PUBLIC REVIEW DRAFT

Initial Study/Mitigated Negative Declaration

Country Club Heights Erosion Control Project - Phase III

South Lake Tahoe, CA

January 2020

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Country Club Heights Erosion Control Project - Phase III

South Lake Tahoe, CA

Initial Study/Mitigated Negative Declaration

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January 2020

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BACKGROUND

Country Club Heights is an existing residential development south of the City of South Lake Tahoe, California, in unincorporated El Dorado County (County). Urban development within the Country Club Heights subdivision resulted in concentrated stormwater flows being directed via dikes, roadside ditches, and storm drainpipes towards conveyance systems that are connected to the Upper Truckee River. Infiltrating channels with rock check dams and vegetated detention basins were constructed as part of the 1987 Erosion Control Projects in the South Tahoe Basin, the 1994 Southern Pines Drive S.E.Z. Restoration Project, and Phases I and II of the Country Club Heights Erosion Control Project (CCH-ECP) to provide additional water quality treatment and peak flow/volume reduction.

Phases I and II of the CCH-ECP were implemented in 2018, and addressed existing source control issues, hydrologic design issues, and treatment opportunities affecting water quality within the Country Club Heights subdivision area.

This Project is being designed and constructed with potential financial assistance from the State of California, the United States Forest Service - Lake Tahoe Basin Management Unit (USFS-LTBMU) and TRPA mitigation funds. A Decision Memo for Implementation will be issued by the USFS-LTBMU prepared pursuant to the National Environmental Policy Act.

PROJECT DESCRIPTION

The County proposes to plan, design, and implement Phase III of the CCH-ECP to improve water quality, restore impacted Stream Environment Zone (SEZ) habitat and associated floodplain, and achieve recreation and natural resource objectives within the northwest corner of the CCH-ECP. The proposed Phase III project is designed to reduce impacts to water quality at the northwestern end of the CCH-ECP boundary, enhance recreation and access opportunities, and provide for SEZ habitat restoration. The Phase III project lies entirely within the limits of the Phase I and Phase II CCH-ECP boundary (**Figure ES-1**).

The project is located in eastern El Dorado County, in the Tahoe Basin, near the community of Meyers. Specifically, the project is located on the Echo Lake USGS 7.5-minute quadrangle map within portions of sections 20 and 21, Township 12 north, Range 18 east, Mount Diablo Meridian. The Phase III project area is approximately 6.4 acres in size within the Country Club Heights Unit 1 subdivision within County ROWs, County owned parcel 033-191-006 and California Tahoe Conservancy (CTC) owned parcels 033-192-004, 033-191-005, and 033-191-004. The project is bound by Elks Club Drive to the south, Highway 50/Highway 89 to

the west, Boca Raton Drive to the east, and the Upper Truckee River to the west-northwest.

The following water quality, recreation, and SEZ restoration improvements are proposed for the Phase III project. Refer to **Figure ES-2** for locations of proposed project features.

- Reconfigure and reduce the size of the existing parking lot to enable parking outside of 100-year floodplain. Approximately 3,850 cubic yards old fill material would be removed to allow for construction of an infiltration basin between parking lot and Boca Raton access road.
- Grade a localized depression in the pavement removal area on the west side of the new/reduced area parking lot to provide capture and treatment of stormwater runoff from the parking lot.
- A two-unit bathroom facility may be constructed at the edge of the parking lot.
- Expand/restore approximately half an acre of SEZ area through restoration efforts that include the removal of approximately 2 feet deep concrete/non-native material (approximately 1,100 cubic yards) to restore the SEZ/natural floodplain.
- Install rock slope protection at an overflow connection area at the new infiltration basin area.
- Construct Americans with Disabilities Act-compliant decomposed granite pathways for improved access to the Upper Truckee River area, with a culvert to convey existing storm runoff under the pathway to the river.
- Construct a 10-foot-wide paved, shared-use trail with 2-foot shoulders within an existing, unimproved trail area.
- Install zig-zag fencing constructed of lodge pole pine from on-site to protect the constructed basin area and encourage SEZ restoration.
- Install signage.
- Install two 18-inch culverts to provide an in/out connection to the basin/SEZ enhancement area.
- Complete revegetation/restoration of parking lot/concrete removal areas.
- Remove a small number (up to 50) of conifer trees outside of a 100-foot buffer from Scenic US Highway 50/State Route 89 for fuels management/fire hazard reduction and provide for the successional management of the SEZ.

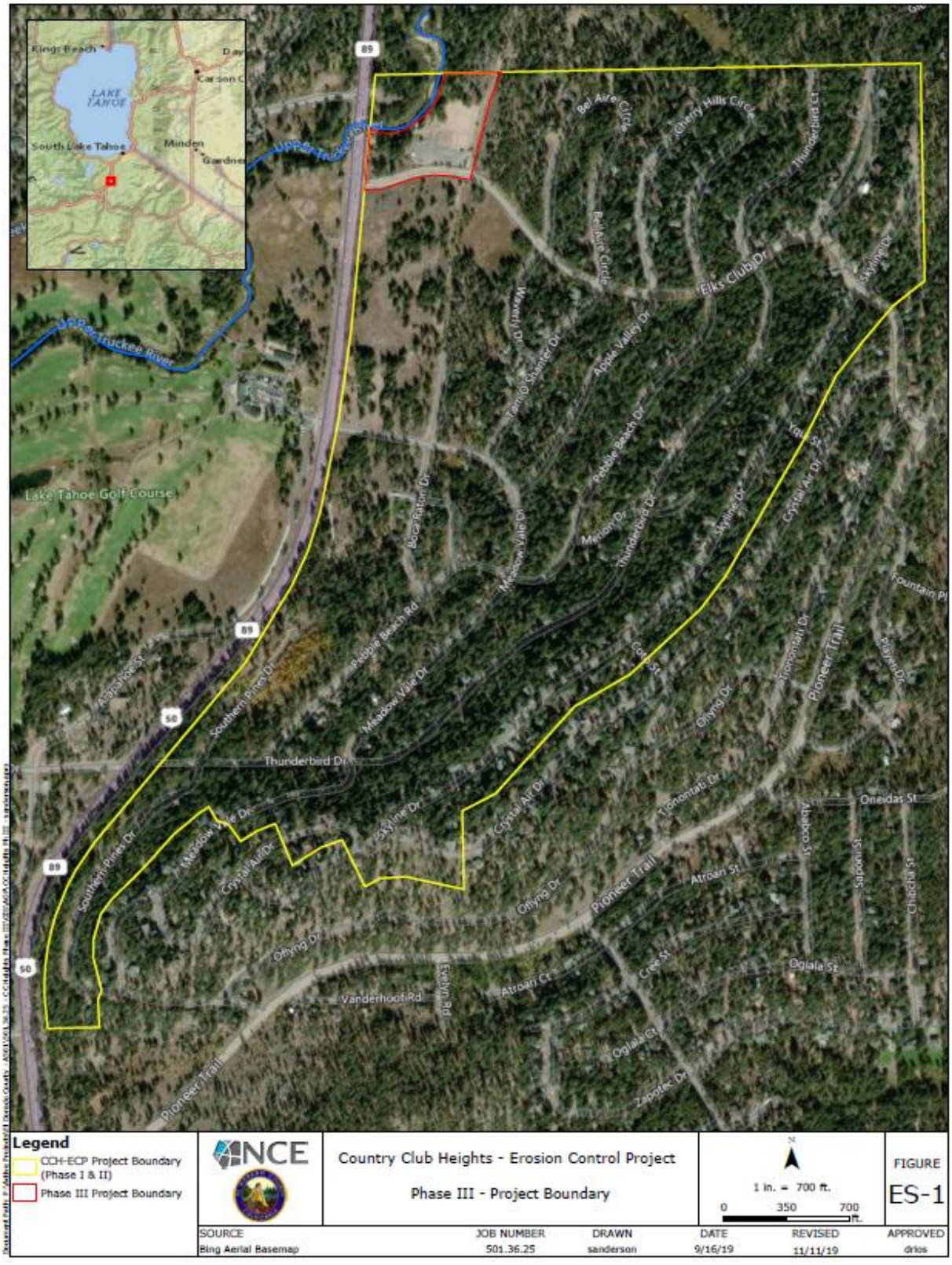

Figure ES-1. Project Boundary

Project Objectives, Purpose, and Need

The objectives of the proposed Phase III project are to improve water quality at the northwestern end of the CCH-ECP, restore SEZ habitat and floodplain function, and enhance recreation and access opportunities at the site. Specifically, the Phase III project would:

- Reduce fine and coarse sediment, stormwater runoff volume, and peak flows.
- Stabilize roadside ditches, and capture road abrasives utilizing source control best management practices.
- Remove excess pavement/coverage and restore the project area to surrounding land capability, including SEZ habitat and function restoration.
- Increase opportunities for the infiltration of stormwater runoff.
- Provide a pathway link to the larger existing user trail network north of the site, supporting the Tahoe Regional Planning Agency's Active Transportation Plan.
- Enhance recreational opportunities within the Lake Tahoe Basin.
- Blend hardscape improvements into the scenic environment to the maximum extent practicable.

As part of the overall CCH-ECP, the Phase III project is identified in the El Dorado County Stormwater Resource Plan, the Environmental Improvement Program projects as a recreation project (EIP #612), a watershed management project (EIP #948 and 01.02.01.002) and as a water quality project (EIP# 01.01.01.0021). The Phase III project would also be consistent with goals stated in the *Linking Tahoe: Active Transportation Plan* by enhancing recreational opportunities within the basin (County of El Dorado 2019).

Figure ES-2. Project Overview Map

POTENTIAL IMPACTS

The environmental factors checked below would be potentially affected by this project, involving at least one impact that would be a "Potentially Significant Impact" without the implementation of mitigation measures.

	Aesthetics		Agricultural and Forestry Resources		Air Quality
✓	Biological Resources	✓	Cultural Resources		Energy
	Geology/Soils		Greenhouse Gas Emissions	✓	Hazards and 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

The following mitigation measures as established in more detail in this MND shall be implemented to reduce *potentially significant* impacts to *less than significant with mitigation*:

Mitigation Measure B-1: In the event the Sierra Nevada yellow-legged frog is encountered at the Phase III project site, the County shall coordinate with TRPA, CDFW, and USFWS staff to determine the proper course of action to avoid impacts to the species which may include but not be limited to:

- Revise the proposed project to avoid impacts to the Sierra Nevada yellow-legged frog(s) that exist within the project area. Avoidance may take the form of eliminating or relocating project features, eliminating construction activities or restoration activities that may have an adverse impact to known individuals; and
- Create an exclusion zone surrounding the location of the observed frog, tadpole or larvae for a 30-meter distance that precludes disturbance within suitable habitat. No construction activities shall take

place within the exclusion zone. Additionally, any waters flowing through the Project site that enter the exclusion zone shall not be impeded or diverted as a result of construction activities.

Mitigation Measure B-2: If any construction activities (e.g. tree removal, grubbing or grading) are scheduled during the bird nesting season (typically defined by CDFW as February 1 to September 1), the County or approved construction contractor shall retain a qualified biologist to conduct a pre-construction survey of the project area to include a 100-foot buffer, as access is available, to locate active bird nests, identify measures to protect the nests, and locate any other special status species. The pre-construction survey shall be conducted no more than 14 days prior to the implementation of construction activities (including staging and equipment storage). Any active nest shall not be disturbed until young have fledged or under the direction provided by a qualified biologist. Any special status species shall not be disturbed unless under the direction provided by a qualified biologist. If an active nest is found during construction, disturbance shall not occur without direction from a qualified biologist.

Mitigation Measure B-3: The County shall implement and require the contractor to adhere to a Noxious Weed Mitigation Plan (Plan) to decrease habitat vulnerability to or below pre-construction levels. The Plan shall include preconstruction elements such as treatment methodologies for existing noxious weed populations identified in the project area, as well as operating procedures for both during and post-construction. Recommended BMPs will include, but are not limited to: hand removal of existing weeds prior to going to seed, equipment cleaning prior to use, area of disturbance minimization, disturbed ground stabilization upon completion of construction with mulch or other means, certified weed-free mulch and other materials, and disturbed areas revegetation with native plants.

Mitigation Measure B-4: Implement Mitigation Measure B-2.

Mitigation Measure CR-1: The contractor and key members of crews working on excavation, trenching, and grading for sites preparation shall be instructed to be wary of the possibility of destruction of buried cultural and paleontological resource materials. They shall be instructed to recognize signs of prehistoric use and their responsibility to report any such finds (or suspected finds) immediately, as specified by measure CR-2 below, so damage to such resources may be prevented. No historic properties will be affected in compliance with Advisory Council on Historic Preservation regulations (36 CFR 800). However, in the event that cultural resources are discovered during Phase III project implementation, project personnel will halt all activities in the immediate area and will notify a qualified archaeologist, the County Project Engineer, and the Washoe Tribe, to determine the

appropriate course of action. Archaeological resources are not to be moved or taken from the project site and work shall not resume until authorized.

Mitigation Measure CR-2: Final plans and specifications shall include guidance in the event that human remains are discovered. Work in the area surrounding the remains shall cease and the County Coroner and local law enforcement shall be notified immediately of the discovery in accordance with Public Resource Code (PRC) Section 5097.98 and Section 7050.5 of California Health and Safety Code (HSC) to conduct proper evaluation and treatment of remains. The coroner and law enforcement agency with jurisdiction will evaluate the find to determine whether it is a crime scene or a burial. If human remains are determined to be associated with an archaeological site (burial), the California Office of Historic Preservation (OHP)will be notified. The OHP will work with appropriate tribes to determine measures to take.

Mitigation Measure Haz-1: Implement Mitigation Measure T-1.

Mitigation Measure Hyd-1: Should excavation greater than 5 feet in depth occur as a result of project construction, a soils/hydrology report shall be prepared and approved by the TRPA prior to construction.

Mitigation Measure T-1: The contractor will be required to prepare and adhere to a Traffic Control Plan for TRPA and Transportation review and approval. Elements of the plan will include appropriate use of signage, flaggers, traffic calming, and alternative routes to accommodate local and through traffic. In addition, Transportation will advise local residents regarding schedules for construction traffic detours through signage, press releases, and distribution of flyers in area neighborhoods well in advance of construction initiation. Access will not be prohibited, at any time, for local residents, school buses or emergency vehicles, only delayed. In case of emergency the contractor will be required to have traffic rated plates on site to allow access to be restored during trenching. Prior to construction, the County shall coordinate with emergency services and the contractor shall be required to include in the traffic control plan any mitigation determined necessary by emergency services to address project impacts to emergency services or evacuations.

Mitigation Measure TCR-1: Implement Mitigation Measures CR-1 and CR-2.

Mitigation Measure TCR-2: Implement Mitigation Measure CR-1.

Mitigation Measure W-1: Implement Mitigation Measure T-1.

