08-02
RAM13F0003	RAMBO, M. & M. SMITH (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2013-08-02
RAM13F0004	RAMBO, M. & M. SMITH (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2013-08-02
RAM15F0007	RAMBO, M. & C. ROWE (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2015-09-24
RAM15F0008	RAMBO, M. & C. ROWE (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2015-09-24
RAM15F0009	RAMBO, M. & C. ROWE (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2015-09-24
ROW14F0001	ROWE, C. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2014-07-17
ROW14F0002	ROWE, C. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2014-07-17
ROW15F0011	ROWE, C. & V. STEVENS (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2015-09-01
ROW15F0012	ROWE, C. ET AL. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2015-09-01
STE14F0013	STEVENS, V. & C. ROWE (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2014-07-30
STE15F0014	STEVENS, V. & C. ROWE (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2015-09-01
STE15F0015	STEVENS, V. & C. ROWE (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2015-09-01
STE15F0016	STEVENS, V. & C. ROWE (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2015-09-01
STE15F0017	STEVENS, V. & C. ROWE (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2015-09-01
STE15F0018	STEVENS, V. & C. ROWE (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR DRABA ASTEROPHORA VAR. ASTEROPHORA 2015-09-01
USF13D0002	U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT - LAKE TAHOE BASIN MANAGEMENT UNIT 2013 RARE PLANT DATA 2013-XX-XX
USF14D0004	U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT - LAKE TAHOE BASIN MANAGEMENT UNIT 2014 RARE PLANT DATA 2014-XX-XX
USF15D0004	U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT - LAKE TAHOE BASIN MANAGEMENT UNIT 2015 RARE PLANT DATA 2015-XX-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	14462	**EO Index:**	8257
Key Quad:	South Lake Tahoe (3811988)	**Element Code:**	PDBRA270M0
Occurrence Number:	1	**Occurrence Last Updated:**	2013-11-04

Scientific Name: *Rorippa subumbellata*

Common Name: Tahoe yellow cress

Listing Status: **Federal:** None
State: Endangered

Rare Plant Rank: 1B.1

Other Lists: SB_BerrySB-Berry Seed Bank
SB_RSABG-Rancho Santa Ana Botanic Garden
USFS_S-Sensitive

CNDDB Element Ranks: **Global:** G1
State: S1

General Habitat:

LOWER MONTANE CONIFEROUS FOREST, MEADOWS AND SEEPS.

Micro Habitat:

SANDY BEACHES, ON LAKESIDE MARGINS AND IN RIPARIAN COMMUNITIES; ON DECOMPOSED GRANITE SAND. 1895-2410 M.

Last Date Observed:	2009-09-10	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2009-09-10	**Occurrence Rank:**	Unknown
Owner/Manager:	PVT	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

SOUTH OF EDGEWOOD GOLF COURSE CLUBHOUSE, STATELINE, LAKE TAHOE.

Detailed Location:

EDGEWOOD SITE; OCCURRENCE EXTENDS UP INTO NV. CA EXTENT OF OCCURRENCE MAPPED ACCORDING TO A 1981 MAP BY FERREIRA. 1986 COMMENT FROM FERREIRA STATES THAT THIS SITE IS EXTIRPATED; UNK IF RECENT EDGEWOOD OBSERVATIONS INCLUDE CA PORTION OF OCC.

Ecological:

IN BEACH SAND WITH PHACELIA FRIGIDA AND PHLOX SP.

Threats:

General:

6 PLANTS SEEN IN 1981. NO PLANTS FOUND BY FERREIRA IN 1980'S. POP INFO FOR "EDGEWOOD" SITE (MOST OR ALL PLANTS IN NV): SEEN IN 1979-1988, 1990, 1993, & 1994, NO PLANTS IN 1995 OR 1996, SEEN IN 1999-2009. ADD'L POP INFO AVAILABLE AT CNDDB.

PLSS:	T13N, R18E, Sec. 27, NW (M)	**Accuracy:**	80 meters	**Area (acres):**	0
UTM:	Zone-11 N4316896 E244432	**Latitude/Longitude:**	38.96378 / -119.94963	**Elevation (feet):**	6,230

County Summary:	**Quad Summary:**
El Dorado, Nevada State	South Lake Tahoe (3811988)

Sources:

FAL00U0001	FALKNER, M. - SUMMARY OF RORIPPA SUBUMBELLATA SURVEY DATA FOR 1980-2000. 2000-XX-XX
FER81F0024	FERREIRA, J. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1981-06-20
FER86U0001	FERREIRA, J. - RECORD OF PHONE CONVERSATION WITH R. BITTMAN REGARDING RORIPPA SUBUMBELLATA 1986-12-15
GRI96U0002	GRIGGS, M. - ADMINISTRATIVE FINAL DRAFT TAHOE YELLOW CRESS BIOLOGICAL ASSESSMENT 1996-05-31
HIP00R0001	HIPKINS, V. - EVALUATION OF GENETIC DIVERSITY IN TAHOE YELLOW CRESS (RORIPPA SUBUMBELLATA) 2000-01-04
PEI25S0013	PEIRSON, F. - PEIRSON #6187 JEPS #53871, RSA #66063 1925-07-01
STA10R0001	STANTON, A. & B. PAVLIK - IMPLEMENTATION OF THE CONSERVATION STRATEGY FOR TAHOE YELLOW CRESS (RORIPPA SUBUMBELLATA) 2009 ANNUAL REPORT 2010-03-XX
TRP95U0001	TAHOE REGIONAL PLANNING AGENCY - NOTES ON RARE PLANTS IN THE TAHOE AREA. 1995-XX-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 14455
EO Index: 20494
Key Quad: South Lake Tahoe (3811988)
Element Code: PDBRA270M0
Occurrence Number: 2
Occurrence Last Updated: 2013-11-04

Scientific Name: *Rorippa subumbellata*
Common Name: Tahoe yellow cress

Listing Status: **Federal:** None
State: Endangered
Rare Plant Rank: 1B.1
Other Lists: SB_BerrySB-Berry Seed Bank
SB_RSABG-Rancho Santa Ana Botanic Garden
USFS_S-Sensitive

CNDDB Element Ranks: **Global:** G1
State: S1

General Habitat:

LOWER MONTANE CONIFEROUS FOREST, MEADOWS AND SEEPS.

Micro Habitat:

SANDY BEACHES, ON LAKESIDE MARGINS AND IN RIPARIAN COMMUNITIES; ON DECOMPOSED GRANITE SAND. 1895-2410 M.

Last Date Observed: 2009-09-10
Occurrence Type: Natural/Native occurrence
Last Survey Date: 2009-09-10
Occurrence Rank: Unknown
Owner/Manager: PVT
Trend: Unknown
Presence: Presumed Extant

Location:

TAHOE MEADOWS AND BIJOU PARK, LAKE TAHOE.

Detailed Location:

MAPPED AT BIJOU PARK ACCORDING TO A 1981 FERREIRA MAP AND SCATTERED ALONG SHORE OF TAHOE MEADOWS ACCORDING TO 1979 KNAPP MAP & TEXT. LATER OBSERVATIONS AT TAHOE MEADOWS ONLY REPORT PLANTS FROM ALONG DITCH AT NORTHEAST END OF TAHOE MEADOWS.

Ecological:

ALONG BEACH AND IN BANKS OF DITCH ENTERING LAKE. LAKE INUNDATED IN 1979 AND 1982.

Threats:

RECREATIONAL USE, TRAMPLING, AND POSSIBLE DITCH DREDGING.

General:

BIJOU PARK: 1 PLANT SEEN IN 1981, 0 IN 1982. TAHOE MEADOWS: SEEN IN 1979-1981, NO PLANTS IN 1982, SEEN IN 1990 & 1993, NO PLANTS IN 1994-1997, SEEN IN 1998-2009. ADDITIONAL POPULATION INFORMATION AVAILABLE AT CNDDB. INCLUDES FORMER EO#3.

PLSS: T13N, R18E, Sec. 28 (M)
Accuracy: specific area
Area (acres): 47
UTM: Zone-11 N4315832 E243956
Latitude/Longitude: 38.95407 / -119.95471
Elevation (feet): 6,230

County Summary:

El Dorado

Quad Summary:

South Lake Tahoe (3811988)

Sources:

CAL98R0001	CALIFORNIA STATE LANDS COMMISSION - TAHOE YELLOW CRESS DRAFT BIOLOGICAL ASSESSMENT. 1998-09-01
FAL00U0001	FALKNER, M. - SUMMARY OF RORIPPA SUBUMBELLATA SURVEY DATA FOR 1980-2000. 2000-XX-XX
FER81F0013	FERREIRA, J. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1981-08-29
FER81F0025	FERREIRA, J. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1981-10-23
FER86U0001	FERREIRA, J. - RECORD OF PHONE CONVERSATION WITH R. BITTMAN REGARDING RORIPPA SUBUMBELLATA 1986-12-15
GRI96U0002	GRIGGS, M. - ADMINISTRATIVE FINAL DRAFT TAHOE YELLOW CRESS BIOLOGICAL ASSESSMENT 1996-05-31
KNA79M0001	KNAPP, C. - LOCATIONS OF RORIPPA SUBUMBELLATA IN THE TAHOE BASIN. 1979-06-XX
KNA79R0001	KNAPP, C. - SENSITIVE PLANT INVESTIGATION - LAKE TAHOE MANAGEMENT UNIT II, RORIPPA SUBUMBELLATA - ITS STATUS ON HISTORICAL AND POTENTIALLY NEW SITES. 1979-XX-XX
KNA80R0001	KNAPP, C. - STATUS OF RORIPPA SUBUMBELLATA IN THE LAKE TAHOE BASIN. 1980-11-XX
KNA81F0001	KNAPP, C. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1981-09-27
STA10R0001	STANTON, A. & B. PAVLIK - IMPLEMENTATION OF THE CONSERVATION STRATEGY FOR TAHOE YELLOW CRESS (RORIPPA SUBUMBELLATA) 2009 ANNUAL REPORT 2010-03-XX
TRP95U0001	TAHOE REGIONAL PLANNING AGENCY - NOTES ON RARE PLANTS IN THE TAHOE AREA. 1995-XX-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	14433	**EO Index:**	8255
Key Quad:	South Lake Tahoe (3811988)	**Element Code:**	PDBRA270M0
Occurrence Number:	4	**Occurrence Last Updated:**	2017-09-21

Scientific Name: *Rorippa subumbellata*

Common Name: Tahoe yellow cress

Listing Status: **Federal:** None
State: Endangered

Rare Plant Rank: 1B.1

Other Lists: SB_BerrySB-Berry Seed Bank
SB_RSABG-Rancho Santa Ana Botanic Garden
USFS_S-Sensitive

CNDDB Element Ranks: **Global:** G1
State: S1

General Habitat:

LOWER MONTANE CONIFEROUS FOREST, MEADOWS AND SEEPS.

Micro Habitat:

SANDY BEACHES, ON LAKESIDE MARGINS AND IN RIPARIAN COMMUNITIES; ON DECOMPOSED GRANITE SAND. 1895-2410 M.

Last Date Observed:	2015-06-09	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2015-06-09	**Occurrence Rank:**	Good
Owner/Manager:	PVT	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

TAHOE LAKESHORE LODGE, BETWEEN TIMBER COVE MARINA AND THE TAHOE MARINA INN, SOUTH LAKE TAHOE.

Detailed Location:

TIMBER COVE SITE. ON THE PROPERTY OF TAHOE LAKESHORE LODGE AND SPA, 930 BALBIJOU RD. 2013 OBSERVATION AT ELEVATION 6242' IS HIGHER THAN PREVIOUS POPULATIONS FOUND BETWEEN 6223' & 6230'; PLANTS TRANSPLANTED TO TYC MITIGATION SITE.

Ecological:

ON DECOMPOSED GRANITE BEACH WITH SCATTERING OF GRASSES AND FORBS. COARSE SAND. ASSOCIATED WITH ACHILLEA MILLEFOLIUM, CAREX DOUGLASII, CHAMOMILLA SUAVEOLENS, ERIOGONUM NUDUM, GAYOPHYTUM DIFFUSUM, LEYMUS TRITICOIDES, LUPINUS LEPIDUS, ETC.

Threats:

BEACH HEAVILY DISTURBED BY VEHICLE AND FOOT TRAFFIC. THREATENED BY CONSTRUCTION.

General:

PLANTS SEEN IN 1981-1988 AND 1990, NO PLANTS FOUND IN 1993-2001, PLANTS SEEN IN 2002-2005, NO PLANTS IN 2006, PLANTS SEEN IN 2007-2009, 2013 (214 PLANTS) & 2015 (304 PLANTS). ADDITIONAL POPULATION INFORMATION IS AVAILABLE AT CNDDB.

PLSS:	T13N, R18E, Sec. 33, NW (M)	**Accuracy:**	specific area	**Area (acres):**	6
UTM:	Zone-11 N4315157 E242981	**Latitude/Longitude:**	38.94771 / -119.96571	**Elevation (feet):**	6,230

County Summary:	**Quad Summary:**
El Dorado	South Lake Tahoe (3811988)

Sources:

BIT86U0003	BITTMAN, R. - ELEMENT CONSERVATION PLAN FOR RORIPPA SUBUMBELLATA 1986-12-XX
CAL98R0001	CALIFORNIA STATE LANDS COMMISSION - TAHOE YELLOW CRESS DRAFT BIOLOGICAL ASSESSMENT. 1998-09-01
ETR13F0001	ETRA, J. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 2013-07-19
ETR15F0001	ETRA, J. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 2015-06-09
ETR17U0001	ETRA, J. - EMAIL REGARDING RORIPPA SUBUMBELLATA OCCURRENCE AT LAKESHORE LODGE 2017-08-24
FAL00U0001	FALKNER, M. - SUMMARY OF RORIPPA SUBUMBELLATA SURVEY DATA FOR 1980-2000. 2000-XX-XX
FAL99F0002	FALKNER, M. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1999-08-31
FAL99U0001	FALKNER, M. - SUMMARY OF 1999 RORIPPA SUBUMBELLATA SURVEYS. 1999-10-04
FER81F0012	FERREIRA, J. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1981-08-29
FER86F0004	FERREIRA, J. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1986-10-16
FER86U0001	FERREIRA, J. - RECORD OF PHONE CONVERSATION WITH R. BITTMAN REGARDING RORIPPA SUBUMBELLATA 1986-12-15
GRI96U0002	GRIGGS, M. - ADMINISTRATIVE FINAL DRAFT TAHOE YELLOW CRESS BIOLOGICAL ASSESSMENT 1996-05-31
STA10R0001	STANTON, A. & B. PAVLIK - IMPLEMENTATION OF THE CONSERVATION STRATEGY FOR TAHOE YELLOW CRESS (RORIPPA SUBUMBELLATA) 2009 ANNUAL REPORT 2010-03-XX
TRP95U0001	TAHOE REGIONAL PLANNING AGENCY - NOTES ON RARE PLANTS IN THE TAHOE AREA. 1995-XX-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 14397
EO Index: 8251
Key Quad: South Lake Tahoe (3811988)
Element Code: PDBRA270M0
Occurrence Number: 5
Occurrence Last Updated: 2013-11-04

Scientific Name: *Rorippa subumbellata*
Common Name: Tahoe yellow cress

Listing Status: **Federal:** None
State: Endangered
Rare Plant Rank: 1B.1
Other Lists: SB_BerrySB-Berry Seed Bank
SB_RSABG-Rancho Santa Ana Botanic Garden
USFS_S-Sensitive

CNDDB Element Ranks: **Global:** G1
State: S1

General Habitat:

LOWER MONTANE CONIFEROUS FOREST, MEADOWS AND SEEPS.

Micro Habitat:

SANDY BEACHES, ON LAKESIDE MARGINS AND IN RIPARIAN COMMUNITIES; ON DECOMPOSED GRANITE SAND. 1895-2410 M.

Last Date Observed: 2010-08-22
Occurrence Type: Natural/Native occurrence
Last Survey Date: 2010-08-22
Occurrence Rank: Good
Owner/Manager: PVT, CTC
Trend: Unknown
Presence: Presumed Extant

Location:

EAST TAHOE KEYES, UPPER TRUCKEE MARSH, AND BEACHES OF AL TAHOE, SOUTH LAKE TAHOE.

Detailed Location:

INCLUDES SITES: TAHOE KEYS, UPPER TRUCKEE WEST, UPPER TRUCKEE EAST, AND REGAN/AL TAHOE. PORTIONS OF OCCURRENCE MAY BE EXTIRPATED. ADDITIONAL POPULATION INFORMATION IS AVAILABLE AT CNDDB.

Ecological:

ON DECOMPOSED GRANITE BEACH, DENSE GROWTH OF RUSHES/GRASSES ABOVE BEACH, AND IN MOIST BACKSHORE AREAS.

Threats:

AQUATIC VEGETATION COMPETITION, DEVELOPMENT, GRAZING, EXOTIC PLANTS, INUNDATION AND HEAVY RECREATIONAL USE ARE THREATS.

General:

POPULATION INFORMATION IS FOR ENTIRE OCCURRENCE, ACTUAL YEARLY PRESENCE VARIES BETWEEN SITES: VARIOUS SITES SEEN IN 1979-1989 & 1993-2007, SEEN AT ALL 4 SITES IN 2008 & 2009. 2010 OBS ATTRIB HERE. INCLUDES FORMER EO #7, 8, & 23.

PLSS: T13N, R18E, Sec. 31 (M)
Accuracy: specific area
Area (acres): 41
UTM: Zone-11 N4314646 E240601
Latitude/Longitude: 38.94241 / -119.99293
Elevation (feet): 6,230

County Summary:

El Dorado

Quad Summary:

South Lake Tahoe (3811988), Emerald Bay (3812081)

Sources:

BAI96F0001	BAIR, J. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1996-07-24
BIT86U0003	BITTMAN, R. - ELEMENT CONSERVATION PLAN FOR RORIPPA SUBUMBELLATA 1986-12-XX
CAL98R0001	CALIFORNIA STATE LANDS COMMISSION - TAHOE YELLOW CRESS DRAFT BIOLOGICAL ASSESSMENT. 1998-09-01
COC85F0014	COCHRANE, S. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1985-07-27
COC92F0001	COCHRANE, S. ET AL. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1992-08-27
FAL00U0001	FALKNER, M. - SUMMARY OF RORIPPA SUBUMBELLATA SURVEY DATA FOR 1980-2000. 2000-XX-XX
FAL99F0003	FALKNER, M. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1999-08-31
FAL99F0005	FALKNER, M. & C. SHADE - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1999-08-31
FAL99F0006	FALKNER, M. & C. SHADE - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1999-08-31
FAL99U0001	FALKNER, M. - SUMMARY OF 1999 RORIPPA SUBUMBELLATA SURVEYS. 1999-10-04
FER81F0021	FERREIRA, J. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1981-06-06
FER81F0027	FERREIRA, J. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1981-10-23
FER81F0028	FERREIRA, J. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1981-06-07
FER86F0005	FERREIRA, J. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1986-10-16
FER86F0006	FERREIRA, J. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1986-09-08
FER86U0001	FERREIRA, J. - RECORD OF PHONE CONVERSATION WITH R. BITTMAN REGARDING RORIPPA SUBUMBELLATA 1986-12-15
GRE10U0011	GREENHOUSE, J. - OBSERVATION RECORD FOR RORIPPA SUBUMBELLATA, CALFLORA ID: JGR31741 2010-08-22
GRI96U0002	GRIGGS, M. - ADMINISTRATIVE FINAL DRAFT TAHOE YELLOW CRESS BIOLOGICAL ASSESSMENT 1996-05-31
HIP00R0001	HIPKINS, V. - EVALUATION OF GENETIC DIVERSITY IN TAHOE YELLOW CRESS (RORIPPA SUBUMBELLATA) 2000-01-04
ING04F0003	INGOLIA, M. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 2004-08-14
KER88F0002	KERBAVAZ, J. & T. MCCANDLESS - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1988-09-21
KER88F0003	KERBAVAZ, J. & T. MCCANDLESS - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1988-06-21
KNA79M0001	KNAPP, C. - LOCATIONS OF RORIPPA SUBUMBELLATA IN THE TAHOE BASIN. 1979-06-XX
KNA79R0001	KNAPP, C. - SENSITIVE PLANT INVESTIGATION - LAKE TAHOE MANAGEMENT UNIT II, RORIPPA SUBUMBELLATA - ITS STATUS ON HISTORICAL AND POTENTIALLY NEW SITES. 1979-XX-XX
KNA79S0002	KNAPP, C. - KNAPP SN DAV #115385 1979-06-06
KNA80R0001	KNAPP, C. - STATUS OF RORIPPA SUBUMBELLATA IN THE LAKE TAHOE BASIN. 1980-11-XX
KNA81F0001	KNAPP, C. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1981-09-27
KNA82S0001	KNAPP, C. - KNAPP SN DAV #115388 1982-06-07
MAS39S0001	MASON, H. - MASON #12197 JEPS #19652, UC #1077122 1939-08-02
MAT05I0001	MATSON, S. - PHOTO OF RORIPPA SUBUMBELLATA, CALPHOTOS ID #0000 0000 0705 0336 2005-07-02
PRI00S0001	PRICE, W. - PRICE SN GH #379834 1900-07-28
STA10R0001	STANTON, A. & B. PAVLIK - IMPLEMENTATION OF THE CONSERVATION STRATEGY FOR TAHOE YELLOW CRESS (RORIPPA SUBUMBELLATA) 2009 ANNUAL REPORT 2010-03-XX
TRP95U0001	TAHOE REGIONAL PLANNING AGENCY - NOTES ON RARE PLANTS IN THE TAHOE AREA. 1995-XX-XX
WIL84R0001	WILLIAMS, J. - DRAFT EIS: DILLINGHAM DEVELOPMENT COMPANY COVE EAST. PREPARED FOR LAKE TAHOE REGIONAL PLANNING AGENCY 1984-09-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	14422	**EO Index:**	8254
Key Quad:	South Lake Tahoe (3811988)	**Element Code:**	PDBRA270M0
Occurrence Number:	6	**Occurrence Last Updated:**	2013-11-04

Scientific Name: *Rorippa subumbellata*

Common Name: Tahoe yellow cress

Listing Status: **Federal:** None
State: Endangered

Rare Plant Rank: 1B.1

Other Lists: SB_BerrySB-Berry Seed Bank
SB_RSABG-Rancho Santa Ana Botanic Garden
USFS_S-Sensitive

CNDDB Element Ranks: **Global:** G1
State: S1

General Habitat:

LOWER MONTANE CONIFEROUS FOREST, MEADOWS AND SEEPS.

Micro Habitat:

SANDY BEACHES, ON LAKESIDE MARGINS AND IN RIPARIAN COMMUNITIES; ON DECOMPOSED GRANITE SAND. 1895-2410 M.

Last Date Observed:	1979-XX-XX	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2009-09-10	**Occurrence Rank:**	None
Owner/Manager:	PVT, CITY OF SOUTH LAKE TAHOE	**Trend:**	Unknown
Presence:	Extirpated		

Location:

EL DORADO BEACH, BETWEEN BIJOU AND AL TAHOE, LAKE TAHOE.

Detailed Location:

FOUND IN A HEAVILY USED PORTION OF THE BEACH, NEAR THE SECTION LINE BETWEEN SECTIONS 32 AND 33, APPROXIMATELY 50 FT EAST OF A DRAINAGE CULVERT DISCHARGE ON THE BEACH. PLANT WAS WEDGED BETWEEN TWO ROCKS IN AN AREA OF HEAVY FOOT TRAFFIC.

Ecological:

ON BEACH WEDGED BETWEEN ROCKS.

Threats:

HABITAT HAS BEEN REMOVED BY HIGH WATER, RIPRAP, AND RECREATIONAL USE. HEAVY FOOT TRAFFIC IN AREA.

General:

1 PLANT SEEN IN 1979. NO PLANTS FOUND DURING SURVEYS IN 1980-1983, 1985, 1986, 1988, 1990, 1993-2009. SITE WAS EXTENSIVELY DISTURBED IN THE EARLY 1980'S BY A BANK STABILIZATION PROJECT.

PLSS:	T13N, R18E, Sec. 32, SE (M)	**Accuracy:**	80 meters	**Area (acres):**	0
UTM:	Zone-11 N4314928 E242319	**Latitude/Longitude:**	38.94545 / -119.97324	**Elevation (feet):**	6,229

County Summary:	**Quad Summary:**
El Dorado	South Lake Tahoe (3811988)

Sources:

CAL98R0001	CALIFORNIA STATE LANDS COMMISSION - TAHOE YELLOW CRESS DRAFT BIOLOGICAL ASSESSMENT. 1998-09-01
COC85F0013	COCHRANE, S. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1985-07-23
FAL00U0001	FALKNER, M. - SUMMARY OF RORIPPA SUBUMBELLATA SURVEY DATA FOR 1980-2000. 2000-XX-XX
FAL99F0004	FALKNER, M. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1999-08-31
FAL99U0001	FALKNER, M. - SUMMARY OF 1999 RORIPPA SUBUMBELLATA SURVEYS. 1999-10-04
FER81F0016	FERREIRA, J. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1981-06-XX
GRI96U0002	GRIGGS, M. - ADMINISTRATIVE FINAL DRAFT TAHOE YELLOW CRESS BIOLOGICAL ASSESSMENT 1996-05-31
KNA79M0001	KNAPP, C. - LOCATIONS OF RORIPPA SUBUMBELLATA IN THE TAHOE BASIN. 1979-06-XX
KNA79R0001	KNAPP, C. - SENSITIVE PLANT INVESTIGATION - LAKE TAHOE MANAGEMENT UNIT II, RORIPPA SUBUMBELLATA - ITS STATUS ON HISTORICAL AND POTENTIALLY NEW SITES. 1979-XX-XX
KNA80R0001	KNAPP, C. - STATUS OF RORIPPA SUBUMBELLATA IN THE LAKE TAHOE BASIN. 1980-11-XX
KNA81F0001	KNAPP, C. - FIELD SURVEY FORM FOR RORIPPA SUBUMBELLATA 1981-09-27
STA10R0001	STANTON, A. & B. PAVLIK - IMPLEMENTATION OF THE CONSERVATION STRATEGY FOR TAHOE YELLOW CRESS (RORIPPA SUBUMBELLATA) 2009 ANNUAL REPORT 2010-03-XX
TRP95U0001	TAHOE REGIONAL PLANNING AGENCY - NOTES ON RARE PLANTS IN THE TAHOE AREA. 1995-XX-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number:	84445	**EO Index:**	85474
Key Quad:	South Lake Tahoe (3811988)	**Element Code:**	PPOPH010L0
Occurrence Number:	49	**Occurrence Last Updated:**	2017-08-31

Scientific Name: *Botrychium crenulatum*

Common Name: scalloped moonwort

Listing Status: **Federal:** None

State: None

Rare Plant Rank: 2B.2

Other Lists: USFS_S-Sensitive

CNDDB Element Ranks: **Global:** G4

State: S3

General Habitat:

BOGS AND FENS, MEADOWS AND SEEPS, UPPER MONTANE CONIFEROUS FOREST, LOWER MONTANE CONIFEROUS FOREST, MARSHES AND SWAMPS.

Micro Habitat:

MOIST MEADOWS, FRESHWATER MARSH, AND NEAR CREEKS. 1185-3110 M.

Last Date Observed:	2016-07-07	**Occurrence Type:**	Natural/Native occurrence
Last Survey Date:	2016-07-07	**Occurrence Rank:**	Excellent
Owner/Manager:	USFS-LAKE TAHOE BMU	**Trend:**	Unknown
Presence:	Presumed Extant		

Location:

BIJOU CREEK AT POWERLINE TRAIL, APPROXIMATELY 1.25 AIR MILES EAST OF LAKE TAHOE COMMUNITY COLLEGE, SOUTH LAKE TAHOE.

Detailed Location:

DIRECTIONS TO SITE: "TOP OF SKI RUN BLVD AND TURN RIGHT ON DEAD END ROAD. FOLLOW POWERLINE TRAIL SOUTH UNTIL IT MEETS BIJOU CREEK." ALONG CREEK ABOVE AND BELOW TRAIL. MAPPED AS A SINGLE POLYGON FROM 2015 LTBMU DIGITAL DATA.

Ecological:

SMALL INTERMITTENT STREAM IN WHITE FIR, JEFFREY PINE, CALOCEDRUS FOREST. PLANTS EMERGING ON OPEN BARE SOIL AND THROUGH LITTER LAYER. ASSOC W/ ALNUS INCANA, SALIX, LISTERA, CAREX SP., RIBES SP., LILIUM, LUPINUS, GALIUM, STELLARIA, ETC.

Threats:

DISTURBANCE FROM MOUNTAIN BIKE TRAIL. ANY FUTURE PROJECT ALONG TRAIL COULD IMPACT DOWNSTREAM HABITAT.

General:

800-1000 PLANTS OBSERVED IN 2009. 169 PLANTS IN EASTERN PART OF POPULATION IN 2010; ENTIRE POPULATION PROBABLY NOT SURVEYED. 2011: 800-900 PLANTS IN W PART OF POPULATION, SEVERAL HUNDRED IN E PART. 127 PLANTS IN 2015, 870 IN 2016.

PLSS:	T12N, R18E, Sec. 1, W (M)	**Accuracy:**	specific area	**Area (acres):**	14
UTM:	Zone-11 N4312579 E244473	**Latitude/Longitude:**	38.92494 / -119.94755	**Elevation (feet):**	6,500

County Summary:	**Quad Summary:**
El Dorado	South Lake Tahoe (3811988)

Sources:

ENG10F0007	ENGELHARDT, B. & C. MCKERNAN (U.S. FOREST SERVICE) - FIELD SURVEY FORM FOR BOTRYCHIUM CRENULATUM 2010-06-15
ENG11F0008	ENGELHARDT, B. & C. MCKERNAN - FIELD SURVEY FORM FOR BOTRYCHIUM CRENULATUM 2011-06-21
JEN09F0025	JENNINGS, M. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR BOTRYCHIUM CRENULATUM 2009-06-24
MCK15F0001	MCKNIGHT, S. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR BOTRYCHIUM CRENULATUM 2015-06-17
USF15D0004	U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT - LAKE TAHOE BASIN MANAGEMENT UNIT 2015 RARE PLANT DATA 2015-XX-XX
USF16D0019	U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT - 2016 NRIS BOTANY DATA FOR THE LAKE TAHOE BASIN MANAGEMENT UNIT 2016-XX-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 73117
EO Index: 92466
Key Quad: South Lake Tahoe (3811988)
Element Code: PPOPH010R0
Occurrence Number: 38
Occurrence Last Updated: 2014-01-30

Scientific Name: *Botrychium minganense*
Common Name: Mingan moonwort

Listing Status: **Federal:** None
State: None
Rare Plant Rank: 2B.2
Other Lists: USFS_S-Sensitive

CNDDB Element Ranks: **Global:** G4G5
State: S3

General Habitat:

LOWER MONTANE CONIFEROUS FOREST, UPPER MONTANE CONIFEROUS FOREST, BOGS AND FENS, MEADOWS AND SEEPS.

Micro Habitat:

CREEKBANKS IN MIXED CONIFER FOREST. 1190-3295 M.

Last Date Observed: 2010-07-14
Occurrence Type: Natural/Native occurrence
Last Survey Date: 2010-07-14
Occurrence Rank: Unknown
Owner/Manager: USFS-LAKE TAHOE BMU
Trend: Unknown
Presence: Presumed Extant

Location:

TRAIL OFF OF SKI RUN BLVD, ~0.15 AIR MI SSW OF ITS INTERSECTION WITH LUPINE WAY, SOUTHWEST OF HEAVENLY VALLEY SKI LODGE.

Detailed Location:

AT THE END OF SKI RUN BLVD THROUGH THE GATES THERE IS A TRAIL TO THE SOUTH; POPULATION IS TO THE SOUTHEAST. MAPPED IN THE SW 1/4 OF THE NW 1/4 OF SECTION 1 ACCORDING TO 2010 ENGELHARDT COORDINATES.

Ecological:

LEFT SIDE OF SEEP, AT BASE OF ALNINC IN LITTER, WITH CIRCAEA ALPINA AND RIBNEV ABOVE. THE RARE BOTRYCHIUM ASCENDENS IS LOCATED ~5-6 M DOWNSTREAM.

Threats:

TRASH, NEARBY TO TRAIL AND HOUSES.

General:

8 PLANTS REPORTED ON A 2010 SURVEY FORM FOR B. ASCENDENS & B. MINGANENSE; POPULATION NUMBER PRESUMED TO BE FOR B. ASCENDENS ONLY, THOUGH IT MAY REPRESENT A COMBINED TOTAL FOR BOTH SPECIES.

PLSS: T12N, R18E, Sec. 01, NW (M)
Accuracy: 80 meters
Area (acres): 0
UTM: Zone-11 N4313316 E244511
Latitude/Longitude: 38.93158 / -119.94737
Elevation (feet): 6,580

County Summary:

El Dorado

Quad Summary:

South Lake Tahoe (3811988)

Sources:

ENG10F0006 ENGELHARDT, B. (U.S. FOREST SERVICE) - FIELD SURVEY FORM FOR BOTRYCHIUM MINGANENSE & BOTRYCHIUM ASCENDENS 2010-07-14

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 91355
EO Index: 92468
Key Quad: South Lake Tahoe (3811988)
Element Code: PPOPH010R0
Occurrence Number: 39
Occurrence Last Updated: 2016-03-01

Scientific Name: *Botrychium minganense*
Common Name: Mingan moonwort

Listing Status: **Federal:** None
State: None
Rare Plant Rank: 2B.2
Other Lists: USFS_S-Sensitive

CNDDB Element Ranks: **Global:** G4G5
State: S3

General Habitat:

LOWER MONTANE CONIFEROUS FOREST, UPPER MONTANE CONIFEROUS FOREST, BOGS AND FENS, MEADOWS AND SEEPS.

Micro Habitat:

CREEKBANKS IN MIXED CONIFER FOREST. 1190-3295 M.

Last Date Observed: 2015-06-10
Occurrence Type: Natural/Native occurrence
Last Survey Date: 2015-06-10
Occurrence Rank: Good
Owner/Manager: USFS-LAKE TAHOE BMU
Trend: Unknown
Presence: Presumed Extant

Location:

SOUTHEAST OF SIERRA HOUSE; APPROXIMATELY 2.3 AIR MILES WEST OF HIGH MEADOWS AND 2 AIR MILES NORTHWEST OF TRIMMER PEAK.

Detailed Location:

TAKE HIGH MEADOWS ROAD AND PARK AT THE 2ND FOREST SERVICE GATE PARKING LOT. TAKE THE FOOT TRAIL TO POWERLINES (BEARING 194 DEGREES) TO POST 651/652. MAPPED IN THE NE 1/4 OF THE NE 1/4 OF SECTION 14 BASED ON LTBMU DIGITAL DATA.

Ecological:

FOUND ON BOTH SIDES OF A SMALL MOSSY STREAMBANK IN PLAGIOMNIUM MOSS WITHIN A POPULUS TREMULOIDES AND MIXED CONIFER STAND. OVERSTORY COMPOSED OF POPULUS TREMULOIDES, CALOCEDRUS DECURRENS, AND ABIES CONCOLOR.

Threats:

CLOSE TO POWERLINE RIGHT-OF-WAY. PLANNED FUELS REDUCTION, UTILITY MAINTENANCE ALSO THREATEN.

General:

1 PLANT OBSERVED IN 2009. 4 PLANTS OBSERVED IN 2010. 42 PLANTS OBSERVED IN 2015. LTBMU POPULATION #BOMI2.

PLSS: T12N, R18E, Sec. 14, NE (M)
Accuracy: specific area
Area (acres): 2
UTM: Zone-11 N4309061 E244222
Latitude/Longitude: 38.89321 / -119.94913
Elevation (feet): 6,640

County Summary:

El Dorado

Quad Summary:

South Lake Tahoe (3811988)

Sources:

HEA09F0038	HEARD, K. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR BOTRYCHIUM MINGANENSE 2009-08-13
MCK10F0001	MCKERNAN, C. & B. ENGELHARDT (U.S. FOREST SERVICE) - FIELD SURVEY FORM FOR BOTRYCHIUM MINGANENSE 2010-07-15
MCK15F0003	MCKNIGHT, S. & C. ROWE (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR BOTRYCHIUM MINGANENSE 2015-06-10
USF15D0004	U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT - LAKE TAHOE BASIN MANAGEMENT UNIT 2015 RARE PLANT DATA 2015-XX-XX

Occurrence Report

California Department of Fish and Wildlife

California Natural Diversity Database

Map Index Number: 73117
EO Index: 74048
Key Quad: South Lake Tahoe (3811988)
Element Code: PPOPH010S0
Occurrence Number: 21
Occurrence Last Updated: 2015-10-19

Scientific Name: *Botrychium ascendens*
Common Name: upswept moonwort

Listing Status: **Federal:** None
State: None
Rare Plant Rank: 2B.3
Other Lists: USFS_S-Sensitive

CNDDB Element Ranks: **Global:** G3G4
State: S2

General Habitat:

LOWER MONTANE CONIFEROUS FOREST, MEADOWS AND SEEPS.

Micro Habitat:

GRASSY FIELDS, CONIFEROUS WOODS NEAR SPRINGS AND CREEKS. 1115-3265 M.

Last Date Observed: 2010-07-14
Occurrence Type: Natural/Native occurrence
Last Survey Date: 2010-07-14
Occurrence Rank: Fair
Owner/Manager: USFS-LAKE TAHOE BMU
Trend: Unknown
Presence: Presumed Extant

Location:

APPROXIMATELY 0.15 AIR MI SSW OF THE INTERSECTION OF LUPINE WAY AND SKI RUN BLVD, E OF PIONEER TRAIL, SOUTH LAKE TAHOE.

Detailed Location:

MAPPED BY CNDDB ACCORDING TO 2007 GPS COORDINATES PROVIDED BY DILLEY IN THE SW 1/4 OF THE NW 1/4 OF SECTION 1.

Ecological:

GROWING IN BARE, WET SOIL UNDER ALNUS INCANA AND RIBES NEVADENSIS BY A STREAM IN PINUS JEFFREYI FOREST. SOME PYROLA ASARIFOLIA, GEUM MACROPHYLLUM, AND MOSS SPECIES NEARBY.

Threats:

USER TRAIL AND LOTS OF TRASH IN AREA.

General:

4 PLANTS SEEN IN 2007. 1 PLANT SEEN IN 2009 (TWO ADDITIONAL STEMS MAY HAVE ALSO BEEN BOTRYCHIUM ASCENDENS BUT TOP HAD BEEN EATERN). 1 PLANT SEEN IN 2010.

PLSS: T12N, R18E, Sec. 01, NW (M)
Accuracy: 80 meters
Area (acres): 0
UTM: Zone-11 N4313316 E244511
Latitude/Longitude: 38.93158 / -119.94737
Elevation (feet): 6,560

County Summary:	Quad Summary:
El Dorado	South Lake Tahoe (3811988)

Sources:

DIL07F0001	DILLEY, J. - FIELD SURVEY FORM FOR BOTRYCHIUM ASCENDENS 2007-07-05
ENG10F0006	ENGELHARDT, B. (U.S. FOREST SERVICE) - FIELD SURVEY FORM FOR BOTRYCHIUM MINGANENSE & BOTRYCHIUM ASCENDENS 2010-07-14
JEN09F0015	JENNINGS, M. (U.S. FOREST SERVICE-LAKE TAHOE BASIN MANAGEMENT UNIT) - FIELD SURVEY FORM FOR BOTRYCHIUM ASCENDENS 2009-07-17

Lake Tahoe Boulevard Class 1
Bicycle Trail Project
Initial Study/Negative Declaration/
Initial Environmental Checklist

APPENDIX C

ARCHAEOLOGICAL SURVEY REPORT/HISTORICAL PROPERTY SURVEY REPORT

Archaeological Survey Report

Lake Tahoe Boulevard Class 1 Bicycle Trail Project. Federal Aid No.: CML-5398(013)

March 2019

Cardno Project No. E317202700

Cardno
Shaping the Future

Lake Tahoe Boulevard Class 1 Bicycle Trail Project
(No. CML-5398[013])

Archaeological Survey Report

Caltrans District 3, El Dorado County, California
Federal Aid No.: CML-5398(013)
7.5' USGS Quadrangle: *Emerald Bay, California* (1992)
Archaeological APE Acreage: 16.6 (+-) acres
Potentially Significant Cultural Resources: None

March 2019

Caltrans
CALIFORNIA DEPARTMENT OF TRANSPORTATION

Lake Tahoe Boulevard Class 1 Bicycle Trail Project (No. CML-5398 [013])

Caltrans District 3, El Dorado County, California
Federal Aid No.: CML-5398(013)
7.5' USGS Quadrangle: *Emerald Bay, California* (1992)
Archaeological APE Acreage: 16.6 (+-) acres
Potentially Significant Cultural Resources: None

STATE OF CALIFORNIA
Department of Transportation

Prepared By: _____ Date: September 25, 2018
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Reviewed By: _____ Date: May 8, 2019
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Reviewed By: _____ Date: _____
Chris Carroll, Associate Environmental Planner
District 3 North Region Local Assistance
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Prepared For: _____ Date: _____
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703 B Street
Marysville, CA 95901

Summary of Findings

The City of South Lake Tahoe Department of Public Works (City), in coordination with the California Department of Transportation (Caltrans), is proposing to construct a bicycle trail along Lake Tahoe Boulevard (Blvd.), near South Lake Tahoe High School, between Viking Rd. and the US Route 50 (US 50) and State Route 89 (SR 89) intersection (South Wye), in South Lake Tahoe, El Dorado County, California (the "project"). The project will provide for non-motorized, and safe, travel between the existing Class 1 bike trail on the southwest side of the Lake Tahoe Blvd. and Viking Road intersection up to SR 89. The project vicinity comprises a mix of school, governmental, and commercial uses in close proximity to the state highway. The area currently includes roadways with two lanes in each direction, with several ingress/egress areas, and a generally unsafe pedestrian and bike travel area. The project is designed to resolve these safety issues. The Area of Potential Effects (APE) is depicted on the Emerald Bay, California 7.5-minute series U.S. Geological Survey quadrangle in Section 3, Township 12 North, Range 18 East, Mount Diablo Base and Meridian.

This Archaeological Survey Report documents the cultural resources investigations conducted for the approximately 16.6-acre APE. The survey, archival research, and tribal consultation discussed in this report were completed for the City and Caltrans to comply with the California Environmental Quality Act and Section 106 of the National Historic Preservation Act.

Neither the archival research nor the archaeological survey identified any prehistoric or historic-era cultural sites, features, or artifacts within or immediately adjacent to the APE. [redacted] Both have been determined not eligible for listing in the National Register of Historic Places. In addition, no potentially sensitive landforms or soil deposits possibly indicative of early Native American or historic activities were noted as a result of the investigation.

Per Caltrans Exhibit 5.1 of the Standard Environmental Reference, it is Caltrans' policy to avoid cultural resources whenever possible. As the project is proposed, there will be no adverse effects to any cultural resources identified within or near the APE. Further investigations may be needed if any site are discovered during construction and cannot be avoided by the undertaking. 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 surveying will be required if the undertaking changes to include areas not previously surveyed.

Confidentiality Statement

Historic properties can be damaged or destroyed through uncontrolled public disclosure of information regarding their locations. This document contains sensitive information regarding the nature and location of historic properties that should not be disclosed to the general public or unauthorized persons. Historic properties information is exempt from disclosure to the general public per the *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 as it Pertains to the Administration of the Federal-Aid Highway Program in California (as amended)* Section XX:H Administrative Stipulations/Confidentiality. Historic properties information is also exempt from disclosure to the general public under the California Public Records Act Chapter 6254.10 and Section 304 of the National Historic Preservation Act.

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Appendices

1 Introduction

On behalf of the City of South Lake Tahoe, Department of Public Works (City), Cardno, Inc. (Cardno) completed an archaeological investigation for the approximately 16.6-acre Area of Potential Effects (APE) for the Lake Tahoe Boulevard Class 1 Bicycle Trail Project (CML-5398[013]), located along Lake Tahoe Boulevard (Blvd.) between Viking Road (Rd.). and the US Route 50 (US 50) and State Route 89 (SR 89) intersection, in South Lake Tahoe, El Dorado County, California (the "project") (Appendix A: Figures 1, 2). The project, as proposed by the City, would be partially funded under the Federal Highway Administration (FHWA) Congestion Mitigation and Air Quality Program (CMAQ) program and the FHWA Surface Transportation Block Grant (STBG) – California, administered by the California Department of Transportation (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. Cardno cultural resources specialist Evan Elliott, MA, RPA, served as principal investigator for the project and conducted all aspects of research, analysis, and documentation. This included archival research, a California Historical Resources Information system record search, Native American outreach, field investigations, and documentation efforts. Mr. Elliott has 13 years of cultural resources management experience and meets the Secretary of the Interior's Professional Qualifications Standards (36 CFR Part 61) for prehistoric and historic archaeology. The field investigation of the entire APE was conducted on January 4, 2018. Cardno Principal Investigator Brian Ludwig, Ph.D. provided project overview and quality assurance. Dr. Ludwig has 35 years of cultural resources management experience including 18 years in northern and central California. Cardno Principal Investigator Justin Wisely, M.A. provided final review and addressed comments on the draft documentation.

2 Project Location and Description

2.1 Project Location

The APE is located along Lake Tahoe Blvd. between Viking Rd. and the US 50 and SR 89 intersection (called Emerald Bay Rd. here) in South Lake Tahoe, El Dorado County, California. It is situated in a semi-urban area with a mix of school, governmental, commercial, residential, and rural uses southwest of the state highway. The APE is located in sections 5 and 8, Township 12N, Range 18E, Mount Diablo Base Meridian. It is depicted on the *Emerald Bay, California* U.S. Geological Survey (USGS) 7.5-minute series topographic quadrangle (Appendix A: Figures 1, 2, 3).