List of Abbreviations

ADA	Americans with Disabilities Act
APE	Area of Potential Effect
AQMD	Air Quality Management District
BA	Biological Assessment
BMP	best management practice
CAL FIRE	California Department of Forestry & Fire Protection
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CCH-ECP	Country Club Heights Erosion Control Project
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CLUP	Lake Tahoe Airport Comprehensive Land Use Plan
CNEL	Community Noise Equivalent Level
CO_2e	carbon dioxide equivalents
County	County of El Dorado
CRHR	California Register of Historical Resources
CTC	California Tahoe Conservancy
CWPP	community wildfire protection plan
EDCAQMD	El Dorado County Air Quality Management District
EIP	Environmental Improvement Program
EIR	Environmental Impact Report
EPA	Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FS	Feasibility Study
GHG	greenhouse gas
HSC	California Health and Safety Code
IS	Initial Study
LCV	Land Capability Verification
LTAB	Lake Tahoe Air Basin
MBTA	Migratory Bird Treaty Act
MMRP	Mitigation Monitoring and Reporting Plan
MND	Mitigated Negative Declaration
NAHC	Native American Heritage Commission
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
OHP	Office of Historic Preservation
PAS	Plan Area Statement
Phase III project	Phase III of the CCH-ECP

PM	particulate matter
PRC	Public Resource Code
ROW	right-of-way
RWQCB	Regional Water Quality Control Board
SEZ	stream environment zone
SLF	Sacred Lands File
SMAQMD	Sacramento Metropolitan Air Quality Management District
SNYLF	Sierra Nevada yellow-legged frog
STPUD	South Tahoe Public Utility District
SWPPP	Storm Water Pollution Prevention Plan
TCR	Tribal Cultural Resource
TMPO	Tahoe Metropolitan Planning Organization
Transportation	County of El Dorado, Department of Transportation
TRPA	Tahoe Regional Planning Agency
USFS	U.S. Forest Service
USFS-LTBMU	USFS - Lake Tahoe Basin Management Unit
USFWS	U.S. Fish & Wildlife Service
USGS	U.S. Geological Survey
WDR	waste discharge requirements

Section 1 Project Information

1. Project title:	Country Club Heights Erosion Control Project - Phase III South Lake Tahoe, CA
2. Lead agency name and address:	County of El Dorado Department of Transportation 924B Emerald Bay Road South Lake Tahoe, CA 96150
3. Contact person and phone number:	Daniel Kikkert, P.E. County of El Dorado (530) 573-7914
4. Project location:	The project is bound by Elks Club Drive to the south, Highway 50/Highway 89 to the west, Boca Raton Drive to the east, and the Upper Truckee River to the west-northwest in El Dorado County, California. South section of the Lake Tahoe Basin within portions of Sections 20 and 21, Township 12 North, Range 18 East, Mount Diablo Meridian.
5. Project sponsor's name and address:	County of El Dorado Department of Transportation 924B Emerald Bay Road South Lake Tahoe, CA 96150
6. General Plan designations:	Recreation
7. Zoning:	Recreational Facilities, Low-Intensity (RF-L)
8. Description of project:	The County proposes to plan, design, and implement a project that will improve water quality, restore an impacted stream environment zone and achieve recreation and natural resource objectives along a portion of the Upper Truckee River in the County Club Heights residential development area near the community of Meyers.

9. Surrounding land uses and setting:	The areas surrounding the project site include the Upper Truckee River to the north, a residential area and US Highway 50/State Route 89. The site is primarily used for passive recreational purposes and includes open space, paved county roads, unpaved access roads, and a parking lot. The location is heavily disturbed due to existing use of the land including recreational access to the Upper Truckee River and the existing trail system; commercial access by campers and vehicles to a seasonal weekend flea market held during summer months; and by large-turning-radius commercial vehicles to check loads.
10. Other public agencies whose approval is required:	Tahoe Regional Planning Agency California Tahoe Conservancy
11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation that includes, for example, the determination of significance of impacts to tribal cultural resources, procedures regarding confidentiality, etc.?	Native American correspondence was initiated by NCE with a letter and attached maps to the Native American Heritage Commission on August 23, 2019. Darrel Cruz, representative for the Washoe Tribe of Nevada and California responded with a request for consultation. Results of consultation with Darrel Cruz confirmed that there are no known cultural or historic resource sites within the project boundary.

Section 2 Introduction

2.1 FOCUS OF THE ENVIRONMENTAL REVIEW

This Initial Study / Mitigated Negative Declaration (IS/MND), prepared pursuant to the California Environmental Quality Act (CEQA), is provided to give notice to interested agencies and the public that it is the County's intent to adopt an MND for proposed Phase III of the Country Club Heights Erosion Control Project (CCH-ECP), hereinafter called the Phase III project.

Country Club Heights is an existing residential development south of the City of South Lake Tahoe and is bounded by Highway 50 to the west, Southern Pines Drive, Crystal Air Drive, and Skyline Drive to the south, Crystal Air Drive and Elks Club Drive to the east, and the subdivision boundaries to the north (**Figure 1**). In 2017, the County approved an MND (County of El Dorado 2016) for Phases I and II of the CCH-ECP (Notice of Determination 6/19/2017, SCH Number 2017022004). Phases I and II addressed existing source control and hydrologic design issues. These phases were completed in 2018.

The proposed Phase III project lies entirely within the northwestern end of the CCH-ECP limits. The Phase III project would focus on reducing water quality impacts, enhancing recreation and access opportunities in the area, and provide stream environment zone (SEZ) restoration. The Phase III project area includes the old "Elks Club Lodge" property and parking lot currently owned by the California Tahoe Conservancy (CTC). The project site is bound by Elks Club Drive to the south, Highway 50/Highway 89 to the west, Boca Raton Drive to the east, and the Upper Truckee River to the west-northwest.

The Phase III project activities were not specifically addressed in the 2017 IS/MND for Phases I and II of the CCH-ECP as the parcels that include and surround the old "Elks Lodge" property were not evaluated as part of the previous IS/MND. Development of this Phase III IS/MND document is intended to analyze the new elements in the Phase III project as proposed, and to comply with the recent updates to the CEQA Guidelines (effective December 28, 2018).

Except as noted herein, the environmental documentation prepared for phases I and II of the CCH-ECP is incorporated by reference (County of El Dorado 2016) and is included as Appendix A. The County also prepared a Feasibility Study (FS) for the Phase III project alternatives presented herein (County of El Dorado 2019); the FS is also incorporated by reference and is included as Appendix B. The FS includes studies for improvements on Waverly Drive and the associated right-of-way completed as part of the phase I and II project, including the proposed removal of existing asphalt from approximately 330 feet of Waverly Drive, due west of the intersection with Elks Club Drive. The County is planning to move forward with

removal of the asphalt in this location through a public process which will involve the "termination of maintenance" per section 954.5 of the Streets and Highways Code. As such, the Waverly Drive improvements are not included as part of the proposed Phase III project and are excluded from further discussion and analysis in this document.

This IS/MND is subject to modification based on comments received by interested agencies and the public.

Figure 1. Project Vicinity Map

2.2 SUMMARY OF FINDINGS

Based on the environmental evaluation performed for this IS (Section 4), the proposed Phase III project would have:

- ***No Impact*** to agriculture and forestry resources, land use and planning, mineral resources, population and housing, and public services.
- ***Less than Significant Impact*** to aesthetics, air quality, energy, greenhouse gases, geology and soils, noise, recreation, and utilities and service systems.
- ***Less than Significant Impact with Mitigation Incorporated*** to biological resources, cultural resources, hazards and hazardous materials, hydrology and water quality, transportation, tribal cultural resources, and wildfire. Mitigation measures have been incorporated into the project that would reduce potential adverse effects to a less than significant level, as specified in the analysis sections of this IS and listed in the Executive Summary, above.

2.3 REQUIRED PERMITS

Transportation is the Lead Agency for this project. The following responsible and trustee agencies have jurisdiction over some or all the proposed project components:

- California Tahoe Conservancy
- California Department of Fish and Wildlife
- Tahoe Regional Planning Agency
- Lahontan Regional Water Quality Control Board

The following permits and/or approvals are required from State and federal agencies:

- Lahontan Regional Water Quality Control Board Stormwater General Permit
- Tahoe Regional Planning Agency Permit
- California Tahoe Conservancy License Agreement

2.4 LEAD AGENCY 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 (EIR) 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 EIR 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.

Daniel Kikkert	Sr. Civil Engineer
Printed Name	Title
	13 January, 2020
Signature	Date

Section 3 Project Description

The County of El Dorado Department of Transportation (Transportation) proposes to plan, design, and implement a project that will improve water quality, restore an impacted SEZ, and achieve recreation and natural resource objectives within the northwest corner of the CCH-ECP in El Dorado County, California. This constitutes Phase III of the CCH-ECP. The County conducted an FS for the Phase III project (County of El Dorado 2019). The area analyzed and identified as the Phase III boundary in the FS presented a larger boundary for the Phase III project which included all areas associated with each alternative of the Phase III project. However, project impacts from the selected preferred alternative occur within a smaller area; therefore, a reduced size Phase III project boundary was developed for the CEQA document. The FS, provided in Appendix B, describes the existing conditions of the Phase III project alternatives and provides an alternatives analysis.

3.1 PROJECT LOCATION

The Phase III project is located in eastern El Dorado County, in the Tahoe Basin, near the community of Meyers (Figure 1). Specifically, the project is located on the Echo Lake U.S. Geological Survey (USGS) 7.5-minute quadrangle map within portions of sections 20 and 21, Township 12 north, Range 18 east, Mount Diablo Meridian. The Phase III project area is approximately 6.4 acres in size within the Country Club Heights Unit 1 subdivision and lies entirely within the boundary for Phases I and II of the CCH-ECP. The project site is bound by Elks Club Drive to the south, Highway 50/Highway 89 to the west, Boca Raton Drive to the east, and the Upper Truckee River to the west-northwest (**Figure 2**).

3.2 PROJECT FEATURES

Water Quality, Stormwater, and SEZ Improvements

The following water quality, stormwater, and SEZ restoration improvements are proposed for the Phase III project. Refer to **Figure 3** for locations of proposed project features.

- Reconfigure and reduce the size of the existing parking lot to enable parking outside of 100-year floodplain. Approximately 3,850 cubic yards old fill material would be removed to allow for construction of an infiltration basin between parking lot and Boca Raton access road.
- Grade a localized depression in the pavement removal area on the west side of the new/reduced area parking lot to provide capture and treatment of stormwater runoff from the parking lot.

- A two-unit bathroom facility may be constructed at the edge of the parking lot.
- Expand the existing SEZ area through restoration efforts that includes the removal of approximately 2 feet deep concrete/non-native material (approximately 1,100 cubic yards) to restore the natural floodplain.
- Install rock slope protection at an overflow connection area at the new infiltration basin area.
- Install fencing to protect basin area and encourage SEZ restoration
- Install signage
- Install two 18-inch culverts to provide an in/out connection to the basin / SEZ enhancement area
- Complete revegetation/restoration of parking lot/concrete removal areas
- Remove small number (up to 50) of conifer trees outside of a 100-foot buffer from Scenic US Highway 50 / State Route 89 for fuels management / fire hazard reduction and provide for the successional management and restoration of the SEZ

Recreation Improvements

The *Linking Tahoe: Active Transportation Plan* (TRPA and TRMO 2016) identifies opportunities for a Class 1 shared use path through the Phase III project area, and a Class 3 (Bike Route) along Elks Club Drive, connecting Highway 50 to Pioneer Trail. The parking lot is currently used for multiple recreation and access opportunities.

A 10-foot-wide paved shared use trail with 2-foot shoulders is proposed within the Boca Raton Drive ROW, over the existing dirt access road, terminating at Elks Club Drive. A spur connection is proposed to be constructed on the CTC owned parcel from the reduced size parking lot, connecting to the new trail in the Boca Raton ROW. An American's with Disabilities Act (ADA)-compliant permanent user access trail is proposed to be constructed on the north side of the parking lot to enable access from the parking lot to areas along the river, including an existing sand bar near the south side of the Upper Truckee River, which has been used as a launch point by recreational users. The proposed trail may be constructed of compacted decomposed granite with a culvert crossing to convey existing storm runoff under the decomposed granite pathway to the Upper Truckee River.

Educational signage is proposed to be installed to educate users on such items as the Upper Truckee River, past development of the area, and the impact of aquatic invasive species. A 2-unit bathroom facility may be constructed on the edge of the parking lot. If constructed, existing utility connections (sewer and water) would be

utilized in the design. Existing power (or solar) would be utilized, if power is needed.

Refer to **Figure 3** for a project overview map.

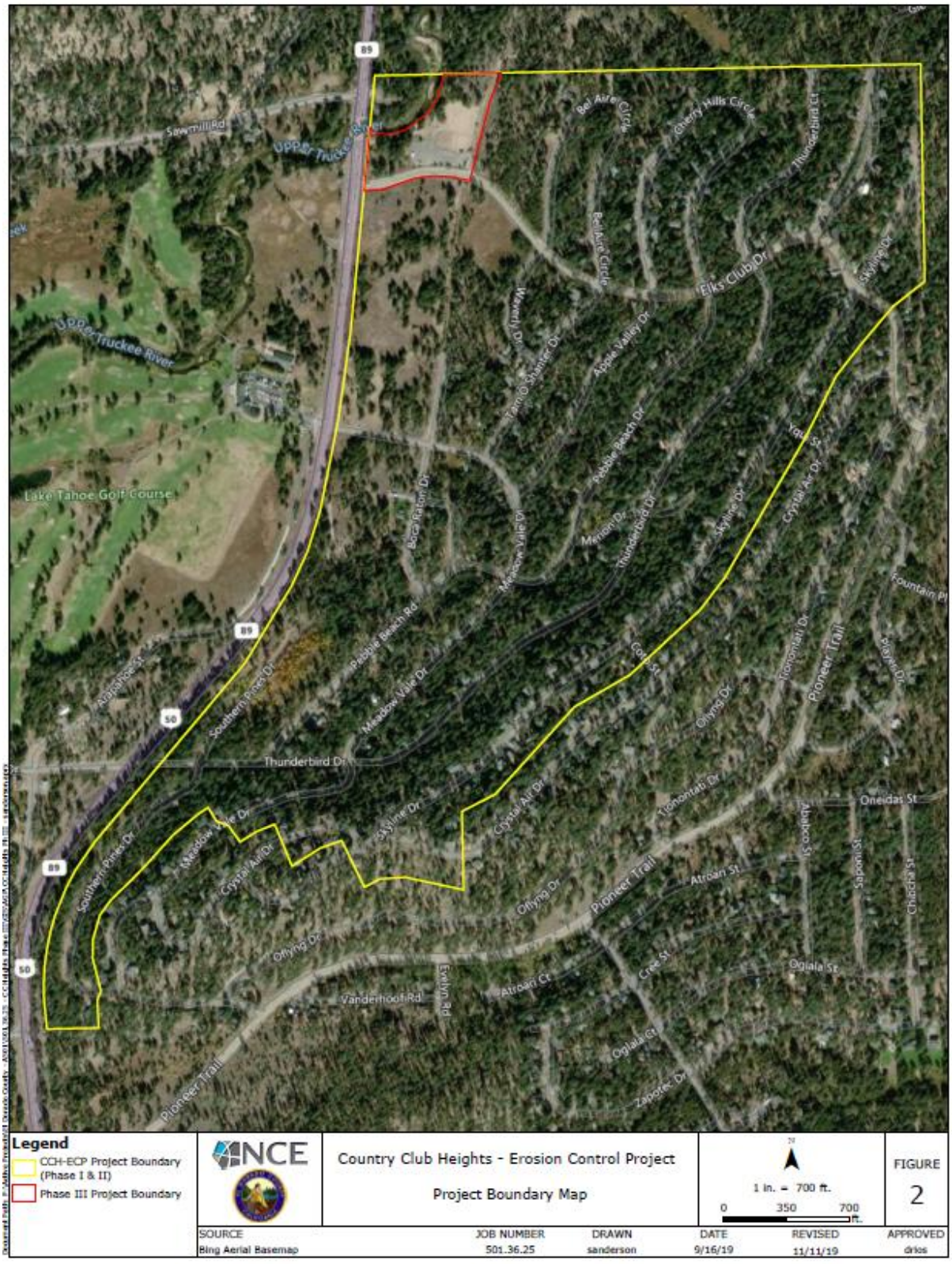

Figure 2. CCH-ECP and Phase III Project Boundary

Figure 3 Project Overview Map

3.3 PROJECT OBJECTIVES, PURPOSE, AND NEED

The objectives of the proposed Phase III project are to improve water quality at the northwestern end of the CCH-ECP, enhance recreation and access opportunities at the site, and restore SEZ habitat and floodplain function. Specifically, the Phase III project would:

- Reduce fine and coarse sediment, stormwater runoff volume, and peak flows.
- Stabilize roadside ditches and capture road abrasives utilizing source control BMPs.
- Remove excess pavement/coverage and non-native fill (approximately 1,100 cubic yards) and restore portions of the project area to surrounding land capability, including SEZ restoration.
- Increase watershed resilience and flood protection from climate change impacts
- Increase opportunities for the infiltration of stormwater runoff.
- Provide a pathway link to a larger trail system, supporting TRPA's Active Transportation Plan.
- Enhance recreational opportunities within the Basin.
- Blend hardscape improvements into the scenic environment to the maximum extent practicable.