2.2 Project Description

This project is a part of the City of South Lake Tahoe's action priority to improve transit and trails connections. This project is partially funded under the FHWA CMAQ) program and the FHWA STBG – California, administered by the Caltrans. The City proposes to construct the Lake Tahoe Boulevard Class 1 Bicycle Trail Project along the southeast side of Lake Tahoe Blvd. between Viking Rd. and the Emerald Bay Rd. (US 50 and SR 89) intersection, in South Lake Tahoe, El Dorado County, California. The 10' wide bike trail will be on the south/southeast side of Lake Tahoe Tahoe Boulevard, and there will be minimal vertical and horizontal disturbance as part of the bike trail construction. The disturbance will primarily be removal of existing asphalt concrete (existing roadway) and replacement with an asphalt concrete bike trail and vegetative buffer. The bike trail will be installed primarily in the existing roadway area of Tahoe Blvd, where Tahoe Blvd is being reduced from 2 lanes in each direction to one lane in each direction with a center turn lane. The north side of the roadway will remain in its exact location (no vertical or horizontal change). The south side of the roadway will be modified – the curb line will be moved northerly. Then an approximately 5' wide vegetated area will be installed behind the curb, and then adjacent to that the 10' wide trail will be installed. Minor utility relocation will be required to construct the project. This will include relocation of drainage inlets (from existing south/southwest curb line to new south/southwest curb line – approximately 10' for each inlet). Acquisition will be required to construct the project. The acquisition consists of two permanent easements (right-of-way acquisition) and two temporary construction easements. The project will provide for non-motorized, and safe, travel between the existing Class 1 bicycle trail south of Viking Rd. and west of Lake Tahoe Blvd. to the SR 89 intersection, also known as the South Wye. The area currently includes roadways with two lanes in each direction, with several ingress/egress areas, and a generally unsafe pedestrian and bike travel area. The project is designed to resolve these safety issues.

2.3 Area of Potential Effects

The APE follows the course of Lake Tahoe Blvd. It extends 100 feet (ft.) on either side of the road centerline. At the southwest end of the APE, it extends 190 ft. southwest of the centerline Viking Rd. while at the northeast end it extends 75 ft. past the centerline of Emerald Bay Rd. (Appendix A: Figure 3). The APE for the project was developed by Cardno in consultation with the South Lake Tahoe Department of Public Works. The APE has been established to encompass the maximum limits of potential ground-disturbing construction activities that would reasonably be expected from the proposed project, including but not limited to, the bicycle path itself, all existing and proposed new rights-of-way, temporary construction easements, utility relocations, and equipment staging areas. In accordance with Section 106 PA Stipulation VIII.A, the APE for the project was established in consultation with Lisa Machado, PQS: Principal Investigator (PI)-Historical Archaeology and Co-PI Prehistoric Archaeology, and Ross Foon, Project Local Assistance Engineer.

3 Sources Consulted

3.1 Summary of Methods and Results

Cardno Cultural Resource Specialist, Evan Elliott, conducted a cultural resources records search at the North Central Information Center (NCIC) at California State University, Sacramento, in Sacramento, California on January 2, 2018 (Appendix B). The search area consisted of the project APE and a 0.5-mile record search radius around the APE. The records search reviewed, but was not necessarily restricted to, the following sources:

- Previously recorded sites;
- Reports of previous studies;
- California Historical Landmarks;
- National Register of Historic Places (NRHP);
- California Register of Historical Resources (CRHR);
- OHP Historic Properties Directory;
- Historic Spots in California (Hoover et al. 2002);
- General Land Office plat maps showing the study area; and
- County historical maps.

In addition to the record search, Cardno cultural resources staff conducted a review of historical topographic, county, survey, diseños, and other maps of the area. United States Census records were searched for persons identified as involved with the property and general historic research was conducted.

3.1.1 North Central Information Center Record Search

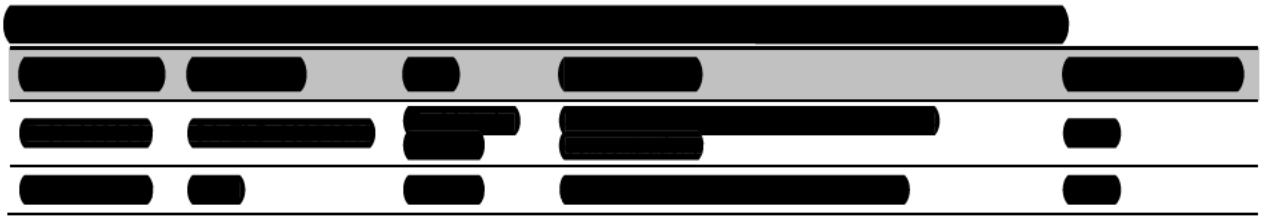
The NCIC records search demonstrated that three previous cultural resources investigations (S-7044, S-7578, and S-12188) are mapped as including portions of the APE, but it does not appear that any of these included field survey within the current APE. An additional 19 previous cultural resources investigations have been conducted within a 0.5 mile radius of the APE (Appendix A: Figure 4). [redacted] (See Appendix B for previously record resources).

Table 1. Previous Studies within 0.5-mile radius of the APE

Study No.	Author(s)	Year	Title	In APE
000027	Storm. Donald, and Gloria Caddell	1975	Archeological Investigations within the City of South Lake Tahoe	No
000206	Bass, Henry	1985	Negative Archeological Survey Report 03-ED- 50 74.4/75.4, Proposed Erosional Control Devices, South Lake Tahoe, El Dorado County.	No
002213	Napton, L. Kyle	1995	Cultural Resource Investigations of the Proposed Emerald Bay Apartments Project Site, South Lake Tahoe, El Dorado County, California.	No
[redacted]				
002850	Chavez, David	1981	An Archeological Survey of the South Lake Tahoe Bike Trail Project	No

002860	Knick, Kristen	1988	Archaeological Reconnaissance Report for Individual Parcels Acquired Under PL 96-586, Lake Tahoe Basin Management Unit: ARR# 05-19-196	No
004395	Lindström, Susan	2001	Cellular Communications Tahoe Sites Heritage Resource Inventory Placer and El Dorado Counties	No
004395B	Lindstrom, Susan	2001	Cellular Communications Tahoe Sites Heritage Resource Inventory Placer And El Dorado Counties	No
006781	Farber, Alfred	1992	Archaeological Survey of the 80-acre South Tahoe High School Site South Lake Tahoe El Dorado County California	No
007044	California Department of Transportation	1999	Historic Property Survey Report For The Proposed Improvement of US Highway 50 In South Lake Tahoe, El Dorado County, CA	Yes*
007216	Dexter, Sean David	1995	Lake Tahoe Basin Management Unit Heritage Resource Report - Urban Fringe Management Project (California Portion)	No
007578	Davis, Herschel	1997	Lands Department Urban Lot Management Project	Yes*
008532	Knick, Kristen	1988	Archaeological Reconnaissance Report for Individual Parcels Acquired Under Public Law 96-586, Lake Tahoe Basin Management Unit	No
008533	Marvin, Judith	2002	Historic Property Survey Report, SR 89 KP 13.7 and SR 50 KP 121.5	No
008534	Lycett, M., and J. Holson	1992	A Cultural Resources Survey for the Tahoe Mountain Fuels Reduction and Southshore Bike Trail Development Projects, Lake Tahoe Basin Management Unit, El Dorado County, California	No
009380	Billat, Scott	2002	Lake Tahoe Airport CA-1645B	No
009405		2002	James & Dunlap Project	No
009963	Jones and Stokes	2007	Historical Resources Evaluation and Archaeological Survey Report for the SR 89 Water Quality Improvement Project	No
009966	McMorris, Christopher	2008	U.S. Highway 50, segment 2 - Lake Tahoe Airport to Junction us 50/SR 89 Water Quality Improvement Project	No
010544	Derr, Eleanor H.	2001	Historical and Cultural Resource Assessment Existing Telecommunications Facility Site No. SA-455-01, 961 Emerald Bay Road, El Dorado County, California	No
011878	Lindström, Susan	2015	South Tahoe Public Utility District Fire Hydrant Service Expansion Project Cultural Resource Inventory	No
012188	Lindström, Susan	2016	South Tahoe Public Utility District Water Meter Installations Project Cultural Resource Inventory	Yes*

* Includes a portion of the APE but does not appear to have included field survey in the APE.



3.1.1.1 NRHP, CRHR, California Historical Landmarks Listing, and California Points of Historical Interest

No properties listed on the NRHP, the CRHR, the California Historical Landmarks Listing, or the California Points of Historical Interest have been recorded in or near the APE (National Park Service 2014; Office of Historic Preservation 2017).

3.1.2 USGS Historical Topographic Map Collection and other Archival Resources

Cardno cultural resources specialist reviewed a variety of historic documents that potentially contained information regarding the APE. These are described below:

- 1866 General Land Office Plat Map of Township 12 North, Range 18 East, Mount Diablo Meridian (BLM 2017a);
- General Land Office land patent records for Township 12 North, Range 18 East, Mount Diablo Meridian (BLM 2017b);
- 1874 Topographic Map of Lake Tahoe and Surrounding Country (von Leicht and Hoffman 1874);
- 1889-1896 Pyramid Peak, Calif. 30-minute series USGS quadrangle map (USGS and ESRI 2017);
- 1955 Fallen Leaf Lake, Calif. 15-minute series USGS quadrangle map (USGS and ESRI 2017);
- 1955-1970 Emerald Bay, Calif. 7.5-minute series USGS quadrangle map (USGS and ESRI 2017);
- 1940 aerial photograph of the South Wye area (NETR Online 2017);
- 1969 aerial photograph of South Wye area (NETR Online 2017).

The earliest map of the APE and surrounding region was the General Land Office 1866 Plat map. It does not depict any elements of the built environment in the vicinity of the APE.

Early USGS topographic maps, including the 1889, 1891, 1895 and 1896 Pyramid Peak 30-minute quadrangles, show no development in the area, [redacted] By the 1955 Emerald Bay 7.5-minute quadrangle, development has started, including the South Wye intersection of US 50 and SR 89. Two buildings are depicted along Emerald Bay Road within the APE. It appears that one of them may be the American and Foreign Auto Parts at 1983 Lake Tahoe Blvd while the other appears to be east of the present day Lake Tahoe Blvd and no longer in existence. The 1960 Emerald Bay quadrangle shows no substantive changes, but by the 1970 edition, Lake Tahoe Blvd. through the APE was constructed, as were several buildings (USGS AND ESRI 2017):

- 1900 Lake Tahoe Blvd – El Dorado County Health & Human Services Agency, Mental Health, Alcohol, and Drug Programs Building.
- 1700 D St – City of South Lake Tahoe Public Works Equipment Maintenance Building
- 1950 Lake Tahoe Blvd – Two commercial buildings
- 1983 Lake Tahoe Blvd – American and Foreign Auto Parts
- 1901 Lake Tahoe Blvd – Les Schwab Tire Center
- 1860 Lake Tahoe Blvd – DIY Center
- 1855 Lake Tahoe Blvd – Cardinale Toyota
- 1931 Lake Tahoe Blvd – Scotty's True Value Hardware
- 1935 Lake Tahoe Blvd – NAPA Auto Parts

A review of the General Land Office records revealed serial patents awarded to the State of California for the north ½ of Section 8 on November 29, 1873, and for the south ½ of Section 5 of Township 12E, Range 18N, on September 4, 1882, under the authority of the Grant-Certain Land to State (5 Stat. 453) of September 4, 1841 (BLM 2018b).

3.2 Summary of Native American Contacts

On January 2, 2018, Cardno submitted a request to the Native American Heritage Commission (NAHC) for a search of the Sacred Lands File and for a contact list of potentially interested Native American parties. The NAHC responded on January 8, 2017 with results of the Sacred Lands File search and provided a contact list. The Sacred Lands File search did not indicate the presence of any place or places of importance to any Native American Group within the vicinity of the project APE. Cardno sent letters to all parties listed on the NAHC response on February 21, 2018. As of August 23, 2018, no responses to these outreach letters had been received. Due to the Washoe Tribe of Nevada and California's traditional ties to the APE and surrounding region, Cardno placed a follow-up call to Mr. Darrel Cruz (Tribal Historic Preservation Officer [THPO] on July 7, 2018. Mr. Cruz noted that he was unaware of any Native American

cultural resources or significant properties or locations within or near the APE. Mr. Cruz also did not express any concerns regarding the proposed project. Cardno will follow up with the remaining contacts on the list with a phone call. (For copies of correspondence, see Appendix C).

- Ms. Pamela Cubbler, Treasurer, Colfax-Todds Valley Consolidated Tribe
- Ms. Crystal Martinez-Alire, Chairperson, Ione Band of Miwok Indians
- Mr. Randy Yonemura, Cultural Committee Chair, Ione Band of Miwok Indians
- Mr. Cosme Valdez, Chairperson, Nashville-Eldorado Miwok
- Mr. Nicholas Fonseca, Chairperson, Shingle Springs Band of Miwok Indians
- Mr. Grayson Coney, Cultural Director, T'Si-Akim Maidu
- Mr. Don Ryberg, Chairperson, T'Si-Akim Maidu
- Mr. Gene Whitehouse, Chairperson, United Auburn Indian Community of the Auburn Rancheria
- Mr. Darrel Cruz, THPO - Washoe Tribe of Nevada and California

3.3 Additional Community Outreach

In addition to the NCIC record search, archival research, and outreach to the Native American community, Cardno also contacted local historical societies in an effort to identify any prehistoric or historic-era cultural resources that might be within or near the APE but not documented elsewhere. On July 2nd, 2018, Cardno contacted Ms. Mary Cory, Museum Administrator of the El Dorado County Historical Museum in Placerville, California, and Mr. Doug Walker, Cultural Resource Coordinator of the El Dorado County Historical Society. Email letters and maps of the APE and vicinity were provided along with a request to contact Cardno with any information they might have regarding cultural resources or concerns regarding the proposed project. Follow-up calls were made to Ms. Cory, and Mr. Walker on July 16th, and July 23rd, 2018 but no responses to the emails or calls have been forthcoming. If subsequent contacts are made, results will be provided in an addendum to this ASR.

4 Background

4.1 Environmental Setting

4.1.1 Geography and Geology

The APE is located between 6,300 ft. and 6,275 ft. above mean sea level in the Lake Tahoe Basin, a large sub-alpine valley located in the north-central portion of the Sierra Nevada Range. This valley was formed by geologic block faulting about 2 to 3 million years ago, as the Carson Range rose to the east and the Sierra Nevada Range to the west (USFS 2017). The Sierra Nevada are formed from a large granite batholith and metamorphic prebatholithic rocks. Prebatholithic rocks are remnant rocks, which have not been eroded and are composed of Paleozoic age metasediments, such as quartzite, marble, slate and schist, as well as metavolcanic rocks. The current state of the Sierra Nevada mountain range has been influenced by such factors as glaciation, as well as chemical and mechanical weathering of the granitic rocks (Schoenherr 1992).

The geological sediments of the area are formed of Quaternary glacial deposits (mapped as "Qg.") that date to the Pleistocene epoch. These include glacial till and moraines, found at high elevations mostly in the Sierra Nevada and Klamath Mountains (Jennings et al. 1977). The majority of the soils in the APE consist of the Ubaj series along 0-9 percent slopes. These soils are a sandy loam that is very deep and moderately well drained. Ubaj soils occur on lake terraces and are formed in colluvium and/or outwash derived from granodiorite over lacustrine deposits. Other soils in the APE consist of the Christopher-Gefo complex along 0 to 5 percent slopes. Christopher soils occur on glacial outwash terraces and are formed in colluvium, alluvium and glacial outwash weathered from granodiorite. The Gefo series consists of very deep, somewhat excessively drained soils formed on glacial outwash and alluvium derived mainly from granitic rocks. Gefo soils are on outwash terraces and alluvial fans (California Soil Laboratory 2017). Ubaj soils and Christopher soils date to Latest Pleistocene, while Gefo soils date to the Late Holocene, and Marla soils, an inclusion within the dominant soils, date to the Latest Holocene (Meyer and Rosenthal 2008).

4.1.2 Climate

The climate of the lower elevation Lake Tahoe Blvd is subhumid with cool dry summers and cold moist winters. Annual precipitation is 530 to 990 millimeters, much of which occurs as snow. The mean annual temperature is 5 to 8 degrees Celcius. A small amount of precipitation can occur in the summer in the form of thunderstorms (Schoenherr 1992).

4.1.3 Vegetation

The Lake Tahoe region is located in the Northern High Sierra Nevada subregion of California Floristic Province (Jepson Flora Project 2013). It is surrounded primarily by a Yellow Pine Forest that is dominated by Jeffrey pine (*Pinus jeffreyi*) and white fir (*Abies concolor*), with an understory of big sagebrush (*Artemisia tridentata*), bitterbrush (*Purshia tridentata*), manzanita (*Arctostaphylos spp.)*, and some perennial grasses (Schoenherr 1992:108-109).

4.2 Ethnographic and Ethnohistoric Setting

Prior to the disruption and destruction of indigenous lifeways by Euro-American colonization that began in the 1840s, the Washoe (*wá:šiw* or *Wa She Shu*) held a territory ranging along the Sierra crest to the north and south of Lake Tahoe and down into Truckee Meadows and the Pine Nut Range to the east. The Washoe are speakers of a language in the Hokan phylum, the only group in the Great Basin who didn't speak a Numic language (d'Azevedo 1986; Golla 2011; Lindström et al. 2000:35). This traditional lifeway was based on movement between camps located near seasonally available resources, where "first use" rights and accessibility were maintained by priority of use (Rucks 2002). Key among these resources

were fish and pinyon pine, while acorns gathered across the Sierra crest and brought back to the Lake Tahoe Basin formed a resource of secondary importance. This travel across the Sierra Crest linked the Washoe socially and culturally to groups in both California and the Great Basin (d'Azevedo 1986).

The Washoe generally organized themselves into small, related groups that traveled between different resource areas together, but did not form larger, organized political entities. Washoe households were somewhat loosely combined to form villages, referred to as bunches by Downs (1966:44-46). The household may be considered the minimal political and economic unit for the Washoe, while the bunch represents the minimal number of families necessary to cooperatively accomplish tasks that individual households could not complete (e.g., stage rabbit drives, form hunting parties, and form defensive units) (Downs 1966:45). The Washoe territory or people are often divided into three regions or groups that more frequently interacted and cooperated with each other than with other groups. Overlapping gathering areas, cooperation in harvest and festivals, and collaborative defense was most consistent among neighbors within one of these three regions: the *wélmeltiz* ("northerners"), the *p´á:wazluz* ("valley dwellers"), and the *há_aleltiz* ("southerners"). The Upper Truckee River and Trout Creek area was the summer territory for two of these groups, primarily *há_aleltiz* families of the Woodfords-Markleeville areas and also some *pá:wazluz* from the Carson Valley (Rucks 2002). These visits were centered on gathering fish from territories claimed along productive streams. If the winter was mild or if the pinyon pine nut crop was poor, settlement in Lake Valley could continue in the fall and winter, sometimes becoming year-long residence (Freed 1966; Lindström et al. 2000:35).

Washoe practiced seasonal transhumance, moving from one area or elevation to another to harvest plants, fish, and hunt game across contrasting lifezones that are in relatively close proximity to each other (d'Azevedo 1986). The Washoe subsistence calendar was divided into three "years": the fishing year, the gathering year, and the hunting year. The spring fishing period was a time of increased social interaction between Washoe since they were all drawn to the concentration of resources around Lake Tahoe (Downs 1966:12). Washoe fishing techniques included the construction of fish blinds for spearing fish, stone dams and weirs to restrict the travel of larger fish, diversions of streams, nets, and basketry fish traps (Freed 1966:76-77). As the snows melted in the higher valleys, family groups would move away from Lake Tahoe, and refocus subsistence activities on hunting and fishing in smaller lakes, and the harvesting of plant resources. The gathering year focused on the variety of plant foods available in the various environmental zones inhabited by the Washoe. Contrary to the fishing year, which facilitated the gathering of Washoe in one place, plant collection during the gathering year demanded the constant movement of relatively small family units. This was necessary to take advantage of various plants that occurred in relatively small quantities at widely dispersed locales that ripened at different rates and times and were only available for limited periods. As summer progressed, Washoe begin to move toward the lowlands along the western slope of the Sierra Nevada where many valley grasses were ripening and seeds could be harvested (Downs 1966:12-19). Towards the end of summer and early fall, family groups would head west in the fall, obtain quantities of acorns, and carry them back over the crest of the Sierra to supplement their winter diet (d'Azevedo 1986:474). During the fall, most Washoe families returned east for the pinyon pine nut (piñon) harvest in the Pine Nut Range. Pinyon pine nuts provided the staple food for all Washoe, and a good harvest ensured an easy winter, as the Washoe lived in dispersed villages and consumed stored foods gathered by organized groups (e.g. pine nut harvests, game drives) (Downs 1966:21). The hunting year began as soon as animals appeared in the spring; however, the main focus of hunting occurred in the late summer and lasted until the first snows of winter. Rabbits and deer were taken primarily in the fall, with groups of six to eight men traveling into California to hunt intensively for deer (Downs 1966:26).

The Washoe built two basic structures: the winter house (similar to typical Nisenan residential structures), which consisted of a conical framework of poles covered by overlapping slabs of cedar and/or other conifer bark, with a short covered doorway or vestibule; and the summer brush house which varied from a simple low enclosure resembling a windbreak to a completely covered, dome-shaped house (Barrett 1917:10-11). Washoe also constructed covered fishing platforms over streams that were often described as floating houses by observers (d'Azevedo 1986:473). Washoe also built sweat lodges and large earth-

covered dance houses, similar to those of the Nisenan, but there is disagreement regarding whether or not these structures were regularly constructed prior to the historic period (d'Azevedo 1986:481).

Every stream entering Lake Tahoe was named by the Washoe and most were recognized as camping and fishing bases for specific kin groups (Freed 1966; Nevers 1976). The current APE is nearest to Sawmill Creek to the south, but Freed does not supply a name for this stream. [redacted]

4.3 Prehistoric Setting

The prehistory of the Lake Tahoe Basin is part of that of the wider northeastern Sierra Front. The chronology is generally divided by temporal periods and regional expressions (cultural patterns, complexes, or phases). Heizer and Elsasser first outlined the archaeology of this region in 1953, identifying both the Martis and the Kings Beach complexes. The established archaeological framework was revised several times over the past fifty years and now includes six complexes over four periods (See Table 3)

Table 3. Cultural Chronology of Lake Tahoe Basin

Period	Complex	Age	Characteristic artifacts/features	Climate
Pre-Archaic	Tahoe Reach	>10,000 – 8,000 BP	Great Basin Stemmed Series points, including Parman.	Anathermal; warming trend, climate similar to the present.
Early Archaic	Spooner	8,000 – 5,000 BP	Unclear, possibly by contracting-stem projectile points.	Altithermal; generally hot and dry, Lake Tahoe does not overflow for long periods of time.
Middle Archaic	Early Martis	5,000 – 3,000 BP	Contracting stem points of the Elko-Martis Series; Steamboat points, large basalt bifaces	Beginning of Medithermal; Neoglacial, wet, but not necessarily cooler, increased summer precipitation, Lake Tahoe begins to overflow.
	Late Martis	3,000 – 1,300 BP	Corner-notched and eared points of the Martis and Elko Series; large basalt bifaces	Neoglacial; wet but not necessarily cooler, increased summer rain.
Late Archaic	Early Kings Beach	1,300 - 700 BP	Gunther, Eastgate and Rose Spring series points, chert cores, utilized flakes and other small chert tools, hullers, M1a sequin beads, possibly small shallow saucer-shaped house pits.	Neoglacial, dry trees growing in former bogs, Periods where Lake Tahoe may not have overflowed.
	Washoe/ Late Kings Beach	700 - 150 BP	Desert and Cottonwood series projectile points, chert cores, utilized flakes and other small chert tools, possibly shallow saucer-shaped house pits.	Neoglacial; wet and cool, but with little summer precipitation.

Sources: Elston et al 1977:171; Elston 1986; Hull 2007:184; Rosenthal 2002:159; SCA 2018

The earliest documented human presence east of the Sierra Nevada crest and the nearby Great Basin consists of cultural manifestations referred to as the Pre-Archaic Period or the Tahoe Reach (ca. > 10,000–8,000 Years Before Present [B.P.]) (Elston 1986). This complex been traditionally identified as generally representative of smaller, mobile populations of people whose economy and subsistence practices were focused on game hunting, referred to as Paleo-Indians. Increasing evidence has

suggested that Paleo-Indian technological and subsistence patterns were far more diverse and the procurement of large game may not have been a defining trait, but instead a more sporadic activity. Very few sites of this phase have been found in the Sierra Nevada but its presence in the region has been postulated based on sites of this age at lower elevations (Elston et al. 1977). This time period is marked by the presence of Great Basin stemmed projectile points with ground margins, bifaces, choppers, and crescent shaped tools (Elston 1986). The Archaic Period begins with the appearance of artifact assemblages characteristic of the Spooner Phase (8,000–5,000 B.P.) on the Sierra Nevada and Tahoe Basin landscape (Elston 1971).

Evidence for the Early Archaic Period (8,000-4,000 B.P.) is generally scarce in the higher elevations. It begins with the appearance of artifact assemblages characteristic of the Spooner Phase on the Sierra Nevada and Tahoe Basin landscape, including Pinto and Humboldt series projectile points, although questions remain about Spooner projectile point styles (Elston et al. 1977; Rosenthal 2002). Most of the residential base camps are located near to rivers while field camps for hunting and gathering were located in the uplands. It is possible that the upper elevations were used mostly by specialized hunting task groups while residential areas were restricted to lower elevations (Elston 1986). Fishing in highland lakes and streams may have been an important part of subsistence, but as this relies on perishable technology, there is not much evidence for this (Lindström 2002).

Populations increased throughout the Archaic period, likely driving the expansion of the resource base, and plant food processing tools became more complex and specialized. The Middle Archaic Period (4,000-1,300 B.P.) begins during a cooler and wetter climate and is best known for the Early and Late Martis complexes. The Martis complex is signaled by the proliferation of sites with assemblages exhibiting larger numbers of heavy basalt flaked tools milling slabs for processing seed foods (Elsasser and Gortner 1991). This ties these populations to similar cultural expressions occurring in California, generally falling within the widespread "Millingstone Horizon" (Kowta 1988:101). Kowta (1988:123) hypothesized that the Martis Complex is "an 'autochthonous' demographic and cultural mixture of both Great Basin and California elements" dominated by "California contributions." The California elements dominate the Martis Complex since California rather than the Great Basin had the population base necessary to expand into new geographic areas (Kowta 1988:123). Early Martis winter sites were located in optimal ecological locales with access to a suite of subsistence resources (Elston 1986:141). The Early Martis is characterized by basalt contracting- and split-stemmed Martis points and Steamboat foliate points (Rosenthal 2002). Martis base camps are located on valley margins with access to a wide variety of resources, with field camps and task sites are located in a wider variety of locations (Elston 1986:143). During the Late Martis complex (3,000–1,300 B.P.), the general Martis lifeway continues, but there is a shift in projectile point styles to corner-notched and eared Elko and Martis points, although work by Rosenthal has cast some doubt on that shift (2002).

By the Late Archaic the bow and arrow replaced the atlatl and dart (Elston 1986). This can be seen in the decreasing size of projectile points and the shift to Rosespring and Eastgate series points in the Early Kings Beach phase (Elston et al. 1977). The intensified use of resources and expanded tool kit complexity that is representative of the transition to the Late Archaic is thought to be in response to population pressure, possibly spurred by a hot, dry spell between 1,000 and 2,000 B.P. (Elston 1986). The predominance of flaked and ground stone on archaeological sites of this time period appears to reflect an economic focus on hunting and seed gathering. The cooler and wetter climate of this era led to population increase and diversification, and is similar to that of the climate experienced today (Elston 1986). The Late Archaic is divided between the Early Kings Beach (1,300–700 B.P.) and the Late Kings Beach or Washoe complex (700–150 B.P.). The Early Kings Beach complex is characterized by seasonal campsites with assemblages of flaked obsidian and silicate tools, small projectile points, occasional scrapers, and bedrock mortars (Elston et al. 1977).

The Late Kings Beach complex is marked by increasing population in a more dispersed settlement pattern, as demonstrated by the more intensive use of the Lake Tahoe Basin. The Late Kings Beach complex is likely representative of the solidification of the ethnographically observed lifeways of the

Washoe (Lindström et al. 2000:35). It is characterized by subsistence strategies of even greater intensity and diversity than previous periods and emphasized fishing, pine nut harvesting, seed gathering, and hunting using the bow and arrow (Elston 1986). Desert Site-notched and Cottonwood series points become the dominant point styles (Rosenthal 2002).

4.4 Historic Setting

The first Euro-Americans to view Lake Tahoe were the members of the John C. Fremont party in 1844, who glimpsed it from afar from a peak while they crossed what became known as Carson Pass (Hoover et al. 2005). Despite this, it was not until 1859 that Euro-Americans regularly traveled to the south shore of Lake Tahoe after the discovery of silver in Nevada's Comstock Lode. This regular travel from Carson City in Nevada to Sacramento in California drove the consolidation of various paths into a wagon road that roughly corresponds to today's US 50 (Kostura 1999). The Pony Express operated along this route, with a stop to the south of the APE at Meyers (Hoover et al. 2005). Hotels and stables were built within the area to support this travel, with the first hotel, Lake House, built in 1859 several miles northeast of the APE (Hoover et al. 2005; Kostura 1999). Accessing South Lake Tahoe became easier with the 1869 completion of the Central Pacific Railroad, allowing travelers to transfer from the train to a stage coach (later replaced with a narrow-gauge railroad) in Truckee, and then rode a steamboat from Tahoe City to resorts and ports on the south shore, such as Bijou (Kostura 1999).

The mining of the Comstock Lode required a great deal of lumber and the south shore of Lake Tahoe became a major supplier. The largest company in the area was the Carson and Tahoe Lumber and Fluming Company (Carson and Tahoe Lumber) that owned approximately 10,000 acres of forest on the south side of the lake and operated the Lake Valley Railroad. This railway transported felled logs down Lake Valley to Taylor's Landing, later called Bijou, where they would be floated across the lake to the Glenbrook mills on the east shore (St. John 2006). Matthew Culbertson Gardner obtained a large portion of the timberlands along the southwest shore of Lake Tahoe in 1872, and was a major supplier of the Carson and Tahoe Lumber Company. He constructed a railroad to take timber from his holdings to the lumber port at Bijou. His machine shop and roundabout were at Camp Richardson, so the railroad likely ran roughly along the present course of SR 89/Emerald Bay Road before turning north towards Bijou (Myrick 1992). This may have taken it nearby the APE, but the exact route of the railroad is unclear as it does not appear on an 1874 topographic map of Lake Tahoe or the 1889 Pyramid Peak USGS topographic quadrangle (USGS and ESRI 2018; von Leicht and Hoffman 1874). While all this activity pushed the growth of towns such as Bijou and Myers, development does not appear to have reached the APE until the 20th century. The timber industry on the south shore and around Lake Valley bottomed out in 1898, when the timber supply declined significantly and Carson and Tahoe Lumber moved its entire operation, including the railroad, north to Tahoe City (St. John 2006). This happened to correspond to the 1896 completion of the first California state highway that connected Placerville to South Lake Tahoe, roughly following the current route of US 50 (Hoover et al. 2005). This eased access, bringing wealthy people to the lake, where they built summer vacation homes, but again, these tended to be to the northwest and northeast near the lakeshore. As most were summer homes, the winter population of the region was quite low (Kostura 1999).

In 1912, the state highway to Placerville became part of the first transcontinental US highway, the Lincoln Highway. The number of cars travelling to Tahoe increased, but did not take off until the 1930s when the road was paved (Hoover et al. 2005; Kostura 1999). Many new hotels and motels were constructed along the highway and the road circling the lake (Kostura 1999). The US Forest Service built a large number of campgrounds for visitors who were looking to experience nature, including the one at Camp Richardson, west of the APE (St. James 2006). After World War II, the increasing popularity of winter sports and gambling in Nevada caused more people to settle year-round on the south shore and in 1965 the town of South Lake Tahoe was incorporated (Hoover et al. 2005). More motels, gas stations, and markets were constructed along US 50 during this period (Kostura 1999).

5 Field Methods and Results

5.1 Field Methods

On January 4, 2018, Cardno project archaeologist Evan Elliott conducted an intensive pedestrian survey of the entire APE. This included both sides of Lake Tahoe Blvd. from the northern part of the intersection with Emerald Bay Rd. (South Wye) to 200 ft. southwest of the intersection with Viking Rd./D St. (Appendix A: Figure 6). During the survey, Mr. Elliott examined the APE for soil changes, landscape alterations, and other signs of cultural resources, including artifacts, features, built environment structures and buildings, and vegetation modifications such as arborglyphs. The surface of Lake Tahoe Blvd. and several parking lots were omitted from survey, as these are paved and actively used. This left an area for survey that measured between 25 and 85 ft. wide from the edge of the roadway. This area was covered using transects that ranged between 10 and 15 meters apart. Ground visibility ranged from 0-80 percent, with portions completely covered by hardscaping, lawns, or pine duff. Other areas contained low grasses with 50 percent visibility and open sagebrush and conifer woodlands with 60-80 percent visibility. Rodent holes were common throughout the area and allowed for examination of subsurface soils in places that were not hardscaped. Surface scrapes were conducted occasionally in areas containing pine duff to check the ground surface.

5.2 Results

As expected along a well-trafficked roadway, there were pieces of modern refuse within the roadway, including cans, plastic fragments from cars, and similar materials. Soils were soft and ranged from medium brown to dark tan, with no sign of cultural modification. This survey did not identify any sites, features, or artifacts within the APE that required documentation. Although several buildings dating to the late 1960s were identified during the prefield research, all of these are situated behind modern landscaping and parking lots and would not be affected by the construction of the bicycle path.

6 Study Findings and Conclusions

Information provided by the NAHC stated that there were no places possessing cultural significance to the Native American community located in or near the APE. Similarly, contact with local tribal representatives per NAHC guidance did not reveal the presence of any known sensitive properties in the APE.

[redacted] These water sources, however, are not situated within or adjacent to the APE. While it is difficult to quantify a specific level or degree of sensitivity for the APE, the area within which the project would occur appears to retain generally low sensitivity for containing prehistoric cultural resources. In addition, archival research and reviews of historic mapping suggest that few historic-period activities or developments other than the development of US 50 and SR 89 occurred within or immediately adjacent to the APE. Buildings dating to the late 1960s near the APE all are situated behind parking lots or modern landscaping and will not be affected by the construction of the bicycle path. As a result, it is considered unlikely that project ground disturbances would result in the discovery or disturbance of presently undocumented historic-era sites, features, or artifacts.

6.1 Unidentified Cultural Materials

Surface surveys are not infallible and buried resources may be overlooked. Per Caltrans Exhibit 5.1 in Volume 2 of the Standard Environmental Reference, it is Caltrans' policy to avoid cultural resources whenever possible. Further investigations may be needed if the site[s] cannot be avoided by the project. If buried cultural resources 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. Per Attachment 4 of the 2014 *First Amended Programmatic Agreement*, isolated prehistoric or historic finds of fewer than three items per 100 square meters are properties exempt from evaluation.

6.2 Human Remains

If human remains are discovered during project activities, all activities in the vicinity of the find will be stopped and the El Dorado County Sheriff–Coroner's Office shall be notified. If the coroner determines that the remains may be those of a Native American, the coroner will contact the NAHC. Treatment of the remains shall be conducted in accordance in consultation with the NAHC-designated Most Likely Descendent and landowner as appropriate. The Caltrans PQS will be notified if Native American human remains are identified in the APE.

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Archaeological Survey Report for the
Al Tahoe Mobility Project

APPENDIX A

FIGURES

N

Sec: 5, 8
Twp: 12N
Rng: 18E

Figure 1. Study Vicinity Map

Lake Tahoe Blvd Bike Trail El Dorado County, CA

0 7,000 14,000 Feet

0 2,300 4,600 Meters

Cardno

2300 Clayton Road, Suite 200, Concord, CA 94520
Phone (+1) 925-935-9920 Fax (+1) 925-935-5368
www.cardno.com

Date Created: 3/20/2019 Date Revised: 3/20/2019 File Path: R:\Cardno\E31720270_LakeTahoeBlvdBikeTrail\map\LTB_BikeTrail_Study_Vicinity_Map.mxd
GIS Analyst: Anna.Clare

Figure 2. Study Location Map

Lake Tahoe Blvd Bike Trail El Dorado County, CA

Cardno
2300 Clayton Road, Suite 200, Concord, CA 94520
Phone (+1) 925-935-9920 Fax (+1) 925-935-5368
www.cardno.com

Date Created: 3/20/2019 Date Revised: 3/20/2019 File Path: R:\Cardno\E31720700_LakeTahoeBlvdBikeTrail\map\LTB_BikeTrail_Study_Location_Map.mxd
GIS Analyst: Anna.Clare

APE Approval	
Associate Environmental Planner, District 3 North Region Local Assistance	
Chris Carroll	
Project Local Assistance Engineer	
Ross Foon	

Legend

Area of Potential Effect

Topo Quad: Emerald Bay, CA

Sec: 5, 8
Twp: 12N
Rng: 18E

Figure 3. Area of Potential Effects Map

Lake Tahoe Blvd Bike Trail
El Dorado County, CA

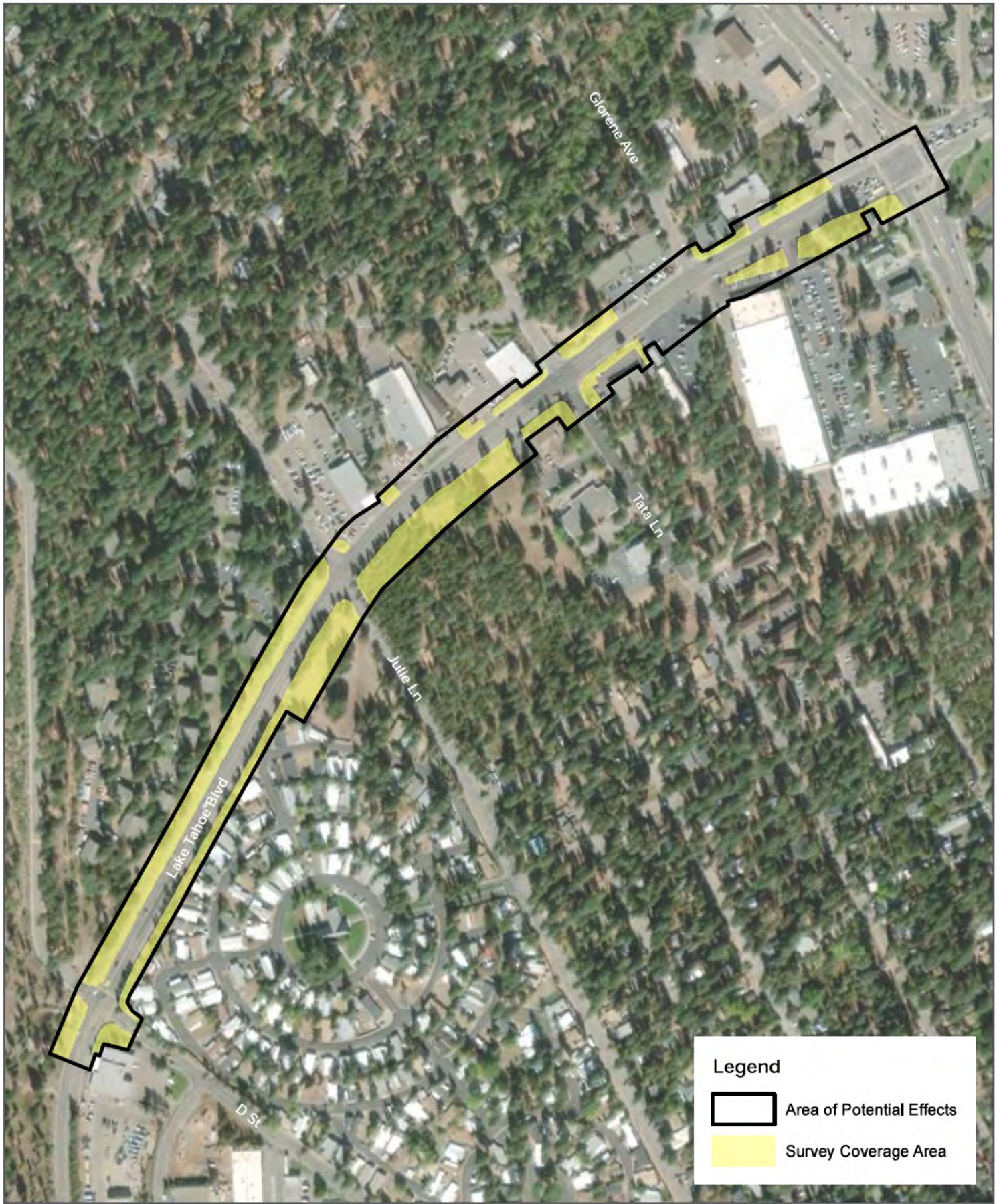
0 350 700 Feet
0 110 220 Meters

Cardno
2300 Clayton Road, Suite 200, Concord, CA 94520
Phone (+1) 925-935-9920 Fax (+1) 925-935-5368
www.cardno.com

Date Created: 3/20/2019 Date Revised: 3/20/2019 File Path: R:\Cardno\E31720270Q_LakeTahoeBlvdBikeTrail\map\LTB_BikeTrail_Area_of_Potential_Effects_Map.mxd
GIS Analyst: Anna.Clare

Figure 4: Redacted

Figure 5: Redacted



Topo Quad: Emerald Bay, CA

Sec: 5, 8
Twp: 12N
Rng: 18E

Figure 6. Survey Coverage Map

Lake Tahoe Blvd Bike Trail El Dorado County, CA

0 250 500 Feet
0 80 160 Meters

Cardno
2300 Clayton Road, Suite 200, Concord, CA 94520
Phone (+1) 925-935-9920 Fax (+1) 925-935-5368
www.cardno.com

Date Created: 3/20/2019 Date Revised: 3/20/2019 File Path: R:\Cardno\E317202700_LakeTahoeBlvdBikeTrail\map\LTB_BikeTrail_Survey_Coverage_Map.mxd
GIS Analyst: Anna.Clare

Archaeological Survey Report for the
Al Tahoe Mobility Project

APPENDIX B

PREVIOUSLY IDENTIFIED RESOURCES: RECORDS

Appendix B: Redacted

Archaeological Survey Report for the
Al Tahoe Mobility Project

APPENDIX C

NATIVE AMERICAN COMMUNITY OUTREACH

Sacred Lands File & Native American Contacts 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

Information Below is Required for a Sacred Lands File Search

Project: Lake Tahoe Blvd Bike Path

County: El Dorado

USGS Quadrangle Name: Emerald Bay

Township: 12N **Range:** 18E **Section(s):** 5; 8

Company/Firm/Agency: Cardno, Inc.

Street Address: 2980 Gateway Oaks Drive

City: Sacramento **Zip:** 95833

Phone: 916-386-3815

Fax: 916-923-6251

Email: evan.elliott@cardno.com

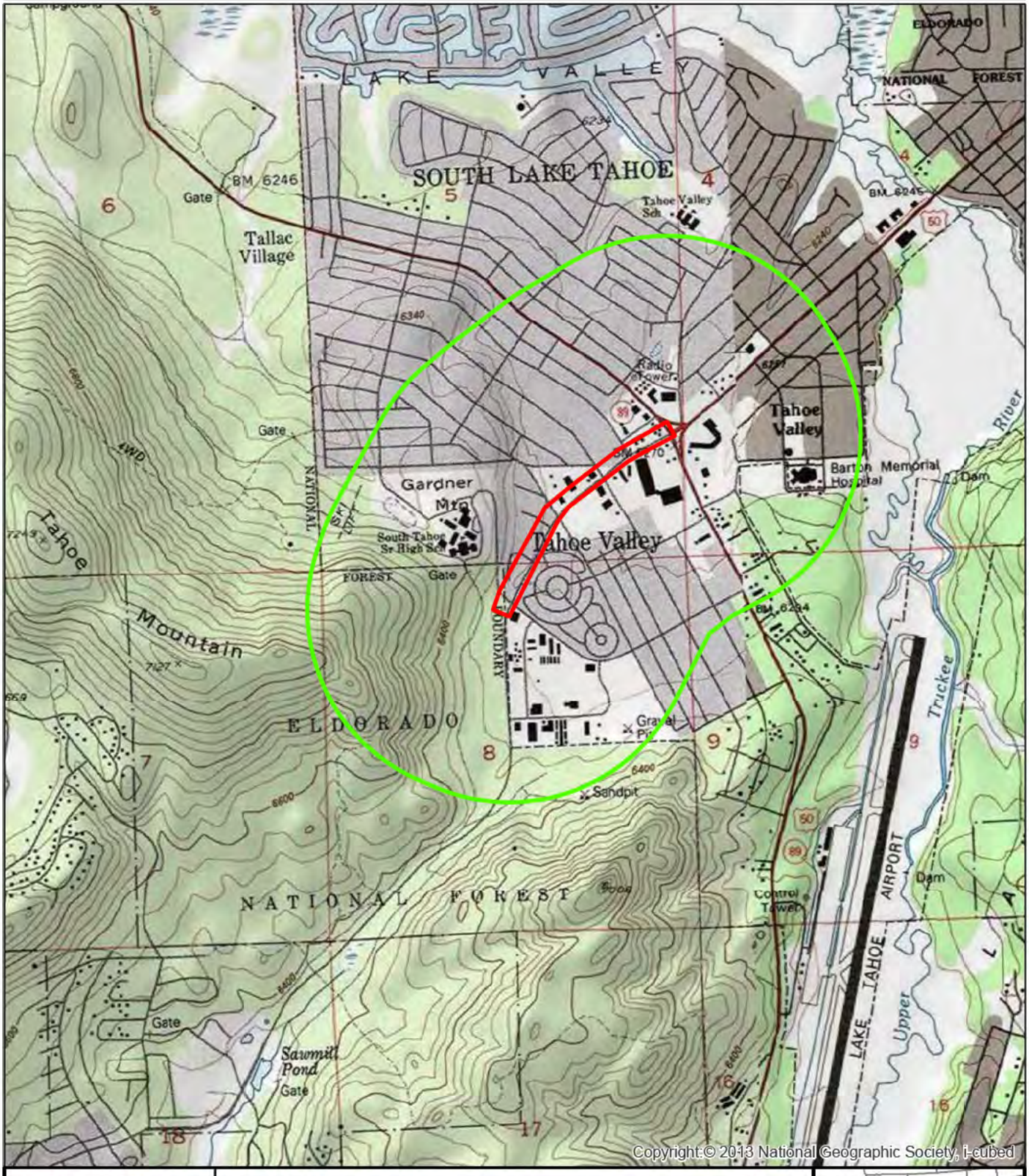
Project Description:

This project consists of construction of a bicycle path along Lake Tahoe Blvd, in South Lake Tahoe, CA. It will run from Viking Rd. to the intersection of CA Route 89 and US 50, approximately 2/3 of a mile. The area is currently a mix of rural, residential, and commercial.

PREFIELD APE AND 0.5 mi BUFFER MAP

Map Name: Emerald Bay, Calif.
PLSS Designation: T 12N/ R 18E, Sections 05, 08 **County:** El Dorado, Calif.

Project Name: Lake Tahoe Blvd.
Project Number: E317202700
Project Phase: 0700



0 0.5 1
KILOMETERS

0 0.5 1
MILES

NATIVE AMERICAN HERITAGE COMMISSION
Environmental and Cultural Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710

January 8, 2018

Evan Elliott
Cardno

Sent by Email: evan.elliot@cardno.com
Number of Pages: 2

RE: Lake Tahoe Blvd. Bike Path, Emerald Bay, El Dorado County

Dear Mr. Elliott:

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
1/8/2018

Colfax-Todds Valley Consolidated Tribe
Pamela Cubbler, Treasurer
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(209) 245-3112 Fax

Ione Band of Miwok Indians
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(530) 274-7497

Tsi Akim Maidu
Don Ryberg, Chairperson
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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 South — Washoe
Gardnerville , NV 89410
darrel.cruz@watshoetribe.us
(775) 265-8600 x10714
(775) 546-3421 Cell

This list is current only as of the date of this document and is based on the information available to the Commission on the date it was produc ed.

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 Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native American Tribes with regard to cultural resources assessments for the proposed: Lake Tahoe Blvd. Bike Path, Emerald Bay, El Dorado County.

Cardno

2890 Gateway Oaks Drive
Suite 200
Sacramento, CA 95833
USA

Phone 916 923 1097
Toll-free 800 368 7511
Fax 916 923 6251
www.cardno.com

www.cardno.com

February 21, 2018

Colfax-Todds Valley Consolidated Tribe
Pamela Cubbler, Treasurer
P.O. Box 4884
Auburn, CA 95604

RE: Cultural Resource Investigations for the Lake Tahoe Boulevard Class 1 Bicycle Trail Project

Dear Pamela Cubbler:

I am writing in regard to a cultural resources investigation that Cardno is conducting on behalf of the City of South Lake Tahoe Department of Public Works (City). The City, in coordination with the California Department of Transportation (Caltrans), is proposing to construct the Lake Tahoe Boulevard Class 1 Bicycle Trail Project, located along Lake Tahoe Blvd. between Viking Rd. and the US Route 50 and State Route 89 intersection, in South Lake Tahoe, El Dorado County, California. The project will provide for non-motorized, and safe, travel between the existing Class 1 bicycle trail south of Viking Rd. and west of Lake Tahoe Blvd. to the CA Rte. 89 intersection, known as the Wye. The Area of Potential Effects (APE) covers both sides of Lake Tahoe Blvd. (map enclosed).

As part of our scoping process we requested a Sacred Lands File search and list of individuals who may have knowledge of the cultural resources within the project area from the Native American Heritage Commission (NAHC). The Sacred Lands File search did not indicate the presence of any areas of concern to the Colfax-Todds Valley Consolidated Tribe. Your name appears on the NAHC list of individuals who may know more about the cultural resources of the project area. [redacted] Any nformation you have in this regard would gr atly help ur e for to i n l properties of concern for this project.

If you have information about cultural resources within the project area or any questions please write to:

Evan Elliott
Project Archaeologist
Cardno Inc,
2890 Gateway Oaks Drive, Suite 200
Sacramento, CA 95833

Or email me at evan.elliott@cardno.com. You may also call me at (916) 386-3815 with any concerns or questions.

Sincerely,

Evan Elliott
Project Archaeologist
for Cardno, Inc.
Direct Line 916 386 3815
Email: evan.elliott@cardno.com

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February 21, 2018

Ione Band of Miwok Indians
Crystal Martinez-Alire, Chairperson
P.O. Box 699
Plymouth, CA 95669

RE: Cultural Resource Investigations for the Lake Tahoe Boulevard Class 1 Bicycle Trail Project

Dear Crystal Martinez-Alire:

I am writing in regard to a cultural resources investigation that Cardno is conducting on behalf of the City of South Lake Tahoe Department of Public Works (City). The City, in coordination with the California Department of Transportation (Caltrans), is proposing to construct the Lake Tahoe Boulevard Class 1 Bicycle Trail Project, located along Lake Tahoe Blvd. between Viking Rd. and the US Route 50 and State Route 89 intersection, in South Lake Tahoe, El Dorado County, California. The project will provide for non-motorized, and safe, travel between the existing Class 1 bicycle trail south of Viking Rd. and west of Lake Tahoe Blvd. to the CA Rte. 89 intersection, known as the Wye. The Area of Potential Effects (APE) covers both sides of Lake Tahoe Blvd. (map enclosed).

As part of our scoping process we requested a Sacred Lands File search and list of individuals who may have knowledge of the cultural resources within the project area from the Native American Heritage Commission (NAHC). The Sacred Lands File search did not indicate the presence of any areas of concern to the Ione Band of Miwok Indians. Your name appears on the NAHC list of individuals who may know more about the cultural resources of the project area. [redacted] Any information you have in this regard would greatly help our effort to identify all properties of concern for this project.

If you have information about cultural resources within the project area or any questions please write to:

Evan Elliott
Project Archaeologist
Cardno Inc,
2890 Gateway Oaks Drive, Suite 200
Sacramento, CA 95833

Or email me at evan.elliott@cardno.com. You may also call me at (916)386-3815 with any concerns or questions.

Sincerely,

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February 21, 2018

Ione Band of Miwok Indians
Randy Yonemura, Cultural Committee Chair
P.O. Box 699
Plymouth, CA 95669

RE: Cultural Resource Investigations for the Lake Tahoe Boulevard Class 1 Bicycle Trail Project

Dear Randy Yonemura:

I am writing in regard to a cultural resources investigation that Cardno is conducting on behalf of the City of South Lake Tahoe Department of Public Works (City). The City, in coordination with the California Department of Transportation (Caltrans), is proposing to construct the Lake Tahoe Boulevard Class 1 Bicycle Trail Project, located along Lake Tahoe Blvd. between Viking Rd. and the US Route 50 and State Route 89 intersection, in South Lake Tahoe, El Dorado County, California. The project will provide for non-motorized, and safe, travel between the existing Class 1 bicycle trail south of Viking Rd. and west of Lake Tahoe Blvd. to the CA Rte. 89 intersection, known as the Wye. The Area of Potential Effects (APE) covers both sides of Lake Tahoe Blvd. (map enclosed).

As part of our scoping process we requested a Sacred Lands File search and list of individuals who may have knowledge of the cultural resources within the project area from the Native American Heritage Commission (NAHC). The Sacred Lands File search did not indicate the presence of any areas of concern to the Ione Band of Miwok Indians. Your name appears on the NAHC list of individuals who may know more about the cultural resources of the project area. [redacted] Any information you have in this regard would greatly help our effort to identify all properties of concern for this project.

If you have information about cultural resources within the project area or any questions please write to:

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Or email me at evan.elliott@cardno.com. You may also call me at (916) 386-3815 with any concerns or questions.

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February 21, 2018

Nashville-Eldorado Miwok
Cosme Valdez, Chairperson
P.O. Box 580986
Elk Grove, CA 95758-00

RE: Cultural Resource Investigations for the Lake Tahoe Boulevard Class 1 Bicycle Trail Project

Dear Cosme Valdez:

I am writing in regard to a cultural resources investigation that Cardno is conducting on behalf of the City of South Lake Tahoe Department of Public Works (City). The City, in coordination with the California Department of Transportation (Caltrans), is proposing to construct the Lake Tahoe Boulevard Class 1 Bicycle Trail Project, located along Lake Tahoe Blvd. between Viking Rd. and the US Route 50 and State Route 89 intersection, in South Lake Tahoe, El Dorado County, California. The project will provide for non-motorized, and safe, travel between the existing Class 1 bicycle trail south of Viking Rd. and west of Lake Tahoe Blvd. to the CA Rte. 89 intersection, known as the Wye. The Area of Potential Effects (APE) covers both sides of Lake Tahoe Blvd. (map enclosed).

As part of our scoping process we requested a Sacred Lands File search and list of individuals who may have knowledge of the cultural resources within the project area from the Native American Heritage Commission (NAHC). The Sacred Lands File search did not indicate the presence of any areas of concern to the Nashville-Eldorado Miwok. Your name appears on the NAHC list of individuals who may know more about the cultural resources of the project area. [redacted] Any information you have in this regard would greatly help our effort to identify all properties of concern for this project.

If you have information about cultural resources within the project area or any questions please write to:

Evan Elliott
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Or email me at evan.elliott@cardno.com. You may also call me at (916) 386-3815 with any concerns or questions.

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February 21, 2018

Shingle Springs Band of Miwok Indians
Nicholas Fonseca, Chairperson
P.O. Box 1340
Shingle Springs, CA 95682

RE: Cultural Resource Investigations for the Lake Tahoe Boulevard Class 1 Bicycle Trail Project

Dear Nicholas Fonseca:

I am writing in regard to a cultural resources investigation that Cardno is conducting on behalf of the City of South Lake Tahoe Department of Public Works (City). The City, in coordination with the California Department of Transportation (Caltrans), is proposing to construct the Lake Tahoe Boulevard Class 1 Bicycle Trail Project, located along Lake Tahoe Blvd. between Viking Rd. and the US Route 50 and State Route 89 intersection, in South Lake Tahoe, El Dorado County, California. The project will provide for non-motorized, and safe, travel between the existing Class 1 bicycle trail south of Viking Rd. and west of Lake Tahoe Blvd. to the CA Rte. 89 intersection, known as the Wye. The Area of Potential Effects (APE) covers both sides of Lake Tahoe Blvd. (map enclosed).

As part of our scoping process we requested a Sacred Lands File search and list of individuals who may have knowledge of the cultural resources within the project area from the Native American Heritage Commission (NAHC). The Sacred Lands File search did not indicate the presence of any areas of concern to the Shingle Springs Band of Miwok Indians u name a a NAHC list of individuals w k o about the cultural resources of the project area [redacted]
Any information you have in this regard would greatly help our effort to identify all properties of concern for this project.

If you have information about cultural resources within the project area or any questions please write to:

Evan Elliott
Project Archaeologist
Cardno Inc,
2890 Gateway Oaks Drive, Suite 200
Sacramento, CA 95833

Or email me at evan.elliott@cardno.com. You may also call me at (916) 386-3815 with any concerns or questions.

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February 21, 2018

Tsi Akim Maidu
Grayson Coney, Cultural Director
P.O. Box 150
Browns Valley, CA 95918

RE: Cultural Resource Investigations for the Lake Tahoe Boulevard Class 1 Bicycle Trail Project

Dear Grayson Coney:

I am writing in regard to a cultural resources investigation that Cardno is conducting on behalf of the City of South Lake Tahoe Department of Public Works (City). The City, in coordination with the California Department of Transportation (Caltrans), is proposing to construct the Lake Tahoe Boulevard Class 1 Bicycle Trail Project, located along Lake Tahoe Blvd. between Viking Rd. and the US Route 50 and State Route 89 intersection, in South Lake Tahoe, El Dorado County, California. The project will provide for non-motorized, and safe, travel between the existing Class 1 bicycle trail south of Viking Rd. and west of Lake Tahoe Blvd. to the CA Rte. 89 intersection, known as the Wye. The Area of Potential Effects (APE) covers both sides of Lake Tahoe Blvd. (map enclosed).

As part of our scoping process we requested a Sacred Lands File search and list of individuals who may have knowledge of the cultural resources within the project area from the Native American Heritage Commission (NAHC). The Sacred Lands File search did not indicate the presence of any areas of concern to the Tsi Akim Maidu. Your name appears on the NAHC list of individuals who may know more about the cultural resources of the project area. [redacted] Any information you have in this regard would greatly help our effort to identify all properties of concern for this project.

If you have information about cultural resources within the project area or any questions please write to:

Evan Elliott
Project Archaeologist
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2890 Gateway Oaks Drive, Suite 200
Sacramento, CA 95833

Or email me at evan.elliott@cardno.com. You may also call me at (916) 386-3815 with any concerns or questions.

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February 21, 2018

Tsi Akim Maidu
Don Ryberg, Chairperson
P.O. Box 150
Browns Valley, CA 95918

RE: Cultural Resource Investigations for the Lake Tahoe Boulevard Class 1 Bicycle Trail Project

Dear Don Ryberg:

I am writing in regard to a cultural resources investigation that Cardno is conducting on behalf of the City of South Lake Tahoe Department of Public Works (City). The City, in coordination with the California Department of Transportation (Caltrans), is proposing to construct the Lake Tahoe Boulevard Class 1 Bicycle Trail Project, located along Lake Tahoe Blvd. between Viking Rd. and the US Route 50 and State Route 89 intersection, in South Lake Tahoe, El Dorado County, California. The project will provide for non-motorized, and safe, travel between the existing Class 1 bicycle trail south of Viking Rd. and west of Lake Tahoe Blvd. to the CA Rte. 89 intersection, known as the Wye. The Area of Potential Effects (APE) covers both sides of Lake Tahoe Blvd. (map enclosed).

As part of our scoping process we requested a Sacred Lands File search and list of individuals who may have knowledge of the cultural resources within the project area from the Native American Heritage Commission (NAHC). The Sacred Lands File search did not indicate the presence of any areas of concern to the Tsi Akim Maidu. Your name appears on the NAHC list of individuals who may know more about the cultural resources of the project area. [redacted] Any information you have in this regard would greatly help our effort to identify all properties of concern for this project.

If you have information about cultural resources within the project area or any questions please write to:

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Sacramento, CA 95833

Or email me at evan.elliott@cardno.com. You may also call me at (916) 386-3815 with any concerns or questions.

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February 21, 2018

United Auburn Indian Community of the Auburn Rancheria
Gene Whitehouse, Chairperson
10720 Indian Hill Road
Auburn, CA 95603

RE: Cultural Resource Investigations for the Lake Tahoe Boulevard Class 1 Bicycle Trail Project

Dear Gene Whitehouse:

I am writing in regard to a cultural resources investigation that Cardno is conducting on behalf of the City of South Lake Tahoe Department of Public Works (City). The City, in coordination with the California Department of Transportation (Caltrans), is proposing to construct the Lake Tahoe Boulevard Class 1 Bicycle Trail Project, located along Lake Tahoe Blvd. between Viking Rd. and the US Route 50 and State Route 89 intersection, in South Lake Tahoe, El Dorado County, California. The project will provide for non-motorized, and safe, travel between the existing Class 1 bicycle trail south of Viking Rd. and west of Lake Tahoe Blvd. to the CA Rte. 89 intersection, known as the Wye. The Area of Potential Effects (APE) covers both sides of Lake Tahoe Blvd. (map enclosed).

As part of our scoping process we requested a Sacred Lands File search and list of individuals who may have knowledge of the cultural resources within the project area from the Native American Heritage Commission (NAHC). The Sacred Lands File search did not indicate the presence of any areas of concern to the United Auburn Indian Community of the Auburn Rancheria. Your name appears on the NAHC list of individuals who may know more about the cultural resources of the project area. [redacted] Any information you have in this regard would greatly help our effort to identify all properties of concern for this project.

If you have information about cultural resources within the project area or any questions please write to:

Evan Elliott
Project Archaeologist
Cardno Inc,
2890 Gateway Oaks Drive, Suite 200
Sacramento, CA 95833

Or email me at evan.elliott@cardno.com. You may also call me at (916) 386-3815 with any concerns or questions.

Sincerely,

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February 21, 2018

Washoe Tribe of Nevada and California
Cultural Resources Department
Darrel Cruz, Tribal Historic Preservation Officer
919 Highway 395 South
Gardnerville, Nevada, 89410

RE: Cultural Resource Investigations for the Lake Tahoe Boulevard Class 1 Bicycle Trail Project

Dear Darrel Cruz:

I am writing in regard to a cultural resources investigation that Cardno is conducting on behalf of the City of South Lake Tahoe Department of Public Works (City). The City, in coordination with the California Department of Transportation (Caltrans), is proposing to construct the Lake Tahoe Boulevard Class 1 Bicycle Trail Project, located along Lake Tahoe Blvd. between Viking Rd. and the US Route 50 and State Route 89 intersection, in South Lake Tahoe, El Dorado County, California. The project will provide for non-motorized, and safe, travel between the existing Class 1 bicycle trail south of Viking Rd. and west of Lake Tahoe Blvd. to the CA Rte. 89 intersection, known as the Wye. The Area of Potential Effects (APE) covers both sides of Lake Tahoe Blvd. (map enclosed).

As part of our scoping process we requested a Sacred Lands File search and list of individuals who may have knowledge of the cultural resources within the project area from the Native American Heritage Commission (NAHC). The Sacred Lands File search did not indicate the presence of any areas of concern to the Washoe Tribe of California and Nevada. Your name appears on the NAHC list of individuals who may know more about the cultural resources of the project area. [redacted]

Any information you have in this regard would greatly help our effort to identify all properties of concern for this project.

If you have information about cultural resources within the project area or any questions please write to:

Evan Elliott
Project Archaeologist
Cardno Inc,
2890 Gateway Oaks Drive, Suite 200
Sacramento, CA 95833

Or email me at evan.elliott@cardno.com. You may also call me at (916)386-3815 with any concerns or questions.

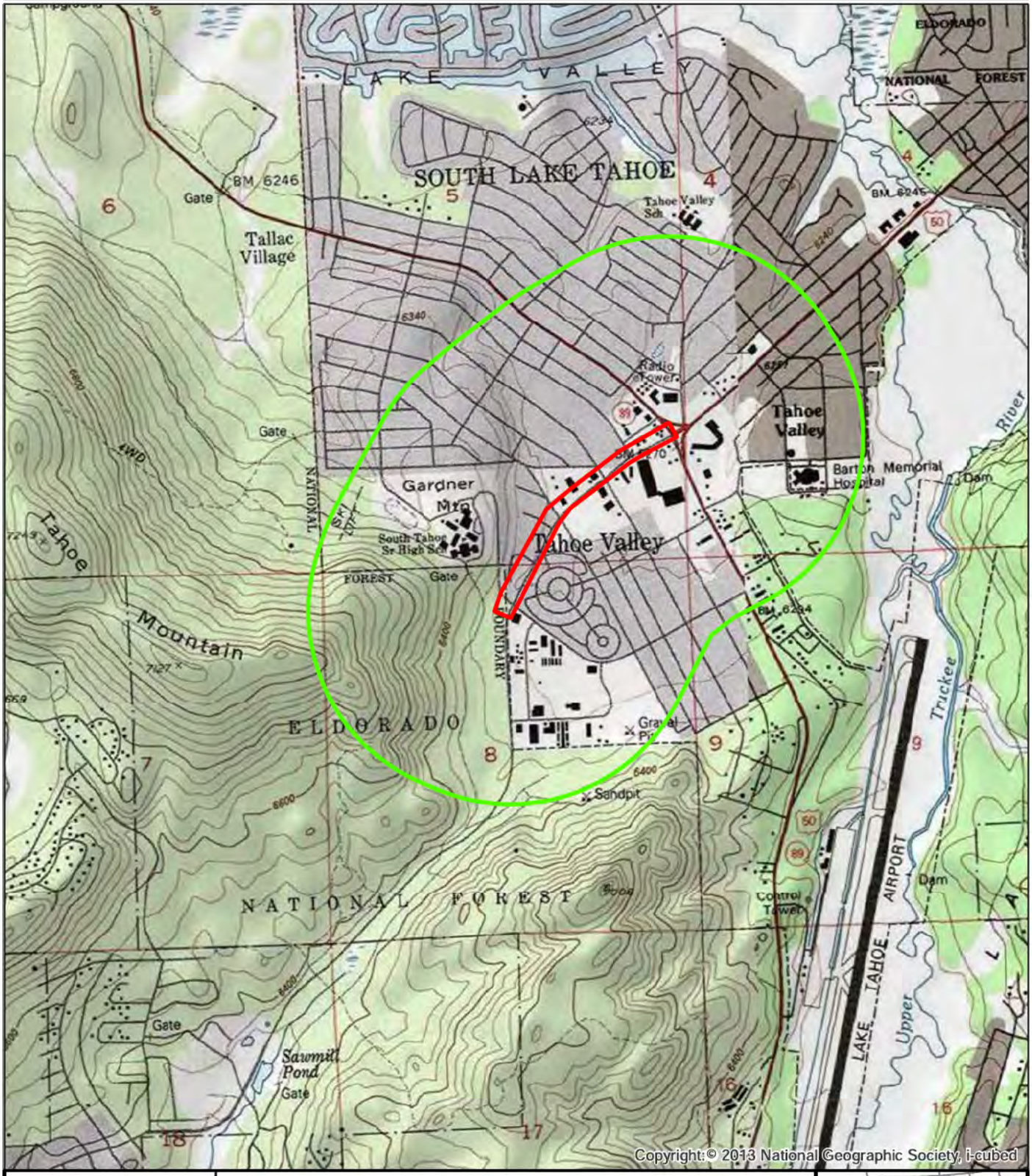
Sincerely,

Evan Elliott
Project Archaeologist
for Cardno, Inc.
Direct Line 916 386 3815
Email: evan.elliott@cardno.com

PREFIELD APE AND 0.5 mi BUFFER MAP

Map Name: Emerald Bay, Calif.
PLSS Designation: T 12N/ R 18E, Sections 05, 08 **County:** El Dorado, Calif.

Project Name: Lake Tahoe Blvd.
Project Number: E317202700
Project Phase: 0700



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KILOMETERS

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MILES

Association	Contacts	Phone Number	Sent Letter	Response	Phone Call Follow Up	Time Contacted	Result
Colfax-Todds Valley Consolidated Tribe	Pamela Cubbler	530-320-3943	2/21/2018	No	3/28/2019	13:42	Left Message
Tsi Akim Maidu	Grayson Conley	530-274-7497	2/21/2018	No	3/28/2019	13:44	Phone Number Disconnected
Tsi Akim Maidu	Don Ryberg	530-559-8595	2/21/2018	No	3/29/2019	10:32	number is disconnected.
Ione Band of Miwok Indians	Crystal Martinez-Alire	209-245-5800	2/21/2018	No	3/28/2019	13:46	Crystal does not work there anymore. Susan will transfer Ronnie Johnsons contact info to Cultural Committee for follow up
Ione Band of Miwok Indians	Randy Yonemura	916-601-4069 (Cell)	2/21/2018	No	3/29/2019	10:34	left Message in voicemail
United Auburn Indian Community of the Auburn Rancheria	Gene Whithouse	530-883-2390	2/21/2018	No	3/28/2019	14:01	Did receive letter and defered to Washoe Tribe of Nevada and California
Nashville-Eldorado Miwok	Cosme Valdez	916-429-8047	2/21/2018	No	3/28/2019	14:05	Left Message
Shingle Springs Band of Miwok Indians	Nicholas Fonseca	530-387-1400	2/21/2018	No	3/28/2019	14:07	Phone Number Disconnected
Washoe Tribe of Nevada and California	Darrel Cruz	775-265-8600	2/21/2018	Yes	7/7/2018	-	Mr. Cruz unaware of any Native America cultural resources or significant properties or locations within or near the APE

State of California Transportation Agency | Department of Transportation

HISTORIC PROPERTY SURVEY REPORT

1. UNDERTAKING DESCRIPTION AND LOCATION

District	*County*	*Federal Project. Number. (Prefix, Agency Code, Project No.)*	*Location*
3	ELD	CML-5398(013)	Lake Tahoe Blvd. at US. 50, South Lake Tahoe.

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:

The City of South Lake Tahoe Department of Public Works (City), in coordination with the California Department of Transportation (Caltrans), is proposing to construct a bicycle trail along Lake Tahoe Blvd., near South Lake Tahoe High School, between Viking Rd. and the US Route 50 (US 50) and State Route 89 intersection (South Wye), in South Lake Tahoe, El Dorado County, California. The project will provide for non-motorized, and safe, travel between the existing Class 1 bike trail on the southwest side of the Lake Tahoe Blvd. and Viking Rd. intersection up to SR 89. The project vicinity comprises a mix of school, governmental, and commercial uses in close proximity to the state highway. The area currently includes roadways with two lanes in each direction, with several ingress/egress areas, and a generally unsafe pedestrian and bike travel area. The project is designed to resolve these safety issues. The Area of Potential Effects (APE) is depicted on the Emerald Bay, California 7.5-minute series U.S. Geological Survey quadrangle in sections 5, and 8, Township 12 North, Range 18 East, Mount Diablo Base and Meridian.

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 William Larson, PQS Principal Investigator (PI) Prehistoric Archaeology, and, Ross Foon, Project Local Assistance Engineer. The APE map is located in Appendix A of the ASR attached to this Historic Property Survey Report.

The APE was established as generally following the course of Lake Tahoe Blvd. It extends 100 feet (ft.) on either side of the road centerline. At the southwest end of the APE, it extends 190 ft. southwest of the centerline of Viking Rd. while at the northeast end it extends 75 ft. past the centerline of Emerald Bay Rd. The APE encompass the maximum limits of potential ground-disturbing construction activities that would reasonably be expected from the proposed project, including but not limited to, the bicycle path itself, all existing and proposed new right-of-ways, utility relocations, and equipment/material staging areas.

3. CONSULTING PARTIES / PUBLIC PARTICIPATION

☒ Local Government

City of South Lake Tahoe

☒ Local Historical Society / Historic Preservation Group

In addition to the NCIC record search, archival research, and outreach to the Native American community, Cardno also contacted local historical societies in an effort to identify any prehistoric or historic-era cultural resources that might be within or near the APE but not documented elsewhere. On July 2nd, 2018, Cardno contacted Ms. Mary Cory, Museum Administrator of the El Dorado County Historical Museum in Placerville, California, and Mr. Doug Walker, Cultural Resource Coordinator of the El Dorado County Historical Society. Email letters and maps of the

APE and vicinity were provided along with a request to contact Cardno with any information they might have regarding cultural resources or concerns regarding the proposed project. Follow-up calls were made to Ms. Cory, and Mr. Walker on July 16th, and July 23rd, 2018 but no responses to the emails or calls have been forthcoming. If subsequent contacts are made, results will be provided in an addendum to this ASR.

☒ Native American Heritage Commission

On January 2, 2018, Cardno submitted a request to the Native American Heritage Commission (NAHC) for a search of the Sacred Lands File and for a contact list of potentially interested Native American parties. The NAHC responded on January 8, 2018 with results of the Sacred Lands File search and provided a contact list. The Sacred Lands File search did not indicate the presence of a place or places of importance to any Native American parties within the vicinity of the project APE.

☒ Native American Tribes, Groups and Individuals

Cardno sent letters to all parties listed on the NAHC response on February 21, 2018. As of August 23, 2018, no responses to these outreach letters had been received. Due to the Washoe Tribe of Nevada and California's traditional ties to the APE and surrounding region, Cardno placed a follow-up call to Mr. Darrell Cruz (Tribal Historic Preservation Officer [THPO] on July 7, 2018. Mr. Cruz noted that he was unaware of any Native American cultural resources or significant properties or locations within or near the APE. Mr. Cruz also did not express any concerns regarding the proposed project. Cardno followed up with the remaining parties listed on the NAHC response (see list below) by Ronald Johnson, B.A., on March 28, 2019. (For copies of correspondence, see Appendix C in attached ASR).

- Ms. Pamela Cubbler, Treasurer, Colfax-Todds Valley Consolidated Tribe
- Ms. Crystal Martinez-Alire, Chairperson, Ione Band of Miwok Indians
- Mr. Randy Yonemura, Cultural Committee Chair, Ione Band of Miwok Indians
- Mr. Cosme Valdez, Chairperson, Nashville-Eldorado Miwok
- Mr. Nicholas Fonseca, Chairperson, Shingle Springs Band of Miwok Indians
- Mr. Grayson Coney, Cultural Director, T'Si-Akim Maidu
- Mr. Don Ryberg, Chairperson, T'Si-Akim Maidu
- Mr. Gene Whitehouse, Chairperson, United Auburn Indian Community of the Auburn Rancheria
- Mr. Darrel Cruz, Tribal Historic Preservation Officer for the Washoe Tribe of Nevada and California

4. SUMMARY OF IDENTIFICATION EFFORTS

☒ National Register of Historic Places (NRHP)
☒ California Register of Historical Resources (CRHR)
☒ National Historic Landmark (NHL)
☒ California Historical Landmarks (CHL)
☒ Other Sources consulted:

Historic USGS topographic quadrangles

Historic US GLO survey plats

☒ California Points of Historical Interest
☒ California Historical Resources Information System (CHRIS)
☒ Caltrans Historic Bridge Inventory

☒ Results: No cultural resources were identified in the APE [redacted]

5. PROPERTIES IDENTIFIED

☒ No cultural resources are present in the APE

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 in 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

Project Vicinity, Location, and APE Maps: Figures 1, 2, and 3 in Appendix A in attached ASR.

☒ Archaeological Survey Report (ASR)

Elliott, Evan, 2018. Archaeological Survey Report for the Lake Tahoe Boulevard Class 1 Bicycle Trail Project

9. HPSR PREPARATION AND CALTRANS APPROVAL

Prepared by: _____ September 25, 2018

Evan Elliott, M.A. Date

Principal Investigator— Prehistoric Archaeology, and
Co-Principal Investigator— Historical Archaeology

Cardno, Inc., Sacramento, CA

Reviewed for
Approval by: _____
District 3 Caltrans PQS

William Larson Date

PQS – PI Prehistoric Archaeology

Approved by: _____
District 3 EBC *Laura Loeffler* Date

Lake Tahoe Boulevard Class 1
Bicycle Trail Project
Initial Study/Negative Declaration/
Initial Environmental Checklist

APPENDIX D

TRPA LAND CAPABILITY VERIFICATION APPLICATION

December 4, 2018

Cardno

295 Highway 50, Suite 1
PO Box 1533
Zephyr Cove, NV 89448
USA

Phone: +1 775 588 9069
Fax: +1 775 588 9219
Contractor: #997036

www.cardno.com

Morgan Beryl
Sr. Transportation Planner
Tahoe Regional Palnning Agency
Market Street
Stateline, NV 89449

Subject: City of South Lake Tahoe
Lake Tahoe Boulevard Class 1 Bike Trial Project
Land Capability Verification Application

Dear Morgan:

Attached please find the Tahoe Regional Planning Agency Land Capability Verification Application for the above referenced project. Included is the application and associated plans of the Project area.

Thank you for your assistance in this matter and should you have any questions please contact me at your convenience; my contact information is provided below.

Sincerely,

Stephen Peck, PE, PMP, CPSWQ,
QSD/P
Principal / Project Manager
for Cardno
Direct Line +1 775 781 1508
Email: stephen.peck@cardno.com

cc: Randy Carlson, City of SLT

TAHOE REGIONAL PLANNING AGENCY

OFFICE
128 Market St.
Stateline, NV

Phone: (775) 588-4547
Fax: (775) 588-4527

MAIL
PO Box 5310
Stateline, NV 89449-5310

trpa@trpa.org
www.trpa.org

HOURS
Mon. Wed. Thurs. Fri
9 am-12 pm/1 pm-4 pm
Closed Tuesday

New Applications Until 3:00 pm

LAND CAPABILITY VERIFICATION APPLICATION

All applications are subject to an information technologies (IT) surcharge.

How to Apply for a Tahoe Regional Planning Agency (TRPA) Permit

This packet explains the TRPA process for verification of Land Capability on a parcel. The TRPA uses the best available science and planning practices to review each project individually so that Lake Tahoe can continue to be an Outstanding National Resource Water for this and future generations. TRPA's thorough review standards are designed to balance the impacts of the built environment with the protection of Lake Tahoe's fragile, natural environment. The Agency values every applicant and works hard to serve the public promptly and fairly. Please read this packet thoroughly. We hope it answers most of your application questions. If not, please call TRPA at (775) 588-4547. Planners are available to assist you by phone or at our offices Monday through Friday, 9:00 a.m. to 5:00 p.m. Applications are received from 9:00 a.m. to 4:00 p.m.

Please be aware that we may require information beyond that presented in this packet. Once your application is submitted, TRPA will contact you if additional information is required to adequately review your project.

Please complete and sign the attached Land Capability Challenge request form and checklist and return it to TRPA offices with original signatures. Forms without an original signature from the property owner will not be accepted. **Faxed signatures and xerox copies will not be accepted.**

Getting Started

The included application checklist is your guide to a complete application and all items listed there must be included for your application to be considered. For current application fees, please refer to the filing fee schedule available at TRPA offices or online at www.trpa.org → "Permits and Documents" → under "Other Documents" → "Filing Fee Schedule" (275k pdf).

A field evaluation of your parcel will be completed as soon as possible, weather permitting, and the results will be mailed to you immediately upon completion. Please keep in mind, the season in which field evaluations are completed is normally between May and October. Due to the difficulty in knowing when the field team will be in your area, no commitments will be made with owners/agents to meet on the site. To ensure that the accurate boundaries of the parcel are evaluated, please mark all parcel corners as described in the attached flagging instructions. A topographic survey map may be required for evaluations of parcels greater than one acre, and an additional fee may be warranted.

Land capability class verification is necessary for TRPA's Project Review Division to review building addition/modification applications, but it is not the sole factor determining whether a proposed project will be approved.

If you have questions regarding your building plans or wish to have an information packet on building procedures (which include applications) sent to you, contact the TRPA Project Review Division at (775) 588-4547.

Timeline for Appeals

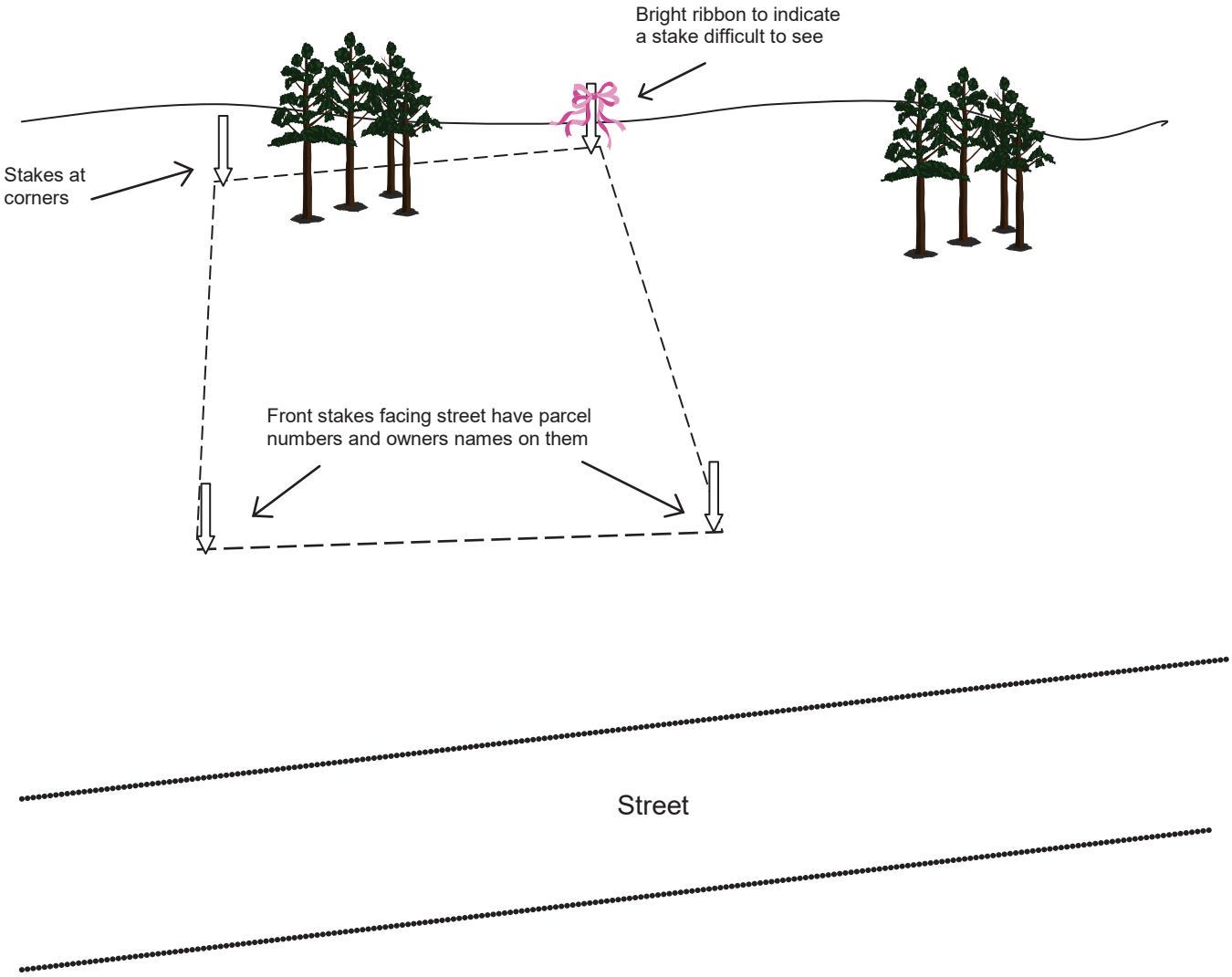
If an applicant wishes to appeal a final decision by TRPA, pursuant to Rule 11.2 of the TRPA Rules of Procedure, a Notice of Appeal form and filing fee must be submitted within twenty-one (21) days from the date TRPA issues its final decision (date on correspondence). After 21 days, no appeals can be made and the Agency's decision is final.

Flagging Of Lots

In order to locate the lots that are to be reviewed, it is necessary to "flag" them. With the varied topography of the Basin, it is difficult to write all-purpose instructions. The basic idea is to identify the lot by its parcel number and to indicate its boundaries. The TRPA field inspectors will have parcel maps with them that show the shape and approximate size of each lot.

Staking is the usual way of identifying a lot. One by two inch boards about 3 feet long are sharpened at one end and driven solidly into the ground at the corners of the property. In cases where there is heavy brush or tree cover, "surveyor tape" (brightly colored plastic ribbon) is tied to the tree or shrub nearest the stake. Information such as parcel number and last name can be written on the stakes with an indelible marker.

The diagram below indicates a properly marked lot. The assessor's parcel number (APN) must be written on the stakes at the front of the parcel. The assessor's parcel number (APN) is printed on your tax bill (not the street address or subdivision number). Print your last name on the stake as well.



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9:00 am-5:00 pm
New Applications Until 4:00 pm

trpa@trpa.org

LAND CAPABILITY VERIFICATION APPLICATION

Representative or Agent Stephen H. Peck, PE

Mailing Address PO Box 1533 City Zephyr Cove State NV

Zip Code 89448 Email stephen.peck@cardno.com Phone (775) 588-9069 FAX

Owner City of South Lake Tahoe ☐ Same as Applicant

Mailing Address 1052 Tata Lane City South Lake Tahoe State CA

Zip Code 96150 Email rcarlson@cityofslt.us Phone (530) 542-6033 FAX

Project Location/Assessor's Parcel Number (APN) Lake Tahoe Boulevard (Viking Way to Wye)

Street Address Lake Tahoe Boulevard (Viking Way to Wye) Subdivision N/A Lot # N/A

County El Dorado Previous APN N/A

(if changed by county assessor since 1987)

FOR OFFICE USE ONLY

Date Received: _____ By: _____

Fee: $_____ Receipt No: _____

Mapped Land Capability	Mapped Soil Unit
1.	1.
2.	2.
3.	3.
4.	4.

Results

Date: _____ By: _____ Verified as Mapped? Yes No

	Verified Land Capability Class	Verified Soil Map Unit	Observed Slope
a.			
b.			
c.			
d.			

Verification of Stream Environment Zone(SEZ): Yes No

Extent or Amount of SEZ on Parcel: _____

Comments: _____

DECLARATION:

I hereby declare under penalty of perjury that this application and all information submitted as part of this application is true and accurate to the best of my knowledge. I am the owner of the subject property, or have been authorized in writing by the owner(s) of the subject property to represent this application, and I have obtained authorization to submit this application from any other necessary parties holding an interest in the subject property. I understand it is my obligation to obtain such authorization, and I further understand that TRPA accepts no responsibility for informing these parties or obtaining their authorization. I understand that should any information or representation submitted in connection with this application be inaccurate, erroneous, or incomplete, TRPA may rescind any approval or take other appropriate action. I hereby authorize TRPA to access the property for the purpose of site visits. I understand that additional information may be required by TRPA to review this project. (Edited 7/10)

Signature: (Original signature required.)

_____ At Douglas Date 11/30/18

Person Preparing Application County

AUTHORIZATION FOR REPRESENTATION (Original signatures required):

The following person(s) own the subject property (Assessor's Parcel Number(s) Lake Tahoe Boulevard) or have sufficient interest therein to make application to TRPA:

Print Owner(s) Name(s):

City of South Lake Tahoe

I/We authorize Stephen H. Peck, of Cardno, Inc. to act as my/our representative in connection with this application to TRPA for the subject property and agree to be bound by said representative. I understand that additional information may be required by TRPA beyond that submitted by my representative, to review this project. Any cancellation of this authorization shall not be effective until receipt of written notification of same by TRPA. I also understand that should any information or representation submitted in connection with this application be incorrect or untrue, TRPA may rescind any approval or take other appropriate action. I further accept that if this project is approved, I, as the permittee, will be held responsible for any and all permit conditions.

Owner(s) Signature(s): (Original signature required.)

_____ Date: 11/30/18

_____ Date:

APPLICATIONS LACKING ANY OF THE FOLLOWING ITEMS WILL NOT BE ACCEPTED. TRPA OR YOUR LOCAL JURISDICTION MAY REQUIRE ADDITIONAL INFORMATION ABOVE AND BEYOND THE CHECKLIST ITEMS TO REVIEW THIS APPLICATION.

Each item and number corresponds to TRPA's *Master Checklist* available at our offices or online at www.trpa.org Click "Permits & Documents" and look for the *Master Checklist* under "other documents." Refer to the *Master Checklist* for more information on any item.

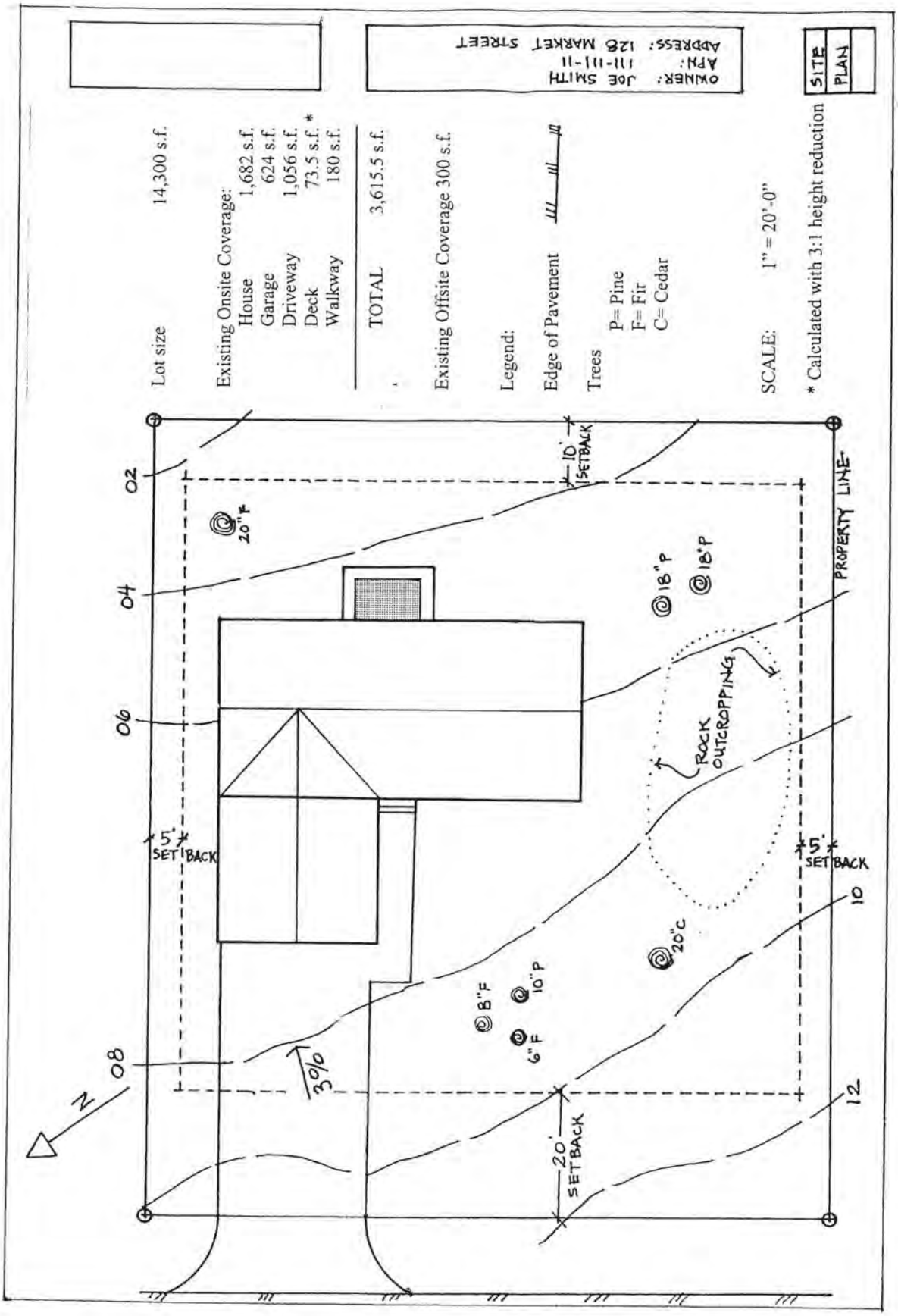
PROJECT NAME: Lake Tahoe Boulevard Class 1 Bike Trail

CURRENT ASSESSOR'S PARCEL NUMBER (APN): Lake Tahoe Boulevard (Viking Way to Wye)

PREVIOUS ASSESSOR'S PARCEL NUMBER (APN): N/A

Applicant	TRPA		
☒	____	2.	Complete Application with original signed authorization and checklist.
☐	____	3.	Application Fee: Please refer to the TRPA Filing Fee Schedule (275k pdf) available at TRPA offices or online. Filing Fee: $ ____ + Information Technology (IT) surcharge: $ ____ = $ ____
☒	____	7.	Three (3) copies of the site plan, minimum size of 18"x24" on blackline or blueprint paper. The site plan must include the following information:
☒	____	a.	All property lines, easements, and building setbacks.
☒	____	b.	Map scale and north arrow.
☒	____	c.	Assessor's Parcel Number (APN) and property address.
☒	____	d.	Property owner's name(s).
☒	____	e.	Parcel area in square feet.
☒	____	i.	Contour lines at two feet intervals.
☐	____	51.	Parcel boundaries flagged per instructions.