As part of the overall CCH-ECP, the Phase III project is identified in the El Dorado County Stormwater Resource Plan, the Environmental Improvement Program (EIP) projects as a recreation project (EIP #612), a watershed management project (EIP #948 and 01.02.01.002) and as a water quality project (EIP# 01.01.01.0021). The Phase III project would also be consistent with goals stated in the *Linking Tahoe: Active Transportation Plan* (TRPA and Tahoe Metropolitan Planning Organization [TMPO] 2016) by enhancing recreational opportunities within the basin (FS:4).

This Project is being designed and constructed with potential financial assistance from the State of California, the United States Forest Service - Lake Tahoe Basin Management Unit (USFS-LTBMU) and TRPA mitigation funds. A Decision Memo for Implementation will be issued by the USFS-LTBMU prepared pursuant to the National Environmental Policy Act.

3.4 PROJECT BACKGROUND

Urban development within the CCH-ECP project area resulted in concentrated storm water flows from the county right-of-way (ROW) and developed parcels to be directed via dike, roadside ditch, and storm drainpipe toward conveyance systems that are connected to the Upper Truckee River. Infiltrating channels with rock check dams and vegetated detention basins were constructed as part of the 1987 Erosion Control Projects in the South Tahoe Basin, the 1994 Southern Pines Drive S.E.Z. Restoration Project, and the 2018 Country Club Heights Erosion Control Project to provide additional water quality treatment and peak flow/volume reduction.

Phase I and II of the CCH-ECP project addressed existing source control issues, hydrologic design issues, and treatment opportunities affecting water quality within the Country Club Heights subdivision area. The Phase III project is designed to focus on reducing impacts to water quality at the northwestern end of the CCH-ECP, as well as opportunities to enhance recreation and access opportunities in the area and provide SEZ habitat restoration.

3.5 SURROUNDING LAND USES AND SETTING

The Phase III project is primarily contained in an area formerly known as the Elks Club site, located within the limits of the Country Club Heights subdivision. The project area is zoned *Recreational Facilities, Low-Intensity* (RF-L). The location is heavily disturbed due to existing use of the land including recreational access to the Upper Truckee River and the existing trail system; commercial access by campers and vehicles to a seasonal weekend flea market held during summer months; and by large-turning-radius commercial vehicles to check loads (**Exhibit A**). The Phase III proposed trail improvements may serve as a connection point to future trail development in this area.

The project area is bound by the Upper Truckee River, Highway 50/Highway 89, and the Country Club Heights residential area.

Exhibit A Aerial Imagery of Existing Project Area Disturbance (2018)

Source: Google Earth, Imagery Date: 6/17/18

3.6 PROJECT CONSTRUCTION

Construction Access and Staging

Construction access would occur using existing county ROWs within the CCH subdivision. Staging would occur within the existing disturbed parking lot area within the project boundary. If necessary, a portion of Boca Raton Drive would be used for additional staging area.

Construction Time Schedule

Construction of the project would begin in the dry summer months of 2021 and would take approximately 25 days to complete.

3.7 CONSTRUCTION CONTROLS

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

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

Air Quality

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

Biological Resources

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

- Vegetation shall not be disturbed, injured, or removed except in accordance with the Code or conditions of project approval. All trees, major roots, and other vegetation not specifically designated and approved for removal in connection with a project shall be protected according to methods approved by TRPA. All vegetation outside the construction site boundary, as well as other vegetation designated on the approved plans, shall be protected by installing temporary fencing

pursuant to subsections 33.6.9 and 33.6.10. Disturbed areas shall be revegetated pursuant to 33.6.8.

Geology and Soils

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

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

Greenhouse Gas Emissions and Green Energy

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

- Minimize idling time either by shutting equipment off when not in use or reducing the time of idling to 5 minutes [required by California Code of Regulations, Title 13, sections 2449(d)(3) and 2485]. Provide clear signage that posts this requirement for workers at the entrances to the site.
- Maintain all construction equipment in proper working condition according to manufacturer's specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.

- Train equipment operators in proper use of equipment.
- Use the proper size of equipment for the job.
- Use equipment with new technologies (repowered engines, electric drive trains).
- Perform on-site material hauling with trucks equipped with on-road engines (if determined to be less emissive than the off-road engines).
- Use alternative fuels for generators at construction sites such as propane or solar or use electrical power.
- Use a California Air Resources Board (CARB)-approved low carbon fuel for construction equipment. (Nitrogen oxide emissions from the use of low-carbon fuel must be reviewed and increases mitigated.)
- Encourage and provide carpools, shuttle vans, transit passes, and/or secure bicycle parking for construction worker commutes.
- Reduce electricity use in the construction office by using compact fluorescent bulbs, powering off computers every day, and replacing heating and cooling units with more efficient ones.
- Recycle or salvage non-hazardous construction and demolition debris (goal of at least 75% by weight).
- Use SmartWay certified trucks for deliveries and equipment transport.
- Develop a plan to efficiently use water for adequate dust control.

Hydrology and Water Quality

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

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

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

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

- Temporary erosion and sediment control devices will be placed in accordance with the shown plans to protect sediment laden runoff from discharging from the site.
- Construction fencing shall be placed around SEZ areas.

Hazards and Hazardous Materials

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

Noise During Construction

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

Section 4 Environmental Evaluation

This section describes the project setting and evaluates the potential adverse impacts of the project in compliance with CEQA. Appendix G of the CEQA Guidelines (California Natural Resources Agency 2019) provides a checklist with a series of questions designed to enable the lead agency to identify project impacts with respect to the 20 environmental issues. Except where a specific threshold has been adopted by a public agency and is specified in the sections below, such as an air quality threshold, the Appendix G questions are used as thresholds of significance in this document.

Potential environmental impacts are described as follows:

- **Potentially Significant Impact**: An environmental impact that could be significant and for which no feasible mitigation is known. If any potentially significant impacts are identified in this Checklist, an Environmental Impact Report (EIR) must be prepared.
- **Less than Significant Impact with Mitigation Incorporated:** An environmental impact that requires the implementation of mitigation measures to reduce that impact to a less than significant level.
- **Less than Significant Impact**: An environmental impact may occur; however, the impact would not be considered significant based on CEQA environmental standards.
- **No Impact**: No environmental impacts would result from implementation of the project.

4.1 AESTHETICS

Environmental Setting

To protect scenic quality thresholds within the Tahoe Basin, specific areas have been identified as scenic corridors or scenic resources. Scenic corridors include views from Lake Tahoe and from all highways and Pioneer Trail in the Lake Tahoe Basin. These corridors have been divided into 33 shoreline and 45 roadway units. The scenic quality of these units was rated in 1982 and then again in 1986, 1991 and 1996. The ratings received by these units indicate if the area is "in attainment," (meeting the scenic threshold standards) or not "in attainment" (not meeting the scenic threshold standards).

Both the TRPA Regional Plan and Code of Ordinances outline the requirements for development in or near major scenic view corridors and vistas within the Lake Tahoe Basin and project vicinity.

The Phase III project area is adjacent to the US Highway 50/State Route 89 scenic corridor (TRPA Scenic Roadway Unit 36). All federal and state highways that lie within the Tahoe region and Pioneer Trail are designated as scenic highways. The project is within Plan Area Statement (PAS) 119-Country Club Meadow, which has a special designation for scenic resource restoration (TRPA 2002). There are no PAS designated scenic vistas in the project area.

Environmental Checklist

Except as provided in Public Resources Code Section 21099, would the project:

Environmental Issue	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?			✓	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a state scenic highway?			✓	
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			✓	

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

Answers to Checklist Questions

a) Would the project have a substantial adverse effect on a scenic vista?

Less than Significant Impact. There are no designated scenic vistas within the project area. A limited part of the Phase III project area is visible from US Highway 50/State Route 89, which is a designated Scenic Highway. The intent of the proposed project is to provide for water quality improvement, restore a degraded SEZ area, and provide for recreation access and improvement, all of which are anticipated to provide aesthetic improvement to the area. While there would be temporary aesthetic impacts due to construction, there would be no long-term degradation of aesthetic quality in the Phase III project area and therefore the proposed project would have a *less than significant impact*.

b) Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings, within a state scenic highway?

Less than Significant Impact. No rock outcroppings or historic buildings would be damaged during construction of the proposed Phase III project. The project proposes elements which would provide scenic improvements, such as removal of coverage from the existing parking area to restore the SEZ. Upwards of 50 conifer trees may be removed outside of a 100-foot buffer from Scenic US Highway 50 / State Route 89 for fuels management / fire hazard reduction, to improve forest health through removal of diseased and infested trees and provide for the successional management and restoration of the SEZ. This limited and select removal of diseased and infested trees would not degrade aesthetic quality due to the number of trees within the project area and the 100-foot tree screening buffer from the Caltrans ROW adjacent to the Scenic Corridor. Therefore, impacts resulting from tree removal adjacent to the Scenic Corridor would be *less than significant*, and the project overall would improve aesthetics within the degraded and heavily disturbed SEZ area.

c) In non-urbanized areas, would the project substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?

Less than Significant Impact. The proposed Phase III project would implement new water quality protection measures, remove excess concrete and reduce the size of the existing parking area, implement SEZ restoration, and provide recreation improvements for the subdivision. Care would be taken in the design and construction of the improvements to integrate them into the natural surroundings. These planned improvements would increase the visual character and quality of the site. While construction activities may affect the scenic resources during construction, these impacts would be temporary. The proposed Phase III project would not substantially degrade the existing visual character or quality of the site or its surroundings; therefore, the proposed Phase III project would have a *less than significant impact*.

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

Less than Significant Impact. The proposed new bathroom facility would include interior lighting. There would be no new sources of exterior lighting associated with the project. Because the lighting associated with the bathroom would be interior only, and nearby residential views of the project site are largely obstructed by trees, it is not anticipated that the interior lighting would have an adverse effect on nighttime views of the area or adversely affect residents. The interior bathroom lighting would have no effect on daytime views of the area. Therefore, the project would not result in a new source of substantial light or glare, and the impact would be *less than significant*.

4.2 AGRICULTURAL AND FORESTRY RESOURCES

Environmental Setting

The project area is zoned Recreational Facilities, Low-Intensity (RF-L) (El Dorado County 2015). There is no farmland or agricultural use land associated with the project. There is no U.S. Forest Service (USFS) land associated with the Phase III project.

Environmental Checklist

Would the project:

Environmental Issue	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?				✓
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?				✓
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code (PRC) § 12220(g)), timberland (as defined by PRC § 4526), or timberland zoned Timberland Production (as defined by Government Code § 51104(g))?				✓
d) Result in the loss of forest land or conversion of forest land to non-forest use?				✓
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?				✓

Discussion

The project area does not contain any lands used for agriculture, nor do the plan area statements that encompass the project area allow for agriculture. Additionally, the project will only remove a small number of trees for construction, fuels management, and habitat restoration in relation to the significant number of trees within the project area. The trees to be removed are located within the county ROW or on CTC-owned parcels. Tree removal will be completed by California Conservation Corps contracted hand crews with oversight by CTC personnel. Trees tagged for removal will include those which are dead, diseased, or within a dense stand. Therefore, the proposed project will have *no impact* on agriculture or forest resource.

Answers to Checklist Questions

a) 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?

No Impact. The project area does not contain Prime Farmland, Unique Farmland, or Farmland of Statewide or Local Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Division of Land Resource Protection (2018). Implementation of the project does not require conversion of land from the existing land use. Because the project does not propose to convert land or contain farmland, there would be *no impact*.

b) Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The project area is zoned Recreational Facilities, Low-Intensity (RF-L); there is no existing agricultural zoning associated with the project area. The Williamson Act is a means to restrict the uses of agricultural and open space lands to farming and ranching uses; because these uses are not associated with the project area, there would be *no impact*.

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

No Impact. Construction of the project would not require a conversion of land use or require tree removal within forest land. Therefore, the project would not cause rezoning of existing forest land within the project area. There is no land zoned as timberland production (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g)).

d) Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. As discussed in items a-c above, the project does not occur on forest lands or require conversion of forest use to non-forest use; therefore, there would be *no impact*.

e) 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?

No Impact. As discussed in items a-d above, the project does not involve designated Farmland or result in the potential to convert land use. There would be *no impact*.

4.3 AIR QUALITY

Environmental Setting

The project is located in the Lake Tahoe Air Basin (LTAB), which extends into portions of El Dorado and Placer Counties in California, Washoe and Douglas Counties in Nevada, and Carson City Rural District in Nevada. The LTAB is affected by both the rate and location of pollutant emissions and by meteorological conditions that influence movement and dispersal of pollutants. Atmospheric conditions such as wind speed, wind direction, air temperature gradients, and existing air pollutant sources coupled with local topography affect the dispersion of air pollution and air quality in the LTAB.

Most airborne pollutants in the LTAB come from three sources related to populated areas that generate airborne anthropogenic materials: road dust, vehicle exhaust, and chimney smoke. Undeveloped areas in the LTAB produce airborne dust and smoke from natural sources like forest fires as well as direct and indirect effects of land management practices (i.e. controlled burns). In addition, airborne materials generated in downwind areas, including the San Francisco Bay area and the Central Valley, are carried upwind to the LTAB by the region's prevailing winds. As a result of the various potential emission sources, air quality regulations in the LTAB focus on the following air pollutants: ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, fine particulate matter (PM_{10} and $PM_{2.5}$), and lead. These pollutants are commonly referred to as "criteria air pollutants."

Air quality within the LTAB is regulated by several agencies including the U.S. Environmental Protection Agency (EPA), the California Air Resources Board (CARB), EDCAQMD and TRPA. These agencies develop rules, regulations, policies, and/or plans to achieve the goals and directives imposed through legislation.

Local Regulations

Tahoe Regional Planning Agency Thresholds of Significance

TRPA takes air quality into consideration in its planning and permitting activities to ensure compliance with State and District air quality standards for projects in the LTAB. Because the TRPA's authority is granted directly from Congress, the TRPA has the authority to adopt air quality and other environmental quality thresholds, and to enforce ordinances designed to achieve the thresholds. Exhibit B below presents the Environmental Threshold Carrying Capacities (ETCC) for the LTAB.

Pollutant	Construction Threshold	
ROG	82 lbs/day	
NOx	82 lbs/day	
CO	8-hour average: 6 parts per million (ppm)	1-hour average: 20 ppm
PM10	Annual arithmetic mean: 20 µg/m3	24-hour average: 50 µg/m3
PM2.5	Annual arithmetic mean: 12 µg/m3	24-hour average: 65 µg/m3
Ozone	8-hour average: 0.07 ppm	1-hour average: 0.08 ppm

Exhibit B Tahoe Regional Planning Agency Air Quality Threshold of Significance

El Dorado County Air Quality Management District

The EDCAQMD is the primary agency responsible for air quality regulation in the LTAB. As part of that role, the EDCAQMD has prepared the 2002 CEQA Guide to Air Quality Assessment. The purpose of the Guide is to facilitate the evaluation and review of air quality impacts for projects in El Dorado County that are subject to CEQA. The guide's intent is to facilitate and provide consistency in the preparation of analyses that inform decision-makers and the public about the air quality implications of a project. The Guide to Air Quality Assessment has established construction thresholds for air quality for priority pollutants shown in Exhibit C below.

Pollutant	Construction Threshold
ROG	82 lbs/day
NOx	82 lbs/day
PM10	Project would cause or contribute to a violation of Ambient Air Quality Standards
CO	

Source: El Dorado County 2002

Exhibit C El Dorado County AQMD Threshold of Significance

For construction projects, the County has identified screening criteria to assist with determining whether a construction project would substantially impact air quality. Screening of construction equipment exhaust emissions may be done using one of two possible methods:

1) Based on fuel use; and
2) Based on implementation of mitigation measures. Screening of fugitive dust PM10 emissions may be accomplished based on implementation of mitigation measures. If it is determined that a construction project would have a less than significant effect on air quality after use of the appropriate screening criteria, then modeling or other steps to estimate the amount of emissions that would be generated are not required (El Dorado County 2002).

Environmental Checklist

Would the project:

Environmental Issue	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?			✓	
b) 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?			✓	
c) Expose sensitive receptors to substantial pollutant concentrations?			✓	

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			✓	

Answers to Checklist Questions

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

Less than Significant Impact. Projects that could generate emissions in excess of the EDCAQMD and the TRPA ETCC recommended significance thresholds would be considered to potentially conflict with or obstruct implementation of the applicable air quality plan. The Phase III project does not propose features that would result in permanent stationary and/or mobile sources of emissions. The project would generate temporary emissions during construction of the project. The EDCAQMD has identified the most common sources of emissions from construction projects as site preparation, earthmoving, and general construction.

The emissions generated from these activities include the following:

- Combustion emissions: (reactive organic gases, nitrogen oxides, carbon monoxide, sulfur oxides, PM_{10}) from mobile heavy-duty diesel and gasoline powered equipment, portable auxiliary equipment, and worker commute trips;
- Fugitive dust (PM_{10}) from soil disturbance or demolition.

Short-term construction-generated emissions are not projected to exceed applicable thresholds of significance due to the short duration required for construction and adherence to applicable County and TRPA requirements as discussed in the Section 3.7 - Construction Controls. The project is required to comply with the EDCAQMD Rule 223, which includes requirements for construction projects, including preparation of a Fugitive Dust Control Plan. Other control measures for construction and other earth moving activities must follow recommendations presented in Table 1 of Rule 223-1 'Best Management Practice'. These BMPs include, but are not limited to, stabilizing disturbed soil, limiting vehicular traffic, applying water to disturbed soil, limiting size of staging area, and use of tarps to cover loose soils. Implementation of these required controls would ensure emissions generated during construction would not exceed the applicable thresholds of significant and therefore would not have potential to conflict with or obstruct implementation of the applicable air quality plan; the impact would be *less than significant.*

b) 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?

Less than Significant Impact. Construction of the project would result in short-term increases in emissions associated with activities such as excavation, grading, and removal of non-native fill and concrete associated with the existing parking lot. Increased emissions would consist of ROG, NO2 and emissions of PM1O, CO, SO2 and NOx. Emissions of ozone-precursors could result from the operation of both on and off-road motorized vehicles and equipment. Emissions of airborne PM would be dependent on the amount of ground disturbance associated with site preparation activities and could result in increased concentrations of PM10. If ROG and NOx emissions are deemed not significant, then exhaust emissions of CO and PM10 from construction equipment, and exhaust emissions of all constituents from worker commute vehicles, may also be deemed not significant (El Dorado County 2002).

Project Screening - Emissions

The Phase III project would require approximately 25 days to construct and would disturb less than 6 acres total over the life of the project. An air quality emissions analysis was recently performed for the nearby Bijou Area Erosion Control Project which is much larger (32 acres) than the Phase III project. Results of the daily emissions modeling for the Bijou Area ECP indicated that both the ROG and NOX emissions are below the applicable thresholds, and therefore, impacts from ROG and NOX emissions are also determined less than significant (City of South Lake Tahoe 2011).

Because the Phase III project requires a smaller area of disturbance and days to construct than the Bijou Area ECP, it is anticipated the Phase III project would be well below the established significance levels. Additionally, the air quality construction controls as listed in Section 3.7, including implementation of a Fugitive Dust Control Plan and compliance with the AQMD requirements for implementation of BMPs during construction would further reduce emissions and protect air quality; impacts are anticipated to be *less than significant.*

Project Screening – Fugitive Dust

For fugitive dust emissions (PM10), the screening approach is based on specific dust suppression measures that will prevent visible emissions beyond the boundaries of the project. If those measures are incorporated into project design, then further calculations to determine PM10 are not necessary.

As discussed, the proposed project is required to implement dust control practices in compliance with the provisions of the El Dorado County Air Pollution Control District Rule 223, TRPA Regional Plan Goals and Policies related to Air Quality and

the National Ambient Air Quality Standards. The following BMPs, at a minimum, will be implemented during construction:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day or to the extent necessary to adequately suppress dust.
- All haul trucks transporting soil, sand, or other loose material on or off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of the CCR).
- Post a publicly visible sign with the telephone and person to contact at the Lead Agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The El Dorado County Air Pollution Control District's phone number shall also be visible to ensure compliance with applicable regulations.

As discussed, emissions for the Phase III project are not expected to exceed the applicable emissions thresholds. Emissions generated by the project would be short-term during construction, and the required Fugitive Dust Control Plan and standard BMPs to reduce other emissions would ensure impacts during construction would be less than significant. Therefore, the project would not 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.

c) Would the project expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact. Construction activities may impact air quality, but the impacts would be well below established significance levels because the activity is temporary and there would not be any long-term impacts. The proposed Phase III project would not expose sensitive receptors to substantial pollutant concentrations; therefore, the project would have a *less than significant impact*.

d) Would the project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less than Significant Impact. Construction activities may impact air quality, but the impacts would be well below established significance levels because the activity is temporary and there would not be any long-term impacts. The proposed Phase

III project would not expose sensitive receptors to substantial pollutant concentrations; therefore, the project would have a *less than significant impact*.

4.4 BIOLOGICAL RESOURCES

Environmental Setting

The Phase III project area is characterized by predominantly fragmented Jeffrey pine forest (NCE 2019a) and surrounded by urban development associated with the CCH subdivision. This area produces concentrated stormwater runoff that flows from county ROW to pervious, naturally vegetated land and ultimately the Upper Truckee River. Because the CCH subdivision is connected to Lake Tahoe through Meyers Creek and the Upper Truckee River, there is potential for fine sediments produced in the residential area to deposit directly into Lake Tahoe. Current sediment sources within vicinity of the Phase III project area include residential use and vehicular traffic; road sand/cinder accumulation from local and collector roadways; and eroding cut slopes, and roadside ditches.

Biological resource studies were completed for the Phase I and II IS/MND, which included the Phase III project area; no special status wildlife or plant species were identified during field surveys. With the implementation of protective measures, the project was determined to have a *less than significant impact with mitigation incorporated* on biological resources (County of El Dorado 2016).

Biological resource studies were completed for the proposed Phase III project to account for any changes in site conditions and project features since the Phase I/II project. The following updated documents prepared for the Phase III project are provided in the appendices and are summarized briefly below:

- Biological Assessment (Appendix C)
- Aquatic Resource Delineation Report (Appendix D)
- Wildlife Baseline Report (Appendix E)
- Sierra Nevada Yellow-Legged Frog Site Assessment (Appendix F)
- Invasive Plant Risk Assessment (Appendix G)
- Botanical Baseline Report (Appendix H)

Wildlife

A Wildlife Baseline Report was prepared by NCE as an initial baseline assessment to determine potential for special status species to occur within the Phase III project area. Specifically, those species designated as federally threatened or endangered by the USFWS; those designated as state endangered, threatened, or rare by the State of California; those designated as sensitive by the USFS-LTBMU; and TRPA special interest species. Results of the Wildlife Baseline Report indicate there are no known occurrences of special status species within a 0.5-mile buffer around the

project boundary. Additionally, there were no signs, evidence, or suitable habitat found for special status species during field surveys (NCE 2019g). The full Wildlife Baseline Report is attached as Appendix H.

A Biological Assessment (BA) was prepared by NCE in October 2019 to review the proposed Phase III project in sufficient detail to determine the extent to which the project may affect any federally threatened or endangered species and/or designated critical habitat. The BA was prepared in accordance with legal requirements set forth under Section 7 of the Endangered Species Act (16 United States Code 1536 (c)). The BA includes results of literature searches, database review, and a field survey which were conducted for the Phase III project.

Based on database search, literature review, and field survey results, the BA considers the Sierra Nevada yellow-legged frog (SNYLF; *Rana sierra*) a federally listed species which may be impacted by the project. The Phase III project would occur in an area designated by the USFS as suitable habitat for the species (NCE 2019b) (**Figure 4**). The SNYLF is listed as federally endangered and is considered a Species of Special Concern by the CDFW. Critical habitat was designated in 2006 and revised in 2010; the project area is located outside of the USFWS-designated critical habitat for the SNYLF (NCE 2019b). Potential project impacts to the SNYLF are analyzed in the attached Biological Assessment (Appendix C) and discussed in checklist item a) below. A Sierra Nevada -Yellow-Legged Frog Site Assessment was also prepared in support of the BA (Appendix F).

Other federally listed special status species may be present near the Phase III project area; however, project activities do not fall within any Critical Habitat Areas for any USFWS species, and as a result, the project is not anticipated to effect other federally listed special status species (NCE 2019b). The BA, located in Appendix C, contains a comprehensive list of special status species evaluated for the proposed project and includes species on which the project was determined to have no effect, and the reason for each determination.

Figure 4. Suitable Habitat for Sierra Nevada Yellow-legged Frog

Aquatic Resources

In 2016, an Aquatic Resource Delineation was conducted for the CCH-ECP in support of Phases I and II of the project. The area surveyed during this effort included the area of the Phase III project. NCE performed an aquatic resource delineation for the Phase III project on August 6, 2019, evaluating the potential jurisdictional status of waters of the United States within the Phase III project area.

A jurisdictional determination, SPK-2016-00783, was received for the 2016 survey area. Based on communications with the U.S. Army Corps of Engineers' Reno field office, NCE is requesting that the 2016 and 2019 survey areas be combined, and a revised jurisdictional determination be issued for the Phase III project.

During the 2019 delineation, NCE delineated the edge of the Upper Truckee River and two man-made swales. The edge of the Upper Truckee River is outside of the Phase III project area and would not be impacted by the proposed project; however, the two man-made swales are located within the Phase III project boundary. The man-made swales were created in uplands for stormwater management, and therefore are not federally jurisdictional (NCE 2019c). The full Aquatic Resource Delineation Report is included as Appendix D.

Botanical Resources

A Botanical Baseline Report was prepared by NCE to conduct an initial baseline assessment for botanical resources that satisfies the USFWS, TRPA, CDFW, USFS-LTBMU, and the California Native Plant Society (CNPS) requirements to determine potential for botanical special status species to occur within the boundaries of the Phase III project. NCE conducted a botanical field survey on August 2, 2019; no special status plant species were found during field surveys (NCE 2019a). Additionally, no historical observations or detections of special status species were found within 0.5 miles of the project boundary during background information research (NCE 2019a). A list of plant species observed during the survey can be found in the attached Botanical Baseline Report (Appendix H), as well as a full description of the vegetation communities present within the Phase III project area.

An Invasive Plant Risk Assessment (IPRA) was prepared by NCE to identify potential effects of invasive weed species on the project area. In addition to field survey, the IPRA included a literature and database review to identify documented noxious weed species within and adjacent to the project area.

The results of the field surveys found five (5) invasive plant species in the project area: cheat grass (*Bromus tectorum*), bull thistle (*Cirsium vulgare*), poison hemlock (*Conium maculatum*), field bindweed (*Convolvulus arvensis*), and yellow toadflax (*Linaria vulgaris*). USFS 2008 invasive plant data supplied by the USFS documents an additional species in the project area: oxeye daisy (*Leucanthemum vulgare*)

(NCE 2019d). The attached IPRA (Appendix G) contains locations of identified invasive weed species in and near the project area, as well as recommended management actions for the County to implement during project construction.

Stream Environment Zones

Land within the Phase III project area is classified as 1B: SEZ (County of El Dorado 2016: Figure 6). The TRPA Code of Ordinances defines SEZ as, "Generally an area that owes its biological and physical characteristics to the presence of surface or ground water." The TRPA regulates SEZ within the Tahoe Basin under the Clean Water Act's 208 Plan program. The SEZ within the project area is heavily disturbed and contains of areas of coverage, including paved parking and compacted areas used for recreation purposes.

Environmental Checklist

Would the project:

Environmental Issue	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies or regulations, or by the California Department of Fish & Wildlife (CDFW) or U.S. Fish & Wildlife Service (USFWS)?		✓		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?			✓	
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?				✓
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?		✓		
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			✓	
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				✓

Answers to Checklist Questions

a) 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 & Wildlife (CDFW) or U.S. Fish & Wildlife Service (USFWS)?

Less than Significant Impact with Mitigation Incorporated.

Wildlife

As discussed in the Environmental Setting, a Wildlife Baseline Report and Botanical Baseline Report were prepared to determine if special status species had the potential to occur within the Phase III project area. There were no signs, evidence, or suitable habitat found for wildlife or botanical special status species during field surveys. Results of the studies also indicate there are no known occurrences of special status species within a 0.5-mile buffer around the project boundary.

However, due to a portion of the project area occurring within mapped USFS suitable habitat for SNYLF, a Sierra Nevada Yellow-Legged Frog Site Assessment was conducted. The SNYLF Site Assessment was then used to support preparation of a Biological Assessment to analyze potential impact of the project on the species and its habitat.

Although the Phase III project area contains land identified by the USFS as suitable habitat for the species due to proximity to the Upper Truckee River and mapped SEZ land, this upland area includes approximately one (1) acre of paved and compacted parking area that is heavily disturbed and currently unsuitable for SNYLF breeding, foraging, or dispersal (NCE 2019b). A protocol-level visual encounter survey was conducted in 2019 and no signs or detections of SNYLF or any other amphibians were encountered during survey (NCE 2019f).