On Blackline or Blueprint paper18"x 24".



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#	DATE	DESCRIPTION	BY

FOR INFORMATION ONLY

DATE 11/2018
DRAWN IT / GP
DESIGNED IT / SP
CHECKED SP / DM
PROJECT # E317202700
SHEET TITLE i
SHEET NUMBER 1
LAND USE # N/A

EXISTING LAND COVERAGE - INDEX SHEET

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE

SOUTH LAKE TAHOE, CALIFORNIA

Cardno
LAKE TAHOE
295 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588 - 9069 FAX: (775) 588 - 9219
www.cardno.com

LEGEND

- BONANZA PAS BOUNDARY
- TAHOE VALLEY PAS BOUNDARY
- SOUTH Y INDUSTRIAL TRACT CP BOUNDARY
- TWIN PEAKS PAS BOUNDARY
- GARDNER MOUNTAIN PAS BOUNDARY
- LTB BIKE TRAIL PROJECT BOUNDARY
- R.O.W. / PROPERTY LINE
- LAND CAPABILITY BAILEY
- LAND CAPABILITY SINCLAIR
- LCD 5 - FROM TVAP
- LCD 7 - FROM TVAP
- SEZ 1B - FROM TVAP
- EX. HARD COVERAGE WITHIN LCD 5
- EX. HARD COVERAGE WITHIN LCD 7
- EX. HARD COVERAGE WITHIN SEZ 1B

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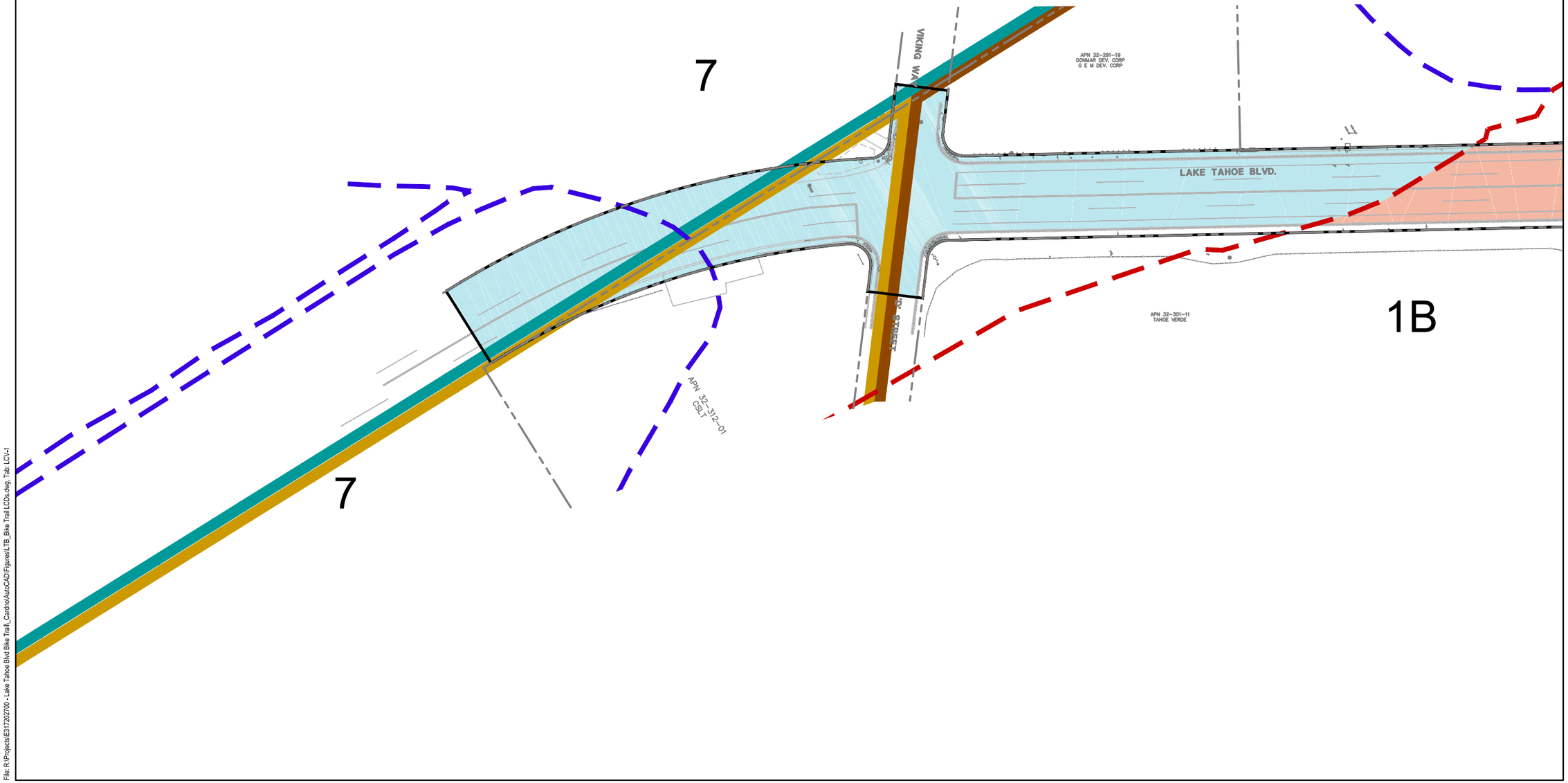

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LCV SHEET 1
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

FOR INFORMATION ONLY

DATE	11/2018
DRAWN	IT / GP
DESIGNED	IT / SP
CHECKED	SP / DM
PROJECT #	E317202700

SHEET TITLE
LCV-1

SHEET NUMBER
2

LAND USE # N/A

LEGEND

- BONANZA PAS BOUNDARY
- TAHOE VALLEY PAS BOUNDARY
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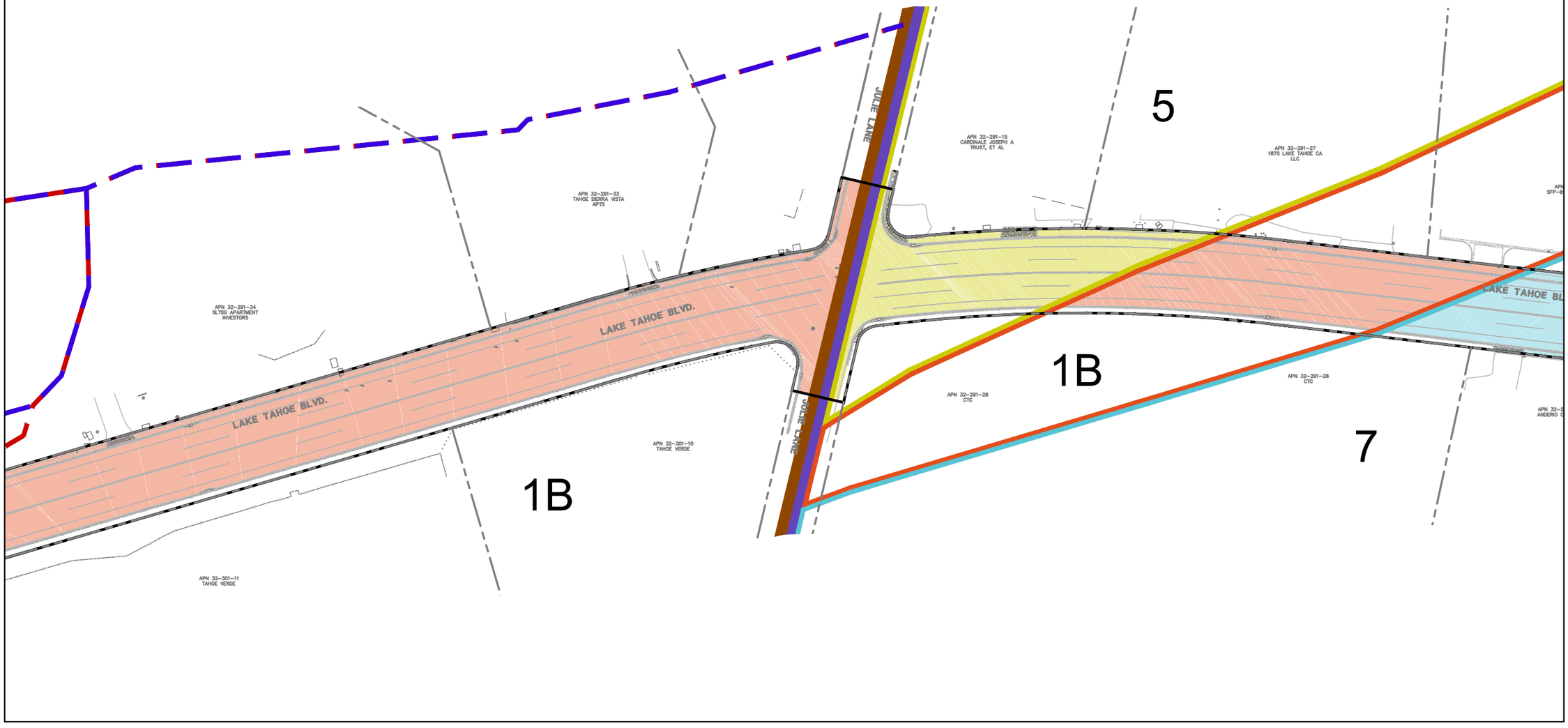

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Cardno
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2561 HIGHWAY 50, ZEPHYR COVE, NV 89448
TEL: (775) 588 - 9069 FAX: (775) 588 - 9219
www.cardno.com

LCV SHEET 2
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

FOR INFORMATION ONLY

DATE	11/2018
DRAWN	IT / GP
DESIGNED	IT / SP
CHECKED	SP / DM
PROJECT #	E317202700

SHEET TITLE
LCV-2

SHEET NUMBER
3

LAND USE # N/A

LEGEND

- BONANZA PAS BOUNDARY
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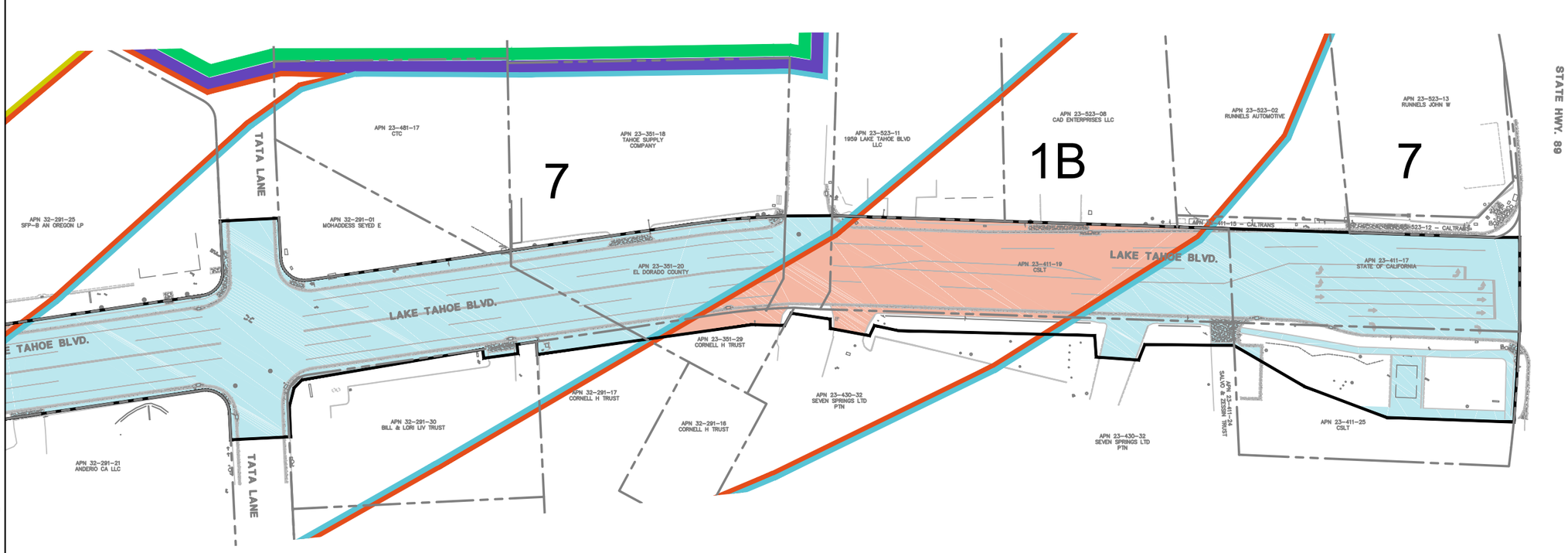

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LCV SHEET 3
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

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FOR INFORMATION ONLY

DATE	11/2018
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DESIGNED	IT / SP
CHECKED	SP / DM
PROJECT #	E317202700

SHEET TITLE
LCV-3

SHEET NUMBER
4

LAND USE # N/A

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#	DATE	DESCRIPTION	BY

FOR INFORMATION ONLY

DATE 11/2018
DRAWN IT / GP
DESIGNED IT / SP
CHECKED SP / DM
PROJECT # E317202700
SHEET TITLE i
SHEET NUMBER 1
LAND USE # N/A

PROPOSED LAND COVERAGE - INDEX SHEET

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE

SOUTH LAKE TAHOE, CALIFORNIA

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- EX. HARD COVERAGE TO REMAIN

SCALE: 1"=50'
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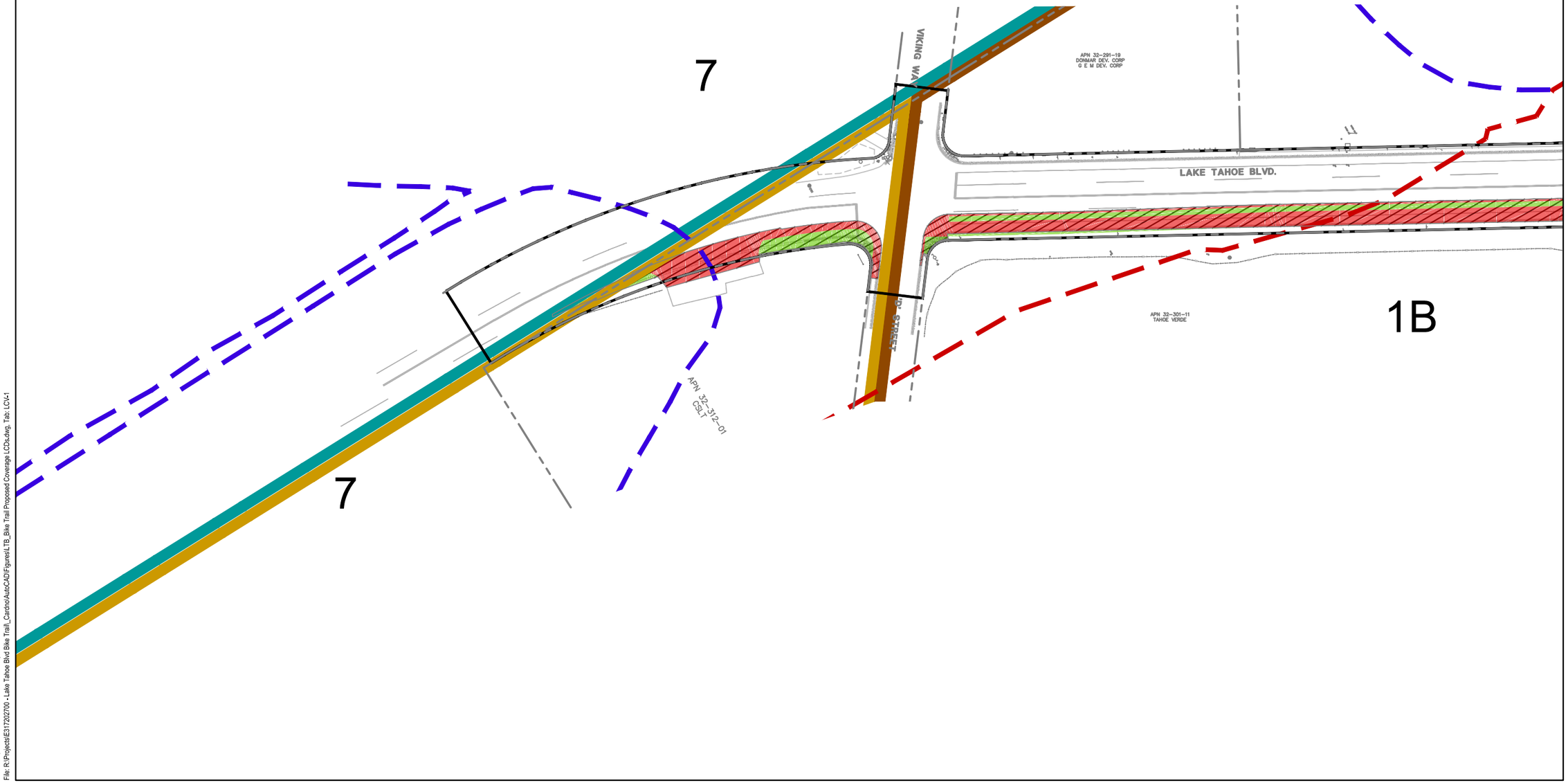

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LCV SHEET 1 - PROPOSED CONDITIONS

LAKE TAHOE BLVD BIKE TRAIL

CITY OF SOUTH LAKE TAHOE

SOUTH LAKE TAHOE, CA

#	DATE	DESCRIPTION	BY

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SHEET TITLE
LCV-1

SHEET NUMBER
2

LAND USE # N/A

LEGEND

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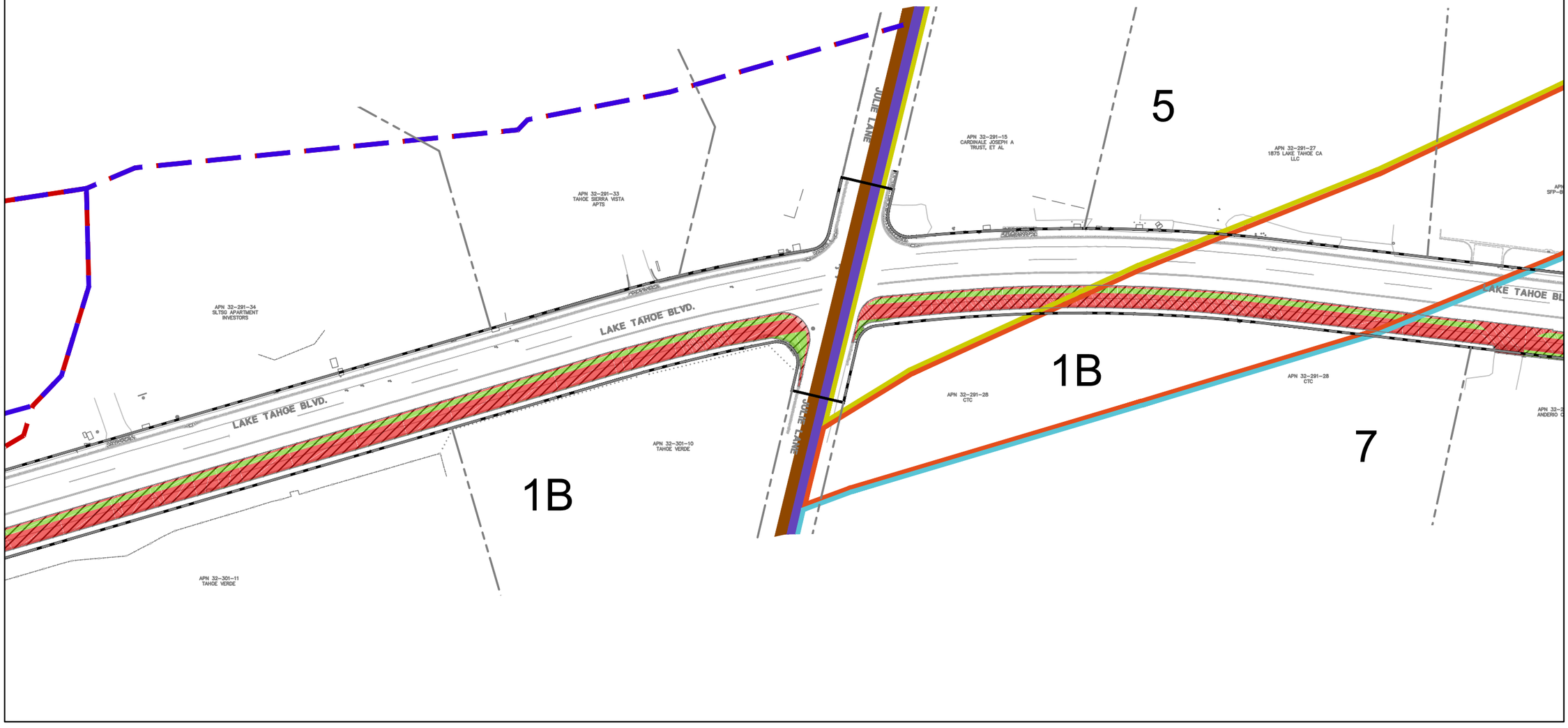

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LCV SHEET 2 - PROPOSED CONDITIONS

LAKE TAHOE BLVD BIKE TRAIL

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SOUTH LAKE TAHOE, CA

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SHEET TITLE
LCV-2

SHEET NUMBER
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LAND USE # N/A

LEGEND

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LCV SHEET 3 - PROPOSED CONDITIONS
LAKE TAHOE BLVD BIKE TRAIL
CITY OF SOUTH LAKE TAHOE
SOUTH LAKE TAHOE, CA

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SHEET TITLE
LCV-3

SHEET NUMBER
4

LAND USE # N/A

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Lake Tahoe Boulevard Class 1
Bicycle Trail Project
Initial Study/Negative Declaration/
Initial Environmental Checklist

APPENDIX E

GEOTECHNICAL REPORT

TECHNICAL MEMORANDUM

To: Stephen Peck, PE
Cardno
P.O. Box 1533
Zephyr Cove, NV 89448

From: Matthew Weil, PE, GE
Jerry Pascoe, PE, GE

Date: January 31, 2018

Re: **GEOTECHNICAL SITE ASSESSMENT & INVESTIGATION-DRAFT**
Lake Tahoe Boulevard Bike Trail
South Lake Tahoe, California
SAGE Project No. 17-078.00

SAGE Engineers, Inc. is pleased to present this technical memorandum (TM) summarizing the results of our geotechnical site assessment and investigation. It includes geotechnical recommendations for design and construction of a new bike path.

BACKGROUND

The City of South Lake Tahoe is proposing a new bike path along Lake Tahoe Boulevard between Viking Road and Tata Lane. Two different alignments are being considered, one on the north side and one on the south side, of the Lake Tahoe Boulevard. Both alignments are adjacent to a sidewalk and therefore are relatively flat. The alignments would go through fields adjacent to the roadway that have brush and pine trees. Preliminary design concepts include retaining walls up to approximately 30 inches tall.

SCOPE OF WORK

The geotechnical investigation was performed in general accordance with the scope of work contained in our Subconsultant Task Order #SAGE-CSLT-2017-01 dated November 28, 2017 and consisted of the following:

- Observe excavation of 4 test pits up to 8 feet deep, log subsurface soils, and submit representative soil samples for laboratory testing
- Prepare this Geotechnical Site Assessment & Investigation TM that includes:
  - General soil and groundwater conditions at the project site, with emphasis on how the conditions are expected to affect the proposed construction. Soil subgrade strength and recommended pavement design.
  - Recommendations for earthwork construction, including site preparation recommendations, a discussion of reuse of existing near surface soils as engineered or non-engineered fill, and a discussion of remedial earthwork recommendations, if warranted
  - Recommendations for pavement structural section specifications for the bicycle trail.
  - Recommendations for retaining wall design.
  - Recommendations for temporary excavations and trench backfill.

SUMMARY OF SUBSURFACE EXPLORATON

The subsurface conditions were explored by excavating test pits on December 8, 2017. The test pits were excavated by the City of South Lake Tahoe using a backhoe equipped with a 3-foot-wide steel-toothed bucket. Micaela Saqui, a SAGE engineer, logged, photographed, and collected representative samples from the test pits. A total of three test pits were excavated to depths that ranged between 5 and 8 feet. The tests pits were designated TP-2 through TP-3 on the south side of Lake Tahoe Boulevard and TP-4 on the north side of the road, with the approximate locations shown on Figure 1. Due to the presence of existing utilities and adjacent private property constraints, SAGE and the City of South Lake Tahoe Civil Engineer made the decision to abandon location TP-1.

The three completed test pits indicate that the proposed bike trail alignments contain a surficial fill layer of dark gray soft sandy silt ranging from 0.5 to one foot thick with many roots that have about ¼ -inch diameter. Underlying the fill, and to the maximum depth explored, the soils comprise of yellowish-red to gray, medium dense silty sand with varying amounts of gravel.

The moisture content ranged from moist at the surface and increased with depth. Groundwater was encountered in TP-3 at a depth of seven feet.

Logs of the test pits are included in Attachment 1. The test pits were backfilled with trench spoils and compacted using the bucket and tires of the backhoe. Laboratory index tests for classification, including Atterberg Limits, sieve analysis, compaction, and R-value, were performed on select samples. The results of the laboratory testing program are included in Attachment 2.

GEOTECHNICAL RECOMMENDATIONS

Site Grading

Fill Requirements

On-site materials may be used as engineered fill beneath the bike path provided they are prepared as recommended below. Engineered fill should be:

- Free of organics, trash, and other debris;
- Should not contain oversize particles larger than 2-1/2 inches in greatest dimension;
- Should have no more than 35% passing No. 200 sieve
- Should have little to no corrosion potential; and
- Should have a relatively low expansion potential, defined by a liquid limit (LL) less than 35 and a plasticity index (PI) lower than 12.

As discussed above, we don't expect import fill for this project. Should import fill be required, it should be submitted to the geotechnical engineer of record for approval at least 72 hours before it is used on site.

Compaction Requirements

Engineered fill should be moisture-conditioned to within 2% of optimum moisture content, placed in maximum 8-inch-thick horizontal loose lifts, and compacted to at least 95 percent relative compaction[1] below planned improvements and, and at least 90 percent relative compaction in general areas.

Temporary Slopes

We do not anticipate that temporary cut slopes will be required; however, if needed, all temporary slopes should be excavated in accordance with the latest edition of the CAL-OSHA excavation and trench safety standards[2] at a minimum. Site soils should be preliminarily classified as Type C according to the CAL OSHA classification system. The maximum allowable slope for Type C soil is 1½H:1V

The Contractor should be responsible for all temporary slopes at the site, and should designate one of their on-site employees as a "competent person" who is responsible for trench and excavation safety. The competent person should be responsible for determination of the actual CAL-OSHA soil type and should direct the excavation crews to adjust slope inclinations as appropriate. For example, steeper slopes in rock cuts are likely feasible, but should be determined by the competent person during construction on a case-by-case basis.

Lateral Earth Pressures

The planned retaining walls are expected to be less than 30-inches in height. The following parameters are appropriate for use in design:

Bearing Capacity[3]		Coefficient of Friction[3]	Cohesion[3] (psf)	Lateral Earth Pressures[4,5]		Unit Weight (pcf)
Vertical Foundation Pressure (psf)	Lateral Bearing Pressure (psf/ft below natural grade)			Active Pressure[5] (psf/ft of depth)	At-Rest[5] Pressure (psf/ft of depth)	
2000	150	0.25	0	45	60	120

Pavements

The bike path is expected to have only pedestrian and bicycle traffic, with the occasional maintenance vehicle traveling along it. The pavement section is expected to consist of dense-graded hot-mix AC over Class 2 AB (3/4-inch max). AB should have a minimum R-value of 78 and otherwise conform to Section 26

[1] Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same material, as determined by ASTM D1557 laboratory compaction procedure.

[2] Occupational Safety and Health Administration (OSHA), 2012, OSHA Standards for the Construction Industry, 29 CFR Part 1926, accessed April 2014, from OSHA website: http://www.osha.gov/pls/oshaweb/owasrch.search_form?p_doc_type=STANDARDS&p_toc_level=1&p_keyvalue=1926

[3]Values from Table 1806.2, Presumptive Load-Bearing Values, 2016 California Building Code, Chapter 18.

[4]Values from Table 1610.1, Lateral Soil Load, 2016 California Building Code, Chapter 16.

[5] Assumed USCS Classification of SM for retained material.

Aggregate Bases of the 2015 Caltrans Standard Specifications. The upper six inches of soil subgrade and the entire thickness of AB should be compacted to at least 95 percent relative compaction per ASTM D1557. Asphalt pavement constructed at the site should utilize Performance Graded (PG) binder 64-28 and otherwise conform to Sections 39 Asphalt Concrete and 92 Asphalt Binders of the 2015 Caltrans Standard Specifications. This PG binder is appropriate for use on "high mountain" roads per Table 632.1 of the Caltrans Highway Design Manual (HDM) (Caltrans, 2016).

Based on the results of the R-value tests, and considering the potential variability in materials, degree of saturation, and limited sampling along the proposed alignment a minimum R-value of 25 was used for design recommendations. Based on this, the following table outlines different pavement sections depending on the anticipated traffic index.

Traffic Index Value	Aggregate Base Thickness (in)	AC thickness (in)
3	4*	2
4	5	2.5
5	6.5	3
6	7.5	4

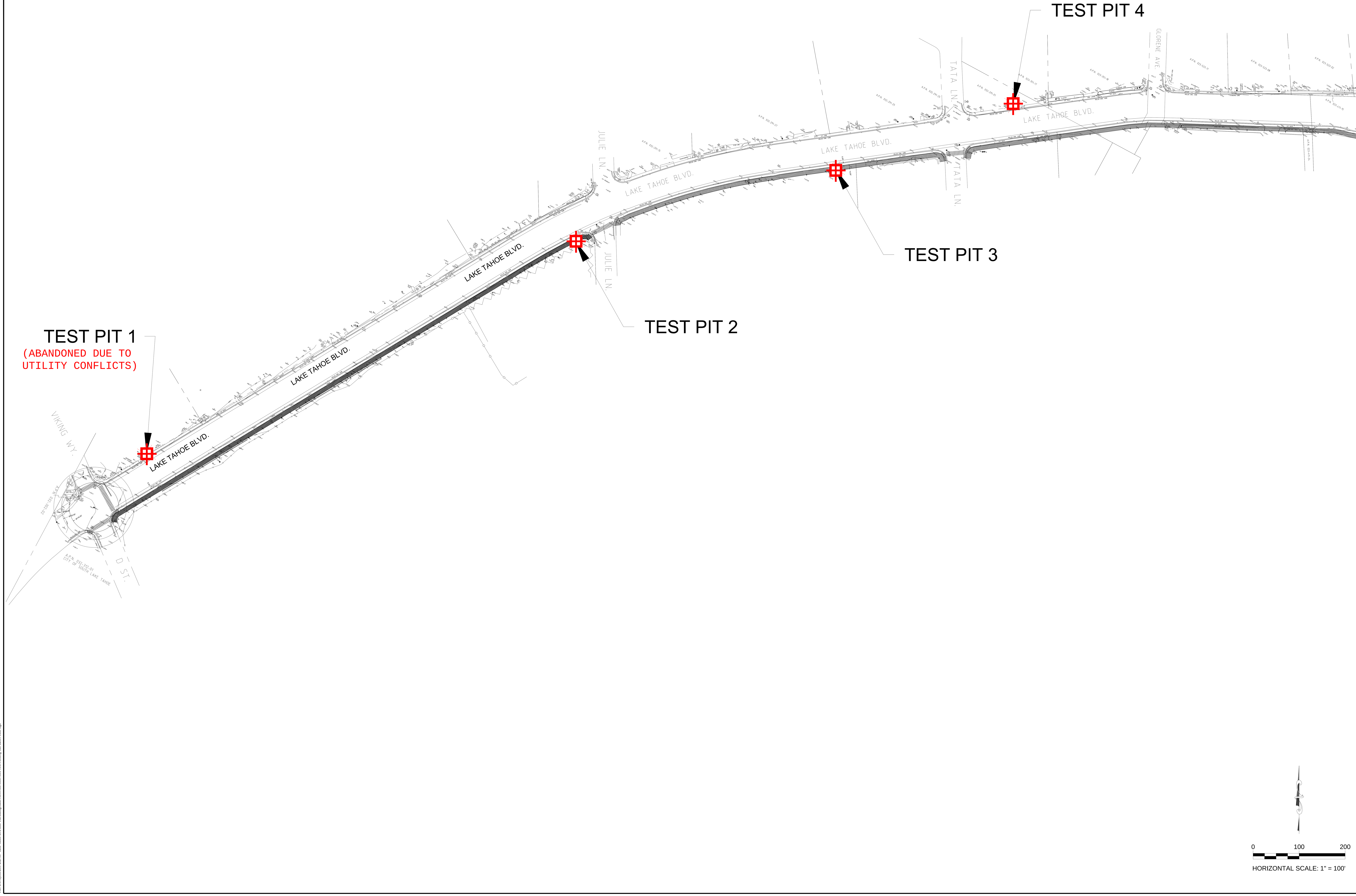
*Minimum 4" of AB recommended

LIMITATIONS

This report has been prepared for the sole use of Cardo and the City of South Lake Tahoe and its agents, specifically for design of the improvements described herein for the subject project. The conclusions and recommendations contained in this report are solely professional opinions based upon the information obtained from the references listed below. SAGE is not responsible for the data presented by others.

The information provided in this report is valid for a period of three (3) years from the date of issuance. Conditions may arise that were not apparent at the time of this design (e.g., changes in design geometries, soil design parameters, loadings, etc.). In addition, changes in applicable standard of practice can occur, whether from legislation or the broadening of knowledge. Accordingly, the information provided in this report may be invalidated, wholly or partially, by changes outside of our control. Should changes occur that might affect the design presented herein, SAGE should be notified to evaluate the validity of this report to those changes. This document may not be reproduced for any other reason than pertains to the project for which it was prepared.

Attachments: Figure 1 – Test Pit Locations on South Lake Tahoe Blvd.
Attachment 1 – Logs of Test Pits
Attachment 2 – Laboratory Test Results



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Shaping the Future

295 HWY 50, SUITE 1
STATELINE, NV 89449
(775) 588-9069

GEOTECH TEST PIT LOCATIONS

LAKE TAHOE BOULEVARD BIKE TRAIL

COUNTY, STATE

DATE:	####
DRAWN BY:	XX
CHECKED BY:	XX
SCALE:	AS SHOWN
CARDNO JOB NO.	########

FIGURE NO.

####

SHEET #### OF XX

FIGURE 1

ATTACHMENT 1

LOGS OF TEST PITS

ATTACHMENT 1:
LOGS OF TEST PITS TP-2 THROUGH TP-4

Project Number: 17-078.00
Location: Lake Tahoe Blvd, South Lake Tahoe, CA
Logged By: Micaela Saqui

Test Pit Number and Approximate Elevation	Depth (feet)	Soil Classification[1]	Soil Description
TP-2	0.0′-1.0′	SANDY SILT (ML)	FILL- dark gray, soft, moist, with roots ~1/4″-diameter
	1.0′-2.5′	SILTY SAND (SM)	Yellowish-red (5YR 5/8), medium dense[2], moist
	2.5′-3.0′	SILTY SAND (SM)	Yellowish-red (5YR 5/8), moist, medium dense (fine-to-coarse grained sand)
	3.0′-4.0′	SILTY SAND (SM)	Yellowish-red (5YR 5/8), moist, medium dense
	4.0′-5.0	SAND WITH SILT (SP-SM)	Yellowish-red (5YR 5/8), moist, medium dense, some red (2.5 4/8), some plasticity
TP-3	0.0′ – 0.8′	SANDY SILT (ML)	FILL- dark gray, soft, moist, with roots ~1/4″-diameter
	0.8′-2.0′	SILTY SAND (SM)	Trace clay, (5YR 4/3), occasional sub-rounded to sub-angular gravel, ½″ diameter, medium dense, moist, with 1/8″- diameter roots
	2.0′-4.0′	SILTY SAND (SM)	Yellowish-red (5YR 5/8), occasional sub-rounded to sub-angular gravel, ½″ diameter, medium dense, moist, with 1/8″- diameter roots, wet
	4.0′-8.0′	SILTY SAND (SM)	Dark Reddish Gray (5YR 4/2), pyrite flecks, medium dense to dense, moist to wet, ground water encountered at 7′
TP-4	0′-0.9′	SANDY SILT (ML)	FILL- dark gray, soft, moist, with roots ~1/4- 1/8″-diameter, occasional small sub-rounded to sub-angular gravel, coarse grained sand
	0.9′-3.0′	SILTY SAND (SM)	Yellowish-red (5YR 5/8), with 1/8″-diameter roots, occasional sub-rounded to sub-angular gravel, hard, moist
	3.0′-7.0′	SILTY SAND (SM)	Light gray, medium-dense, moist

Notes:
1) TP-1 was abandoned due to utility conflicts
2) Test pits were excavated on December 8, 2017 using a CAT backhoe equipped with an approximately 3′ wide bucket.

[1] Per the Visual-Manual Procedure for description and identification of soils (ASTM D2488), where no laboratory testing was performed; Per standard test method for particle-size analysis of soils (ASTM D422) where lab testing was performed.
[2] All hardness and density classifications are based on the equipment's ability to dig

ATTACHMENT 2

LABORATORY TEST RESULTS

ATTACHMENT 2

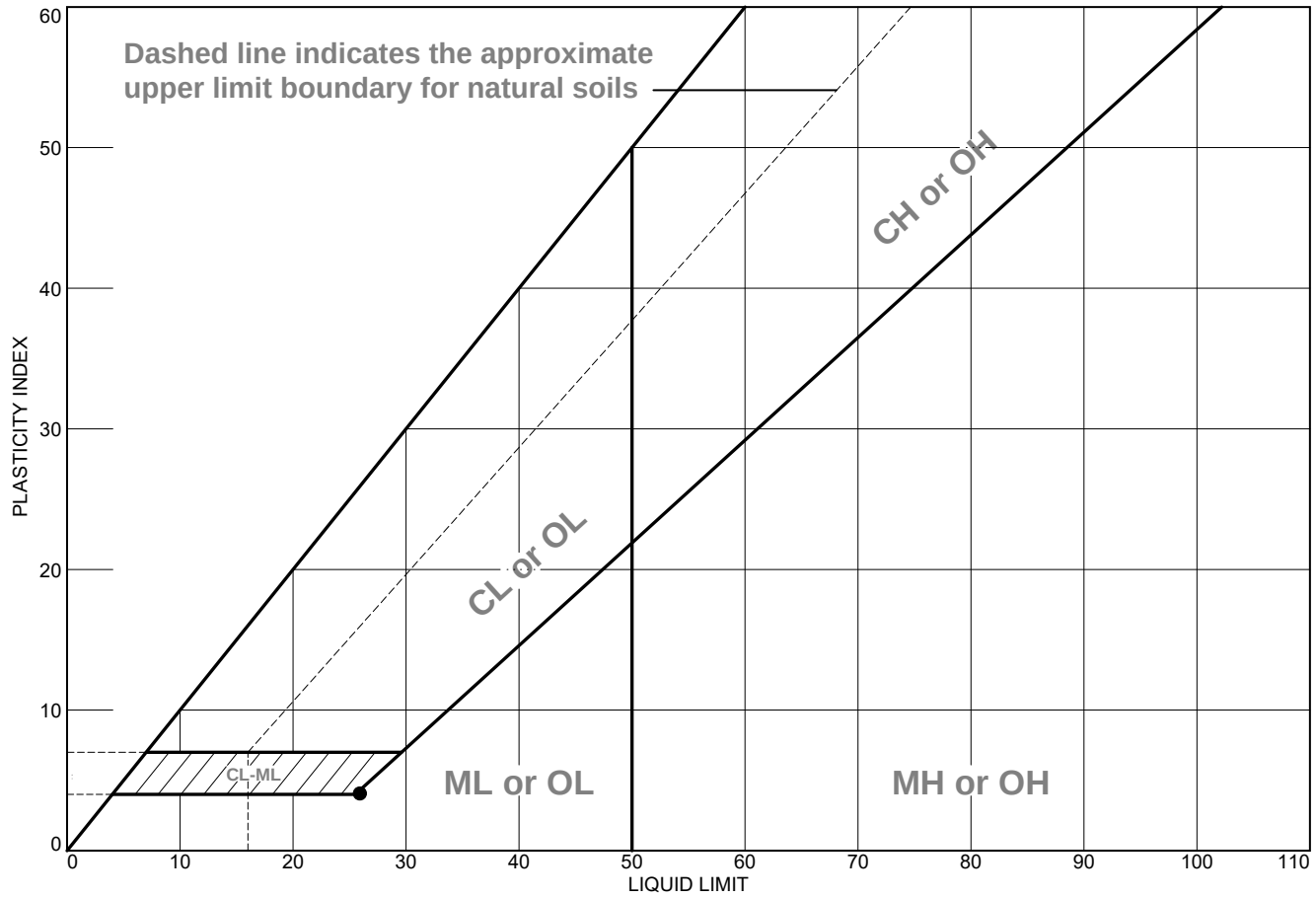
Laboratory Testing Summary
City of South Lake Tahoe Bike Path
South Lake Tahoe, California

Test Pit Number	Sample Depth (feet)	Modified Proctor[1]			Atterberg Limits[3]			Grain Size Distribution[4]		
		Maximum Dry Density (pcf)	Optimum Moisture (%)	R-value[2]	Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)	Gravel Content and Larger (percent) +#4 Sieve	Sand Content (percent)	Fines[5] Content (percent) -#200 Sieve
TP-2	1.0'-3.0'	124.7	9.9	65	-	-	-	-	-	-
TP-2	4.2'	-	-	-	-	-	-	-	-	15
TP-2	5.0'	-	-	-	26	22	4	-	-	-
TP-3	0.0'-2.0'	-	-	66	-	-	-	4.6	63.5	31.9
TP-3	1.9'	-	-	-	18	16	2	-	-	-
TP-4	0.3'-2.0'	124.5	10.3	54	-	-	-	-	-	-

Test Pit Number	Soil pH	Min Resistivity (ohm-cm x1000)	Chloride (ppm)	Sulfate (ppm)
TP-3 (0.0'-2.0')	5.89	18.76	4.7	15

NOTES:
1) ASTM D698
2) ASTM D2844
3) ASTM D4318
4) ASTM D422
5) ASTM D1140

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●		26	22	4			

Project No. 18-111 **Client:** SAGE Engineers

Project: CSLT Lake Tahoe Blvd Bike Trail

●**Location:** TP-2 **Depth:** 5' **Sample Number:** 29590

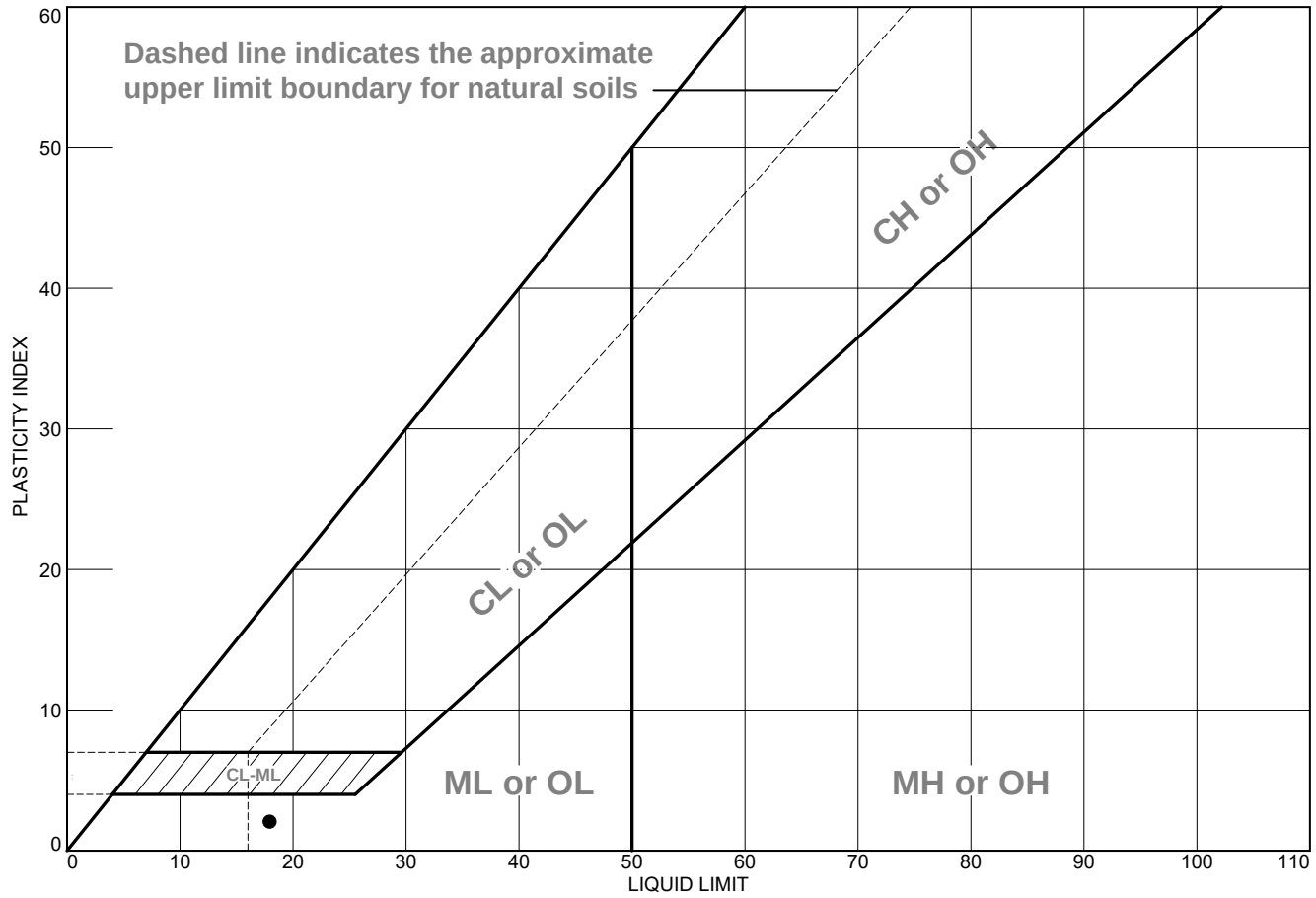
Remarks:

GULF SHORE EXPLORATION AND TESTING

Figure

Tested By: JM **Checked By:** JML

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●		18	16	2			

Project No. 18-111 **Client:** SAGE Engineers

Project: CSLT Lake Tahoe Blvd Bike Trail

●**Location:** TP-3 **Depth:** 1.9' **Sample Number:** 29592

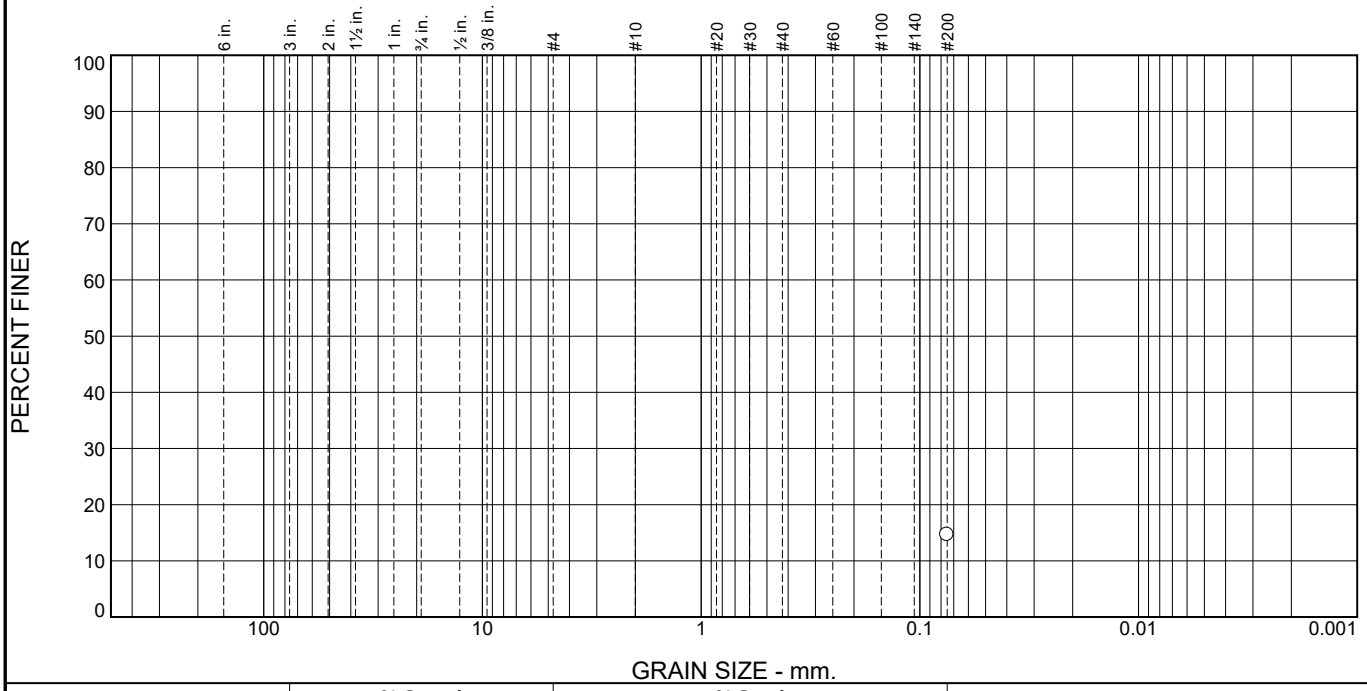
Remarks:

GULF SHORE EXPLORATION AND TESTING

Figure

Tested By: JM **Checked By:** JML

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines
	Coarse	Fine	Coarse	Medium	Fine	
						15

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
#200	15		

* (no specification provided)

Material Description

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Remarks

Date Received: 1/10/18 **Date Tested:** 1/12/18

Tested By: ARG

Checked By: CMW

Title: PM

Source of Sample: TP-2 **Depth:** 4.2'

Sample Number: 29589

Date Sampled:

GULF SHORE EXPLORATION AND TESTING

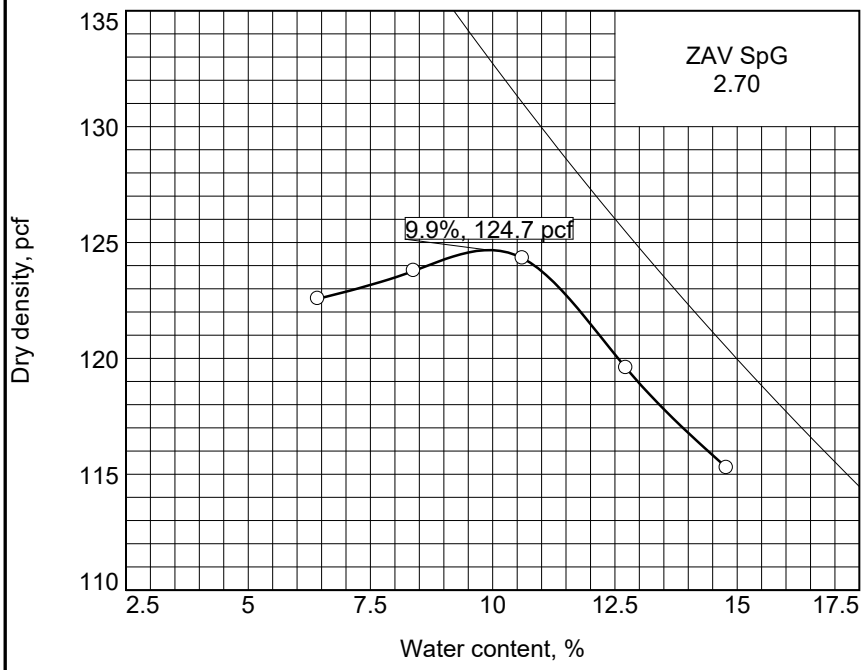
Client: SAGE Engineers

Project: CSLT Lake Tahoe Blvd Bike Trail

Project No: 18-111 **Figure**

COMPACTION TEST REPORT

Curve No. 29588



Preparation Method: Moist
Rammer: Wt. 10 lb. Drop 18 in.
Type: Manual
Layers: No. five Blows per 25
Mold Size: 0.03333 cu. ft.
Test Performed on Material Passing 3/8 in. Sieve
%>3/8 in. _____ %<No.200 _____
Atterberg (D 4318): LL _____ PI _____
NM (D 2216) _____ Sp.G. (D 854) _____
USCS (D 2487) _____
AASHTO (M 145) _____
Date: Sampled -
Received 1/10/18
Tested 1/11/18
Tested By AF

COMPACTION TESTING DATA
ASTM D 1557-12 Method B Modified

	1	2	3	4	5	6
WM + WS	6297.1	6246.3	6256.1	6218.5	6190.2	
WM	4218.1	4218.1	4218.1	4218.1	4218.1	
WW + T #1	614.2	604.1	597.7	665.5	628.1	
WD + T #1	559.7	560.9	535.3	585.5	592.9	
TARE #1	46.1	45.8	45.0	44.5	45.2	
WW + T #2						
WD + T #2						
TARE #2						
MOIST.	10.6	8.4	12.7	14.8	6.4	
DRY DENS.	124.3	123.8	119.6	115.3	122.6	

SIEVE TEST RESULTS

Opening Size	% Passing	Specs.

TEST RESULTS

Maximum dry density = 124.7 pcf

Optimum moisture = 9.9 %

Material Description

Remarks:

Project No. 18-111 **Client:** SAGE Engineers

Project: CSLT Lake Tahoe Blvd Bike Trail

○ **Location:** TP-2 **Depth:** 1'-3' **Sample Number:** 29588

Checked by: CMW

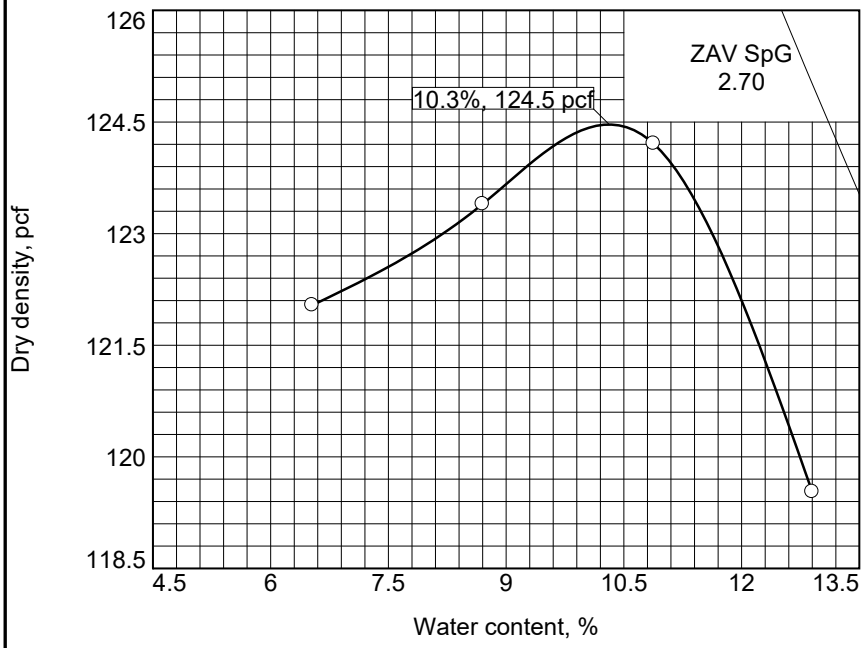
Title: PM

GULF SHORE EXPLORATION AND TESTING

Figure

COMPACTION TEST REPORT

Curve No. 29593



Preparation Method: Moist
Rammer: Wt. 10 lb. Drop 18 in.
Type: Manual
Layers: No. five Blows per 25
Mold Size: 0.03333 cu. ft.
Test Performed on Material Passing 3/8 in. Sieve
%>3/8 in. _____ %<No.200 _____
Atterberg (D 4318): LL _____ PI _____
NM (D 2216) _____ Sp.G. (D 854) _____
USCS (D 2487) _____
AASHTO (M 145) _____
Date: Sampled -
Received 1/10/18
Tested 1/11/18
Tested By RR

COMPACTION TESTING DATA
ASTM D 1557-12 Method B Modified

	1	2	3	4	5	6
WM + WS	6188.6	6251.0	6305.2	6263.3		
WM	4223.1	4223.1	4223.1	4223.1		
WW + T #1	455.4	513.2	473.4	450.2		
WD + T #1	430.3	475.8	431.5	403.8		
TARE #1	46.0	46.0	46.3	44.1		
WW + T #2						
WD + T #2						
TARE #2						
MOIST.	6.5	8.7	10.9	12.9		
DRY DENS.	122.0	123.4	124.2	119.5		

SIEVE TEST RESULTS

Opening Size	% Passing	Specs.

TEST RESULTS

Maximum dry density = 124.5 pcf

Optimum moisture = 10.3 %

Material Description

Remarks:

Project No. 18-111 **Client:** SAGE Engineers

Project: CSLT Lake Tahoe Blvd Bike Trail

○ **Location:** TP-4 **Depth:** 0.3'-2' **Sample Number:** 29593

Checked by: CMW

Title: PM

GULF SHORE EXPLORATION AND TESTING

Figure

Wallace Kuhl & Associates

Corporate Office
3050 Industrial Boulevard
West Sacramento, CA 95691
916.372.1434 phone
916.372.2565 fax

Stockton Office
3422 West Hammer Lane, Suite D
Stockton, CA 95219
209.234.7722 phone
209.234.7727 fax

January 17, 2018

Chad Walker
Gulf Shore Construction Services, Inc.
cwalker@gulfshoreservices.com

R-Value Test Results
GULF SHORE MISCELLANEOUS LABORATORY TESTING
WKA No. 9884.01

Gulf Shore Project Name:	CSLT Lake Tahoe Blvd Bike Trail
Gulf Shore Project No.	18-111
Sample ID:	29588, 1'-3' Depth, TP-2
Date Received:	01/11/18
WKA Lab No:	0001890

RESISTANCE (R) VALUE TEST RESULTS
(CTM 301)

Specimen Number	Dry Unit Weight	Moisture @ Compaction	Expansion Pressure		Exudation Pressure	R - Value
	(pcf)	(percent)	(dial)	(psf)	(psi)	
1	128	9.7	0	0	171	55
2	125	9.3	0	0	324	67
3	124	8.2	7	30	727	82
R-VALUE @ 300 PSI EXUDATION PRESSURE = 65						

Reviewed by: _____
David T. Hunn, P.E.

email: jllamas@gulfshoreservices.com

Wallace Kuhl & Associates

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3050 Industrial Boulevard
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STOCKTON OFFICE
3422 West Hammer Lane, Suite D
Stockton, CA 95219
209.234.7722 phone
209.234.7727 fax

January 17, 2018

Chad Walker
Gulf Shore Construction Services, Inc.
cwalker@gulfshoreservices.com

R-Value Test Results
GULF SHORE MISCELLANEOUS LABORATORY TESTING
WKA No. 9884.01

Gulf Shore Project Name:	CSLT Lake Tahoe Blvd Bike Trail
Gulf Shore Project No.	18-111
Sample ID:	29591, 0'-2' Depth, TP-3
Date Received:	01/11/18
WKA Lab No:	0001890

RESISTANCE (R) VALUE TEST RESULTS
(CTM 301)

Specimen Number	Dry Unit Weight	Moisture @ Compaction	Expansion Pressure		Exudation Pressure	R - Value
	(pcf)	(percent)	(dial)	(psf)	(psi)	
1	127	10.1	0	0	226	59
2	126	9.6	0	0	360	71
3	127	9.2	1	4	681	98
R-VALUE @ 300 PSI EXUDATION PRESSURE = 66						

Reviewed by: _____
David T. Hunn, P.E.

email: jllamas@gulfshoreservices.com

Wallace Kuhl & Associates

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West Sacramento, CA 95691
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209.234.7727 fax

January 17, 2018

Chad Walker
Gulf Shore Construction Services, Inc.
cwalker@gulfshoreservices.com

R-Value Test Results
GULF SHORE MISCELLANEOUS LABORATORY TESTING
WKA No. 9884.01

Gulf Shore Project Name:	CSLT Lake Tahoe Blvd Bike Trail
Gulf Shore Project No.	18-111
Sample ID:	29593, 0.3'-2' Depth, TP-4
Date Received:	01/11/18
WKA Lab No:	0001890

RESISTANCE (R) VALUE TEST RESULTS
(CTM 301)

Specimen Number	Dry Unit Weight	Moisture @ Compaction	Expansion Pressure		Exudation Pressure	R - Value
	(pcf)	(percent)	(dial)	(psf)	(psi)	
1	125	10.5	7	30	216	49
2	123	9.5	25	108	502	65
3	122	8.7	45	195	754	75
R-VALUE @ 300 PSI EXUDATION PRESSURE = 54						

Reviewed by: _____
David T. Hunn, P.E.

email: jllamas@gulfshoreservices.com

Sunland Analytical

11419 Sunrise Gold Circle, #10
Rancho Cordova, CA 95742
(916) 852-8557

Date Reported 01/17/2018
Date Submitted 01/12/2018

To: Chad Walker
Gulf Shore Construction Services
3362 Fitzgerald Rd
Rancho Cordova, CA 95742

From: Gene Oliphant, Ph.D. \ Randy Horney
General Manager \ Lab Manager

The reported analysis was requested for the following location:
Location : 18-111 Site ID : 29591 0-2 TP-3.
Thank you for your business.

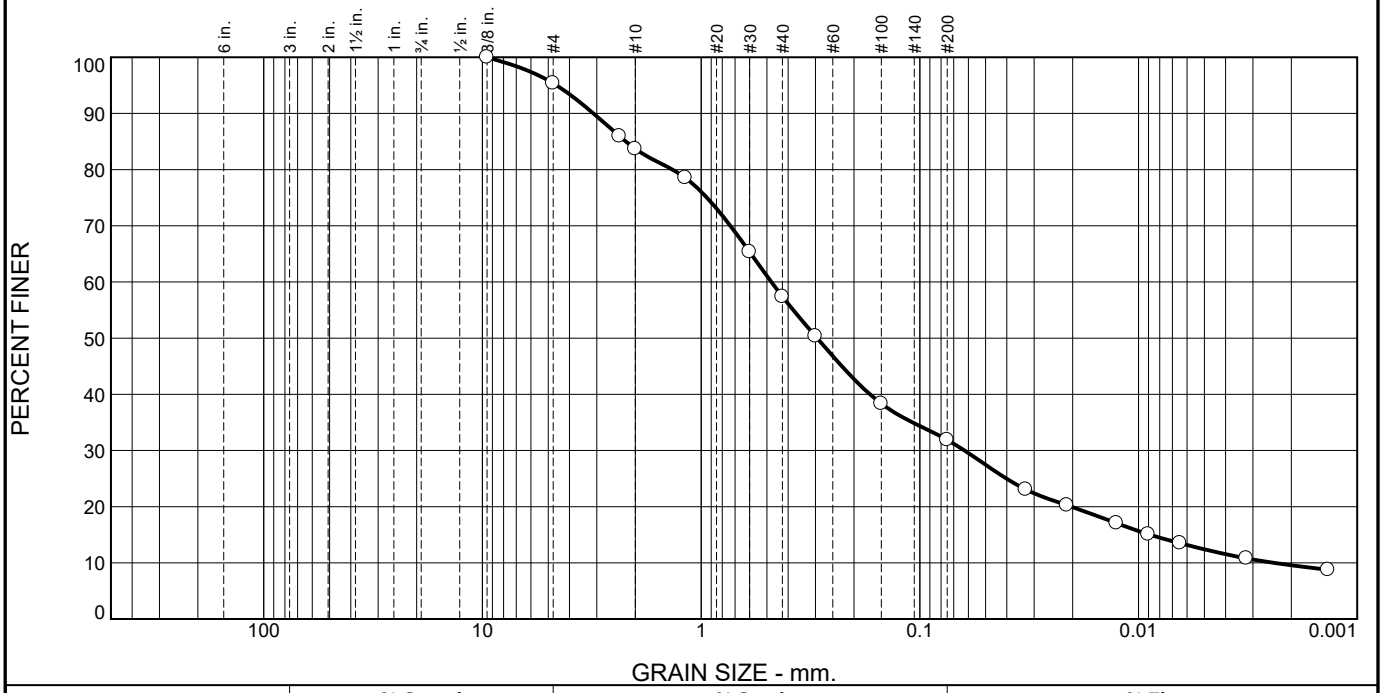
* For future reference to this analysis please use SUN # 75974-158496.

EVALUATION FOR SOIL CORROSION

Soil pH	5.89		
Minimum Resistivity	18.76 ohm-cm (x1000)		
Chloride	4.7 ppm	00.00047	%
Sulfate	15.0 ppm	00.00150	%

METHODS
pH and Min.Resistivity CA DOT Test #643
Sulfate CA DOT Test #417, Chloride CA DOT Test #422

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	4.6	11.7	26.3	25.5	19.5	12.4

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3/8	100.0		
#4	95.4		
#8	86.0		
#10	83.7		
#16	78.5		
#30	65.3		
#40	57.4		
#50	50.3		
#100	38.4		
#200	31.9		
0.0328 mm.	23.1		
0.0213 mm.	20.3		
0.0126 mm.	17.1		
0.0090 mm.	15.1		
0.0065 mm.	13.5		
0.0032 mm.	10.8		
0.0014 mm.	8.8		

* (no specification provided)

Material Description

Atterberg Limits (ASTM D 4318)

PL= **LL=** **PI=**

Classification

USCS (D 2487)= **AASHTO (M 145)=**

Coefficients

D_{90}= 3.1091 D_{85}= 2.2090 D_{60}= 0.4776
D_{50}= 0.2948 D_{30}= 0.0625 D_{15}= 0.0089
D_{10}= 0.0024 C_u= 198.23 C_c= 3.39

Remarks

Date Received: **Date Tested:**

Tested By: mpw

Checked By: mpw

Title:

Source of Sample: TP-3 **Depth:** 0-2 **Date Sampled:**

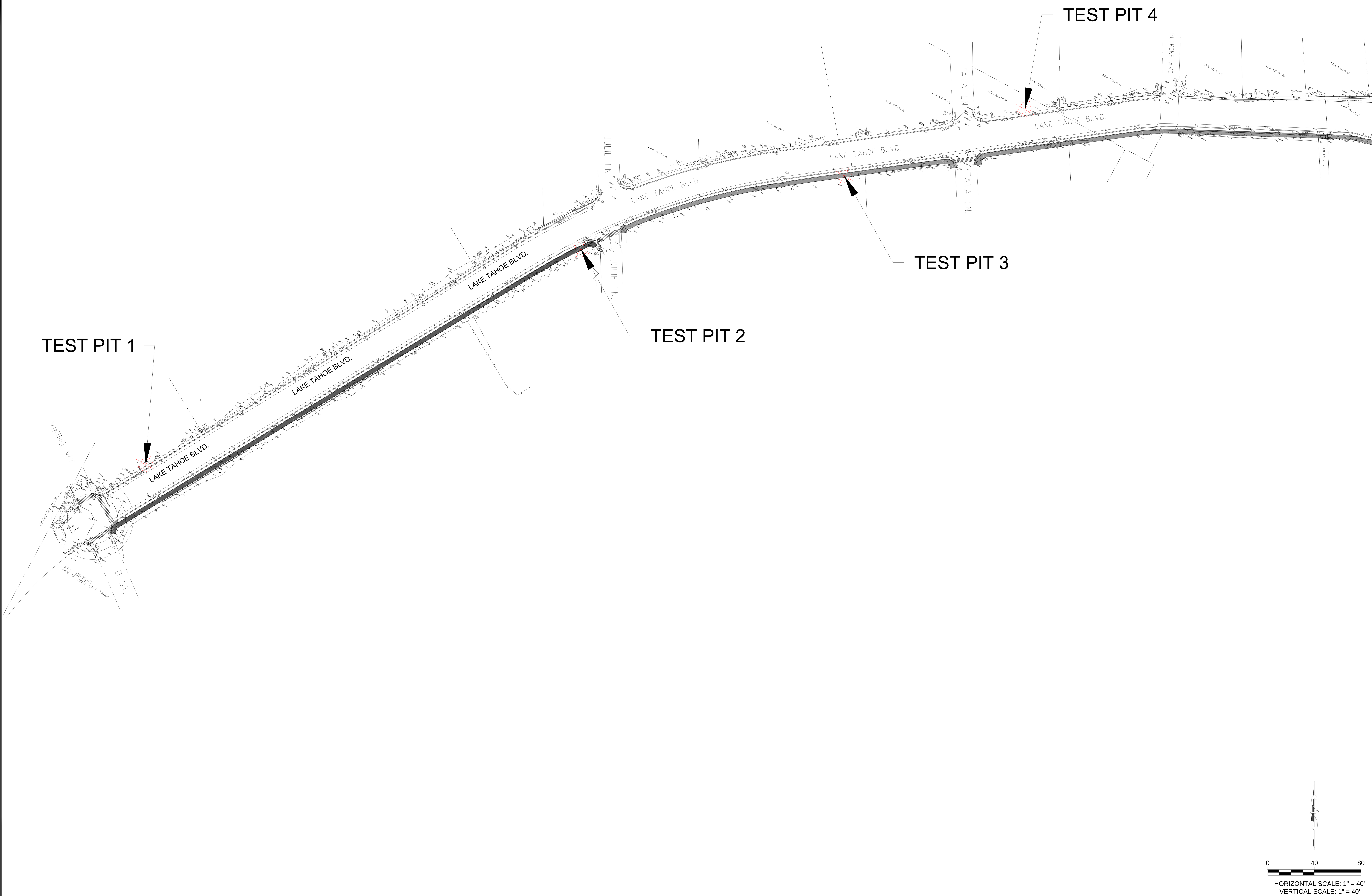
Sample Number: 29591

GULF SHORE EXPLORATION AND TESTING

Client: SAGE Engineers

Project: CSLT Lake Tahoe Blvd Bike Trail

Project No: 18-111 **Figure**



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STATELINE, NV 89449
(775) 588-9069

GEOTECH TEST PIT LOCATIONS

LAKE TAHOE BOULEVARD BIKE TRAIL

COUNTY, STATE

DATE:	####
DRAWN BY:	XX
CHECKED BY:	XX
SCALE:	AS SHOWN
ENTRIX JOB NO.	#########
FIGURE NO.	

####

SHEET #### OF XX

Lake Tahoe Boulevard Class 1
Bicycle Trail Project
Initial Study/Negative Declaration/
Initial Environmental Checklist

APPENDIX F

INITIAL SITE ASSESMENT FOR HAZARDOUS WASTE

Initial Site Assessment for Hazardous Waste

Lake Tahoe Boulevard Class 1 Bike Trail

E317202700

Cardno
Shaping the Future

Document Information

Prepared for	City of South Lake Tahoe
Project Name	Lake Tahoe Boulevard Class 1 Bike Trail Project
Project Number	E317202700
Project Manager	Stephen Peck, PE
Date	April 10, 2019

Prepared for:

City of South Lake Tahoe
Department of Public Works
1052 Tata Lane
South Lake Tahoe, CA 96150

Prepared by:

Cardno
Shaping the Future

Cardno

295 US 50, Suite 1
Zephyr Cove, Nevada 89449

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Table of Contents

Appendices

Figures

Acronyms

ADA	Americans with Disabilities Act
APE	Area of Potential Effects
ASTM	American Society for Testing and Materials
bgs	below ground surface
BMP	best management practice
Caltrans	California Department of Transportation
CFR	Code of Federal Regulations
City	City of South Lake Tahoe
City General Plan	City of South Lake Tahoe General Plan
EIP	Environmental Improvement Program
ISA	Initial Site Assessment
Lahontan Water Board	Lahontan Regional Water Quality Control Board
LUST	leaking underground storage tank
mg/kg	milligrams per kilograms
NOA	naturally occurring asbestos
PAS	Plan Area Statement
Project	Lake Tahoe Boulevard Class 1 Bike Trail Project
REC	Recognized Environmental Condition
ROW	right-of-way
SR 89	State Route 89
TRPA	Tahoe Regional Planning Agency
US 50	US Highway 50

Executive Summary

Cardno has conducted an Initial Site Assessment (ISA) for Hazardous Waste for the Lake Tahoe Boulevard Class 1 Bike Trail Project (Project) located in the City of South Lake Tahoe (City), El Dorado County, California. The Project will be primarily located within the existing, developed public right-of-way (ROW) extending from the South "Wye" intersection (i.e., the US Highway 50 and State Route 89 intersection) to Vikings Way. The Project implements stormwater infrastructure improvements and roadway realignment and restriping and establishes a separated, shared-use trail to expend the existing south shore bicycle trail network.

The property assessed for this ISA includes the public ROW and the area immediately adjacent to the public ROW; this is referred to as the Project area in this report. Adjacent land uses are commercial and residential. According to the City and Cardno's review of historical information sources, including historical aerial photographs and topographic maps, the first development in the Project area occurred prior to December 1940.

The purpose of the ISA is to identify and evaluate the level of risk associated with hazardous materials, hazardous waste, and/or contamination in the Project area. This ISA identifies Recognized Environmental Conditions (RECs) for the Project area that may adversely affect roadway construction or public ROW acquisition (if required). This ISA was conducted in general conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Practice E 1527-05 and includes a summary of the site reconnaissance conducted on March 27 and October 22, 2018, a review of environmental databases, and a review of historical aerial imagery.

A REC is defined by ASTM Practice E 1527-05 as: *The presence or likely presence of any hazardous substances or petroleum products on a project site under conditions that indicate an existing release, a past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the project site or into the ground, groundwater, or surface water of the project site. The term includes hazardous substances or petroleum products even under conditions of storage and use in compliance with local and state laws and regulations. The term is not intended to include de minimis conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of regulatory governmental agencies. Conditions determined to be de minimis are not recognized environmental conditions* (ASTM 2005).

The Project area does not appear on the searched database lists for RECs. This ISA found no evidence of RECs in direct connection with the Project area. There are seven sites identified in the general vicinity of the Project area's Area of Potential Effect (APE) in the GeoTracker for Hazardous Materials database: two are Waste Discharge Requirements sites (which are historically permitted sites), two are Leaking Underground Storage Tank (LUST) Cleanup Sites (both of which have been closed by the Lahontan Regional Water Quality Control Board (Lahontan Water Board), and two are Cleanup Program Sites (one site is undergoing active remediation and the other site is eligible for closure). Note that an APE search radius of 2,000 feet from the centroid of the linear Project area was chosen in order to map the entire length of the Project area.

This ISA has identified a low risk of associated groundwater contamination from the Cleanup Program Site that is undergoing active remediation; this site is located near the western terminus of the APE and the risk originates from the Raley's Shopping Center. Monitoring reports prepared for the Lahontan Water Board indicate that the gradient of the contamination plume is 0.017 to 0.019 feet/feet to the north and away from the section of the Project area west of Glorene Avenue that may require excavations of up to 5 feet below ground surface (bgs) for installation of stormwater and utility infrastructure improvements.

In the portion of the Project area in the vicinity of the Cleanup Program Site, only asphalt removal and surface disturbance of up to 12 inches will be necessary to meet bike trail grade requirements. Project actions are not expected to have any effect on seasonal high groundwater or to the Cleanup Program Site.

This ISA has been prepared for the City of South Lake Tahoe and California Department of Transportation (Caltrans), and they (only) have the right to rely on the contents of this ISA.

1 Project Information

The Lake Tahoe Boulevard Class 1 Bike Trail Project (Project) is located in the southwest portion of the City of South Lake Tahoe (City), near South Tahoe High School, between Vikings Way and the US Highway 50 (US 50) and State Route 89 (SR 89) intersection, referred to as the "South Wye", in El Dorado County, California (Figure 1 in Appendix A). A portion of the Project is within the Tahoe Valley Area Plan community boundary (between US 50/SR 89 and Julie Lane), while the remainder of the Project is within the Bonanza Plan Area, Plan Area Statement (PAS) 114, between Julie Lane and Vikings Way. Additionally, the South Y Industrial Tract Community Plan and the Twin Peaks PAS 118 constitute small portions of the existing public right-of-way (ROW) at the western terminus of the Project area. South Tahoe High School, including the campus for Mt. Tallac Continuation High School and Transitional Learning Center, is located adjacent to the southwest portion of the Project area.

The City of South Lake Tahoe Department of Public Works, in coordination with the California Department of Transportation (Caltrans), is proposing to construct a Class 1 shared-use trail on Lake Tahoe Boulevard from Vikings Way to the South Wye, along with intersection crossing improvements at both ends. The Project vicinity comprises a mix of school, governmental, multi-family residential, and commercial uses in close proximity to the state highway. The area currently includes roadways with two lanes in each direction, with several ingress/egress areas, and a generally unsafe vehicular, pedestrian, and bike travel area. The Project is designed to resolve these safety issues.

The Project proposes to install a landscaped buffer zone, a Class 1 bike trail/multi-use path, Americans with Disabilities Act (ADA)–compliant ramps, and standard City overhead streetlights with underground conduit. Sections of existing cub and gutter will be realigned, and sections of curb and gutter will be constructed. The existing Class 2 bike lanes will be realigned and restriped to establish a consistent lane width of 5 feet. The current Lake Tahoe Boulevard will be reconfigured from a four-lane roadway with two lanes in each direction, to a three-lane roadway with one lane in each direction and a center turning lane. Lake Tahoe Boulevard will remain unchanged from the South Wye to the east side of the South Y Center's main driveway (Glorene Avenue). In the westbound direction, the roadway will add a westbound left-turn refuge lane at South Y Center's driveway, and then merge from three lanes to one by Glorene Avenue. In the eastbound direction, the roadway will be reduced just west of Vikings Way to one lane and then increased back to two lanes east of Glorene Avenue.

The Project will provide for non-motorized, safe travel between Vikings Way/D Street and the South Wye intersection, with a Class 1 shared-use trail providing for two-way bike and pedestrian traffic. Additionally, the Project will install standard City overhead streetlights, curb and gutter improvements, and intersection improvements at Vikings Way. Lake Tahoe Boulevard will be restriped from the existing two lanes in each direction with no turn lane to one lane in each direction with a center turn lane and Class 2 bike lanes.

The Project is identified on the Lake Tahoe Environmental Improvement Program (EIP) 5-year list as Project #03.01.02.0094 (Lake Tahoe Boulevard Class 1 Bicycle Trail). The EIP Project number represents the following:

> EIP Focus Area: 03 – Air Quality and Transportation;

> EIP Program: 03.01 – Air Quality and Transportation; and

> EIP Action Priority: 03.01.02 – Improving Transit and Trails Connections.

The City is designated as the lead implementer for the EIP Project, with a planning/design start year of 2016 and implementation start year targeted for 2021.

The project manager for the City is Randy Carlson, PE, Associate Civil Engineer with the City. The Project Engineer is Stephen Peck, PE, Senior Consulting Engineer with Cardno.

The purpose of this Initial Site Assessment (ISA) is to identify and evaluate the level of risk associated with hazardous materials, hazardous waste, and/or contamination in the Project area. This ISA identifies Recognized Environmental Conditions (RECs) for the Project area that may adversely affect roadway construction or public ROW acquisition (if required). This ISA was conducted in general conformance with the scope and limitations of the American Society for Testing and Materials (ASTM) Practice E 1527-05 (ASTM 2005).

2 Project Area Location

Figure 1 in Appendix A illustrates the Project vicinity. The Project area is contained within the City of South Lake Tahoe, El Dorado County, California. Figure 2 in Appendix A, Project Area Location, depicts the Project area boundary in the context of the Tahoe Valley Area Plan and PAS 114 (Bonanza Special Area #2), PAS 118 (Twin Peaks), and the South Y Industrial Tract Community Plan. Figure 3 in Appendix A depicts the Area of Potential Effects (APE) with a radius of 2,000 feet from the approximate centroid of the Project area. Commercial (mixed use), industrial, and residential zoning districts surround the Project area.

The Project area contains no surface waterbodies and no jurisdictional waters of the United States or State of California. Its topography and geographic location suggest that the groundwater gradient is to the northwest and toward Lake Tahoe. Technical studies and monitoring reports prepared for Lake Tahoe Laundry Works clean-up and remediation efforts confirm the direction of groundwater.

According to the US Department of Agriculture, Natural Resources Conservation Service (NRCS) soil survey maps (NRCS 2007), soils in the immediate vicinity of the Project area are Christopher-Gefo complex (0 to 5% slope) and Ubja sandy loam (0 to 9% slope). Figure 4 in Appendix A depicts the soil map units constituting the Project area. Figure 5 in Appendix A maps the geologic units that underlie the Project area, which are quaternary alluvium deposits.

Naturally occurring asbestos (NOA) is known to be present in El Dorado County. To help identify areas in the county that may contain NOA, the California Department of Conservation, California Geological Survey, has prepared a 1:100,000-scale map of relative likelihood for the presence of NOA in El Dorado County. The Project area is not located near areas identified as containing ultramafic rocks and appears to be mapped as an Area Least Likely to Contain NOA (California Department of Conservation 2018).

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3 Project Screening

3.1 Records Review

Based on data and information reviewed in October 2018, the presence of hazardous materials or hazardous waste within the Project area is highly unlikely. Database queries indicate the presence of one active cleanup site in the APE, which is mapped under the South Wye intersection at the eastern terminus of the Project area. Technical study and database results are as follows:

> GeoTracker for Hazardous Materials (http://geotracker.waterboards.ca.gov/): There are seven sites identified in the general vicinity of the Project area in the GeoTracker, of which two are Waste Discharge Requirements sites (which are historically permitted sites), two are Leaking Underground Storage Tank (LUST) Cleanup Sites (both of which have been closed by the Lahontan Regional Water Quality Control Board [Lahontan Water Board]), and two are Cleanup Program Sites (one site is undergoing active remediation and the other site is eligible for closure).

  The Lahontan Water Board issued Cleanup and Abatement Order R6T-2017-0022 for the seventh site listed in the GeoTracker, Lake Tahoe Laundry Works, in South Lake Tahoe on May 12, 2017, for the cleanup of tetrachloroethylene (PCE) contamination currently impacting municipal supply wells of two water districts (Lahontan Water Board 2017). Initial investigation activities at this cleanup site occurred between 2003 and 2008 and identified PCE in soil and groundwater and indicated a coin-operated dry cleaning unit that used PCE had operated at the site between 1972 and 1979. Spills associated with PCE delivery practices were determined to be the likely source of PCE contamination. Interim remedial measures, consisting of the installation and operation of a soil vapor extraction and air sparging (SVE/AS) system, commenced in 2009. The SVE/AS system began operation in 2010 and has operated consistently since, with the exception of downtimes associated with verification monitoring tasks conducted in 2012 and 2014. The SVE/AS system provides source remediation and was designed to remediate vadose zone soils to reduce shallow zone aquifer groundwater concentrations and limit further migration from the shallow zone aquifer source area through volatilization and recovery. The SVE/AS system does not provide any hydraulic control and does not appear to affect contamination migration at depths below the influence of the air sparge wells, 27 of which have been installed with screen intervals of 28.5 to 30 feet below ground surface (bgs).

  Chlorinated hydrocarbon contamination in soil was found in the shopping center parking lot directly adjacent to the north side of the site and beneath the laundromat building. PCE concentrations in soil were detected up to 410 milligrams per kilograms (mg/kg) at 7 feet bgs in the parking lot and 0.095 mg/kg PCE at 1 foot bgs within the laundromat. The PCE concentrations in soil extended from the laundromat entrance approximately 80 feet northwest and 40 feet north and northeast. The groundwater gradient is to the north.

> California Department of Toxic Substances Control, Envirostor (http://www.envirostor.dtsc.ca.gov): There are no sites/facilities identified on the Hazardous Waste and Substances List (CORTESE).

> There are no sites identified with waste constituents above hazardous waste levels outside the waste management list within, or directly adjacent to, the Project area. The list was downloaded and reviewed on October 29, 2018 (https://calepa.ca.gov/sitecleanup/corteselist/) (California Environmental Protection Agency 2018).

> There are no Cease and Desist Orders or Cleanup and Abatement Orders within, or directly adjacent to, the Project area. The list was downloaded and reviewed on October 29, 2018 (https://calepa.ca.gov/sitecleanup/corteselist/).

- SAGE Engineers, Inc. (2018) conducted geotechnical investigations for the Project area that included excavation of four test pits up to 8 feet in depth. Groundwater was encountered at a depth of 7 feet bgs in one of the four pits (i.e., TP-3 [see Appendix C]). Proposed Project excavations are minimal to achieve grades. Additionally, excavation depths will not exceed a maximum depth of 5 feet and would not intercept the seasonal high groundwater table.
- A site investigation for aerially-deposited lead and petroleum hydrocarbon was conducted in 2008 by Geocon Consultants, Inc. for the Caltrans South Lake Tahoe US 50 Improvement Project (PM 77.3/79.3) Trout Creek to Ski Run Boulevard. The site investigation and subsequent report involved the advancement of 25 direct-push and 26 hand-auger borings for aerially-deposited lead and petroleum hydrocarbon sampling of soil and groundwater. Based on the soils data collected, excavated soil materials were not classified as California hazardous waste. Consequently, soil excavated from the surface top 3 feet could be reused or disposed of as nonhazardous soil without restrictions, based on total and/or soluble lead content (Geocon Consultants 2008). Findings of this study have been used in support of other transportation projects in the City that involve US 50 improvements.

3.2 Site Reconnaissance

Cardno in collaboration with the City conducted Project scoping and stakeholder outreach with business owners adjacent to the Project area and conducted site reconnaissance throughout the planning and conceptual design phase. Specifically, site investigations and photo documentation were conducted on March 27, 2018, and October 22, 2018. Site photos are provided in Appendix B. Additionally, Western Botanical Services staff conducted surveys for special-status plants, habitat composition, noxious and invasive weeds, and jurisdictional wetlands or waters of the United States along the Project area on June 4, 2018. Cardno and Western Botanical Services staff recorded no visible surface spills or releases or hazardous waste storage in the Project APE. However, hazardous substances and petroleum products are expected to be stored and used at the following commercial sites: Scotty's True Value Hardware; Raley's Aisle 1 Gas Station; NAPA Auto Parts; DIY Do it Yourself Home Center; Les Schwab Tire Center; South Lake Brewing Company; and Jim Bagan Toyota Dealership. Project implementation would result in no alterations or impacts to any of these existing sites/uses.

The Project area is within 0.25 mile of South Tahoe High School (which includes the Mount Tallac Continuation High School and Transitional Learning Center on the campus), the entrance to which is from Vikings Way. Because of the nature of the Project, the potential to emit hazardous emissions or the need to handle acutely hazardous materials, substances, or waste would not persist following the construction period. Implementation of the Spill Control Plan, as detailed in the Recommendations section below, will ensure the protection of persons and property and safeguard the environment should emissions or spills occur during construction.

The Tahoe area does have naturally occurring hazardous materials such as radon gas, which is a radioactive gas that is found in some soil types, but is often concentrated in granite and granitic soils. These types of soils are not prevalent within the Project area. Radon vapors occurring in building materials, within buildings, and through indoor water systems are considered hazardous if they are allowed to concentrate to levels at 4 pico-curies per liter of air. Although radon vapors are found in some soils, they typically only become hazardous when vapors are concentrated, such as in indoor settings, and are unable to disperse into the atmosphere. The Project creates no such environment.

3.3 Data Gap Analysis

The ASTM Practice E 1527-05 standard requires a listing of "data gaps" encountered during the investigative process and the relative importance of the data gaps that may affect the validity of the

conclusions drawn by the environmental professional. For this Project, the following items may constitute a data gap as defined by ASTM:

> Absence of Sanborn fire insurance maps and

> Absence of aerial photography prior to 1940.

Multiple sources of historical data sources can provide coverage for data gaps, and historical information is collected on a recurring basis. The passage of time between datasets may or may not constitute a significant gap in data coverage. The inability to obtain and review the Sanborn fire insurance maps and the lack of aerial imagery prior to 1940 do not appear to present significant data gaps because of the presence of other supporting historical information and the development and ongoing use of the public ROW and Project area since 1940.

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4 Findings and Conclusions

Cardno has conducted an ISA of the Project area and APE identified for the Project. The ISA was performed in general conformance with the scope and limitations of ASTM Practice E 1527-05.

Cardno staff observed no RECs, as defined in ASTM Practice E 1527-05, in direct connection with the Project area. While the database searches identified seven properties within the vicinity of the Project area, they did not identify the Project area on any of the results. One of the listed sites is within the Project's APE and undergoing active remediation of groundwater. Considering the depth to groundwater and direction of groundwater movement, the cleanup site is not expected to be affected or otherwise disturbed by Project construction or operation. No Project excavation is proposed in this portion of the Project area. Only minor surface grading with maximum disturbance depth of 12 inches will be necessary to meet bike trail grade requirements. A list of the LUST sites identified by database searches is provided in Appendix D.