During construction, approximately 1.6 acres of USFS designated suitable habitat would be disturbed by construction of project features. Phase III project activities within SNYLF suitable habitat are limited to the improvement of an existing pathway adjacent to the Upper Truckee River and the restoration of disturbed soils to return approximately half an acre of SEZ to its natural function.

Additionally, the existing parking area would be reduced in size by removing concrete and restoring with native vegetation; therefore, the proposed project would improve and restore a portion of the suitable habitat area and would result in an improvement of habitat function for SNYLF as a result of project activities.

Results of the BA conclude that while unlikely, given the historical occurrences of SNYLF in the Upper Truckee River system, it is possible that SNYLF could occur within the Phase III project impact area (NCE 2019b). In the event SNYLF is

encountered during construction, implementation of **Mitigation Measure B-1** would ensure impacts to SNYLF would be reduced to *less than significant*.

- ***Mitigation Measure B-1***: In the event the Sierra Nevada yellow-legged frog is encountered at the Phase III project site , the County shall coordinate with TRPA, CDFW, and USFWS staff to determine the proper course of action to avoid impacts to the species which may include but not be limited to:
    - Revise the proposed project to avoid impacts to the Sierra Nevada yellow-legged frog(s) that exist within the project area. Avoidance may take the form of eliminating or relocating project features, eliminating construction activities or restoration activities that may have an adverse impact to known individuals; and
    - Create an exclusion zone surrounding the location of the observed frog, tadpole or larvae for a 30-meter distance that precludes disturbance within suitable habitat. No construction activities shall take place within the exclusion zone. Additionally, any waters flowing through the Project site that enter the exclusion zone shall not be impeded or diverted as a result of construction activities.

Migratory Birds

The Jeffrey pine present within the project area contains suitable habitat for migratory birds, protected under the Migratory Bird Treaty Act (MBTA) (NCE 2019g). The MBTA makes it unlawful to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter, any migratory bird, or the parts, nests, or eggs of such a bird except under the terms of a valid Federal permit. Proposed tree removal within the project area, as discussed in Section 3 – Project Description, may result in significant impacts to species protected by the MBTA. However, with implementation of **Mitigation Measure B-2**, impacts would be reduced to less than significant.

- ***Mitigation Measure B*-2:** If any construction activities (e.g. tree removal, grubbing or grading) are scheduled during the bird nesting season (typically defined by CDFW as February 1 to September 1), the County or approved construction contractor shall retain a qualified biologist to conduct a pre-construction survey of the project area to include a 100-foot buffer, as access is available, to locate active bird nests, identify measures to protect the nests, and locate any other special status species. The pre-construction survey shall be conducted no more than 14 days prior to the implementation of construction

activities (including staging and equipment storage). Any active nest shall not be disturbed until young have fledged or under the direction provided by a qualified biologist. Any special status species shall not be disturbed unless under the direction provided by a qualified biologist. If an active nest is found during construction, disturbance shall not occur without direction from a qualified biologist.

Vegetation

As discussed in the environmental setting, five (5) invasive plant species were identified within the project area. Results of the IPRA (Appendix G) indicate that overall habitat vulnerability of the Phase III project is considered medium due to occurrences of invasive plants within the project area; presence of established roads, foot and animal traffic, and large areas of cultivated landscape and/or turf in the area; and spread could be limited by proper treatment and eradication both pre and post construction. Due to this, the IPRA recommends that the County implement a Noxious Weed Mitigation Plan (Mitigation Measure B-3) to decrease habitat vulnerability associated with spread of invasive weeds during and post-construction. **Mitigation Measure B-3** would ensure significant impact from the spread of noxious weeds within and adjacent to the Phase III area is avoided.

- ***Mitigation Measure B-3:*** The County shall implement and require the contractor to adhere to a Noxious Weed Mitigation Plan (Plan) to decrease habitat vulnerability to or below pre-construction levels. The Plan shall include preconstruction elements such as treatment methodologies for existing noxious weed populations identified in the project area, as well as operating procedures for both during and post-construction. Recommended BMPs will include, but are not limited to: hand removal of existing weeds prior to going to seed, equipment cleaning prior to use, area of disturbance minimization, disturbed ground stabilization upon completion of construction with mulch or other means, certified weed-free mulch and other materials, and disturbed areas revegetation with native plants.

b) Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the CDFW or USFWS?

Less than Significant Impact. As discussed in the Environmental Setting, no jurisdictional wetland or water of the U.S. features were identified within the Phase III project area. Therefore, the project would have no impact on jurisdictional wetland or water of the U.S. features.

The Phase III project area lies entirely within mapped SEZ land. A Land Capability Verification Application was submitted to TRPA in March 2019 for certification. The

TRPA prohibits disturbance within Land Capability District 1B (SEZ) but provides an exemption for erosion control projects. The Planning Statement for this land use states that "this area should be managed for outdoor recreation and natural resource values to include opportunities for SEZ restoration" (TRPA 2002). The historic SEZ area currently contains approximately one acre of paved and compacted parking area that is heavily disturbed and appears to be functioning as an upland area based on the 2019 delineation field visit. The project proposes to return approximately half an acre of SEZ to its natural function by reducing the size of the existing parking area, removing concrete / non-native material and restoring with native vegetation. Additionally, the project proposes to grade a depressional sediment basin and area adjacent to the reduced parking lot to capture runoff from the parking lot for infiltration and treatment. Trail improvements associated with the project would also occur in previously disturbed areas that are not currently functioning as SEZ. During construction, implementation of the required construction controls in Section 3.7, including a project specific SWPPP would ensure temporary impacts associated with excavation and grading activities to restore the SEZ remain less than significant. Overall, the project would reduce coverage in an SEZ, improve and restore SEZ land, and would result in an improvement of habitat and function as a result of the project.

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

No Impact. As discussed above, there are no federally protected wetlands in the Phase III project area; therefore, there would be *no impact*.

d) 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?

Less than Significant Impact with Mitigation Incorporated. There are no channels within the project area which contain sufficient habitat or sustained water flows to support fish species, therefore there is no potential to impact migratory fish. It is possible for migratory wildlife species to passively use the project area as a migration corridor due to presence of open space; however, it is unlikely due to existing disturbances, lack of suitable habitat, and human use of the area (NCE 2019g). The project does not propose to modify any undeveloped land areas or construct barriers in a manner that could impede wildlife migration. However, proposed tree removal associated with the Phase III project could result in a significant impact to migratory bird species should they be present during construction. As provided in **Mitigation Measure B-2**, the project will be surveyed for migratory birds nesting in the project area prior to construction, and buffers

around the nests will be established, if warranted, to avoid potential significant impact to migratory birds.

- **Mitigation Measure B-4**: Implement Mitigation Measure B-2.

e) Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

Less than Significant Impact. The project proposes to remove a small number of conifer trees outside of a 100-foot buffer from Scenic US Highway 50 / State Route 89 for fuels management / fire hazard reduction and provide for the successional management of SEZ restoration. The trees to be removed are located within the county ROW or on CTC-owned parcels mapped as SEZ land. Tree removal would be completed by California Conservation Corps contracted hand crews with oversight by CTC personnel. Trees tagged for removal will include those which are dead, diseased, or within a dense stand.

The TRPA Code of Ordinances *Tree Cutting within Stream Environment Zones* (Code Section 61.1.6C) stipulates that tree cutting within SEZs may be permitted to allow for early successional stage vegetation management, sanitation salvage cuts, fuels management for fire hazard reduction, restoration or enhancement of ecosystem health and diversity, and fish and wildlife habitat improvement projects, in accordance with the standards provided in the Code Section. The TRPA Code stipulates a project must meet the following minimum tree removal within SEZ standards:

1. Vehicle Restrictions: All vehicles shall be restricted to areas outside of the SEZs or to existing roads within SEZs.
2. Soil Conditions: All work within SEZs shall be limited to times of the year when soil conditions are dry and stable, or when conditions are adequate for over-snow tree removal operations without causing significant soil disturbance and/or significant vegetation damage (See subparagraph 61.1.6.F).
3. Trees and Debris Kept from Streams: Felled trees and harvest debris shall be kept out of all perennial or intermittent streams. If deposited in the stream, the material shall be removed unless it is determined that such logs and woody material adds structural diversity pursuant to fish and wildlife habitat improvements in accordance with Chapter 62: Wildlife Resources, and Chapter 63: Fish Resources. This determination shall be approved by TRPA.
4. Stream Crossings: The crossing of perennial streams or other wet areas shall be limited to improved crossings meeting Best Management Practices or to temporary bridge spans that can be removed upon project completion or at the end of the work season, whichever is sooner. Any damage or disturbance

to the SEZ associated with a temporary crossing shall be restored within one year of its removal. In no instance shall any method requiring the placing of rock and earthen material into the stream or streambed be considered an improved crossing. Other temporary measures may be permitted for dry stream crossings in accordance with the Handbook of Best Management Practices.

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

The project would comply with the vehicle restrictions as required by item 1. above because existing disturbed areas defined by construction limit fencing would be utilized for vehicle access within the area mapped as SEZ. Because the project is required to comply with the TRPA Code pertaining to tree removal within SEZ, additional mitigation would not be necessary, and the impact would be *less than significant*.

f) 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?

No Impact. As discussed in item e) above, the project is required to comply with the TRPA Code of Ordinance that stipulates implementation of protection measures for tree removal within SEZ zones; therefore, the project would not conflict with a local tree preservation policy or ordinance. 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 as none exist for the project area.

4.5 CULTURAL RESOURCES

Environmental Setting

Cultural resource studies, which included a literature search and an archaeological survey/inventory of the Phase I and II CCH-ECP project area, were completed for the IS/MND. The project was determined to have a *less than significant impact* on cultural resources for Phases I and II of the CCH-ECP (County of El Dorado 2016). An updated cultural resource study was conducted for the Phase III project. The following document is provided in the appendices and is summarized briefly below:

- Heritage Resource Inventory Report (Appendix I): NCE conducted an archival review and an intensive surface inspection of the site to determine if there were any archaeological resources present on the site. The archival review (records search) determined that there were no previous resources recorded on the site. No prehistoric or historic cultural resources were identified within or adjacent to the Phase III project area. In the absence of such resources, there was no need to assess resource eligibility for listing in the California Register of Historical Resources or the National Register of Historic Places. It is recommended that a finding of "*no historic properties are present*" be made, as that phrase is viewed within the context of compliance with the Advisory Council on Historic Preservation regulations (36 CFR 800) (NCE 2019e).

Environmental Checklist

Would the project:

Environmental Issue	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines § 15064.5?		✓		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines § § 15064.5?		✓		
c) Disturb any human remains, including those interred outside of dedicated cemeteries?		✓		

Answers to Checklist Questions

a) Would the project cause a substantial adverse change in the significance of a historical resource pursuant to CEQA Guidelines § 15064.5?

b) Would the project Cause a substantial adverse change in the significance of an archaeological resource pursuant to CEQA Guidelines § 15064.5?

Less than Significant Impact with Mitigation Incorporated. As noted above, a records search and field survey investigation were conducted within the project area. No cultural resources were identified within or adjacent to the project area by either the records search or site surveys, and no properties or historical resources listed in the California Register of Historical Resources (CRHR) are known to be present in the project area or observed; therefore, there is low probability for encountering previously unknown resources.

However, without physical confirmation, the possibility of exposing previously undiscovered buried historical or archaeological resources still remains; any loss of historical or archaeological resources could result in a cumulatively considerable impact. Thus, mitigation for inadvertent discoveries is required to reduce potential impacts during construction to less than significant.

Incorporation of **Mitigation Measure CR-1** would ensure that potential impacts to buried or previously undiscovered resources are *less than significant*.

- ***Mitigation CR-1:*** The contractor and key members of crews working on excavation, trenching, and grading for sites preparation shall be instructed to be wary of the possibility of destruction of buried cultural and paleontological resource materials. They shall be instructed to recognize signs of prehistoric use and their responsibility to report any such finds (or suspected finds) immediately, as specified by measure CR-2 below, so damage to such resources may be prevented. No historic properties will be affected in compliance with Advisory Council on Historic Preservation regulations (36 CFR 800). However, in the event that cultural resources are discovered during Phase III project implementation, Phase III project personnel will halt all activities in the immediate area and will notify a qualified archaeologist, the County Project Engineer, and the Washoe Tribe, to determine the appropriate course of action. Archaeological resources are not to be moved or taken from the project site and work should not resume until authorized.

c) Would the project disturb any human remains, including those interred outside of dedicated cemeteries?

Less than Significant Impact with Mitigation Incorporated. Based on the prehistoric and historic uses of the area within the Area of Potential Effect (APE), human remains are not expected to be discovered during construction activities. However, in the event that unknown burials or human remains are discovered during construction, **Mitigation Measure CR-2** would ensure that potential impacts to human remains would be *less than significant* by requiring implementation of certain performance standards in the event of inadvertent discovery of human remains.

- ***Mitigation CR-2:*** Final plans and specifications shall include guidance in the event that human remains are discovered. Work in the area surrounding the remains shall cease and the County Coroner and local law enforcement shall be notified immediately of the discovery in accordance with PRC Section 5097.98 and Section 7050.5 of California Health and Safety Code to conduct proper evaluation and treatment of remains. The coroner and law enforcement agency with jurisdiction will evaluate the find to determine whether it is a crime scene or a burial. If human remains are determined to be associated with an archaeological site (burial), the California OHP will be notified. The OHP will work with appropriate tribes to determine measures to take.

4.6 ENERGY

Environmental Setting

There are no existing energy uses in the Phase III area. The project proposes to connect to the existing Liberty Utilities electrical line that serves the project area to provide interior lighting to the new bathroom facility. The existing electrical line is located within the Elks Club Drive ROW.

Energy use associated with the project would also occur temporarily during construction of the project.

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.

TRPA has adopted a Regional Plan for energy, which includes the following goal:

> *Goal E1 – Promote energy conservation programs and development of alternative energy sources to lessen dependence on scarce and high-cost energy supplies.*

Environmental Checklist

Would the project:

Environmental Issue	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in a potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			✓	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				✓

Answers to Checklist Questions

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

Less than Significant Impact. The project would not result in a new need or use of energy; the existing electrical supply which serves the project area would be utilized to provide power for lighting in the interior of the new bathroom facility and

would be less than what was required for the previous Elks Club Lodge. Additional use of energy for the project would be required during construction; neither uses of energy would require additional capacity on a local or regional scale. Because use of energy associated with bathroom lighting would be minor, and use during construction would be temporary, the project would not result in wasteful, inefficient, or unnecessary consumption of energy resources; therefore, impacts would be *less than significant*.

b) Would the project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact. The California Air Resources Board has set a goal to increase energy efficiency and derive 50% of electricity from renewable sources in 2030; the project would have no effect on this program. Additionally, the project would not conflict or obstruct the goals and policies of the TRPA Regional Plan for energy.

Goal E1 – Promote energy conservation programs and development of alternative energy sources to lessen dependence on scarce and high-cost energy supplies.

The following energy policy in the Regional Plan, pertaining to the Phase III project, will be implemented:

E-1.1 - Encourage recycling of waste products.

Because the project will conform with the Goals and Policies of the Regional Plan and state of California energy goals, there would be *no impact*.