The El Dorado County General Plan, as well as the Health and Safety Element of the City of South Lake Tahoe General Plan (City General Plan), include industrial or other land use designations that allow the handling, use, or manufacture of hazardous materials (City 2011; El Dorado County 2004). However, only relatively small quantities of hazardous materials and hazardous wastes are generated, stored, and transported in the City because of limited heavy industrial land uses and lack of major interstate trucking routes. Consequently, the Project area has a low risk of hazardous materials spills or incidents, as a significant portion of the Project area is located on disturbed land and within the public ROW.

The Project will not result in increased density or the development of new land uses that would create the need for transportation, storage, use, and disposal of significant amounts of hazardous materials. The transportation, use, storage, and handling of minor amounts of hazardous materials would be anticipated with refueling or equipment cleaning activities during Project construction. Project construction would require limited use of potentially hazardous materials, such as fuel, paint, solvents, petroleum products, and asphalt concrete. Once constructed, the Project would not require the use of hazardous materials other than during periodic maintenance activities, such as repainting, restriping, and asphalt repair.

The City will ensure that risk is maintained at less-than-significant levels by requiring the selected contractor to comply with federal, state, and local regulations regarding the handling and transportation, disposal, and cleanup of hazardous materials. The Project will not involve the transportation of explosives, inhalation hazards, or radioactive materials. The amount of hazardous materials necessary for the Project would not be substantial enough to create a significant hazard from routine transport, use, or disposal of hazardous materials during Project construction or maintenance.

4.1 Recommendations

In the event that undocumented hazardous materials are encountered in site soils or water during construction, the Project would comply with the requirements of City General Plan Policy HS-6.2: Construction Stoppage Due to Contamination. Implementation of the compliance measures for hazardous materials that are incorporated into the Project proposal will avoid and reduce impacts, because the type of contamination would be identified and contamination would be removed and disposed of at an appropriate site in accordance with applicable regulations.

The Project shall be subject to City Code Chapter 4.150, Refuse and Garbage; City Code Title 6, Article VII, Construction and Demolition Debris Recycling; Tahoe Regional Planning Agency (TRPA) Regional Plan Update Land Use Element Goal 5, Policy 1 and Public Services Element Goal 3, Policy 2; and City General Plan Policy PQP-3.3, requiring the transport of solid waste outside the Lake Tahoe Basin in

compliance with California state laws. The following compliance measures shall be implemented to avoid and minimize potential effects from solid waste disposal.

> **HAZ-1.** The Project shall implement the following controls to limit impacts from solid waste generation and disposal (TRPA Code Section 33.3.4):

- Temporary stockpiling of topsoil on the site for use in areas to be revegetated,
- Disposal of material at a location approved by TRPA, and
- Export of the materials outside of the region.

> **HAZ-2.** The Project shall implement Caltrans Construction Site Best Management Practices (BMPs) that address solid waste, such as WM-5, Solid Waste Management, and shall comply with federal and state regulations related to the storage and transportation of hazardous materials.

Staging, equipment refueling, and materials storage shall take place in one central portion of the Project area in accordance with City standard contract requirements and the provisions of the Caltrans Construction Site BMPs (e.g., WM-1, Material Delivery and Storage; WM-2, Material Use; WM-3, Stockpile Management; WM-5, Solid Waste Management; WM-6, Hazardous Waste Management; NS-8, Vehicle and Equipment Fueling; and NS-10, Vehicle and Equipment Management).

> **HAZ-3.** Material delivery and storage areas may change throughout construction, depending on where activities take place, but shall not be located near a storm drain inlet or drainage swale or adjacent to a fill slope.

> **HAZ-4.** A Spill Control Plan shall be developed and implemented to protect construction workers and the public from construction-related health hazards.

- The Spill Control Plan shall outline measures that shall be implemented to ensure impacts on human and environmental health are avoided.
- Work shall stop immediately if suspected contamination is encountered during construction, and the City Resident Engineer shall be notified immediately in compliance with City General Plan Policy HS-6.2, Construction Stoppage Due to Contamination.
- Upon confirmation of contamination, the City Resident Engineer shall assess the Project design and obtain the required approvals to remove contaminated material or modify the design to avoid conflicts with the contaminated material and/or any ongoing or future remediation projects. Soil and groundwater materials removed during construction activities that have been deemed hazardous shall be segregated and disposed of appropriately.
- The City's contractor shall be responsible for familiarizing their personnel with the information contained in the Stormwater Pollution Prevention Plan and specifically the Spill Control Plan.
- Contractors shall train/instruct on-site construction personnel in spill prevention practices and provide spill containment materials near staging areas.

> **HAZ-5.** The Project shall implement Caltrans BMPs regarding spill prevention and waste management measures.

> **HAZ-6:** Projects that meet the definition of a "Possible Contaminating Activity" under TRPA Code Section 60.3.5 shall demonstrate compliance with the findings and requirements under TRPA Code Section 60.3.3.D and shall demonstrate that adequate protections are in place to avoid soil and groundwater contamination and protect public health of area residents. This demonstration shall be required prior to subsequent Project approvals and implemented as part of Project design.

5 ISA Determination

The ISA determination is simply "Yes" or "No."

NO: No findings have been made that would indicate a known or potential hazardous waste problem within or near the proposed Project.

YES: A known or potential site has been identified that could affect the proposed Project and will take more time and effort to define and coordinate cleanup options.

The ISA checklist form is provided in Appendix E.

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6 Qualifications of Environmental Professionals

The preceding report has been prepared in general conformance with standard industry practice for performance of Environmental Site Assessments and includes the applicable portions of the investigation procedures codified in ASTM E 1527-05, Standard Practice for Environmental Site Assessments: Environmental Site Assessment Process. The end user of this report may rely on the contents, findings, and conclusions to be accurate within the limitations stated in this report and in the ASTM standard. To the best of our professional knowledge and belief, I declare that I meet the definition of environmental professional as defined in Section 312.10 of 42 Code of Federal Regulations [C.F.R.] Part 312 by holding a Professional Engineer's license and having over two decades of full-time relevant experience.

Qualified Environmental Professional
Stephen Peck, PE, PMP, CPSWQ, QSD/P

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7 References

American Society for Testing and Materials (ASTM). 2005. ASTM Practice E 1527-05, Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process.

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Natural Resources Conservation Service (NRCS). 2007. Tahoe Basin Soil Survey, California and Nevada.

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Lake Tahoe Boulevard Class 1 Bike Trail: Initial Site Assessment for Hazardous Waste

APPENDIX A

PROJECT FIGURES

Figure 1. Project Vicinity

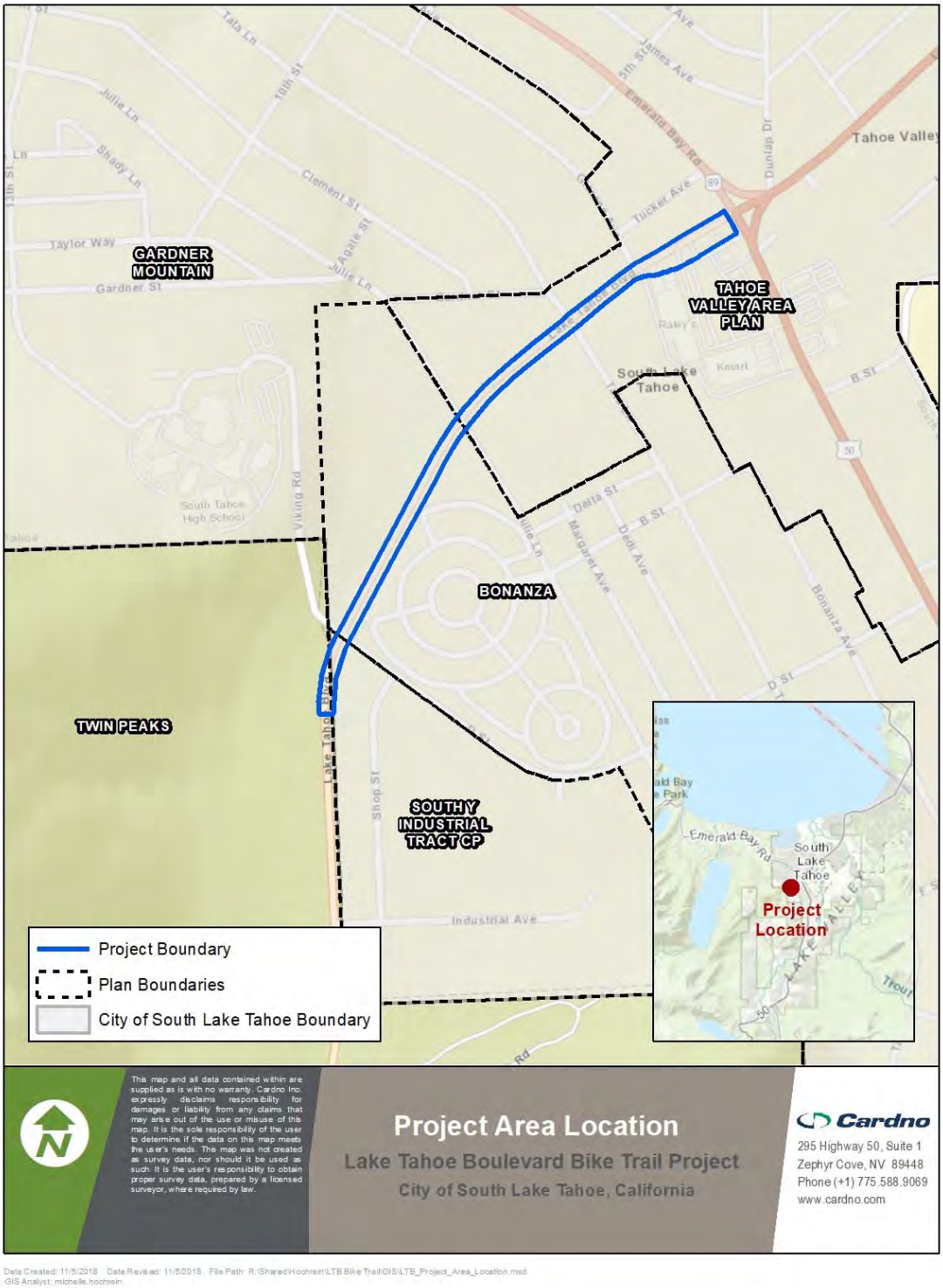
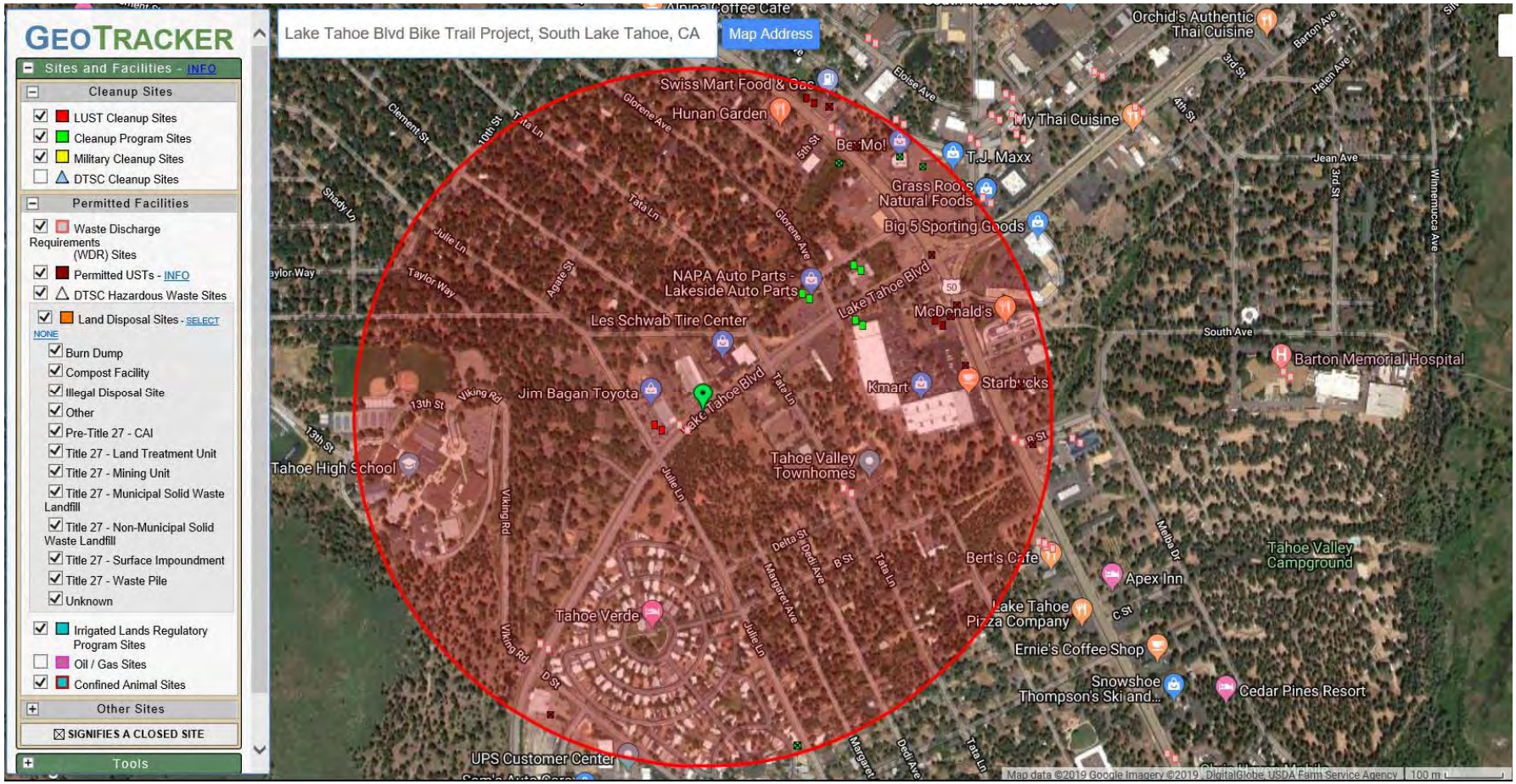


Figure 2. Project Area Location



Source: https://geotracker.waterboards.ca.gov/

Figure 3. LUST Sites

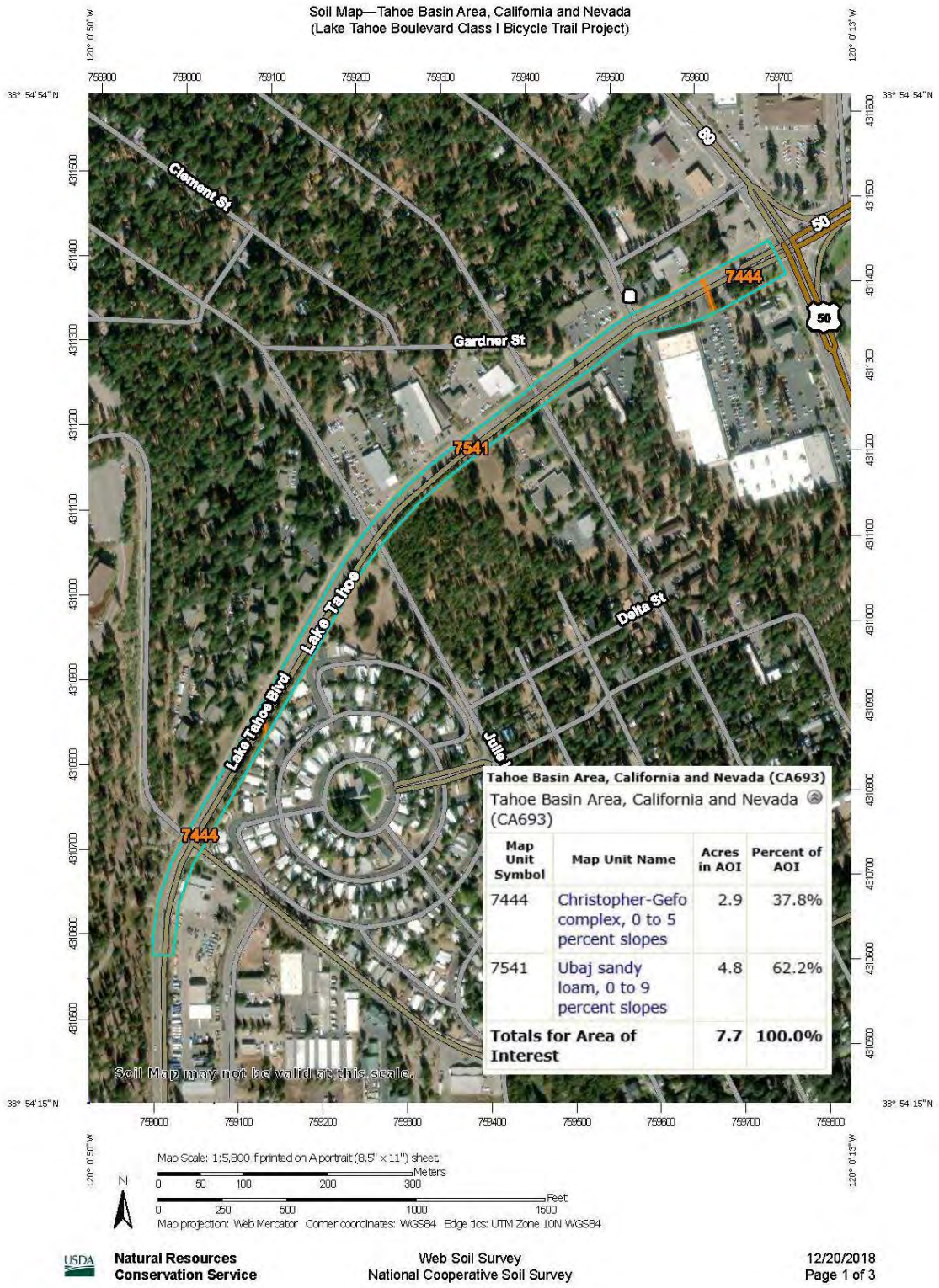


Figure 4. Soil Map Units

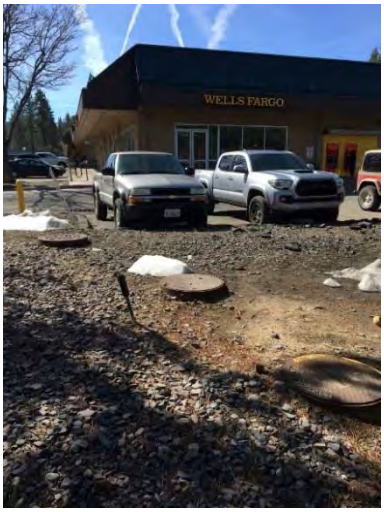
Figure 5. Geological Map Units

Lake Tahoe Boulevard Class 1 Bike Trail: Initial Site Assessment for Hazardous Waste

APPENDIX B

PHOTOGRAPHS: SITE RECONNAISANCE

October 2018 LTB 1



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October 2018 LTB 177

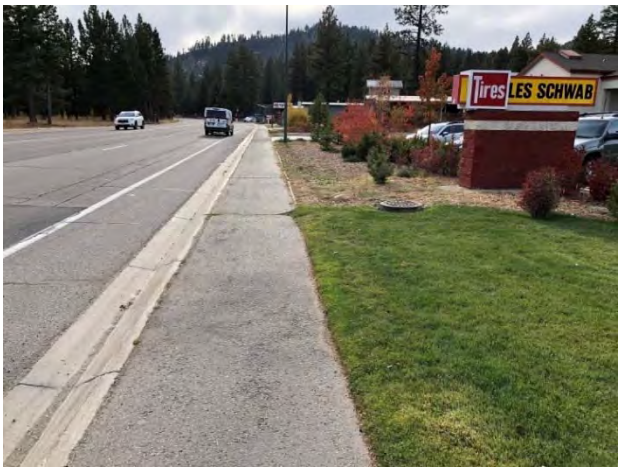
October 2018 LTB 178

October 2018 LTB 179

October 2018 LTB 180

October 2018 LTB 181

October 2018 LTB 182



October 2018 LTB 183

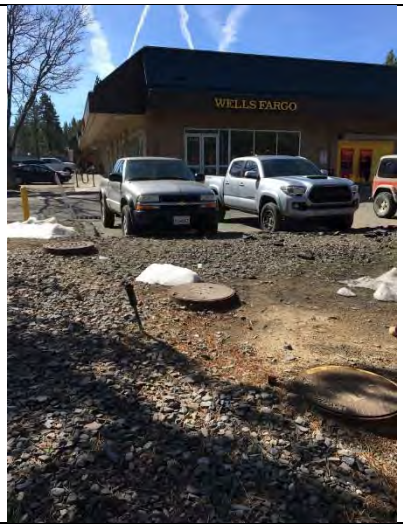
October 2018 LTB 184

October 2018 LTB 185

October 2018 LTB 186

October 2018 LTB 187

March 2018 LTB 188



October 2018 LTB 189

October 2018 LTB 190

March 2018 LTB 191

March 2018 LTB 192

March 2018 LTB 193

March 2018 LTB 194

March 2018 LTB 195

March 2018 LTB 196

March 2018 LTB 197

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Lake Tahoe Boulevard Class 1 Bike Trail Project: Initial Site Assessment for Hazardous Waste

APPENDIX C

GEOTECHNICAL REPORT (SAGE 2018)

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TECHNICAL MEMORANDUM

To: Stephen Peck, PE
Cardno
P.O. Box 1533
Zephyr Cove, NV 89448

From: Matthew Weil, PE, GE
Jerry Pascoe, PE, GE

Date: January 31, 2018

Re: **GEOTECHNICAL SITE ASSESSMENT & INVESTIGATION-DRAFT**
Lake Tahoe Boulevard Bike Trail
South Lake Tahoe, California
SAGE Project No. 17-078.00

SAGE Engineers, Inc. is pleased to present this technical memorandum (TM) summarizing the results of our geotechnical site assessment and investigation. It includes geotechnical recommendations for design and construction of a new bike path.

BACKGROUND

The City of South Lake Tahoe is proposing a new bike path along Lake Tahoe Boulevard between Viking Road and Tata Lane. Two different alignments are being considered, one on the north side and one on the south side, of the Lake Tahoe Boulevard. Both alignments are adjacent to a sidewalk and therefore are relatively flat. The alignments would go through fields adjacent to the roadway that have brush and pine trees. Preliminary design concepts include retaining walls up to approximately 30 inches tall.

SCOPE OF WORK

The geotechnical investigation was performed in general accordance with the scope of work contained in our Subconsultant Task Order #SAGE-CSLT-2017-01 dated November 28, 2017 and consisted of the following:

- Observe excavation of 4 test pits up to 8 feet deep, log subsurface soils, and submit representative soil samples for laboratory testing
- Prepare this Geotechnical Site Assessment & Investigation TM that includes:
  - General soil and groundwater conditions at the project site, with emphasis on how the conditions are expected to affect the proposed construction. Soil subgrade strength and recommended pavement design.
  - Recommendations for earthwork construction, including site preparation recommendations, a discussion of reuse of existing near surface soils as engineered or non-engineered fill, and a discussion of remedial earthwork recommendations, if warranted
  - Recommendations for pavement structural section specifications for the bicycle trail.
  - Recommendations for retaining wall design.
  - Recommendations for temporary excavations and trench backfill.

SUMMARY OF SUBSURFACE EXPLORATON

The subsurface conditions were explored by excavating test pits on December 8, 2017. The test pits were excavated by the City of South Lake Tahoe using a backhoe equipped with a 3-foot-wide steel-toothed bucket. Micaela Saqui, a SAGE engineer, logged, photographed, and collected representative samples from the test pits. A total of three test pits were excavated to depths that ranged between 5 and 8 feet. The tests pits were designated TP-2 through TP-3 on the south side of Lake Tahoe Boulevard and TP-4 on the north side of the road, with the approximate locations shown on Figure 1. Due to the presence of existing utilities and adjacent private property constraints, SAGE and the City of South Lake Tahoe Civil Engineer made the decision to abandon location TP-1.

The three completed test pits indicate that the proposed bike trail alignments contain a surficial fill layer of dark gray soft sandy silt ranging from 0.5 to one foot thick with many roots that have about ¼ -inch diameter. Underlying the fill, and to the maximum depth explored, the soils comprise of yellowish-red to gray, medium dense silty sand with varying amounts of gravel.

The moisture content ranged from moist at the surface and increased with depth. Groundwater was encountered in TP-3 at a depth of seven feet.

Logs of the test pits are included in Attachment 1. The test pits were backfilled with trench spoils and compacted using the bucket and tires of the backhoe. Laboratory index tests for classification, including Atterberg Limits, sieve analysis, compaction, and R-value, were performed on select samples. The results of the laboratory testing program are included in Attachment 2.

GEOTECHNICAL RECOMMENDATIONS

Site Grading

Fill Requirements

On-site materials may be used as engineered fill beneath the bike path provided they are prepared as recommended below. Engineered fill should be:

- Free of organics, trash, and other debris;
- Should not contain oversize particles larger than 2-1/2 inches in greatest dimension;
- Should have no more than 35% passing No. 200 sieve
- Should have little to no corrosion potential; and
- Should have a relatively low expansion potential, defined by a liquid limit (LL) less than 35 and a plasticity index (PI) lower than 12.

As discussed above, we don't expect import fill for this project. Should import fill be required, it should be submitted to the geotechnical engineer of record for approval at least 72 hours before it is used on site.

Compaction Requirements

Engineered fill should be moisture-conditioned to within 2% of optimum moisture content, placed in maximum 8-inch-thick horizontal loose lifts, and compacted to at least 95 percent relative compaction[1] below planned improvements and, and at least 90 percent relative compaction in general areas.

Temporary Slopes

We do not anticipate that temporary cut slopes will be required; however, if needed, all temporary slopes should be excavated in accordance with the latest edition of the CAL-OSHA excavation and trench safety standards[2] at a minimum. Site soils should be preliminarily classified as Type C according to the CAL OSHA classification system. The maximum allowable slope for Type C soil is 1½H:1V

The Contractor should be responsible for all temporary slopes at the site, and should designate one of their on-site employees as a "competent person" who is responsible for trench and excavation safety. The competent person should be responsible for determination of the actual CAL-OSHA soil type and should direct the excavation crews to adjust slope inclinations as appropriate. For example, steeper slopes in rock cuts are likely feasible, but should be determined by the competent person during construction on a case-by-case basis.

Lateral Earth Pressures

The planned retaining walls are expected to be less than 30-inches in height. The following parameters are appropriate for use in design:

Bearing Capacity[3]		Coefficient of Friction[3]	Cohesion[3] (psf)	Lateral Earth Pressures[4,5]		Unit Weight (pcf)
Vertical Foundation Pressure (psf)	Lateral Bearing Pressure (psf/ft below natural grade)			Active Pressure[5] (psf/ft of depth)	At-Rest[5] Pressure (psf/ft of depth)	
2000	150	0.25	0	45	60	120

Pavements

The bike path is expected to have only pedestrian and bicycle traffic, with the occasional maintenance vehicle traveling along it. The pavement section is expected to consist of dense-graded hot-mix AC over Class 2 AB (3/4-inch max). AB should have a minimum R-value of 78 and otherwise conform to Section 26

[1] Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density of the same material, as determined by ASTM D1557 laboratory compaction procedure.

[2] Occupational Safety and Health Administration (OSHA), 2012, OSHA Standards for the Construction Industry, 29 CFR Part 1926, accessed April 2014, from OSHA website: http://www.osha.gov/pls/oshaweb/owasrch.search_form?p_doc_type=STANDARDS&p_toc_level=1&p_keyvalue=1926

[3]Values from Table 1806.2, Presumptive Load-Bearing Values, 2016 California Building Code, Chapter 18.

[4]Values from Table 1610.1, Lateral Soil Load, 2016 California Building Code, Chapter 16.

[5] Assumed USCS Classification of SM for retained material.

Aggregate Bases of the 2015 Caltrans Standard Specifications. The upper six inches of soil subgrade and the entire thickness of AB should be compacted to at least 95 percent relative compaction per ASTM D1557. Asphalt pavement constructed at the site should utilize Performance Graded (PG) binder 64-28 and otherwise conform to Sections 39 Asphalt Concrete and 92 Asphalt Binders of the 2015 Caltrans Standard Specifications. This PG binder is appropriate for use on "high mountain" roads per Table 632.1 of the Caltrans Highway Design Manual (HDM) (Caltrans, 2016).

Based on the results of the R-value tests, and considering the potential variability in materials, degree of saturation, and limited sampling along the proposed alignment a minimum R-value of 25 was used for design recommendations. Based on this, the following table outlines different pavement sections depending on the anticipated traffic index.

Traffic Index Value	Aggregate Base Thickness (in)	AC thickness (in)
3	4*	2
4	5	2.5
5	6.5	3
6	7.5	4

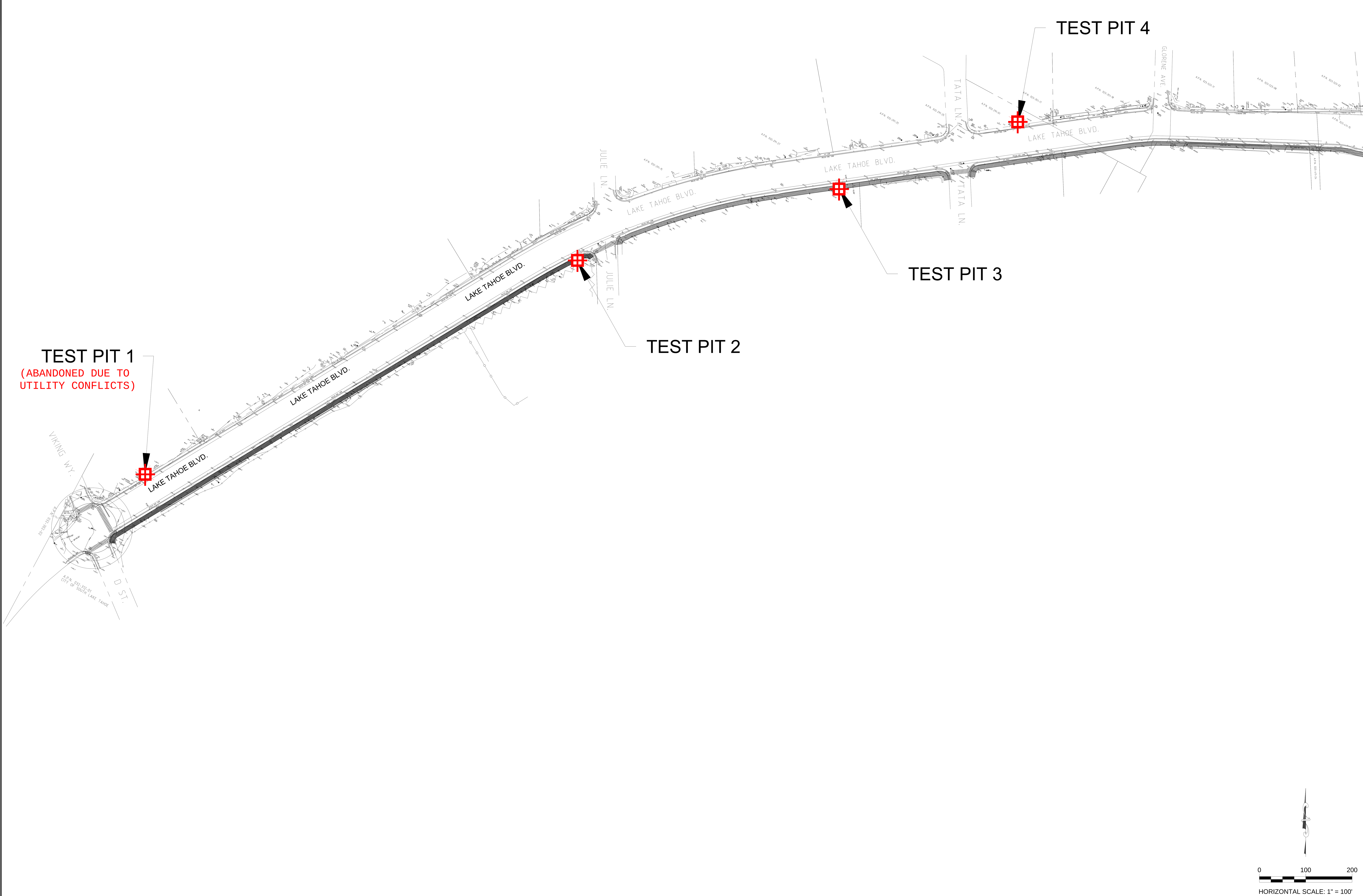
*Minimum 4" of AB recommended

LIMITATIONS

This report has been prepared for the sole use of Cardo and the City of South Lake Tahoe and its agents, specifically for design of the improvements described herein for the subject project. The conclusions and recommendations contained in this report are solely professional opinions based upon the information obtained from the references listed below. SAGE is not responsible for the data presented by others.

The information provided in this report is valid for a period of three (3) years from the date of issuance. Conditions may arise that were not apparent at the time of this design (e.g., changes in design geometries, soil design parameters, loadings, etc.). In addition, changes in applicable standard of practice can occur, whether from legislation or the broadening of knowledge. Accordingly, the information provided in this report may be invalidated, wholly or partially, by changes outside of our control. Should changes occur that might affect the design presented herein, SAGE should be notified to evaluate the validity of this report to those changes. This document may not be reproduced for any other reason than pertains to the project for which it was prepared.

Attachments: Figure 1 – Test Pit Locations on South Lake Tahoe Blvd.
Attachment 1 – Logs of Test Pits
Attachment 2 – Laboratory Test Results



Cardno
Shaping the Future

295 HWY 50, SUITE 1
STATELINE, NV 89449
(775) 588-9069

GEOTECH TEST PIT LOCATIONS

LAKE TAHOE BOULEVARD BIKE TRAIL

COUNTY, STATE

DATE:	####
DRAWN BY:	XX
CHECKED BY:	XX
SCALE:	AS SHOWN
CARDNO JOB NO.	########
FIGURE NO.	

####

SHEET #### OF XX

FIGURE 1

ATTACHMENT 1

LOGS OF TEST PITS

ATTACHMENT 1:
LOGS OF TEST PITS TP-2 THROUGH TP-4

Project Number: 17-078.00
Location: Lake Tahoe Blvd, South Lake Tahoe, CA
Logged By: Micaela Saqui

Test Pit Number and Approximate Elevation	Depth (feet)	Soil Classification[1]	Soil Description
TP-2	0.0′-1.0′	SANDY SILT (ML)	FILL- dark gray, soft, moist, with roots ~1/4″-diameter
	1.0′-2.5′	SILTY SAND (SM)	Yellowish-red (5YR 5/8), medium dense[2], moist
	2.5′-3.0′	SILTY SAND (SM)	Yellowish-red (5YR 5/8), moist, medium dense (fine-to-coarse grained sand)
	3.0′-4.0′	SILTY SAND (SM)	Yellowish-red (5YR 5/8), moist, medium dense
	4.0′-5.0	SAND WITH SILT (SP-SM)	Yellowish-red (5YR 5/8), moist, medium dense, some red (2.5 4/8), some plasticity
TP-3	0.0′ – 0.8′	SANDY SILT (ML)	FILL- dark gray, soft, moist, with roots ~1/4″-diameter
	0.8′-2.0′	SILTY SAND (SM)	Trace clay, (5YR 4/3), occasional sub-rounded to sub-angular gravel, ½″ diameter, medium dense, moist, with 1/8″- diameter roots
	2.0′-4.0′	SILTY SAND (SM)	Yellowish-red (5YR 5/8), occasional sub-rounded to sub-angular gravel, ½″ diameter, medium dense, moist, with 1/8″- diameter roots, wet
	4.0′-8.0′	SILTY SAND (SM)	Dark Reddish Gray (5YR 4/2), pyrite flecks, medium dense to dense, moist to wet, ground water encountered at 7′
TP-4	0′-0.9′	SANDY SILT (ML)	FILL- dark gray, soft, moist, with roots ~1/4- 1/8″-diameter, occasional small sub-rounded to sub-angular gravel, coarse grained sand
	0.9′-3.0′	SILTY SAND (SM)	Yellowish-red (5YR 5/8), with 1/8″-diameter roots, occasional sub-rounded to sub-angular gravel, hard, moist
	3.0′-7.0′	SILTY SAND (SM)	Light gray, medium-dense, moist

Notes:
1) TP-1 was abandoned due to utility conflicts
2) Test pits were excavated on December 8, 2017 using a CAT backhoe equipped with an approximately 3′ wide bucket.

[1] Per the Visual-Manual Procedure for description and identification of soils (ASTM D2488), where no laboratory testing was performed; Per standard test method for particle-size analysis of soils (ASTM D422) where lab testing was performed.
[2] All hardness and density classifications are based on the equipment's ability to dig

ATTACHMENT 2

LABORATORY TEST RESULTS

ATTACHMENT 2

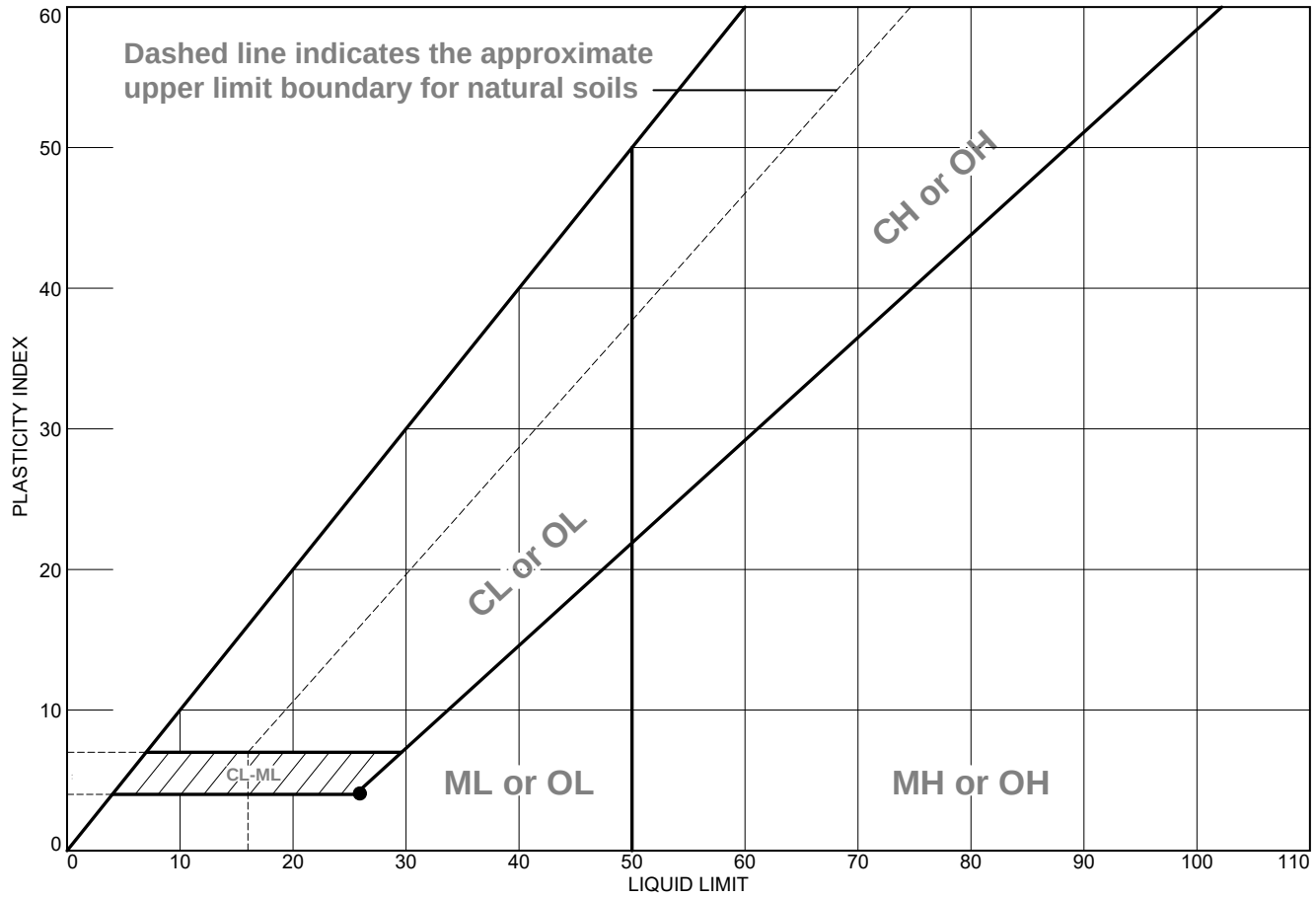
Laboratory Testing Summary
City of South Lake Tahoe Bike Path
South Lake Tahoe, California

Test Pit Number	Sample Depth (feet)	Modified Proctor[1]			Atterberg Limits[3]			Grain Size Distribution[4]		
		Maximum Dry Density (pcf)	Optimum Moisture (%)	R-value[2]	Liquid Limit (LL)	Plastic Limit (PL)	Plasticity Index (PI)	Gravel Content and Larger (percent) +#4 Sieve	Sand Content (percent)	Fines[5] Content (percent) -#200 Sieve
TP-2	1.0'-3.0'	124.7	9.9	65	-	-	-	-	-	-
TP-2	4.2'	-	-	-	-	-	-	-	-	15
TP-2	5.0'	-	-	-	26	22	4	-	-	-
TP-3	0.0'-2.0'	-	-	66	-	-	-	4.6	63.5	31.9
TP-3	1.9'	-	-	-	18	16	2	-	-	-
TP-4	0.3'-2.0'	124.5	10.3	54	-	-	-	-	-	-

Test Pit Number	Soil pH	Min Resistivity (ohm-cm x1000)	Chloride (ppm)	Sulfate (ppm)
TP-3 (0.0'-2.0')	5.89	18.76	4.7	15

NOTES:
1) ASTM D698
2) ASTM D2844
3) ASTM D4318
4) ASTM D422
5) ASTM D1140

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●		26	22	4			

Project No. 18-111 **Client:** SAGE Engineers

Project: CSLT Lake Tahoe Blvd Bike Trail

●**Location:** TP-2 **Depth:** 5' **Sample Number:** 29590

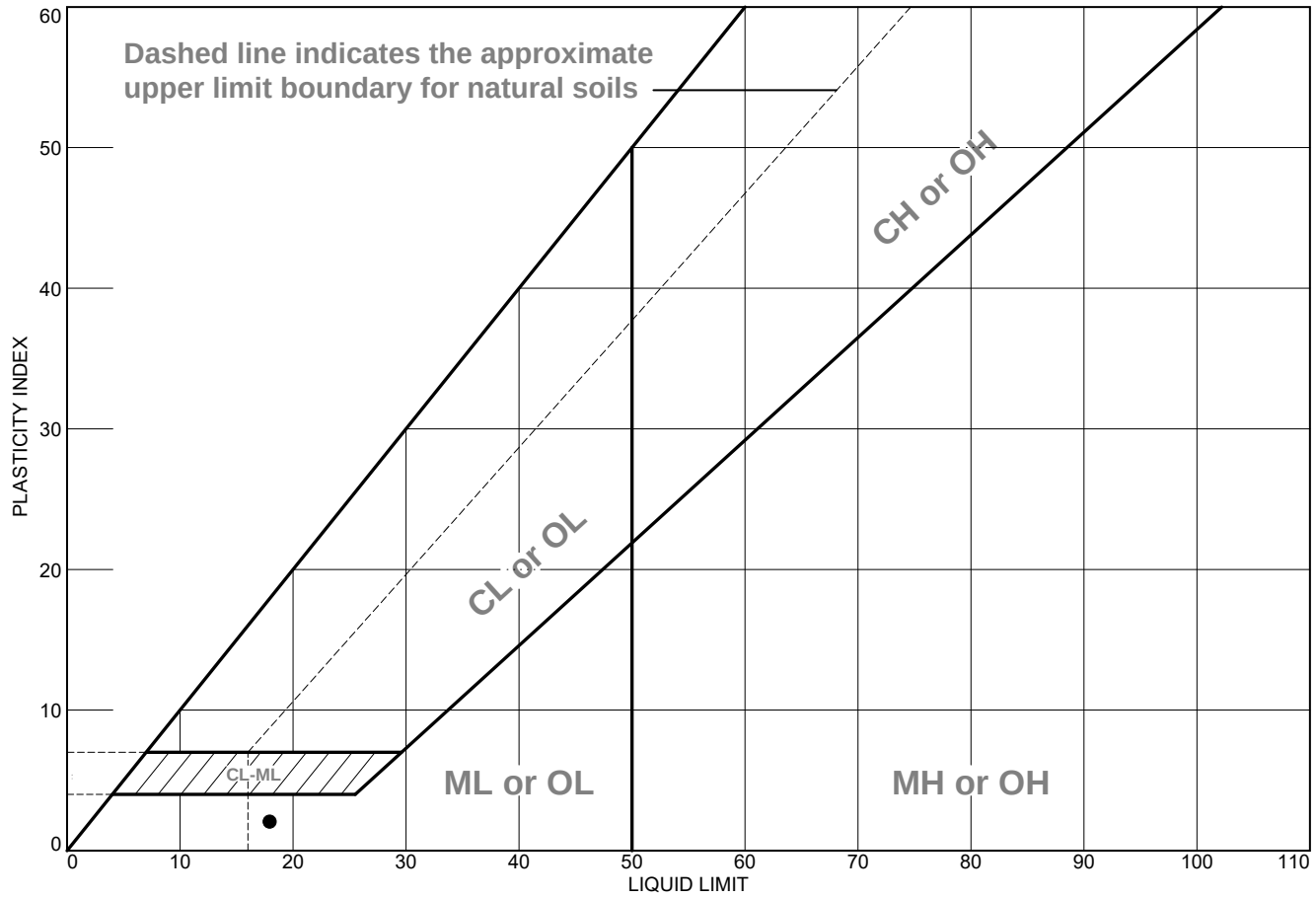
Remarks:

GULF SHORE EXPLORATION AND TESTING

Figure

Tested By: JM **Checked By:** JML

LIQUID AND PLASTIC LIMITS TEST REPORT



	MATERIAL DESCRIPTION	LL	PL	PI	%<#40	%<#200	USCS
●		18	16	2			

Project No. 18-111 **Client:** SAGE Engineers

Project: CSLT Lake Tahoe Blvd Bike Trail

●**Location:** TP-3 **Depth:** 1.9' **Sample Number:** 29592

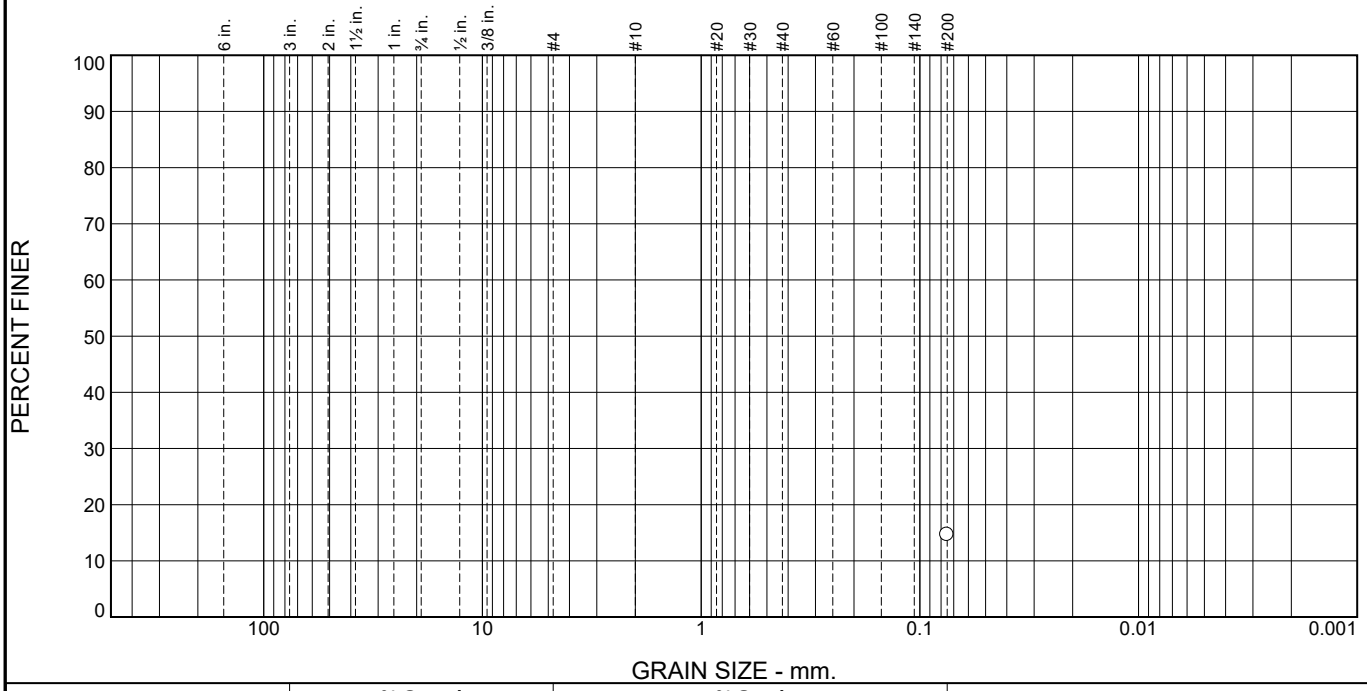
Remarks:

GULF SHORE EXPLORATION AND TESTING

Figure

Tested By: JM **Checked By:** JML

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines
	Coarse	Fine	Coarse	Medium	Fine	
						15

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
#200	15		

* (no specification provided)

Material Description

Atterberg Limits (ASTM D 4318)

PL= LL= PI=

Classification

USCS (D 2487)= AASHTO (M 145)=

Coefficients

D_{90}= D_{85}= D_{60}=
D_{50}= D_{30}= D_{15}=
D_{10}= C_u= C_c=

Remarks

Date Received: 1/10/18 **Date Tested:** 1/12/18

Tested By: ARG

Checked By: CMW

Title: PM

Source of Sample: TP-2 **Depth:** 4.2'

Sample Number: 29589

Date Sampled:

GULF SHORE EXPLORATION AND TESTING

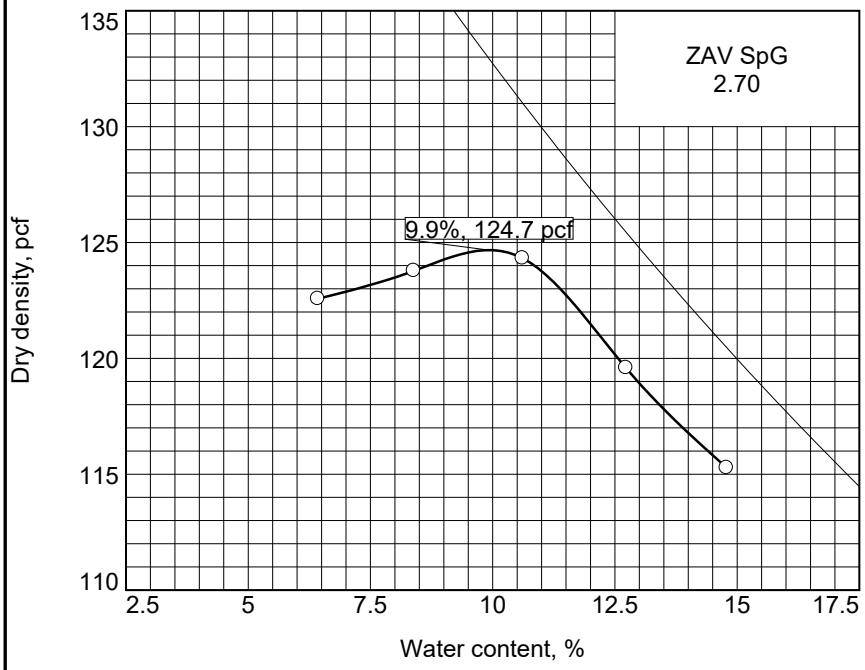
Client: SAGE Engineers

Project: CSLT Lake Tahoe Blvd Bike Trail

Project No: 18-111 **Figure**

COMPACTION TEST REPORT

Curve No. 29588



Preparation Method: Moist
Rammer: Wt. 10 lb. Drop 18 in.
Type: Manual
Layers: No. five Blows per 25
Mold Size: 0.03333 cu. ft.
Test Performed on Material Passing 3/8 in. Sieve
%>3/8 in. _____ %<No.200 _____
Atterberg (D 4318): LL _____ PI _____
NM (D 2216) _____ Sp.G. (D 854) _____
USCS (D 2487) _____
AASHTO (M 145) _____
Date: Sampled -
Received 1/10/18
Tested 1/11/18
Tested By AF

COMPACTION TESTING DATA
ASTM D 1557-12 Method B Modified

	1	2	3	4	5	6
WM + WS	6297.1	6246.3	6256.1	6218.5	6190.2	
WM	4218.1	4218.1	4218.1	4218.1	4218.1	
WW + T #1	614.2	604.1	597.7	665.5	628.1	
WD + T #1	559.7	560.9	535.3	585.5	592.9	
TARE #1	46.1	45.8	45.0	44.5	45.2	
WW + T #2						
WD + T #2						
TARE #2						
MOIST.	10.6	8.4	12.7	14.8	6.4	
DRY DENS.	124.3	123.8	119.6	115.3	122.6	

SIEVE TEST RESULTS

Opening Size	% Passing	Specs.

TEST RESULTS

Maximum dry density = 124.7 pcf

Optimum moisture = 9.9 %

Material Description

Remarks:

Project No. 18-111 **Client:** SAGE Engineers

Project: CSLT Lake Tahoe Blvd Bike Trail

○ **Location:** TP-2 **Depth:** 1'-3' **Sample Number:** 29588

Checked by: CMW

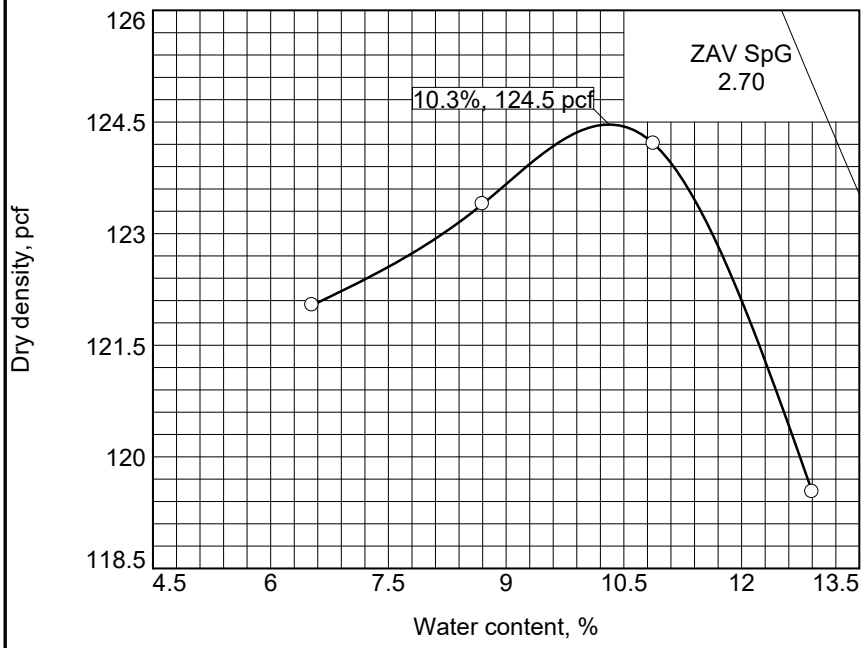
Title: PM

GULF SHORE EXPLORATION AND TESTING

Figure

COMPACTION TEST REPORT

Curve No. 29593



Preparation Method: Moist
Rammer: Wt. 10 lb. Drop 18 in.
Type: Manual
Layers: No. five Blows per 25
Mold Size: 0.03333 cu. ft.
Test Performed on Material Passing 3/8 in. Sieve
%>3/8 in. _____ %<No.200 _____
Atterberg (D 4318): LL _____ PI _____
NM (D 2216) _____ Sp.G. (D 854) _____
USCS (D 2487) _____
AASHTO (M 145) _____
Date: Sampled -
Received 1/10/18
Tested 1/11/18
Tested By RR

COMPACTION TESTING DATA
ASTM D 1557-12 Method B Modified

	1	2	3	4	5	6
WM + WS	6188.6	6251.0	6305.2	6263.3		
WM	4223.1	4223.1	4223.1	4223.1		
WW + T #1	455.4	513.2	473.4	450.2		
WD + T #1	430.3	475.8	431.5	403.8		
TARE #1	46.0	46.0	46.3	44.1		
WW + T #2						
WD + T #2						
TARE #2						
MOIST.	6.5	8.7	10.9	12.9		
DRY DENS.	122.0	123.4	124.2	119.5		

SIEVE TEST RESULTS

Opening Size	% Passing	Specs.

TEST RESULTS

Maximum dry density = 124.5 pcf

Optimum moisture = 10.3 %

Material Description

Remarks:

Project No. 18-111 **Client:** SAGE Engineers

Project: CSLT Lake Tahoe Blvd Bike Trail

○ **Location:** TP-4 **Depth:** 0.3'-2' **Sample Number:** 29593

Checked by: CMW

Title: PM

GULF SHORE EXPLORATION AND TESTING

Figure

Wallace Kuhl & Associates

Corporate Office
3050 Industrial Boulevard
West Sacramento, CA 95691
916.372.1434 phone
916.372.2565 fax

Stockton Office
3422 West Hammer Lane, Suite D
Stockton, CA 95219
209.234.7722 phone
209.234.7727 fax

January 17, 2018

Chad Walker
Gulf Shore Construction Services, Inc.
cwalker@gulfshoreservices.com

R-Value Test Results
GULF SHORE MISCELLANEOUS LABORATORY TESTING
WKA No. 9884.01

Gulf Shore Project Name:	CSLT Lake Tahoe Blvd Bike Trail
Gulf Shore Project No.	18-111
Sample ID:	29588, 1'-3' Depth, TP-2
Date Received:	01/11/18
WKA Lab No:	0001890

RESISTANCE (R) VALUE TEST RESULTS
(CTM 301)

Specimen Number	Dry Unit Weight	Moisture @ Compaction	Expansion Pressure		Exudation Pressure	R - Value
	(pcf)	(percent)	(dial)	(psf)	(psi)	
1	128	9.7	0	0	171	55
2	125	9.3	0	0	324	67
3	124	8.2	7	30	727	82
R-VALUE @ 300 PSI EXUDATION PRESSURE = 65						

Reviewed by: _____
David T. Hunn, P.E.

email: jllamas@gulfshoreservices.com

Wallace Kuhl & Associates

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January 17, 2018

Chad Walker
Gulf Shore Construction Services, Inc.
cwalker@gulfshoreservices.com

R-Value Test Results
GULF SHORE MISCELLANEOUS LABORATORY TESTING
WKA No. 9884.01

Gulf Shore Project Name:	CSLT Lake Tahoe Blvd Bike Trail
Gulf Shore Project No.	18-111
Sample ID:	29591, 0'-2' Depth, TP-3
Date Received:	01/11/18
WKA Lab No:	0001890

RESISTANCE (R) VALUE TEST RESULTS
(CTM 301)

Specimen Number	Dry Unit Weight	Moisture @ Compaction	Expansion Pressure		Exudation Pressure	R - Value
	(pcf)	(percent)	(dial)	(psf)	(psi)	
1	127	10.1	0	0	226	59
2	126	9.6	0	0	360	71
3	127	9.2	1	4	681	98
R-VALUE @ 300 PSI EXUDATION PRESSURE = 66						

Reviewed by: _____
David T. Hunn, P.E.

email: jllamas@gulfshoreservices.com

Wallace Kuhl & Associates

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STOCKTON OFFICE
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Stockton, CA 95219
209.234.7722 phone
209.234.7727 fax

January 17, 2018

Chad Walker
Gulf Shore Construction Services, Inc.
cwalker@gulfshoreservices.com

R-Value Test Results
GULF SHORE MISCELLANEOUS LABORATORY TESTING
WKA No. 9884.01

Gulf Shore Project Name:	CSLT Lake Tahoe Blvd Bike Trail
Gulf Shore Project No.	18-111
Sample ID:	29593, 0.3'-2' Depth, TP-4
Date Received:	01/11/18
WKA Lab No:	0001890

RESISTANCE (R) VALUE TEST RESULTS
(CTM 301)

Specimen Number	Dry Unit Weight	Moisture @ Compaction	Expansion Pressure		Exudation Pressure	R - Value
	(pcf)	(percent)	(dial)	(psf)	(psi)	
1	125	10.5	7	30	216	49
2	123	9.5	25	108	502	65
3	122	8.7	45	195	754	75
R-VALUE @ 300 PSI EXUDATION PRESSURE = 54						

Reviewed by: _____
David T. Hunn, P.E.

email: jllamas@gulfshoreservices.com

Sunland Analytical

11419 Sunrise Gold Circle, #10
Rancho Cordova, CA 95742
(916) 852-8557

Date Reported 01/17/2018
Date Submitted 01/12/2018

To: Chad Walker
Gulf Shore Construction Services
3362 Fitzgerald Rd
Rancho Cordova, CA 95742

From: Gene Oliphant, Ph.D. \ Randy Horney
General Manager \ Lab Manager

The reported analysis was requested for the following location:
Location : 18-111 Site ID : 29591 0-2 TP-3.
Thank you for your business.

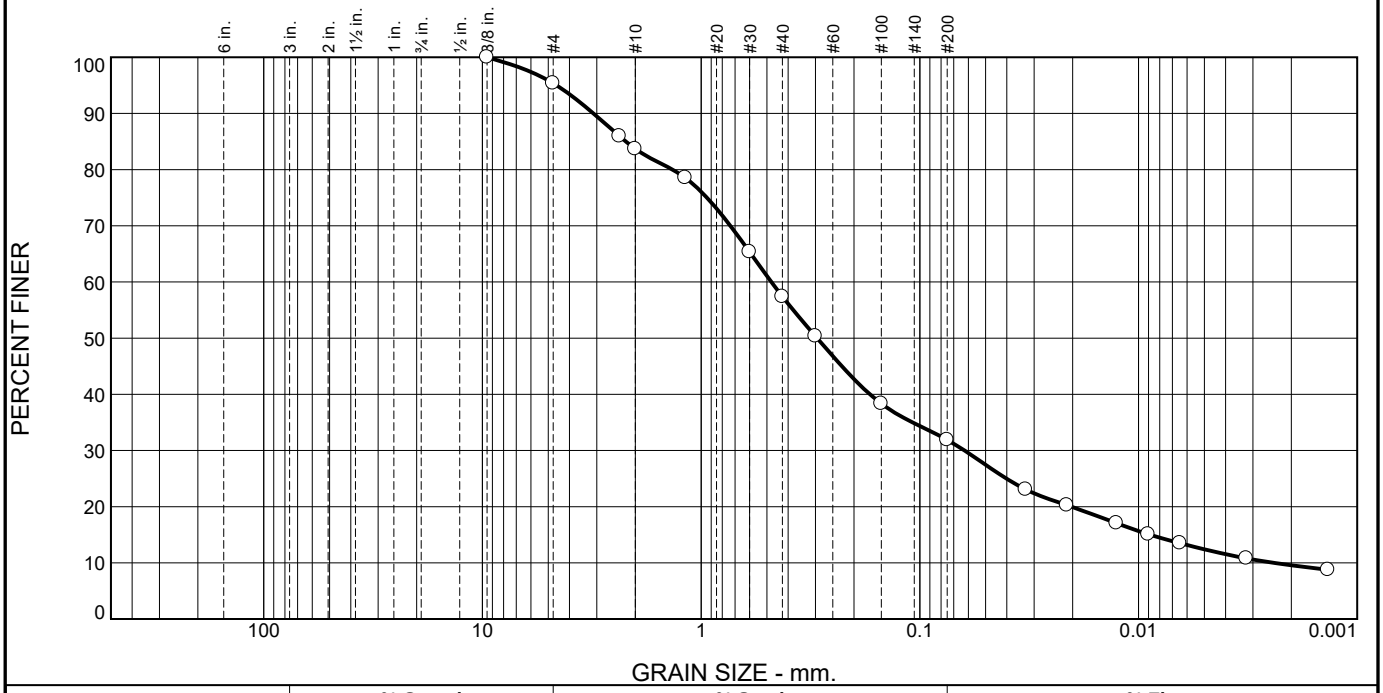
* For future reference to this analysis please use SUN # 75974-158496.

EVALUATION FOR SOIL CORROSION

Soil pH	5.89		
Minimum Resistivity	18.76 ohm-cm (x1000)		
Chloride	4.7 ppm	00.00047	%
Sulfate	15.0 ppm	00.00150	%

METHODS
pH and Min.Resistivity CA DOT Test #643
Sulfate CA DOT Test #417, Chloride CA DOT Test #422

Particle Size Distribution Report



% +3"	% Gravel		% Sand			% Fines	
	Coarse	Fine	Coarse	Medium	Fine	Silt	Clay
0.0	0.0	4.6	11.7	26.3	25.5	19.5	12.4

TEST RESULTS

Opening Size	Percent Finer	Spec.* (Percent)	Pass? (X=Fail)
3/8	100.0		
#4	95.4		
#8	86.0		
#10	83.7		
#16	78.5		
#30	65.3		
#40	57.4		
#50	50.3		
#100	38.4		
#200	31.9		
0.0328 mm.	23.1		
0.0213 mm.	20.3		
0.0126 mm.	17.1		
0.0090 mm.	15.1		
0.0065 mm.	13.5		
0.0032 mm.	10.8		
0.0014 mm.	8.8		

* (no specification provided)

Material Description

Atterberg Limits (ASTM D 4318)

PL= **LL=** **PI=**

Classification

USCS (D 2487)= **AASHTO (M 145)=**

Coefficients

D_{90}= 3.1091 D_{85}= 2.2090 D_{60}= 0.4776
D_{50}= 0.2948 D_{30}= 0.0625 D_{15}= 0.0089
D_{10}= 0.0024 C_u= 198.23 C_c= 3.39

Remarks

Date Received: **Date Tested:**

Tested By: mpw

Checked By: mpw

Title:

Source of Sample: TP-3 **Depth:** 0-2 **Date Sampled:**

Sample Number: 29591

GULF SHORE EXPLORATION AND TESTING

Client: SAGE Engineers

Project: CSLT Lake Tahoe Blvd Bike Trail

Project No: 18-111 **Figure**

Lake Tahoe Boulevard Class 1 Bike Trail Project: Initial Site Assessment for Hazardous Waste

APPENDIX D

LUST SITE INFORMATION

D.1 LUST Site Information

Runnels Automotive (T0601700134)
986 Emerald Bay Rd
South Lake Tahoe, CA 96150

LUST Cleanup Site
Cleanup Status: Completed - Case Closed
RB Case #: 6T0228A

City of S. Lake Tahoe Corp.YAR (T0601700157)
1700 D Street
South Lake Tahoe, CA 96150

LUST Cleanup Site
Cleanup Status: Completed - Case Closed
RB Case #: 6T0324A

D.1.1 WDR Sites

Shehadi Motors (WDR100035658)
1855 Lake Tahoe Blvd
South Lake Tahoe, CA 96150

* WDR Site
Cleanup Status: Historical – WDR

South Tahoe High School (WDR100030841)
1735 Lake Tahoe Blvd
South Lake Tahoe, CA 96150

* WDR Site
Cleanup Status: Historical – WDR

D.1.2 Cleanup Program Sites

Lakeside Napa Automotive Store (SL0601756146)
1935 Lake Tahoe Boulevard
South Lake Tahoe, CA 96150

Cleanup Program Site
Cleanup Status: Open - Eligible for Closure
RB Case #: T6S035

Big O Tires (SL0601729739)
1961 Lake Tahoe Boulevard
South Lake Tahoe, CA 96150

Cleanup Program Site
Cleanup Status: Open - Eligible for Closure
RB Case #: T6S034

Lake Tahoe Laundry Works (SL0601754315)
1024 Lake Tahoe Boulevard
South Lake Tahoe, CA 96150

Cleanup Program Site
Cleanup Status: Open - Remediation
RB Case #: T6S043

Lake Tahoe Boulevard Class 1 Bike Trail Project: Initial Site Assessment for Hazardous Waste

APPENDIX E

INITIAL SITE ASSESSMENT CHECKLIST FORM

Initial Site Assessment (ISA) Checklist

Project Information

District _**3**__ County __**El Dorado**___ Route __**SR89/US HWY50**___ Post Mile _____ EA _____**NO**_____

Description: **The Project will construct a Class 1 shared-use trail on Lake Tahoe Boulevard from Vikings Way to the US Highway 50 (US 50) intersection at the "South Wye" and intersection crossing improvements at the western end (Vikings Way Intersection). The Project will also install a landscaped buffer zone, Americans with Disabilities Act (ADA)–compliant ramps and City of South Lake Tahoe (City) standard overhead streetlights with underground conduit. Sections of existing curb and gutter will be realigned, and sections of curb and gutter will be constructed. The existing Class 2 bike lanes will be realigned and restriped to establish a consistent lane width of 5 feet. The current Lake Tahoe Boulevard will be reconfigured from a four-lane roadway with two lanes in each direction to a three-lane roadway with one lane in each direction and a center turning lane. Lake Tahoe Boulevard roadway cross-section will remain unchanged from the "South Wye" to the east side of the South Y Center's main driveway (Glorene Avenue). In the westbound direction, the roadway will add a westbound left-turn refuge lane at South Y Center's driveway, and then merge from three lanes to one by Glorene Avenue. In the eastbound direction the roadway will be reduced just west of Vikings Way to one lane and then increase back to two lanes east of Glorene Avenue.**

This Project is a part of the Congestion Mitigation Air Quality (CMAQ) funding administered by California Department of Transportation (Caltrans). This program is funded from various federal and state funds appropriated in the annual Budget Act including MAP-21, FAST Act or other federal funds, and State Highway Account funds.

Is the project on the HW Study Minimal-Risk Projects List (HW1)?

Project Manager phone # 775.339.3321

Project Engineer phone #

Project Screening

Attach the project location map to this checklist to show location of all known and/or potential HW sites identified.

See Appendix A, Figures 1, 2 and 3.

1. Project Features: New R/W? __**NO**____ Excavation? __**YES**__ Railroad Involvement? __**NO**____
Structure demolition/modification? ___**NO**___ Subsurface utility relocation? __**YES**____

2. Project Setting

Rural or Urban: **Urban**
Current land uses: **Public ROW**
Adjacent land uses (industrial, light industry, commercial, agricultural, residential, etc.): **Commercial and Residential**

3. Check federal, State, and local environmental and health regulatory agency records as necessary, to see if any known hazardous waste site is in or near the project area. If a known site is identified, show its location on the attached map and attach additional sheets, as needed, to provide pertinent information for the proposed project.

See Appendix A, Figure 3. LUST Sites and Appendix D, LUST Site Information.

4. Conduct Field Inspection. Date _**October 22, 2018**_____ Use the attached map (Figure 3) to locate potential or known HW sites.

STORAGE STRUCTURES / PIPELINES:

Underground Tanks – **Raley's Fuel Station**

Surface Tanks - **Not Applicable**

Sumps - **Not Applicable**

Ponds – **Not Applicable**

Drums –**Toyota Dealership, Les Schwab Tire Center**

Basins - **Not Applicable**

Transformers - **Not Applicable**

Landfill - **Not Applicable**

Other – **Not Applicable**

CONTAMINATION: (spills, leaks, illegal dumping, etc.)

Surface Staining - **Not Applicable**
Oil Sheen - **Not Applicable**
Odors - **Not Applicable**
Vegetation damage - **Not Applicable**
Other - **Not Applicable**

HAZARDOUSMATERIALS: (asbestos, lead, etc.)

Buildings - **Not Applicable**
Spray-on fireproofing - **Not Applicable**
Pipe wrap - **YES**
Friable tile - **Not Applicable**
Acoustical plaster - **Not Applicable**
Serpentine - **Not Applicable**
Paint - **YES**
Other - **ASPHALT**

5. Additional record search, as necessary, of subsequent land uses that could have resulted in a hazardous waste site. Use the attached map to show the location of potential hazardous waste sites.

See Appendix A, Figure 3. LUST Sites and Appendix D, LUST Site Information.

6. Other comments and/or observations:

See ISA report body.

ISA Determination

Does the project have potential hazardous waste involvement? _____ If there is known or potential hazardous waste involvement, is additional ISA work needed before task orders can be prepared for the Investigation? _____ If "YES," explain; then give an estimate of additional time required:

A brief memo prepared to transmit the ISA conclusions to the Project Manager and Project Engineer. **See preceding ISA summary memo of which this ISA form is Appendix E.**

ISA Conducted by _____ Date _____

Lake Tahoe Boulevard Class 1
Bicycle Trail Project
Initial Study/Negative Declaration/
Initial Environmental Checklist

APPENDIX

G

LAKE TAHOE BOULEVARD BIKE TRAIL – TRAFFIC STUDY

TRANSPORTATION CONSULTANTS, INC.

TRANSPORTATION PLANNING AND TRAFFIC ENGINEERING CONSULTANTS

2690 Lake Forest Road, Suite C
Post Office Box 5875
Tahoe City, California 96145
(530) 583-4053 FAX: (530) 583-5966
info@lsctahoe.com
www.lsctrans.com

October 30, 2018

Stephen Peck, Principal
CARDNO
295 US 50, Suite 1
Zephyr Cove, Nevada 89449

RE: Lake Tahoe Boulevard Bike Trail – Traffic Study

Dear Mr. Peck:

Per your request, LSC has prepared an analysis of the proposed bike trail and roadway lane reduction on Lake Tahoe Boulevard between the US 50/State Route 89 "Y" intersection and Viking Way in South Lake Tahoe, California. In this report the preferred alternative is reviewed, including intersection and roadway level of service, safety and crash data analysis and a summary of our recommendations.

Review of the Preferred Alternative

The current Lake Tahoe Boulevard is four-lane roadway with two travel lanes in each direction. Left turn lanes are currently only present at the Y and at the adjacent South Y Center (South Y Center's) driveway. The preferred alternative will create a three-lane roadway with one lane in each direction and a two-way left-turn lane. In addition the preferred alternative adds a two way Class I bike path on the south side of the road. The preferred alternative will keep Lake Tahoe Boulevard unchanged from the Y to the east side of the South Y Center's main driveway. In the westbound direction the roadway will add a westbound left-turn refuge lane at South Y Center's main driveway, then merge from three lanes to one by Glorene Avenue. In the eastbound direction the roadway will be reduced just west of Viking Way to one lane and then increase back to two lanes east of Glorene Avenue.

Existing Volumes

Traffic counts were conducted by the City of South Lake Tahoe Engineering Division at Lake Tahoe Boulevard/Viking Way on May 3, 2016 from 7:00 AM to 5:30 PM and at Lake Tahoe

Boulevard/South Y Center's Main Driveway on July 6th, 2018 from 3:00 PM to 6:00 PM. The resulting existing weekday peak-hour volumes are shown in Table 1.

Level of Service (LOS)

The concept of Level of Service is defined as a qualitative measure describing operational conditions within a traffic stream, and their perception by motorists and/or passengers. Six levels of service are defined for each type of facility. They are given letter designations, from A to F, with Level of Service A representing the best operating conditions and Level of Service F the worst. The LOS standards for the Lake Tahoe Basin, established by the Tahoe Regional Planning Agency (TRPA), are set forth in the 2012 Regional Transportation Plan.

Intersection LOS

Intersection LOS was evaluated at all study intersections using Synchro software (Version 10, Trafficware) based on the Highway Capacity Manual 6th Edition methodologies. The TRPA does not have a specific adopted standard for unsignalized intersections. LOS was evaluated at Lake Tahoe Boulevard's intersection with Viking Way and South Y Center's Main Driveway to determine the effect of the project on these intersections. Note that the Y intersection configuration remains unchanged and therefore LOS will remain the same as well. Additionally, no LOS issues are expected to occur at the other intersections in the project area. LOS at unsignalized intersections is quantified in terms of delay per vehicle for the worst movement.

The resulting LOS under existing intersection configuration and under the proposed alternative is shown in Table 2. As shown, the LOS improves at Lake Tahoe Blvd/South Y Center's Main Driveway due to the refuge lane for northbound left-turning vehicles that will provide the opportunity for a two-stage left turn movement. This will allow drivers to wait for an adequate gap in eastbound traffic, move to the center and then wait for an adequate gap in the westbound direction, rather than wait for a simultaneous adequate gap in both directions. The LOS at Lake Tahoe Blvd/Viking Way remains essentially the same under existing and proposed conditions.

Roadway LOS

The TRPA LOS standard is a minimum LOS of D or better on urban developed area roads but LOS E may be acceptable during peak periods in urban areas, not to exceed four hours per day.

The roadway LOS is determined by summer weekday peak hour traffic volume. In the project area, the highest summer peak hour traffic volume, located just west of the Y, is 1,339 vehicles. To provide acceptable LOS under the existing 4-lane conditions, the peak hour volume cannot exceed 2,950 vehicles per hour. Therefore existing LOS is acceptable. Under the proposed 3-lane conditions the maximum peak hour volume for LOS D is reduced to 1,790. As the maximum peak hour volumes in the project area are less then this value, the roadway LOS under proposed condition also meets standards.

Crash Data Analysis

Information on traffic crashes is kept by the California Highway Patrol (CHP) and the City of South Lake Tahoe Police Department in a database called SWITRS (Statewide Integrated Traffic Records System). Data on all traffic crashes on Lake Tahoe Boulevard in the project area for the most recent five years (January 2013 to January 2018) was reviewed.

Table 3 presents the crash data summarized by crash type and crash severity. As shown, a total of 15 crashes were reported over the five years. The majority of crashes in the corridor are either broadsides or sideswipes. Three out of the 15 crashes (or 20 percent of crashes) involved bicyclists while none involved a pedestrian. The severity of crashes can be broken down into three categories: property damage only, injury, and fatal. The lower portion of Table 3 presents a summary of crashes in the corridor by severity. Overall, 60 percent of reported crashes resulted in an injury and 40 percent resulted in property damage only. There were no reported fatalities during the analysis time period.

Table 4 presents the crash rates analysis for the project area, as measured in crashes per Million Vehicle-Miles (MVM). The crash rate for the study corridor was calculated and compared with the applicable statewide average based on roadway type (Lake Tahoe Boulevard is an undivided 4 lane roadway). Any value in these columns over 100 percent would indicate that the observed rate is greater than the statewide average. As shown in Table 4, the total crash rate for all types of crashes is lower than the statewide average (78 percent of the statewide average). The 'fatal + injury' crash rate is 10 percent higher than the statewide average.

Pedestrian and Bicyclist Safety Analysis

There are many reasons the proposed project would increase safety for bicyclist and pedestrians including the following:

- Vehicle speeds are reduced when a roadway is converted from 4-lanes to 3-lanes. The Federal Highways Administration reports that this type of conversion typically reduces 85th percentile travel speed (the speed at which 85 percent travel at or slower) by 3 to 5 miles per hour.

- The pedestrian crossing distance across Lake Tahoe Boulevard is reduced. For example near Julie Lane, Lake Tahoe Boulevard is currently about 65 feet wide which will be reduced to 36 feet with the proposed project. At a typical walking speed of 4 feet per second, this means that the time an average pedestrian will spend exposed to traffic will be reduced by roughly 7 seconds.

- Bicyclists are separated from vehicles with the proposed bike path, therefore reducing bike-vehicle conflicts.

Overall, there is an average of a 37 percent crash reduction when reducing lanes from four to three (*Desktop Reference for Crash Reduction Factors*, FHWA).

Recommendations/Conclusions

Based upon the analysis discussed above, LSC make the following recommendations and conclusion:

- The intersection LOS currently achieves standards, and will continue to achieve standards at Lake Tahoe Boulevard/Viking Way and Lake Tahoe Boulevard/South Y Center's Main Driveway. Note the project improves the intersection LOS at Lake Tahoe Boulevard/South Y Center's main driveway due to the addition of the median refuge lane for northbound left-turning vehicles.

- Roadway LOS is acceptable under existing conditions and remains acceptable under the proposed project's lane reductions.

- In terms of safety, a significant percent (20 percent) of crashes in the project area involve a bicyclist. Additionally the 'fatal + injury' crash rate is higher than the statewide average. The proposed project would reduce crashes and conflicts between vehicles, pedestrians, and bicyclists. Studies have shown that this type of roadway modification reduces crash rates by 37 percent.

▲ ▲ ▲

Please contact me at (530) 583-4053 if you have any questions or comments pertaining to this analysis.

Respectfully Submitted,

LSC Transportation Consultants, Inc.

By _____
Leslie Suen, PE, Engineer

Enclosure:
Tables 1-4
LOS Calculations

Table 1: Intersection Volumes

	Eastbound			Westbound			Northbound			Southbound			
	L	T	R	L	T	R	L	T	R	L	T	R	TOTAL
AM Peak Hour													
Lake Tahoe Blvd/Viking Way	183	20	20	3	78	17	81	142	5	47	99	222	917
PM Peak Hour													
Lake Tahoe Blvd/S. Y Center Driveway	0	507	73	165	512	0	53	0	155	0	0	0	1465
Lake Tahoe Blvd/Viking Way	160	24	26	3	14	48	13	131	5	56	165	62	707

Source: LSC Transportation Consultants

Table 2: Intersection Level of Service

	Current Configuration		**Proposed Configuration**	
Intersection	LOS	Delay (sec/veh)	LOS	Delay (sec/veh)
AM Peak Hour				
Lake Tahoe Blvd/Viking Way	B	12.9	B	12.8
PM Peak Hour				
Lake Tahoe Blvd/S. Y Center Driveway	D	34.3	C	21.0
Lake Tahoe Blvd/Viking Way	B	11.0	B	11.1

Source: LSC Transportation Consultants

Table 3: Crashes by Type and Severity

	Number	Percent
Crash Type		
Broadside	5	33%
Head On	0	0%
Hit Object	2	13%
Overturned	0	0%
Rear End	2	13%
Sideswipe	3	20%
Unknown	2	13%
Other	1	7%
Total	15	100%
Crash Severity		
Property Damage Only	6	40%
Injury	9	60%
Fatality	0	0%
Total	15	100%

Note: Based on SWITRS crash data from January 2013 through January 2018.
Source: LSC Transportation Consultants

Table 4: Crash Rate Analysis

Lake Tahoe Boulevard between Viking Way and The Y

	Rate per Million Vehicle-Miles		
	Total Crashes	Fatal + Injury Crashes	Fatality Victims
Corridor Crash Rates	1.49	0.89	0.00
Applicable Statewide Average	1.92	0.81	1.73
Percent of Statewide Average	78%	**110%**	0%

Bold *text indicates crash rate is above the statewide average.*
Note: Based on SWITRS crash data from January 2013 through January 2018.
Source: LSC Transportation Consultants

Intersection	
Intersection Delay, s/veh	11.8
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	183	20	20	3	78	17	81	142	5	47	99	222
Future Vol, veh/h	183	20	20	3	78	17	81	142	5	47	99	222
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	199	22	22	3	85	18	88	154	5	51	108	241
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	12.9	10.4	11.2	11.9
HCM LOS	B	B	B	B

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	53%	0%	82%	3%	49%	0%
Vol Thru, %	47%	93%	9%	80%	51%	18%
Vol Right, %	0%	7%	9%	17%	0%	82%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	152	76	223	98	97	272
LT Vol	81	0	183	3	47	0
Through Vol	71	71	20	78	50	50
RT Vol	0	5	20	17	0	222
Lane Flow Rate	165	83	242	107	105	295
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.295	0.14	0.398	0.178	0.182	0.443
Departure Headway (Hd)	6.43	6.112	5.918	6.018	6.239	5.41
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	558	585	606	593	574	664
Service Time	4.183	3.865	3.97	4.082	3.986	3.157
HCM Lane V/C Ratio	0.296	0.142	0.399	0.18	0.183	0.444
HCM Control Delay	11.9	9.9	12.9	10.4	10.4	12.4
HCM Lane LOS	B	A	B	B	B	B
HCM 95th-tile Q	1.2	0.5	1.9	0.6	0.7	2.3

Intersection	
Intersection Delay, s/veh	10
Intersection LOS	A

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	160	24	26	3	14	48	13	131	5	56	165	62
Future Vol, veh/h	160	24	26	3	14	48	13	131	5	56	165	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	174	26	28	3	15	52	14	142	5	61	179	67
Number of Lanes	0	1	0	0	1	0	0	2	0	0	2	0

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	2
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	2	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	2	2	1	1
HCM Control Delay	11	8.7	9.4	9.9
HCM LOS	B	A	A	A

Lane	NBLn1	NBLn2	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	17%	0%	76%	5%	40%	0%
Vol Thru, %	83%	93%	11%	22%	60%	57%
Vol Right, %	0%	7%	12%	74%	0%	43%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	79	71	210	65	139	145
LT Vol	13	0	160	3	56	0
Through Vol	66	66	24	14	83	83
RT Vol	0	5	26	48	0	62
Lane Flow Rate	85	77	228	71	151	157
Geometry Grp	7	7	2	2	7	7
Degree of Util (X)	0.138	0.122	0.332	0.1	0.242	0.226
Departure Headway (Hd)	5.842	5.708	5.234	5.083	5.795	5.187
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	617	631	678	707	623	683
Service Time	3.55	3.416	3.329	3.098	3.495	2.987
HCM Lane V/C Ratio	0.138	0.122	0.336	0.1	0.242	0.23
HCM Control Delay	9.5	9.2	11	8.7	10.3	9.5
HCM Lane LOS	A	A	B	A	B	A
HCM 95th-tile Q	0.5	0.4	1.5	0.3	0.9	0.9

Intersection	
Int Delay, s/veh	6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	507	73	165	512	53	155
Future Vol, veh/h	507	73	165	512	53	155
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	90	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	551	79	179	557	58	168

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	630	0	1228	315
Stage 1	-	-	-	-	591	-
Stage 2	-	-	-	-	637	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	948	-	170	681
Stage 1	-	-	-	-	516	-
Stage 2	-	-	-	-	489	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	948	-	138	681
Mov Cap-2 Maneuver	-	-	-	-	138	-
Stage 1	-	-	-	-	418	-
Stage 2	-	-	-	-	489	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	34.3
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	340	-	-	948	-
HCM Lane V/C Ratio	0.665	-	-	0.189	-
HCM Control Delay (s)	34.3	-	-	9.7	-
HCM Lane LOS	D	-	-	A	-
HCM 95th %tile Q(veh)	4.5	-	-	0.7	-

Intersection	
Intersection Delay, s/veh	10.6
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	160	24	26	3	14	48	13	131	5	56	165	62
Future Vol, veh/h	160	24	26	3	14	48	13	131	5	56	165	62
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	174	26	28	3	15	52	14	142	5	61	179	67
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	11.1	8.7	10	11.1
HCM LOS	B	A	A	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	9%	76%	5%	25%	0%
Vol Thru, %	88%	11%	22%	75%	0%
Vol Right, %	3%	12%	74%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	149	210	65	221	62
LT Vol	13	160	3	56	0
Through Vol	131	24	14	165	0
RT Vol	5	26	48	0	62
Lane Flow Rate	162	228	71	240	67
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.239	0.334	0.101	0.381	0.091
Departure Headway (Hd)	5.312	5.38	5.125	5.703	4.868
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	679	673	700	634	741
Service Time	3.326	3.38	3.15	3.403	2.568
HCM Lane V/C Ratio	0.239	0.339	0.101	0.379	0.09
HCM Control Delay	10	11.1	8.7	11.9	8.1
HCM Lane LOS	A	B	A	B	A
HCM 95th-tile Q	0.9	1.5	0.3	1.8	0.3

Intersection	
Intersection Delay, s/veh	11.7
Intersection LOS	B

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	183	20	20	3	78	17	81	142	5	47	99	222
Future Vol, veh/h	183	20	20	3	78	17	81	142	5	47	99	222
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	199	22	22	3	85	18	88	154	5	51	108	241
Number of Lanes	0	1	0	0	1	0	0	1	0	0	1	1

Approach	EB	WB	NB	SB
Opposing Approach	WB	EB	SB	NB
Opposing Lanes	1	1	2	1
Conflicting Approach Left	SB	NB	EB	WB
Conflicting Lanes Left	2	1	1	1
Conflicting Approach Right	NB	SB	WB	EB
Conflicting Lanes Right	1	2	1	1
HCM Control Delay	12.8	10.4	12.5	10.9
HCM LOS	B	B	B	B

Lane	NBLn1	EBLn1	WBLn1	SBLn1	SBLn2
Vol Left, %	36%	82%	3%	32%	0%
Vol Thru, %	62%	9%	80%	68%	0%
Vol Right, %	2%	9%	17%	0%	100%
Sign Control	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	228	223	98	146	222
LT Vol	81	183	3	47	0
Through Vol	142	20	78	99	0
RT Vol	5	20	17	0	222
Lane Flow Rate	248	242	107	159	241
Geometry Grp	5	2	2	7	7
Degree of Util (X)	0.395	0.397	0.177	0.27	0.352
Departure Headway (Hd)	5.731	5.9	5.995	6.117	5.244
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes
Cap	627	608	595	586	683
Service Time	3.783	3.953	4.06	3.865	2.991
HCM Lane V/C Ratio	0.396	0.398	0.18	0.271	0.353
HCM Control Delay	12.5	12.8	10.4	11.1	10.8
HCM Lane LOS	B	B	B	B	B
HCM 95th-tile Q	1.9	1.9	0.6	1.1	1.6

Intersection	
Int Delay, s/veh	4.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	507	73	165	512	53	155
Future Vol, veh/h	507	73	165	512	53	155
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	90	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	551	79	179	557	58	168

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	630	0	1228	315
Stage 1	-	-	-	-	591	-
Stage 2	-	-	-	-	637	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	948	-	170	681
Stage 1	-	-	-	-	516	-
Stage 2	-	-	-	-	489	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	948	-	138	681
Mov Cap-2 Maneuver	-	-	-	-	223	-
Stage 1	-	-	-	-	418	-
Stage 2	-	-	-	-	489	-

Approach	EB	WB	NB
HCM Control Delay, s	0	2.4	21
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	447	-	-	948	-
HCM Lane V/C Ratio	0.506	-	-	0.189	-
HCM Control Delay (s)	21	-	-	9.7	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	2.8	-	-	0.7	-

Lake Tahoe Boulevard Class 1
Bicycle Trail Project
Initial Study/Negative Declaration/
Initial Environmental Checklist

APPENDIX H

EMISSIONS MODEL OUTPUT FILES

Lake Tahoe Boulevard Class I Bicycle Trail Project

Lake Tahoe Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
City Park	7.72	Acre	7.72	336,283.20	0

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**	2.7	**Precipitation Freq (Days)**	72
Climate Zone	14			**Operational Year**	2020
Utility Company	Statewide Average				
CO2 Intensity (lb/MWhr)	1001.57	**CH4 Intensity (lb/MWhr)**	0.029	**N2O Intensity (lb/MWhr)**	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use -

Construction Phase - Removed building construction phase as no structures are included in the project. Default model schedule setting matched expected construction schedule, but expanded the schedule to extend until 10/15 to account for potential unknowns and be as conservative as possible.

Off-road Equipment - Utilized default setting for all off-road equipement phases.

Demolition - Based on quantities on demolition sheets, at a rate of 6" thick for AC/concrete and 26" wide/8" thick for curb/gutter

Grading - Excavation (Cut): 160 CY
Bike Path Embankment (Fill): 1100 CY
Total Imported Material: 940 CY

Trips and VMT - Utilized default setting based on consturction phases, legnths, and import/exported material (fill and demolition)

On-road Fugitive Dust - Utilized default imputs based on construction phases

Architectural Coating - Set all default values to "0" with the exception of parking lot paint. Assumed parking area to be the footprint of the road/bike path paved area = conservative estimate.