4.7 GEOLOGY & SOILS

Environmental Setting

The Feasibility Study (Appendix B) provides figures and detailed information about the geology and soils at the Phase III project site. A brief summary is provided here.

The Phase III project is located on the Echo Lake USGS 7.5-minute quadrangle map. In general, the topography of the site is relatively flat/level with an average slope of approximately 5 percent, rising to the east.

The Phase III project area soils fall primarily within hydrologic soil group A, indicating a moderate-to-low runoff potential. The National Resource Conservation Service soil survey data for the El Dorado County Tahoe Basin Area 10 indicate the following primary soils units within the Phase III project area (U.S. Department of Agriculture 2007):

- Celio loamy coarse sand, 0 to 5 percent slopes (7431). This soil unit is typically found in the southern part of the basin. The parental material consists of alluvium and/or outwash. The soil is somewhat poorly drained. Shrink-swell potential is low, and the soil is rarely flooded. Surface runoff is high. The hydrologic soil group is A/D.
- Jabu coarse sandy loam, 0 to 9 percent slopes (7461). This soil unit consists of very deep, well-drained sols that formed in outwash and alluvium derived from granitic rocks. These soils are on glacial outwash terraces and moraines. The hydric soil group is A.
- Marla loamy coarse sand, 0 to 5 percent slopes (7471). This series consists of very deep, poorly drained sols that formed in alluvium derived mostly from granitic rocks. These soils are on outwash terraces, and the hydric soil group is A/D.

The Phase III project are lies within the Qfp (Holocene) geologic map unit, which consist of gravely to silty sand and sandy to clayey silt, and locally includes lacustrine and delta deposits.

Land Capability

The USFS, in cooperation with TRPA, developed the land capability system currently used in the Basin. Lands within the Basin are divided into seven classes based on soil types, potential for erosion, and other related characteristics. Lands with a ranking of 1 have the highest potential for erosion and 7 have the lowest. Class 1 is also subdivided into 3 categories (1a, 1b, and 1c), all of which are high hazard. The Phase III project area is classified as 1b: SEZ.

The TRPA Land Capability Verification (LCV) application was submitted in March 2019. The County anticipates having updated LCV results once the snowpack in the area has melted.

Environmental Checklist

Would the project:

Environmental Issue	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including risk of loss, injury, or death involving:				✓
i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.				✓
ii. Strong seismic ground shaking?				✓
iii. Seismic-related ground failure, including liquefaction?				✓
iv. Landslides?				✓
b) Result in substantial soil erosion or the loss of topsoil?			✓	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?				✓
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?				✓
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				✓
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				✓

Answers to Checklist Questions

a) Would the project directly or indirectly cause potential substantial adverse effects, including 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.

No Impact. The Phase III project is not located in an Alquist-Priolo Earthquake Fault Zone (California Geological Survey 2005). The purpose of the Alquist-Priolo Geologic Hazards Zones Act is to prohibit the location of most structures for human occupancy across the traces of active faults and to mitigate potential hazards of fault-rupture. According to the Earthquake Potential Map for Portions of Eastern California and Western Nevada, the southern Tahoe Area is considered to have a relatively low to moderate potential for shaking caused by earthquakes (California Geological Survey 2005). The project proposes no structures or development that could affect a fault.

ii. Strong seismic ground shaking?

No Impact. The intensity of ground shaking due to an earthquake is determined by several factors including the proximity of the earthquake, the magnitude of the earthquake, fault rupture characteristics, and the type of soil or bedrock in the area. The International Building Code's Seismic Zone Map of the United States places El Dorado County, including the Phase III project area, within Seismic Hazard Zone III, which corresponds to an area that may experience damage due to earthquakes having moderate intensities of V or more on the Modified Mercalli Scale, which corresponds to maximum momentum magnitudes of 4.9 or greater. Ground shaking also increases the risk of avalanche during winter months. The project is primarily treed and located in a flat area away from steep terrain, which minimizes the potential for avalanche to affect the project. Structures built as part of the project, including a new bathroom and covered area, would be built in accordance with California Building Code *Chapter 16 – Structural Design* (CBC 2016) standards to prevent impacts from strong seismic ground shaking.

iii. Seismic-related ground failure, including liquefaction?

No Impact. Liquefaction is a phenomenon where saturated sand and silt take on the characteristics of a liquid during the intense shaking of an earthquake. The highest hazard areas are concentrated in regions of man-made landfill, especially fill that was placed many decades ago in areas that were once submerged bay floor, such as along the Bay margins San Francisco, Oakland and Alameda Island, as well

as other places around San Francisco Bay (USGS 2019). Other potentially hazardous areas include larger stream channels, which produce the loose young soils that are particularly susceptible to liquefaction (USGS 2019). As discussed in the Environmental Setting, the project area is generally flat and contains coarse sandy loam soils. Because the project is not in a known area for high susceptibility for liquefaction and does not propose to construct features within stream channels, there would be *no impact*.

iv. Landslides?

No Impact. A landslide is the downslope movement of rock, debris, earth, or soil. Landslides occur when gravitational and other types of shear stresses within a slope exceed the shear strength of the materials that form the slope. Factors contributing to landslide include proximity to faults, springs, seeps, or shallow groundwater, and unstable or steep terrain. The Phase III project area contains flat terrain and is not located in an area susceptible to landslides; therefore, the project does not have the potential to increase the risk of loss, injury, or death involving landslides.

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

Less than Significant Impact. The intent of the proposed project is to implement erosion control and water quality improvements within the project area that would stabilize bare soils and improve stormwater quality discharging to the Upper Truckee River. Additionally, restoration of the SEZ area and construction of the sediment basin and parking lot runoff area would reduce the amount of stormwater leaving the project site which would have a beneficial effect on soil erosion and topsoil in the area. Once the project is constructed, it is anticipated for there to be a beneficial impact on erosion and topsoil, due to the constructed stormwater improvements that would allow for infiltration and capture sediments. The project has been designed with a combination of erosion control, stormwater, and water quality treatments that would reduce erosion and topsoil loss in the project area.

During construction, portions of the project site would have exposed soil areas that may, during a rain or high wind event, result in soil erosion or the loss of topsoil and pose a threat to water quality. This would be a potentially significant effect on water quality. However, as discussed in Section 3.7 – Construction Controls, the project is required to comply with the TRPA Code and Lahontan RWCQB requirements to implement water quality protection measures including use of erosion and sediment control BMPs, and implementation of a project specific SWPPP; therefore, with implementation of the required controls, the project would not result in substantial soil erosion or loss of topsoil. Potential impacts during construction would be less than significant and additional mitigation would not be required.

c) 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?

No Impact. As discussed in the Environmental Setting and item a) above, the project is not located in an unstable geologic unit or soil area that would be subject to damage or adverse impacts from implementation of the project. Therefore, there would be *no impact*.

d) Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?

No Impact. The Phase III project area does not contain expansive soils as defined in Table 18-1-B of the Uniform Building Code (1994). As discussed in the Environmental Settings section, soils within the project area are primarily composed of loamy coarse sand and contain a very low clay content and are not susceptible to expansion. There would be *no impact*.

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

No Impact. The Phase III project would not require the use of septic tanks or alternative wastewater disposal systems. The project area contains sewers that can support the minimal amount of wastewater generated by dust control suppression activities.

f) Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact. The Northwest Information Center records search revealed there are no previously recorded or existing paleontological resources identified within the project area. The project involves minor excavation and is not underlain by known fossilized geologic formations. Therefore, the project does not have the potential to affect paleontological resources.

4.8 GREENHOUSE GAS EMISSIONS

Environmental Setting

The EDCAQMD is the primary agency responsible for air quality regulation in the LTAB. As part of that role, the EDCAQMD has prepared CEQA Guide to Air Quality Assessment. The purpose of the guide is to facilitate the evaluation and review of air quality impacts for projects in El Dorado County that are subject to CEQA. The guide's intent is to facilitate and provide consistency in the preparation of analyses that inform decision-makers and the public about the air quality implications of a project. At this time, El Dorado County does not have any adopted quantitative federal or state guidelines for greenhouse gas (GHG) emission impacts.

However, the EDCAQMD was part of the committee of air districts in the Sacramento Region involved in the development of GHG thresholds of 1,100 metric tons of carbon dioxide equivalents (CO_2e) per year for the construction phase of projects. If a project exceeds this threshold, the level of mitigation is based on demonstrating consistency with CARB's Climate Change Scoping Plan and the AB 32 State goals for reducing GHG emissions, which is currently 21.7 percent reduction from 2020 "no action taken" emissions (SMAQMD 2016).

Environmental Checklist

Would the project:

Environmental Issue	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?			✓	
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				✓

Discussion

The following analysis of GHG emissions was conducted for the Phase I and II CCH-ECP project IS/MND. The County utilized past construction logs for projects equivalent in size and scope to the CCH-ECP project to determine the typical number and type of vehicles that are actively working to construct the project each day; phase I/II of the ECP project was determined to have a *less than significant impact*. Because Phase III of the CCH-ECP is smaller in size, it can be inferred that if Phase I and II of the project were determined to have a less than significant impact on GHGs, the Phase III project would as well if the same construction methods and equipment are used for similar activities.

There currently is no federal, state, or local regulatory guidance for determining whether a project advances or hinders California's GHG reduction goals and no promulgated thresholds of significance for GHG impacts have been established. Therefore, the analysis focused on construction impacts estimated using the County's past project implementation database and the EPA's GHG emission factors for diesel fuel and gasoline combustion in construction equipment.

Answers to Checklist Questions

a) Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Less than Significant Impact. Phase III project construction would generate temporary and one-time GHG emissions mainly from diesel-powered construction equipment and on-road trucks, with a small amount from workers' personal vehicles during construction of the Phase III project. GHGs emitted during the combustion of diesel fuel in off-road construction equipment and on-road vehicles would consist mainly of carbon dioxide, along with small amounts of methane and nitrous oxide. Construction emissions would be intermittent, and short-term, during one summer construction season. Construction emissions would permanently cease at the end of the Phase III project. Over the long-term, these temporary emissions would be offset or mitigated by the growth of native vegetation at designated restoration areas. The revegetation work, including grasses and shrubs would be maintained over the life of the project to sequester carbon dioxide.

The County has reviewed past construction logs for projects equivalent in size and scope to the CCH-ECP project to determine the typical number and type of vehicles that are actively working to construct the project each day. Based on this analysis, the County formulated the following assumptions for the CCH-ECP:

- Fifteen workers per day, driving five vehicles to work an average of 40 miles round-trip per day
- Vehicles average 20 miles per gallon
- Twelve pieces of construction machinery per day
- Crews work eight hours per day with machinery running half that time (4 hours)
- Machinery burns an average of two gallons of diesel fuel per hour
- Diesel fuel contributes approximately 22.5 pounds CO_2/gallon
- Gasoline contributes approximately 20 pounds CO_2/gallon
- The CCH-ECP will be completed in 35 working days

Based on these assumptions, Phases I and II of the CCH-ECP was estimated to emit approximately 50 metric tons of CO_2e. Because the Phase III project is smaller in size and would require less time to construct, it is anticipated the Phase III project would fall below the 50 metric tons of CO_2e estimated for Phases I/II. This estimated amount is negligible in comparison to the statewide inventory of 372,400,000 metric tons discussed above (0.00000013 percent). The estimated amount is also significantly less than the Sacramento Metropolitan Air Quality Management District's significance threshold of 1,100 metric tons of CO_2e. GHG emissions would terminate following completion of construction work.

Additionally, the project must implement the Basic Construction Emission Control Practices and the measures listed in the Guidance for Construction GHG Emissions Reductions developed by the Sacramento Metropolitan Air Quality Management District (SMAQMD 2016), which includes measures to improve fuel efficiency, limit emissions, use green energy sources, and recycling of materials, in addition to the measures listed in Section 3.7 – Construction Controls. Because project construction would generate temporary and one-time GHG emissions anticipated to be well below the Sacramento Metropolitan AQMD's significance threshold of 1,100 metric tons of CO_2e, and due to the project implementing controls during construction to reduce impacts on air quality and GHG emissions, the impact would be less than significant.

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

No Impact. Given that emissions would be short-term over the course of construction, increases in GHG emissions that could be attributed to the project would not result in a significant impact on the environment. The GHG emissions generated during construction would not be considered significant and would not limit the State's ability to attain the goals identified in AB 32 because impacts would be temporary and were determined to be below the significance amount. Therefore, the project would have a less than significant impact to GHG emissions and would not conflict with goals defined in AB 32.

4.9 HAZARDS & HAZARDOUS MATERIALS

Environmental Setting

Data available from the Geotracker website was reviewed for existing hazardous sites located in or near the project area. Geotracker is a database that tracks cleanup sites, permitted sites, and leaking underground fuel tank sites. No cleanup sites, permitted sites, or leaking underground fuel tanks were identified around the project site. A historical waste discharge requirements (WDR) site was identified on the southern border of the Phase III project boundary. The site has been listed as a historical WDR site since 1997 and is located at 1635 Elks Club Drive. The groundwater was listed as beneficial for municipal and domestic supply, agricultural supply and industrial service supply.

Environmental Checklist

Would the project:

Environmental Issue	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			✓	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			✓	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?				✓
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				✓
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?			✓	
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?		✓		
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?			✓	

Answers to Checklist Questions

a) Would the project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than Significant Impact. During Phase III project construction, there exists a risk of accidental fuel spills from construction equipment. However, as discussed in Section 3.7 – Construction Controls, a Spill Contingency Plan will be developed along with the project specific SWPPP to detail site specific BMPs and TRPA approved methods to prevent accidental spills from impacting water and land resources. Therefore, with implementation of the Spill Contingency Plan, the proposed Phase III project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during construction.

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

Less than Significant Impact. As discussed in Section 3.7 – Construction Controls, the project is required to prepare a SWPPP that includes a Spill Contingency Plan. The Spill Contingency Plan would outline how to properly handle accidental construction related spills and must include the requirement for spill prevention kits to be available on site to contain and properly clean any accidental spills. The Spill Contingency Plan will help the project contractors to minimize the potential for and effects from spills of hazardous, toxic, or petroleum-based substances during construction activities. This plan will also outline who to call if utility lines are damaged during construction. With implementation of this plan, the project would not create a significant hazard to the public or environment due to release of hazardous materials; therefore, the impact would be *less than significant*.

c) 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?

No Impact. There are no existing or proposed schools within one-quarter mile of the project area; the nearest school is the Lake Tahoe Environmental Science Magnet, a public elementary school approximately 1.8 miles southwest from the project area. There would be *no impact*.

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

No Impact. As discussed in the Environmental setting, the project area is not located on a site which is included on a list of hazardous materials sites compiled

pursuant to Government Code § 65962.5. The project area was queried on the State's Geotracker database as well, and no sites appeared in or within the vicinity of the project location; therefore, there would be *no impact*.