Vehicle Trips - Default values set to 0: no additional operation mobile trips expected as a result of the project. Rather motor vehicle trips are expected to decrease due to increased alternative transportation options as a result of the project.

Vehicle Emission Factors - Default values not changed, due to Vehicle Trips values set to 0.

Vehicle Emission Factors - Default values not changed, due to Vehicle Trips values set to 0.

Vehicle Emission Factors - Default values not changed, due to Vehicle Trips values set to 0.

Fleet Mix - Default values set to 0: no additional operation feet vehicle trips are expected as a result of the project.

Road Dust - Utilized default values

Consumer Products - Default settings utilized

Area Coating - Default values utilized

Water And Wastewater - Native and drought tolerant landscaping not intended to require irrigation past initial establishment period. No waterwater expected to be generated - default percentages utilized, due to the requirement of totally 100%.

Solid Waste - No solid waste generation expected as a result of the project.

Land Use Change - No land use changes expected as a result of the project

Construction Off-road Equipment Mitigation - No mitigation expected/required as part of the project.

Table Name	Column Name	Default Value	New Value
tblArchitecturalCoating	ConstArea_Parking	0.00	33,820.00

tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	10.00	15.00
tblConstructionPhase	NumDays	20.00	30.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	NumDays	20.00	25.00
tblConstructionPhase	PhaseEndDate	5/28/2019	6/4/2019
tblConstructionPhase	PhaseEndDate	6/11/2019	6/25/2019
tblConstructionPhase	PhaseEndDate	7/9/2019	8/6/2019
tblConstructionPhase	PhaseEndDate	9/3/2019	10/15/2019
tblConstructionPhase	PhaseEndDate	8/6/2019	9/10/2019
tblConstructionPhase	PhaseStartDate	5/29/2019	6/5/2019
tblConstructionPhase	PhaseStartDate	6/12/2019	6/26/2019
tblConstructionPhase	PhaseStartDate	8/7/2019	9/11/2019
tblConstructionPhase	PhaseStartDate	7/10/2019	8/7/2019
tblGrading	AcresOfGrading	15.00	10.00
tblGrading	MaterialImported	0.00	940.00
tblSolidWaste	LandfillCaptureGasFlare	94.00	0.00
tblSolidWaste	LandfillNoGasCapture	6.00	0.00
tblSolidWaste	SolidWasteGenerationRate	0.66	0.00
tblVehicleTrips	CC_TL	7.30	0.00
tblVehicleTrips	CC_TTP	48.00	0.00
tblVehicleTrips	CNW_TL	7.30	0.00
tblVehicleTrips	CNW_TTP	19.00	0.00
tblVehicleTrips	CW_TL	9.50	0.00
tblVehicleTrips	CW_TTP	33.00	0.00
tblVehicleTrips	DV_TP	28.00	0.00
tblVehicleTrips	PB_TP	6.00	0.00

tblVehicleTrips	PR_TP	66.00	0.00
tblVehicleTrips	ST_TR	22.75	0.00
tblVehicleTrips	SU_TR	16.74	0.00
tblVehicleTrips	WD_TR	1.89	0.00
tblWater	ElectricityIntensityFactorForWastewaterTreatment	1,911.00	0.00
tblWater	ElectricityIntensityFactorToDistribute	1,272.00	0.00
tblWater	ElectricityIntensityFactorToSupply	2,117.00	0.00
tblWater	ElectricityIntensityFactorToTreat	111.00	0.00
tblWater	OutdoorWaterUseRate	9,198,236.02	0.00

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.2251	1.5012	0.9714	1.8100e-003	0.2807	0.0736	0.3543	0.1337	0.0681	0.2018	0.0000	163.1064	163.1064	0.0419	0.0000	164.1537
Maximum	**0.2251**	**1.5012**	**0.9714**	**1.8100e-003**	**0.2807**	**0.0736**	**0.3543**	**0.1337**	**0.0681**	**0.2018**	**0.0000**	**163.1064**	**163.1064**	**0.0419**	**0.0000**	**164.1537**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.2251	1.5012	0.9714	1.8100e-003	0.2807	0.0736	0.3543	0.1337	0.0681	0.2018	0.0000	163.1062	163.1062	0.0419	0.0000	164.1536
Maximum	**0.2251**	**1.5012**	**0.9714**	**1.8100e-003**	**0.2807**	**0.0736**	**0.3543**	**0.1337**	**0.0681**	**0.2018**	**0.0000**	**163.1062**	**163.1062**	**0.0419**	**0.0000**	**164.1536**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
1	5-1-2019	7-31-2019	1.3363	1.3363
2	8-1-2019	9-30-2019	0.3419	0.3419
		Highest	1.3363	1.3363

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.1700e-003	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.1700e-003**	**0.0000**	**7.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.0000**	**1.5000e-004**

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.1700e-003	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.1700e-003**	**0.0000**	**7.0000e-005**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.0000**	**1.5000e-004**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Lake Tahoe Boulevard Class I Bicycle Trail Project - Lake Tahoe Air Basin, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	5/1/2019	6/4/2019	5	25	
2	Site Preparation	Site Preparation	6/5/2019	6/25/2019	5	15	
3	Grading	Grading	6/26/2019	8/6/2019	5	30	
4	Paving	Paving	8/7/2019	9/10/2019	5	25	
5	Architectural Coating	Architectural Coating	9/11/2019	10/15/2019	5	25	

Acres of Grading (Site Preparation Phase): 0

Acres of Grading (Grading Phase): 10

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 33,820 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Demolition	Excavators	3	8.00	158	0.38
Demolition	Rubber Tired Dozers	2	8.00	247	0.40
Site Preparation	Rubber Tired Dozers	3	8.00	247	0.40
Site Preparation	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Grading	Excavators	1	8.00	158	0.38
Grading	Graders	1	8.00	187	0.41
Grading	Rubber Tired Dozers	1	8.00	247	0.40
Grading	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Architectural Coating	Air Compressors	1	6.00	78	0.48
Paving	Pavers	2	8.00	130	0.42
Paving	Paving Equipment	2	8.00	132	0.36
Paving	Rollers	2	8.00	80	0.38

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	6	15.00	0.00	338.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	7	18.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	6	15.00	0.00	118.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Architectural Coating	1	28.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Paving	6	15.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0372	0.0000	0.0372	5.6300e-003	0.0000	5.6300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0439	0.4473	0.2758	4.9000e-004		0.0224	0.0224		0.0209	0.0209	0.0000	43.2829	43.2829	0.0120	0.0000	43.5839
Total	**0.0439**	**0.4473**	**0.2758**	**4.9000e-004**	**0.0372**	**0.0224**	**0.0596**	**5.6300e-003**	**0.0209**	**0.0265**	**0.0000**	**43.2829**	**43.2829**	**0.0120**	**0.0000**	**43.5839**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.6700e-003	0.0507	0.0160	1.3000e-004	2.8500e-003	2.0000e-004	3.0500e-003	7.8000e-004	1.9000e-004	9.8000e-004	0.0000	12.7478	12.7478	2.5000e-004	0.0000	12.7539
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3400e-003	8.6000e-004	0.0100	2.0000e-005	1.4700e-003	2.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.1000e-004	0.0000	1.4257	1.4257	7.0000e-005	0.0000	1.4274
Total	**3.0100e-003**	**0.0516**	**0.0260**	**1.5000e-004**	**4.3200e-003**	**2.2000e-004**	**4.5400e-003**	**1.1700e-003**	**2.0000e-004**	**1.3900e-003**	**0.0000**	**14.1734**	**14.1734**	**3.2000e-004**	**0.0000**	**14.1813**

3.2 Demolition - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0372	0.0000	0.0372	5.6300e-003	0.0000	5.6300e-003	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0439	0.4473	0.2758	4.9000e-004		0.0224	0.0224		0.0209	0.0209	0.0000	43.2829	43.2829	0.0120	0.0000	43.5839
Total	**0.0439**	**0.4473**	**0.2758**	**4.9000e-004**	**0.0372**	**0.0224**	**0.0596**	**5.6300e-003**	**0.0209**	**0.0265**	**0.0000**	**43.2829**	**43.2829**	**0.0120**	**0.0000**	**43.5839**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	1.6700e-003	0.0507	0.0160	1.3000e-004	2.8500e-003	2.0000e-004	3.0500e-003	7.8000e-004	1.9000e-004	9.8000e-004	0.0000	12.7478	12.7478	2.5000e-004	0.0000	12.7539
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3400e-003	8.6000e-004	0.0100	2.0000e-005	1.4700e-003	2.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.1000e-004	0.0000	1.4257	1.4257	7.0000e-005	0.0000	1.4274
Total	**3.0100e-003**	**0.0516**	**0.0260**	**1.5000e-004**	**4.3200e-003**	**2.2000e-004**	**4.5400e-003**	**1.1700e-003**	**2.0000e-004**	**1.3900e-003**	**0.0000**	**14.1734**	**14.1734**	**3.2000e-004**	**0.0000**	**14.1813**

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1355	0.0000	0.1355	0.0745	0.0000	0.0745	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0325	0.3418	0.1655	2.8000e-004		0.0179	0.0179		0.0165	0.0165	0.0000	25.6265	25.6265	8.1100e-003	0.0000	25.8292
Total	**0.0325**	**0.3418**	**0.1655**	**2.8000e-004**	**0.1355**	**0.0179**	**0.1534**	**0.0745**	**0.0165**	**0.0910**	**0.0000**	**25.6265**	**25.6265**	**8.1100e-003**	**0.0000**	**25.8292**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7000e-004	6.2000e-004	7.2000e-003	1.0000e-005	1.0600e-003	1.0000e-005	1.0700e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	1.0265	1.0265	5.0000e-005	0.0000	1.0277
Total	**9.7000e-004**	**6.2000e-004**	**7.2000e-003**	**1.0000e-005**	**1.0600e-003**	**1.0000e-005**	**1.0700e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**1.0265**	**1.0265**	**5.0000e-005**	**0.0000**	**1.0277**

3.3 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.1355	0.0000	0.1355	0.0745	0.0000	0.0745	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0325	0.3418	0.1655	2.8000e-004		0.0179	0.0179		0.0165	0.0165	0.0000	25.6265	25.6265	8.1100e-003	0.0000	25.8292
Total	**0.0325**	**0.3418**	**0.1655**	**2.8000e-004**	**0.1355**	**0.0179**	**0.1534**	**0.0745**	**0.0165**	**0.0910**	**0.0000**	**25.6265**	**25.6265**	**8.1100e-003**	**0.0000**	**25.8292**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	9.7000e-004	6.2000e-004	7.2000e-003	1.0000e-005	1.0600e-003	1.0000e-005	1.0700e-003	2.8000e-004	1.0000e-005	2.9000e-004	0.0000	1.0265	1.0265	5.0000e-005	0.0000	1.0277
Total	**9.7000e-004**	**6.2000e-004**	**7.2000e-003**	**1.0000e-005**	**1.0600e-003**	**1.0000e-005**	**1.0700e-003**	**2.8000e-004**	**1.0000e-005**	**2.9000e-004**	**0.0000**	**1.0265**	**1.0265**	**5.0000e-005**	**0.0000**	**1.0277**

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0957	0.0000	0.0957	0.0502	0.0000	0.0502	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0387	0.4252	0.2444	4.4000e-004		0.0210	0.0210		0.0193	0.0193	0.0000	39.9634	39.9634	0.0126	0.0000	40.2795
Total	**0.0387**	**0.4252**	**0.2444**	**4.4000e-004**	**0.0957**	**0.0210**	**0.1167**	**0.0502**	**0.0193**	**0.0695**	**0.0000**	**39.9634**	**39.9634**	**0.0126**	**0.0000**	**40.2795**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.8000e-004	0.0177	5.5900e-003	5.0000e-005	9.9000e-004	7.0000e-005	1.0600e-003	2.7000e-004	7.0000e-005	3.4000e-004	0.0000	4.4504	4.4504	9.0000e-005	0.0000	4.4525
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6100e-003	1.0300e-003	0.0120	2.0000e-005	1.7700e-003	2.0000e-005	1.7900e-003	4.7000e-004	2.0000e-005	4.9000e-004	0.0000	1.7108	1.7108	8.0000e-005	0.0000	1.7129
Total	**2.1900e-003**	**0.0187**	**0.0176**	**7.0000e-005**	**2.7600e-003**	**9.0000e-005**	**2.8500e-003**	**7.4000e-004**	**9.0000e-005**	**8.3000e-004**	**0.0000**	**6.1612**	**6.1612**	**1.7000e-004**	**0.0000**	**6.1654**

3.4 Grading - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0957	0.0000	0.0957	0.0502	0.0000	0.0502	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0387	0.4252	0.2444	4.4000e-004		0.0210	0.0210		0.0193	0.0193	0.0000	39.9634	39.9634	0.0126	0.0000	40.2795
Total	**0.0387**	**0.4252**	**0.2444**	**4.4000e-004**	**0.0957**	**0.0210**	**0.1167**	**0.0502**	**0.0193**	**0.0695**	**0.0000**	**39.9634**	**39.9634**	**0.0126**	**0.0000**	**40.2795**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	5.8000e-004	0.0177	5.5900e-003	5.0000e-005	9.9000e-004	7.0000e-005	1.0600e-003	2.7000e-004	7.0000e-005	3.4000e-004	0.0000	4.4504	4.4504	9.0000e-005	0.0000	4.4525
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.6100e-003	1.0300e-003	0.0120	2.0000e-005	1.7700e-003	2.0000e-005	1.7900e-003	4.7000e-004	2.0000e-005	4.9000e-004	0.0000	1.7108	1.7108	8.0000e-005	0.0000	1.7129
Total	**2.1900e-003**	**0.0187**	**0.0176**	**7.0000e-005**	**2.7600e-003**	**9.0000e-005**	**2.8500e-003**	**7.4000e-004**	**9.0000e-005**	**8.3000e-004**	**0.0000**	**6.1612**	**6.1612**	**1.7000e-004**	**0.0000**	**6.1654**

3.5 Paving - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0182	0.1906	0.1833	2.8000e-004		0.0103	0.0103		9.4800e-003	9.4800e-003	0.0000	25.5940	25.5940	8.1000e-003	0.0000	25.7964
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0182**	**0.1906**	**0.1833**	**2.8000e-004**		**0.0103**	**0.0103**		**9.4800e-003**	**9.4800e-003**	**0.0000**	**25.5940**	**25.5940**	**8.1000e-003**	**0.0000**	**25.7964**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3400e-003	8.6000e-004	0.0100	2.0000e-005	1.4700e-003	2.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.1000e-004	0.0000	1.4257	1.4257	7.0000e-005	0.0000	1.4274
Total	**1.3400e-003**	**8.6000e-004**	**0.0100**	**2.0000e-005**	**1.4700e-003**	**2.0000e-005**	**1.4900e-003**	**3.9000e-004**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**1.4257**	**1.4257**	**7.0000e-005**	**0.0000**	**1.4274**

3.5 Paving - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0182	0.1906	0.1833	2.8000e-004		0.0103	0.0103		9.4800e-003	9.4800e-003	0.0000	25.5940	25.5940	8.1000e-003	0.0000	25.7964
Paving	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**0.0182**	**0.1906**	**0.1833**	**2.8000e-004**		**0.0103**	**0.0103**		**9.4800e-003**	**9.4800e-003**	**0.0000**	**25.5940**	**25.5940**	**8.1000e-003**	**0.0000**	**25.7964**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.3400e-003	8.6000e-004	0.0100	2.0000e-005	1.4700e-003	2.0000e-005	1.4900e-003	3.9000e-004	1.0000e-005	4.1000e-004	0.0000	1.4257	1.4257	7.0000e-005	0.0000	1.4274
Total	**1.3400e-003**	**8.6000e-004**	**0.0100**	**2.0000e-005**	**1.4700e-003**	**2.0000e-005**	**1.4900e-003**	**3.9000e-004**	**1.0000e-005**	**4.1000e-004**	**0.0000**	**1.4257**	**1.4257**	**7.0000e-005**	**0.0000**	**1.4274**

3.6 Architectural Coating - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0784					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3300e-003	0.0229	0.0230	4.0000e-005		1.6100e-003	1.6100e-003		1.6100e-003	1.6100e-003	0.0000	3.1916	3.1916	2.7000e-004	0.0000	3.1983
Total	**0.0817**	**0.0229**	**0.0230**	**4.0000e-005**		**1.6100e-003**	**1.6100e-003**		**1.6100e-003**	**1.6100e-003**	**0.0000**	**3.1916**	**3.1916**	**2.7000e-004**	**0.0000**	**3.1983**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5100e-003	1.6000e-003	0.0187	3.0000e-005	2.7500e-003	3.0000e-005	2.7800e-003	7.3000e-004	3.0000e-005	7.6000e-004	0.0000	2.6612	2.6612	1.3000e-004	0.0000	2.6645
Total	**2.5100e-003**	**1.6000e-003**	**0.0187**	**3.0000e-005**	**2.7500e-003**	**3.0000e-005**	**2.7800e-003**	**7.3000e-004**	**3.0000e-005**	**7.6000e-004**	**0.0000**	**2.6612**	**2.6612**	**1.3000e-004**	**0.0000**	**2.6645**

3.6 Architectural Coating - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.0784					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.3300e-003	0.0229	0.0230	4.0000e-005		1.6100e-003	1.6100e-003		1.6100e-003	1.6100e-003	0.0000	3.1916	3.1916	2.7000e-004	0.0000	3.1983
Total	**0.0817**	**0.0229**	**0.0230**	**4.0000e-005**		**1.6100e-003**	**1.6100e-003**		**1.6100e-003**	**1.6100e-003**	**0.0000**	**3.1916**	**3.1916**	**2.7000e-004**	**0.0000**	**3.1983**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.5100e-003	1.6000e-003	0.0187	3.0000e-005	2.7500e-003	3.0000e-005	2.7800e-003	7.3000e-004	3.0000e-005	7.6000e-004	0.0000	2.6612	2.6612	1.3000e-004	0.0000	2.6645
Total	**2.5100e-003**	**1.6000e-003**	**0.0187**	**3.0000e-005**	**2.7500e-003**	**3.0000e-005**	**2.7800e-003**	**7.3000e-004**	**3.0000e-005**	**7.6000e-004**	**0.0000**	**2.6612**	**2.6612**	**1.3000e-004**	**0.0000**	**2.6645**

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
City Park	0.00	0.00	0.00	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
City Park	0.466081	0.042504	0.233260	0.143787	0.043435	0.008764	0.022841	0.025051	0.003020	0.001351	0.007290	0.000826	0.001789

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
City Park	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.1700e-003	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004
Unmitigated	3.1700e-003	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.1600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004
Total	**3.1700e-003**	**0.0000**	**7.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.0000**	**1.5000e-004**

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.0000					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.1600e-003					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	1.0000e-005	0.0000	7.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.4000e-004	1.4000e-004	0.0000	0.0000	1.5000e-004
Total	**3.1700e-003**	**0.0000**	**7.0000e-005**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**1.4000e-004**	**1.4000e-004**	**0.0000**	**0.0000**	**1.5000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
City Park	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
City Park	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Lake Tahoe Boulevard Class 1
Bicycle Trail Project
Initial Study/Negative Declaration/
Initial Environmental Checklist

APPENDIX

I

BIOLOGICAL RESOURCE DATA

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Reno Fish And Wildlife Office
1340 Financial Boulevard, Suite 234
Reno, NV 89502-7147
Phone: (775) 861-6300 Fax: (775) 861-6301
http://www.fws.gov/nevada/

In Reply Refer To:
Consultation Code: 08ENVD00-2019-SLI-0095
Event Code: 08ENVD00-2019-E-00238
Project Name: Lake Tahoe Boulevard Bike

December 04, 2018

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The attached species list indicates threatened, endangered, proposed, and candidate species and designated or proposed critical habitat that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act of 1973, as amended (ESA, 16 U.S.C. 1531 et seq.), for projects that are authorized, funded, or carried out by a Federal agency. Candidate species have no protection under the ESA but are included for consideration because they could be listed prior to the completion of your project. Consideration of these species during project planning may assist species conservation efforts and may prevent the need for future listing actions. For additional information regarding species that may be found in the proposed project area, visit http://www.fws.gov/nevada/es/ipac.html.

The purpose of the ESA is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the ESA and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or

designated or proposed critical habitat. Guidelines for preparing a Biological Assessment can be found at: http://www.fws.gov/midwest/endangered/section7/ba_guide.html.

If a Federal action agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species, and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at: http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this species list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally listed, proposed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the ESA, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally, as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation, for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the attached list.

The Nevada Fish and Wildlife Office (NFWO) no longer provides species of concern lists. Most of these species for which we have concern are also on the Animal and Plant At-Risk Tracking List for Nevada (At-Risk list) maintained by the State of Nevada's Natural Heritage Program (Heritage). Instead of maintaining our own list, we adopted Heritage's At-Risk list and are partnering with them to provide distribution data and information on the conservation needs for at-risk species to agencies or project proponents. The mission of Heritage is to continually evaluate the conservation priorities of native plants, animals, and their habitats, particularly those most vulnerable to extinction or in serious decline. In addition, in order to avoid future conflicts, we ask that you consider these at-risk species early in your project planning and explore management alternatives that provide for their long-term conservation.

For a list of at-risk species by county, visit Heritage's website (http://heritage.nv.gov). For a specific list of at-risk species that may occur in the project area, you can obtain a data request form from the website (http://heritage.nv.gov/get_data) or by contacting the Administrator of Heritage at 901 South Stewart Street, Suite 5002, Carson City, Nevada 89701-5245, (775) 684-2900. Please indicate on the form that your request is being obtained as part of your coordination with the Service under the ESA. During your project analysis, if you obtain new information or data for any Nevada sensitive species, we request that you provide the information to Heritage at the above address.

Furthermore, certain species of fish and wildlife are classified as protected by the State of Nevada (http://www.leg.state.nv.us/NAC/NAC-503.html). You must first obtain the appropriate license, permit, or written authorization from the Nevada Department of Wildlife (NDOW) to take, or possess any parts of protected fish and wildlife species. Please visit http://www.ndow.org or contact NDOW in northern Nevada (775) 688-1500, in southern Nevada (702) 486-5127, or in eastern Nevada (775) 777-2300.

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the Service's wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

The Service's Pacific Southwest Region developed the Interim Guidelines for the Development of a Project Specific Avian and Bat Protection Plan for Wind Energy Facilities (Interim Guidelines). This document provides energy facility developers with a tool for assessing the risk of potential impacts to wildlife resources and delineates how best to design and operate a bird- and bat-friendly wind facility. These Interim Guidelines are available upon request from the NFWO. The intent of a Bird and Bat Conservation Strategy is to conserve wildlife resources while supporting project developers through: (1) establishing project development in an adaptive management framework; (2) identifying proper siting and project design strategies; (3) designing and implementing pre-construction surveys; (4) implementing appropriate conservation measures for each development phase; (5) designing and implementing appropriate post-construction monitoring strategies; (6) using post-construction studies to better understand the dynamics of mortality reduction (e.g., changes in blade cut-in speed, assessments of blade “feathering” success, and studies on the effects of visual and acoustic deterrents) including efforts tied into Before-After/Control-Impact analysis; and (7) conducting a thorough risk assessment and validation leading to adjustments in management and mitigation actions.

The template and recommendations set forth in the Interim Guidelines were based upon the Avian Powerline Interaction Committee's Avian Protection Plan template (http://www.aplic.org/) developed for electric utilities and modified accordingly to address the unique concerns of wind energy facilities. These recommendations are also consistent with the Service's wind energy guidelines. We recommend contacting us as early as possible in the planning process to discuss the need and process for developing a site-specific Bird and Bat Conservation Strategy.

The Service has also developed guidance regarding wind power development in relation to prairie grouse leks (sage-grouse are included in this). This document can be found at: http://www.fws.gov/southwest/es/Oklahoma/documents/te_species/wind%20power/prairie%20grouse%20lek%205%20mile%20public.pdf.

Migratory Birds are a Service Trust Resource. Based on the Service's conservation responsibilities and management authority for migratory birds under the Migratory Bird Treaty Act of 1918, as amended (MBTA; 16 U.S.C. 703 et seq.), we recommend that any land clearing or other surface disturbance associated with proposed actions within the project area be timed to

avoid potential destruction of bird nests or young, or birds that breed in the area. Such destruction may be in violation of the MBTA. Under the MBTA, nests with eggs or young of migratory birds may not be harmed, nor may migratory birds be killed. Therefore, we recommend land clearing be conducted outside the avian breeding season. If this is not feasible, we recommend a qualified biologist survey the area prior to land clearing. If nests are located, or if other evidence of nesting (i.e., mated pairs, territorial defense, carrying nesting material, transporting food) is observed, a protective buffer (the size depending on the habitat requirements of the species) should be delineated and the entire area avoided to prevent destruction or disturbance to nests until they are no longer active.

Guidance for minimizing impacts to migratory birds for projects involving communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

If wetlands, springs, or streams are are known to occur in the project area or are present in the vicinity of the project area, we ask that you be aware of potential impacts project activities may have on these habitats. Discharge of fill material into wetlands or waters of the United States is regulated by the U.S. Army Corps of Engineers (ACOE) pursuant to section 404 of the Clean Water Act of 1972, as amended. We recommend you contact the ACOE's Regulatory Section regarding the possible need for a permit. For projects located in northern Nevada (Carson City, Churchill, Douglas, Elko, Esmeralda, Eureka, Humboldt, Lander, Lyon, Mineral, Pershing, Storey, and Washoe Counties) contact the Reno Regulatory Office at 300 Booth Street, Room 3060, Reno, Nevada 89509, (775) 784-5304; in southern Nevada (Clark, Lincoln, Nye, and White Pine Counties) contact the St. George Regulatory Office at 321 North Mall Drive, Suite L-101, St. George, Utah 84790-7314, (435) 986-3979; or in California along the eastern Sierra contact the Sacramento Regulatory Office at 650 Capitol Mall, Suite 5-200, Sacramento, California 95814, (916) 557-5250.

We appreciate your concern for threatened and endangered species. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

The table below outlines lead FWS field offices by county and land ownership/project type. Please refer to this table when you are ready to coordinate (including requests for section 7 consultation) with the field office corresponding to your project, and send any documentation regarding your project to that corresponding office. Therefore, the lead FWS field office may not be the office listed above in the letterhead.

Lead FWS offices by County and Ownership/Pr ogram

County	Ownership/Pr ogram	Species	Office Lead*

Alameda	Tidal wetlands/marsh adjacent to Bays	Salt marsh species, delta smelt	BDFWO
Alameda	All ownerships but tidal/estuarine	All	SFWO
Alpine	Humboldt Toiyabe National Forest	All	RFWO
Alpine	Lake Tahoe Basin Management Unit	All	RFWO
Alpine	Stanislaus National Forest	All	SFWO
Alpine	El Dorado National Forest	All	SFWO
Colusa	Mendocino National Forest	All	AFWO
Colusa	Other	All	By jurisdiction (see map)
Contra Costa	Legal Delta (Excluding ECCHCP)	All	BDFWO
Contra Costa	Antioch Dunes NWR	All	BDFWO
Contra Costa	Tidal wetlands/marsh adjacent to Bays	Salt marsh species, delta smelt	BDFWO
Contra Costa	All ownerships but tidal/estuarine	All	SFWO
Del Norte	All	All	AFWO
El Dorado	El Dorado National Forest	All	SFWO
El Dorado	LakeTahoe Basin Management Unit		RFWO
Glenn	Mendocino National Forest	All	AFWO
Glenn	Other	All	By jurisdiction (see map)
Humboldt	All except Shasta Trinity National Forest	All	AFWO

Humboldt	Shasta Trinity National Forest	All	YFWO
Lake	Mendocino National Forest	All	AFWO
Lake	Other	All	By jurisdiction (see map)
Lassen	Modoc National Forest	All	KFWO
Lassen	Lassen National Forest	All	SFWO
Lassen	Toiyabe National Forest	All	RFWO
Lassen	BLM Surprise and Eagle Lake Resource Areas	All	RFWO
Lassen	BLM Alturas Resource Area	All	KFWO
Lassen	Lassen Volcanic National Park	All (includes Eagle Lake trout on all ownerships)	SFWO
Lassen	All other ownerships	All	By jurisdiction (see map)
Marin	Tidal wetlands/marsh adjacent to Bays	Salt marsh species, delta smelt	BDFWO
Marin	All ownerships but tidal/estuarine	All	SFWO
Mendocino	Russian River watershed	All	SFWO
Mendocino	All except Russian River watershed	All	AFWO
Modoc	Modoc National Forest	All	KFWO
Modoc	BLM Alturas Resource Area	All	KFWO
Modoc	Klamath Basin National Wildlife Refuge Complex	All	KFWO
Modoc	BLM Surprise and Eagle Lake Resource Areas	All	RFWO

Modoc	All other ownerships	All	By jurisdiction (See map)
Mono	Inyo National Forest	All	RFWO
Mono	Humboldt Toiyabe National Forest	All	RFWO
Napa	All ownerships but tidal/estuarine	All	SFWO
Napa	Tidal wetlands/marsh adjacent to San Pablo Bay	Salt marsh species, delta smelt	BDFWO
Nevada	Humboldt Toiyabe National Forest	All	RFWO
Nevada	All other ownerships	All	By jurisdiction (See map)
Placer	Lake Tahoe Basin Management Unit	All	RFWO
Placer	All other ownerships	All	SFWO
Sacramento	Legal Delta	Delta Smelt	BDFWO
Sacramento	Other	All	By jurisdiction (see map)
San Francisco	Tidal wetlands/marsh adjacent to San Francisco Bay	Salt marsh species, delta smelt	BDFWO
San Francisco	All ownerships but tidal/estuarine	All	SFWO
San Mateo	Tidal wetlands/marsh adjacent to San Francisco Bay	Salt marsh species, delta smelt	BDFWO
San Mateo	All ownerships but tidal/estuarine	All	SFWO
San Joaquin	Legal Delta excluding San Joaquin HCP	All	BDFWO

San Joaquin	Other	All	SFWO
Santa Clara	Tidal wetlands/marsh adjacent to San Francisco Bay	Salt marsh species, delta smelt	BDFWO
Santa Clara	All ownerships but tidal/estuarine	All	SFWO
Shasta	Shasta Trinity National Forest except Hat Creek Ranger District (administered by Lassen National Forest)	All	YFWO
Shasta	Hat Creek Ranger District	All	SFWO
Shasta	Bureau of Reclamation (Central Valley Project)	All	BDFWO
Shasta	Whiskeytown National Recreation Area	All	YFWO
Shasta	BLM Alturas Resource Area	All	KFWO
Shasta	Caltrans	By jurisdiction	SFWO/AFWO
Shasta	Ahjumawi Lava Springs State Park	Shasta crayfish	SFWO
Shasta	All other ownerships	All	By jurisdiction (see map)
Shasta	Natural Resource Damage Assessment, all lands	All	SFWO/BDFWO
Sierra	Humboldt Toiyabe National Forest	All	RFWO
Sierra	All other ownerships	All	SFWO
Siskiyou	Klamath National Forest (except Ukonom District)	All	YFWO
Siskiyou	Six Rivers National Forest and Ukonom District	All	AFWO
Siskiyou	Shasta Trinity National Forest	All	YFWO

Siskiyou	Lassen National Forest	All	SFWO
Siskiyou	Modoc National Forest	All	KFWO
Siskiyou	Lava Beds National Volcanic Monument	All	KFWO
Siskiyou	BLM Alturas Resource Area	All	KFWO
Siskiyou	Klamath Basin National Wildlife Refuge Complex	All	KFWO
Siskiyou	All other ownerships	All	By jurisdiction (see map)
Solano	Suisun Marsh	All	BDFWO
Solano	Tidal wetlands/marsh adjacent to San Pablo Bay	Salt marsh species, delta smelt	BDFWO
Solano	All ownerships but tidal/estuarine	All	SFWO
Solano	Other	All	By jurisdiction (see map)
Sonoma	Tidal wetlands/marsh adjacent to San Pablo Bay	Salt marsh species, delta smelt	BDFWO
Sonoma	All ownerships but tidal/estuarine	All	SFWO
Tehama	Mendocino National Forest	All	AFWO
Tehama	Shasta Trinity National Forest except Hat Creek Ranger District (administered by Lassen National Forest)	All	YFWO
Tehama	All other ownerships	All	By jurisdiction (see map)
Trinity	BLM	All	AFWO
Trinity	Six Rivers National Forest	All	AFWO
Trinity	Shasta Trinity National Forest	All	YFWO

Trinity	Mendocino National Forest	All	AFWO
Trinity	BIA (Tribal Trust Lands)	All	AFWO
Trinity	County Government	All	AFWO
Trinity	All other ownerships	All	By jurisdiction (See map)
Yolo	Yolo Bypass	All	BDFWO
Yolo	Other	All	By jurisdiction (see map)
All	FERC-ESA	All	By jurisdiction (see map)
All	FERC-ESA	Shasta crayfish	SFWO
All	FERC-Relicensing (non-ESA)	All	BDFWO

*Office Leads:

AFWO=Ar cata Fish and Wildlife Office

BDFWO=Bay Delta Fish and Wildlife Office

KFWO=Klamath Falls Fish and Wildlife Office

RFWO=Reno Fish and Wildlife Office

YFWO=Yr eka Fish and Wildlife Office

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Reno Fish And Wildlife Office
1340 Financial Boulevard, Suite 234
Reno, NV 89502-7147
(775) 861-6300

Project Summary

Consultation Code: 08ENVD00-2019-SLI-0095

Event Code: 08ENVD00-2019-E-00238

Project Name: Lake Tahoe Boulevard Bike

Project Type: TRANSPORTATION

Project Description: The Project is located in the southwest portion of the City of South Lake Tahoe (City) near South Lake Tahoe High School, between Viking Rd. and the US Route 50 (US 50) and State Route 89 (SR 89) intersection (South Wye), in El Dorado County, California. A portion of the project is within the Tahoe Valley Area Plan community boundary (between US 50/ SR 89 and Julie Lane), while the remainder of the project is within the Bonanza plan area (between Julie Lane and Vikings Road). Mt. Tallac High School is located adjacent to the southwest portion of the project area.

The City of South Lake Tahoe Department of Public Works, in coordination with the California Department of Transportation (Caltrans) is proposing to construct a Class I shared-use trail on Lake Tahoe Boulevard from Vikings Way to the US Highway 50 intersection at the “south wye” and intersection crossing improvements at both ends. The project vicinity comprises a mix of school, governmental, and commercial uses in close proximity to the state highway. The area currently includes roadways with two lanes in each direction, with several ingress/egress areas, and a generally unsafe pedestrian and bike travel area. The project is designed to resolve these safety issues. The project proposes to install a landscaped buffer zone, a Class I bike trial/multi-use path, ADA compliant ramps, and standard overhead streetlights with underground conduit. Sections of existing cub and gutter will be realigned and sections of curb and gutter will be constructed. The existing Class II bike lanes will be realigned and restriped to establish a consistent lane width of 5-feet. The current Lake Tahoe Boulevard will be reconfigured from a four (4) lane roadway with two (2) lanes in each direction, to a three (3) lane roadway with one (1) lane in each direction with a center turning lane. Lake Tahoe Boulevard will remain unchanged from the “south wye” to the east side of the South Y Center’s main driveway (Glorene Avenue). In the westbound direction, the roadway will add a westbound left-turn refuge lane at South Y Center’s driveway, then merge from three (3) lanes to one by Glorene Avenue. In the eastbound direction, the roadway will be reduced just west of Viking Way to one lane and then increase back to two lanes east of Glorene Avenue.

The project will provide for non-motorized and safe travel between Vikings Way/D Street and the US Highway 50 intersection at the "south wye", with a Class I shared-use trail, providing for two way bike and pedestrian traffic. Additionally, the Project will install sections of 5-foot wide pedestrian sidewalks at Vikings Way/D Street and Tata Lane, standard City overhead streetlights, curb and gutter improvements, and intersection improvements at Viking Way. Lake Tahoe Boulevard will be re-striped from the existing two (2) lanes in each direction with no turn lane to one (1) lane in each direction with a center turn lane and Class II bike lanes.

A project schedule including key milestone dates and/or time durations would be developed as part of the final design/bid package for the Project. The construction season would be limited to approximately May 1 through October 15 based on TRPA regulatory requirements, unless an extension is granted past the October 15 deadline. Based on the volume of anticipated work, construction is anticipated to occur in one construction season, with the ideal time frame being non-school times of the year (i.e., school summer vacation, June through August).

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.90970278058134N120.01079047537102W

Counties: El Dorado, CA

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.

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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

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National W ildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

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1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle Haliaeetus leucocephalus This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Jan 1 to Aug 31
Cassin's Finch Carpodacus cassinii This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9462	Breeds May 15 to Jul 15

NAME	BREEDING SEASON
Golden Eagle Aquila chrysaetos This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1680	Breeds Dec 1 to Aug 31
Lewis's Woodpecker Melanerpes lewis This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9408	Breeds Apr 20 to Sep 30
Olive-sided Flycatcher Contopus cooperi This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31
Rufous Hummingbird selasphorus rufus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/8002	Breeds elsewhere
Williamson's Sapsucker Sphyrapicus thyroideus This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/8832	Breeds May 1 to Jul 31
Willow Flycatcher Empidonax traillii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/3482	Breeds May 20 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ “Proper Interpretation and Use of Your Migratory Bird Report” before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

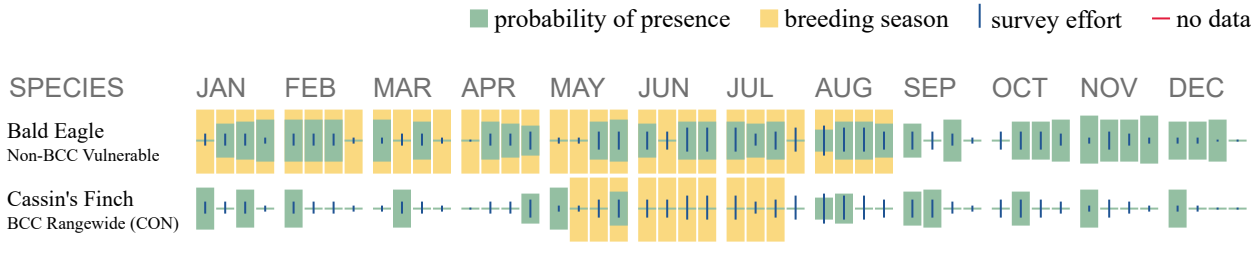
1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

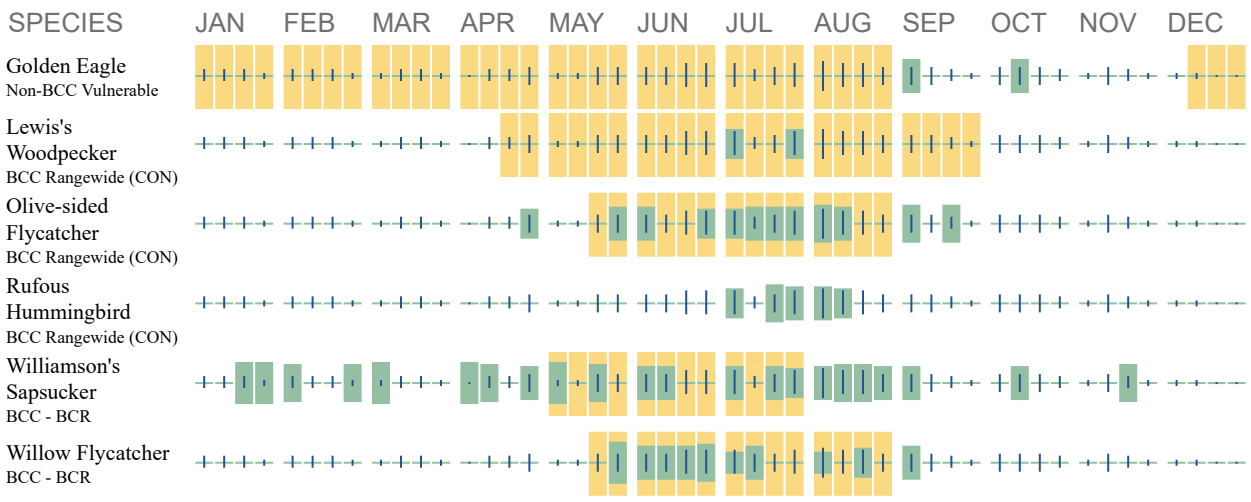
Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

Migratory Birds F AQ

Tell me mor e about conservation measur es I can implement to avoid or minimize impacts to migratory birds.
Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures and/or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?
The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the E-bird Explore Data Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that ar e potentially affected by offshor e pr ojects
For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Pr oper Interpr etation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ “What does IPaC use to generate the migratory birds potentially occurring in my specified location”. Please be aware this report provides the “probability of presence” of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the “no data” indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ “Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds” at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

THERE ARE NO WETLANDS WITHIN YOUR PROJECT AREA.

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Query Criteria: Quad IS (South Lake Tahoe (3811988))

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Accipiter gentilis northern goshawk	G5 S3	None None	BLM_S-Sensitive CDF_S-Sensitive CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern USFS_S-Sensitive	6,280 6,320	432 S:2	0	0	0	0	0	2	2	0	2	0	0
Ambystoma macrodactylum sigillatum southern long-toed salamander	G5T4 S3	None None	CDFW_SSC-Species of Special Concern	8,500 8,500	603 S:1	0	0	0	0	0	1	0	1	1	0	0
Arabis rigidissima var. demota Galena Creek rockcress	G3T3Q S1	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	8,800 9,200	7 S:2	0	0	2	0	0	0	0	2	2	0	0
Botrychium ascendens upswept moonwort	G3G4 S2	None None	Rare Plant Rank - 2B.3 USFS_S-Sensitive	6,560 6,560	53 S:1	0	0	1	0	0	0	0	1	1	0	0
Botrychium crenulatum scalloped moonwort	G4 S3	None None	Rare Plant Rank - 2B.2 USFS_S-Sensitive	6,500 6,500	137 S:1	1	0	0	0	0	0	0	1	1	0	0
Botrychium minganense Mingan moonwort	G4G5 S3	None None	Rare Plant Rank - 2B.2 USFS_S-Sensitive	6,580 6,640	128 S:2	0	1	0	0	0	1	0	2	2	0	0
Bruchia bolanderi Bolander's bruchia	G3G4 S3	None None	Rare Plant Rank - 4.2 USFS_S-Sensitive	7,800 7,800	28 S:1	0	1	0	0	0	0	0	1	1	0	0
Capnia lacustra Lake Tahoe benthic stonefly	G1 S1	None None		6,250 6,250	1 S:1	0	0	0	0	0	1	1	0	1	0	0
Draba asterophora var. asterophora Tahoe draba	G2T2? S2?	None None	Rare Plant Rank - 1B.2 USFS_S-Sensitive	9,800 9,800	11 S:1	0	1	0	0	0	0	0	1	1	0	0
Empidonax traillii willow flycatcher	G5 S1S2	None Endangered	IUCN_LC-Least Concern USFS_S-Sensitive USFWS_BCC-Birds of Conservation Concern	6,250 6,250	90 S:1	0	0	0	0	0	1	1	0	1	0	0
Erethizon dorsatum North American porcupine	G5 S3	None None	IUCN_LC-Least Concern	6,255 9,612	508 S:5	0	0	0	0	0	5	2	3	5	0	0

Summary Table Report

California Department of Fish and Wildlife

California Natural Diversity Database

Name (Scientific/Common)	CNDDB Ranks	Listing Status (Fed/State)	Other Lists	Elev. Range (ft.)	Total EO's	Element Occ. Ranks						Population Status		Presence		
						A	B	C	D	X	U	Historic > 20 yr	Recent <= 20 yr	Extant	Poss. Extirp.	Extirp.
Helisoma newberryi Great Basin rams-horn	G1 S1S2	None None	USFS_S-Sensitive	6,250 6,250	9 S:1	0	0	0	0	0	1	1	0	1	0	0
Lithobates pipiens northern leopard frog	G5 S2	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	6,260 6,260	22 S:1	0	0	0	0	0	1	1	0	1	0	0
Martes caurina sierrae Sierra marten	G5T3 S3	None None	USFS_S-Sensitive	9,000 9,000	149 S:1	0	1	0	0	0	0	1	0	1	0	0
Meesia uliginosa broad-nerved hump moss	G5 S3	None None	Rare Plant Rank - 2B.2 USFS_S-Sensitive	6,335 6,335	52 S:1	0	0	1	0	0	0	0	1	1	0	0
Rana sierrae Sierra Nevada yellow-legged frog	G1 S1	Endangered Threatened	CDFW_WL-Watch List IUCN_EN-Endangered USFS_S-Sensitive	9,000 9,000	658 S:1	0	0	0	0	0	1	1	0	1	0	0
Rorippa subumbellata Tahoe yellow cress	G1 S1	None Endangered	Rare Plant Rank - 1B.1 SB_BerrySB-Berry Seed Bank SB_RSABG-Rancho Santa Ana Botanic Garden USFS_S-Sensitive	6,229 6,230	30 S:5	0	2	0	0	1	2	1	4	4	0	1
Stygobromus lacicolus Lake Tahoe amphipod	G1 S1	None None		6,250 6,250	1 S:1	0	0	0	0	0	1	0	1	1	0	0
Stygobromus tahoensis Lake Tahoe stygobromid	G1 S1	None None		6,250 6,250	1 S:1	0	0	0	0	0	1	0	1	1	0	0
Xanthocephalus xanthocephalus yellow-headed blackbird	G5 S3	None None	CDFW_SSC-Species of Special Concern IUCN_LC-Least Concern	6,200 6,200	13 S:1	0	0	0	0	0	1	1	0	1	0	0