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

Less than Significant Impact. The northern portion of the project area is located within two miles of the Lake Tahoe Airport, and is within Safety Zone 3 – Overflight Zone. The Lake Tahoe Airport Comprehensive Land Use Plan (CLUP) implements the plan to protect the public health, safety, and welfare of persons through the adoption of land use standards that minimize the public's exposure to safety hazards and excessive levels of noise (City of South Lake Tahoe 2007). For safety zone 3, Recreation land use category is listed as a compatible land use for this area. The project does not propose structures or features that would be constructed at heights higher than the existing residences in the area; therefore, there would be no interference with flight paths. Because the CLUP outlines guidelines and policies for safety, and construction workers would be operating within an area determined to be acceptable for recreation land use, impacts would be *less than significant*.

f) Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact with Mitigation Incorporated. During construction, Elks Club Drive would be temporarily closed in order to construct an 18-inch culvert underneath the roadway; this could cause a potentially significant impact should emergency response or evacuation be required during construction of the project. Mitigation Measure T-1 requires development and implementation of a project specific Traffic Control Plan. Because the project would implement a Traffic Control Plan, with measures to protect persons and access to the project area during an emergency, impacts would be *less than significant*.

- **Mitigation Measure Haz-1: Implement Mitigation Measure T-1**: The contractor will be required to prepare and adhere to a Traffic Control Plan for TRPA and Transportation review and approval. Elements of the plan will include appropriate use of signage, flaggers, traffic calming, and alternative routes to accommodate local and through traffic. In addition, Transportation will advise local residents regarding schedules for construction traffic detours through signage, press releases, and distribution of flyers in area neighborhoods well in advance of construction initiation. Access will not be prohibited, at any time, for local residents, school buses or emergency vehicles, only

delayed. In case of emergency the contractor will be required to have traffic rated plates on site to allow access to be restored during trenching. Prior to construction, the County shall coordinate with emergency services and the contractor shall be required to include in the traffic control plan any mitigation determined necessary by emergency services to address project impacts to emergency services or evacuations.

g) Would the project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less than Significant Impact. The project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury, or death involving wildland fires. As discussed in Section 4.20. *Wildfire*, the project area is within CAL FIRE designated 'Very High' Fire Hazard Severity Zone. Workers constructing the project would temporarily be exposed to the risk of wildfire that exists for the area. The Amador-El Dorado Strategic Fire Plan serves El Dorado County, including the project area. The Amador El Dorado Unit's Fire Management Plan addresses fire safe planning and hazardous fuel reduction concerns of adjacent CAL FIRE Units, National Forests, and local collaborators. The Plan outlines fire safety, evacuation planning, and hazardous fuels reduction through a community wildfire protection plan (CWPP). Because the project area is already used for recreation, the project would not cause additional risk to persons using the area. Additionally, because implementation of the project would not impede protection by the Amador El Dorado Unit's Fire Management Plan, exposure to wildfire risks in the project area would be *less than significant*.

4.10 HYDROLOGY & WATER QUALITY

Environmental Setting

The FS (Appendix B) provides figures, methodology, and detailed information about the hydrology, hydraulics, and water quality at the proposed Phase III project site. A brief summary is provided here.

Federal Emergency Management Agency (FEMA) Floodplain Zones

FEMA has designated a floodplain associated with the Upper Truckee River (see **Figure 5**). The floodplain zone designation is identified on FEMA Flood Insurance Rate Maps 06017C0369E and 06017C0632E, effective September 26, 2008. The flood zone designation includes Zone AE: Areas of 100-year flood, including base flood elevations.

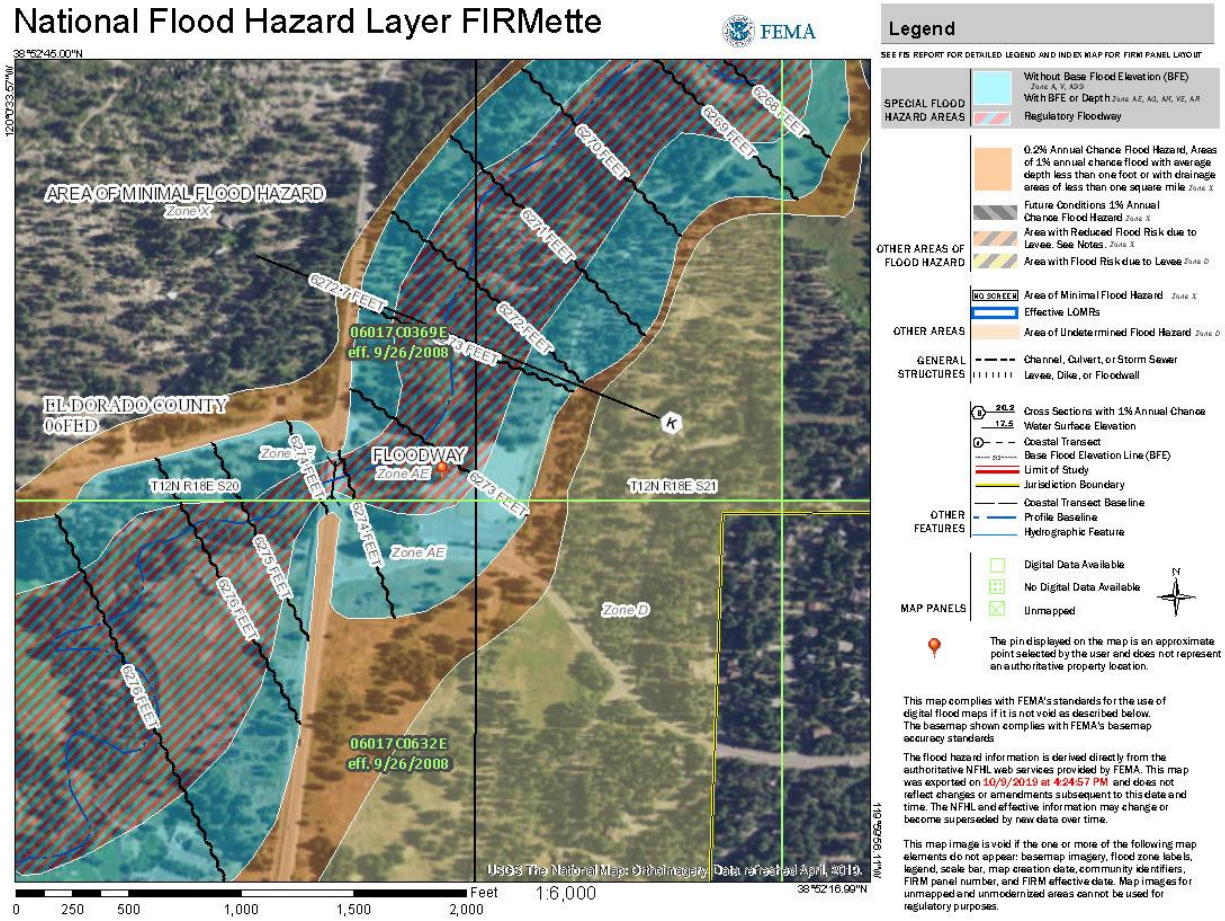

Figure 5. FEMA Flood Zone Map

Source: FEMA Flood Map Service Center https://msc.fema.gov/portal/search?AddressQuery=meyers%2C%20ca#searchresultsanchor

Hydrologic and Hydraulic Conditions

The Tahoe basin has been divided into 63 watersheds, all of which drain into Lake Tahoe. The Phase III project falls within the largest watershed (57 square miles) in the Basin, the Upper Truckee River (USGS Basin #73).

There are three existing cross-culverts on Elks Club Drive within the proposed Phase III project area. Two of the cross-culverts discharge stormwater flow into the man-made roadside swale that parallels the old Boca Raton stub road (east side of the existing parking lot). The other cross-culvert conveys flow into an existing swale west of the parking lot.

There are two pipes that do not appear to convey the design storm peak runoff. The pipes are located at the intersection of Boca Raton Drive and Elks Club Drive. These are currently designed to work in tandem when flows exceed the capacity of the 30-inch corrugated metal pipe (CMP); the excess flows will flow through the 18-inch high-density polyethylene (HDPE) pipe.

Environmental Checklist

Would the project:

Environmental Issue	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?			✓	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			✓	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:			✓	
i. result in substantial erosion or siltation on- or off-site;			✓	
ii. substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;			✓	
iii. create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or			✓	
iv. impede or redirect flood flows?			✓	

d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			✓	
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?		✓		

Discussion

Impacts to water quality and hydrology were analyzed for the Phase I and II CCH-ECP; the project was determined to have a *less than significant impact with mitigation incorporated* with implementation of controls during construction. The Phase III project would similarly implement the previous mitigation measures as construction controls during construction to protect water quality and hydrology, as discussed in Section 3.7 – Construction Controls.

Answers to Checklist Questions

a) Would the project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Less than Significant Impact. During construction, grading and excavation would take place that may have the potential to cause erosion. In addition, there exists a risk of accidental fuel spills from construction equipment during project construction. As discussed in Section 3.7 – Construction Controls, the LRWQCB requires preparation and implementation of a SWPPP. This document would include measures to minimize impacts to stormwater quality during construction. Construction site stormwater BMPs would follow the *Caltrans Construction Site BMPs Manual* (Caltrans 2017) and the *TRPA BMP Handbook* (TRPA 2014) to control and minimize the impacts of construction related activities. The following BMPs, at a minimum, would be required at the site during construction:

- Temporary erosion and sediment control BMPs to prevent the transport of earthen materials and other construction waste materials from disturbed land areas, stockpiles, and staging areas during periods of precipitation or runoff (such as silt fence, erosion control fabric, fiber rolls)
- Tracking controls (such as designated ingress and egress areas) and designated staging areas outside of drainage, swale, and SEZ areas. Staging area to be restored in accordance with TRPA Code Section 61.4 (Revegetation)
- Temporary BMPs to prevent wind erosion and sediment transport of disturbed areas, such as use of water for dust control and covering of stockpiles
- Limit grading to May 1 through October 15, unless an exemption is granted by TRPA, and a variance from the Lahontan RWQCB. At the end of the grading season or before completion of the project, all surplus or waste

earthen materials from the project site would be removed and disposed of at a TRPA approved disposal site or stabilized on-site in accordance with TRPA and Lahontan regulations.

- Implement the Spill Prevention Plan. Project contractors would be responsible for storing on-site materials and temporary BMPs capable of capturing and containing pollutants.
- Use of vegetation protection fencing to prevent damage to trees or other vegetation where possible.
- Use of construction boundary fencing to limit land disturbance to areas not planned for construction.

Once construction is complete and the erosion control and water quality improvement measures are in place, water quality in the area would be improved as a result of the project, which is a primary objective of the project. Because the project must comply with requirements to implement water quality protection controls during construction, and is overall anticipated to improve water quality once constructed, impact would be less than significant.

b) 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?

Less than Significant Impact. The project proposes features which would allow for infiltration and groundwater recharge, including SEZ area restoration, grading of a sediment/infiltration basin, rock slope protection in an existing swale, and installation of a parking lot runoff area that would also capture and infiltrate runoff; these features would assist in restoring the natural floodplain associated with the Upper Truckee River and SEZ area. Additionally, the project proposes to install two 18-inch cross culverts, one underneath Boca Raton Drive/ new shared use pathway, and one underneath Elks Club Drive to direct stormwater flows into basin areas for infiltration and treatment. These features would have a beneficial impact on groundwater supply and would have beneficial impact to groundwater recharge. Therefore, impacts would be less than significant.

c) Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:

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

Less than Significant Impact. The purpose of the project (in addition to recreation improvements) is to construct water quality and stormwater improvements which would reduce runoff, improve infiltration, and ultimately

improve quality of water entering the Upper Truckee River system from the CCH residential area. This includes reducing the impervious surface area on the site to restore natural floodplain function. There are no features associated with the project that would substantially alter an existing drainage pattern or alteration of the course of a stream or river. The proposed removal of pavement and non-native fill/coverage and restoration of the SEZ would result in a decrease of impervious surfaces at the site. Therefore, there are no permanent features associated with the project which would result in substantial erosion or siltation on or off-site.

As noted in the answer to question "a" above, grading and excavation would take place during construction that may have the potential to cause erosion. However, implementation of the required water quality construction controls (including use of erosion and sediment BMPs and a SWPPP) would ensure potential impacts resulting from erosion and sediment transport during construction are less than significant.

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

Less than Significant Impact. One of the goals of the proposed project is to reduce peak flows and volumes while providing treatment for pollutants of primary concern. The project would reduce the amount of surface runoff from the site by reducing existing coverage from the paved parking lot/SEZ area and restoring to natural vegetation, in addition to creating basin areas to allow for stormwater to infiltrate instead of leaving the site as runoff. Removal of non-native fill would provide for greater, and not less, inundation by flood waters. The Phase III project would affect drainage patterns in order to improve hydraulic and hydrologic connectivity of the site and move storm water to where it can be infiltrated. As a result, flow rates and volumes at the project outflow locations would likely be decreased due to the infiltration components of the project. Therefore, once the project is constructed and the water quality improvement measures are in place, surface flows and volumes would likely be reduced from their existing condition and an improved storm water system would be in place.

During construction, grading and excavation would take place that may have a potential to cause increased surface runoff. However, with implementation of the required erosion and sediment construction control BMPs found in Section 3.7, construction of the proposed Phase III project would not substantially increase the rate or amount of surface runoff. Therefore, the proposed Phase III project will have a less than significant impact.

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?

Less than Significant Impact. During construction of the proposed project, grading and excavation would take place that may have a potential to cause increased surface runoff and/or additional sources of polluted runoff. However, because the project is required to implement construction controls, including a SWPPP and stormwater BMPs which would minimize impacts to stormwater runoff, impacts during construction would be less than significant.

Once construction is complete and the erosion control and water quality improvement measures are in place, surface flows and volumes would likely be reduced from their existing condition and an improved storm water system would be in place. Therefore, construction activities will have a *less than significant impact.*

iv. Impede or redirect flood flows?

Less than Significant Impact. The project proposes improvements for stormwater runoff, which include installation of erosion control and stormwater management features at-grade. Additionally, the project proposes to move the existing parking lot configuration out of the 100-year floodplain by reducing its size and reconstructing closer to Elks Club Drive. The parking lot would be reconstructed with a higher finish grade elevation to minimize potential impacts during flooding events. The recreation structures proposed for the project, such as a proposed bathroom and covered area, would not have potential to impede flood flows. It is anticipated for the project to have a beneficial impact on potential flooding, as the project area would have better management of runoff and areas for infiltration once implemented. Removal of non-native fill would provide for greater inundation by flood waters. Therefore, the impact on flooding would be *less than significant*.

d) Is the project in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?

Less than Significant Impact. As discussed in the Environmental Setting, a portion of the project area is within Special Flood Hazard Zone AE, associated with the Upper Truckee River. The project may provide for a permanent 2-unit bathroom facility, eliminating the need for portable toilets. If constructed, the bathroom would be located on the edge of the parking lot area and would maintain existing sewer and water utility connections. Therefore, construction of a permanent bathroom facility with utility connections would provide additional protection against release of pollutants should flooding occur in the area. The bathroom would be located outside of the FEMA defined 100-year floodplain area and constructed on an

elevated pedestal so as to limit or near eliminate impacts from a 100-year flood. Additionally, the existing parking lot would be reduced in size, relocated outside of the 100-year floodplain area, and reconstructed with a higher finish grade elevation to minimize potential impacts during flooding events.

e) Would the project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant Impact with Mitigation Incorporated. The Lahontan RWQCB uses the Water Quality Control Plan for the Lahontan Region (Basin Plan) as its regulating document. The Basin Plan sets forth water quality standards for the surface and ground waters of the Region. The project is included in the TRPA EIP for water quality improvement; projects listed in the EIP would help the TRPA comply with the environmental thresholds for water quality and would therefore comply with the regional Basin Plan.

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

1. A soils/hydrologic report has been prepared and approved by TRPA, and demonstrates that no interference or interception of groundwater will occur as a result of project excavation; and
2. The excavation is designed such that no tree removal occurs to mature trees, except where tree removal is allowed pursuant to Subsection 33.6.5: Tree Removal, including root systems and hydrologic conditions of the soil. To ensure the protection of vegetation necessary for screening, a special vegetation protection report shall be prepared by a qualified professional identifying measures necessary to ensure damage will not occur as a result of the excavation; and
3. Excavated material is disposed of pursuant to subsection 33.3.4: Disposal of Materials, and the project area's natural topography is maintained. If groundwater interception or interference will occur as demonstrated by a soils/hydrologic report, then the excavation can be made as an exception provided that measures are included in the project to maintain groundwater flows to avoid adverse impacts to SEZ vegetation and to prevent any groundwater or subsurface water flow from leaving the project area as surface flow.

Because groundwater and proposed excavation depths are unknown at this time, significant impact could occur if groundwater is encountered during construction. Implementation of **Mitigation Measure Hyd-1** would ensure the project complies

with TRPA Code Section 33.3.6 to demonstrate that no interference or interception of groundwater will occur as a result of project excavation:

- **Mitigation Measure Hyd-1**: Should excavation greater than 5 feet in depth be required, a soils/hydrology report will be prepared and approved by the TRPA prior to construction.

4.11 LAND USE & PLANNING

Environmental Setting

The majority of the Phase III project boundary lies within the TRPA PAS 119 – Country Club Meadow. The land use classification for PAS 119 is recreational, the management strategy is mitigation, and the special designation is scenic restoration area. The Planning Statement for this land use states that "this area should be managed for outdoor recreation and natural resource values to include opportunities for SEZ restoration." Related special policies include, but are not limited to:

- Areas of significant resource value or ecological importance within the Plan Area should be designated as natural areas and should be buffered from intensive uses.
- Whenever possible, opportunities for restoration of disturbed SEZs and land coverage removal should be encouraged.
- Creation of waterfowl habitats in association with restoration efforts of disturbed areas should be encouraged.
- Improved river access for fishing should be provided.

PAS 119 is primarily classified as 1B - SEZ with the dominate feature being the Upper Truckee River. Homes in this PAS are often located within SEZs (County of El Dorado 2019).

Land Ownership

The project is comprised of Public Land Ownership under the California Tahoe Conservancy and El Dorado County. The County will pursue the necessary easements, special use permits, and/or license agreements for any affected parcels during the development of the proposed project.

Current Site Usage

The Elks Club property currently is a nexus for outdoor activity for the South Lake Tahoe community. For example, river enthusiasts park their vehicles in the parking lot or on the north side of Elks Club Drive, between Highway 50 and the parking lot entrance, to launch kayaks, canoes, and tubes to float down the Upper Truckee River during the late spring and early summer; and people park their vehicles in the parking lot to access the existing unimproved trail network for hiking and biking throughout the area. In addition, the property has been used for a seasonal Flea Market during the summer months (County of El Dorado 2019).

Environmental Checklist

Would the project:

Environmental Issue	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?				✓
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				✓

Answers to Checklist Questions

a) Would the project physically divide an established community?

No Impact. The project is contained entirely within parcels that are undeveloped by residential use. Construction of the project does not propose to construct any features which would have potential to divide the established community in the subdivision. Therefore, there would be *no impact*.

b) Would the project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. As discussed in the Environmental Setting section, the project area contains TRPA PAS 119 – Country Club Meadow. The land use classification for PAS 119 is recreational, the management strategy is mitigation, and the special designation is scenic restoration area. The project would comply with PAS 119 because the project proposes to reduce coverage, restore SEZ habitat, improve the trail system and access to the Upper Truckee River, and provide connectivity to the larger greenway trail system. The proposed Phase III project would not impact the land use of the area and is consistent with the existing allowed uses; therefore, the proposed Phase III project would not conflict with any land use plan, policy, or regulation.

4.12 MINERAL RESOURCE

Environmental Setting

There are no regionally significant aggregate resources (i.e., sand and gravel resources) in the project area, as identified by the California Department of Conservation and there are no ongoing mining activities in or near the project.

Environmental Checklist

Would the project:

Environmental Issue	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				✓
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?				✓

Answers to Checklist Questions

a) 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?

No Impact. As noted above, there are no regionally significant aggregate resources (i.e., sand and gravel resources) in the project area, as identified by the California Department of Conservation, and there are no ongoing mining activities in or near the project. The project would not result in the loss of availability of a known mineral resource and would not result in the loss of a locally important mineral resource, as identified in TRPA Regional Plan or the PAS. There would be *no impact*.

b) 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?

No Impact. Refer to discussion above. The project area is not located within or near any active mining operations, and no known mineral resources of value or recovery sites exist within the project area. There are no locally important mineral resource recovery sites delineated for the project area location the El Dorado County General Plan or within the applicable TRPA PAS. There would *be no impact*.

4.13 NOISE

Environmental Setting

The noise threshold established by TRPA for the project area PAS 119 – Country Club Meadow defines a maximum Community Noise Equivalent Level (CNEL) of 55 CNEL.

Environmental Checklist

Would the project result in:

Environmental Issue	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			✓	
b) Generation of excessive groundborne vibration or groundborne noise levels?			✓	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?			✓	

Discussion

Thresholds of significance are those established by the California Code of Regulations Title 24 standards, the General Plan Noise Element, and the local Noise Ordinance. For purposes of this Initial Study, an impact would be significant if implementation of the proposed project would do any of the following:

- Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local General Plan or noise ordinance, or applicable standards of other agencies.
- Generate excessive groundborne vibration or groundborne noise levels.

Answers to Checklist Questions

a) Would the project result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Less than Significant Impact. Standard construction equipment would be used to construct the improvements associated with the proposed Phase III project. The equipment may increase noise levels over that of pre-project levels in the neighborhood, but the noise levels would be temporary and within allowable noise decibel standards imposed by Transportation and the TRPA. The TRPA Code of Ordinances states that TRPA-approved construction projects are exempt from the quantitative limits contained in the Noise Ordinance and Community Plan if construction activities take place between the hours of 8:00 a.m. and 6:30 p.m. during working days.

The project would not result in a long-term, permanent increase in noise or ground vibration as impact would occur only during construction. While some construction noises may produce exceedances of the PAS CNEL, the project would be exempt from noise limitations if work is conducted between 8 am and 6:30 pm. Because the project is required to comply with TRPA Code for noise limitations and would be constructed during the timeframe for exempt activities, additional mitigation would not be required; therefore, the impact would be *less than significant*.

b) Would the project result in generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact. Standard construction equipment would be used to construct the proposed improvements. The equipment would create groundborne vibrations and noise levels over that of regular levels in the neighborhood, but the groundborne vibrations and noise levels would be within acceptable noise decibel standards imposed by the County and the TRPA. The proposed Phase III project would not result in exposure of persons to or generation of groundborne vibration or noise levels in excess of standards established in the local General Plan, Community Plan, or Noise Ordinance, or applicable standards of other agencies; therefore, the proposed Phase III project would have a *less than significant impact*.

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

Less than Significant Impact. The northern portion of the project area is located within two miles of the Lake Tahoe Airport, and is within Safety Zone 3 – Overflight Zone. The CLUP implements the plan to protect the public health, safety, and

welfare of persons through the adoption of land use standards that minimize the public's exposure to safety hazards and excessive levels of noise (City of South Lake Tahoe 2007). For safety zone 3, Recreation land use category is listed as a compatible land use for this area. Because the CLUP outlines guidelines and policies which minimize the public's exposure to safety hazards and excessive levels of noise, impacts would be *less than significant*.

4.14 POPULATION & HOUSING

Environmental Setting

As of 2018, the County had an estimated population of 190,678 residents and an estimated housing stock consisting of 91,094 dwelling units (California Department of Finance 2013-2017). There are dwelling units on the east and south side of the project area, which is located within the Country Club Heights subdivision.

Environmental Checklist

Would the project:

Environmental Issue	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) 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)?				✓
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				✓

Answers to Checklist Questions

a) 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)?

No Impact. The project proposes to improve water quality, restore SEZ habitat and enhance recreation and access opportunities. The proposed project would not induce population growth directly by adding new housing or commercials uses, or indirectly by adding new infrastructure.

b) Would the project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. Implementing the proposed project would not influence population growth, either directly or indirectly. The project does not propose any removal or construction of features which would result in displacement of persons and would therefore not require construction or replacement housing elsewhere. There would be *no impact*.

4.15 PUBLIC SERVICES

Environmental Setting

Fire Protection

The South Lake Fire Department consists of three fire stations. The closest station to the project area is the South Lake Tahoe Fire Station 4 at the Lake Tahoe Airport, and the Lake Valley Fire Protection District Station 5. Both stations are approximately 1.75 miles from the project area. The South Lake Tahoe Fire Department participates in automatic aid and mutual aid response with Lake Valley Fire Protection District, which serves the residents of El Dorado County in the Lake Tahoe Basin through formal contract. The City of South Lake Tahoe Fire Department also participates in mutual aid with CAL FIRE in the Tahoe Basin and throughout the State.

Police Protection

The project area is served by the City of South Lake Tahoe Police Department. The Police Department has a mutual aid Critical Incident Protocol with El Dorado County Sheriff's Office for additional policing needs.

Schools

The project area is within the service area of the Lake Tahoe Unified School District, which includes four elementary schools, one middle school, and one high school in the City of South Lake, California.

Parks

The nearest park to the project area is Lake Valley State Recreation Area, located approximately 0.5 miles to the southwest of the project area. Additional parks in the surrounding area are Tahoe Paradise Park located on East San Bernardino approximately 1.7 miles from the project area, the Washoe Meadows State Park, an undeveloped woodland and meadows area with hiking trails approximately 4 miles away, and the Bijou Community Park located on Al Tahoe Boulevard approximately 5.5 miles from the project area.

Libraries

The only public library located within the City of South Lake Tahoe is the El Dorado County library, located approximately 6 miles north of the project on Rufus Allen Boulevard.

Environmental Checklist

Would the project result in:

Environmental Issue	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantial adverse physical impacts associated with the need and/or provision of new or physically altered governmental services and/or facilities in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services?				
i. Fire protection?				✓
ii. Police protection?				✓
iii. Schools?				✓
iv. Parks?				✓
iv. Other public facilities?				✓

Answers to Checklist Questions

a) Would the project result in substantial adverse physical impacts associated with the need and/or provision of new or physically altered governmental services and/or facilities in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services?

No Impact. The project proposes to construct stormwater improvements, restore an impacted SEZ, and achieve recreation and natural resource objectives along a portion of the Upper Truckee River in the County Club Heights residential development area near the community of Meyers. The project does not propose features that would cause direct or indirect population growth in the area, such as homes or water or sewer infrastructure that would allow more residential construction. All work would be done within California Tahoe Conservancy and county parcels. The project does not propose changes to existing land use or impacts to housing (such as demolition) that would cause need for housing elsewhere. Therefore, there would be no impact, direct or indirect, to population growth or housing.

4.16 RECREATION

Environmental Setting

The Phase III project is located within the Country Club Heights subdivision, in an area formerly known as the 'Elks Club Property.' The project area is zoned Recreational Facilities, Low-Intensity (RF-L). The TRPA PAS 119 – Country Club Meadow land use classification is recreational; the management strategy is mitigation, and the special designation is scenic restoration area. The Planning Statement for this land use states that "this area should be managed for outdoor recreation and natural resource values to include opportunities for SEZ restoration" (County of El Dorado 2019).

The Phase III project area is currently a nexus for outdoor activity for the South Lake Tahoe community. The proximity of the Upper Truckee River to the existing old Elks Club Lodge parking lot makes this location attractive for parking of vehicles and launching of small boats and tubes to float the river. Parking occurs in the existing paved parking lot and on the sides of Elks Club Drive. An existing network of unimproved trails and existing improved trails are also accessed from this location, with users parking in the parking lot. The location is therefore heavily disturbed due to this high level of recreational access to the Upper Truckee River and the existing trail system; commercial access by campers and vehicles to a seasonal weekend flea market held during summer months; and by large-turning-radius commercial vehicles stopping in the area to check loads.

Additionally, the *Linking Tahoe: Active Transportation Plan* (TRPA and TRMO 2016) identifies a Class 1 shared-use path and a Class 3 (Bike Route) through the project area along Elks Club Drive, connecting Highway 50 to Pioneer Trail. The Phase III proposed trail improvements would serve as a future connection point to these trails, if constructed.

Environmental Checklist

Would the project:

Environmental Issue	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?			✓	
b) Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?			✓	

Answers to Checklist Questions

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

Less than Significant Impact. As discussed in the Environmental Setting, the Phase III project is located in an existing recreational use area. The project proposes to construct the following recreational improvements:

- Construct a 10-foot-wide paved shared-use trail with 2-ft. shoulders within the Boca Raton Drive ROW, over the existing dirt road, terminating at Elks Club Drive to allow access to the existing user trail network north of the site.
- Construct a spur shared-use trail on the CTC-owned parcel from the reduced size parking lot, connecting to the new trail in the Boca Raton ROW.
- Construct a permanent ADA-compliant user access trail on the north side of the parking lot to enable access from the parking lot to areas along the Upper Truckee River. The trail would be constructed of compacted decomposed granite with a new culvert crossing to convey existing storm runoff under the decomposed granite pathway to the Upper Truckee River.
- Install educational signage to educate users on such items as the Upper Truckee River, past development of the area, and the impact of aquatic invasive species.
- Potential new 2-unit bathroom facility on the edge of the parking lot. Existing electricity, sewer, and water utility connections constructed for the old Elks Club Lodge would be utilized in the design.

Implementation of the project may result in an increase in use of the area for recreational purposes. However, the area has been zoned for recreational use and

improvements have been designed to minimize impact and restore habitat where possible. Existing disturbance of the area due to recreation use would be minimized by reducing the existing parking area, revegetating disturbed areas, providing fencing around SEZ restoration area, and by establishing stabilized trails to limit overland ground disturbance.

During construction of the project, existing users of the Phase III site may utilize adjacent recreation areas while the Phase III project is being constructed and access to the site is limited. This may result in a temporary increase in use of other recreation areas. However, because access to the Phase III area would only be temporarily limited during the anticipated 25 construction days, potential impact to other sites is anticipated to be minimal and would not result in significant physical deterioration.

Additionally, the project does not influence population growth which is the driver for new or expansion of recreation facilities that may cause physical deterioration. Therefore, the impact would be *less than significant*.

b) Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

Less than Significant Impact. As discussed in a) above, the project proposes to construct recreational features in addition to water quality and stormwater improvements.

Construction of the proposed project, including the recreational features, has been analyzed in this IS/MND for potential adverse physical effects on the environment. The recreation improvements would be constructed within an existing disturbed area zoned for recreation. Once constructed, the recreation features would not result in adverse physical impacts on the environment. The minor ground disturbance required to construct the recreational features would not cause significant adverse effects on the environment as demonstrated throughout this document.

In addition to implementation of construction controls to protect resources during construction, all potentially significant effects have been mitigated to less than significant through development of mitigation measures. Additionally, the project proposes to reduce coverage and restore SEZ habitat area which would have beneficial impacts to both water quality and habitat restoration. The project would also construct stormwater features to better manage runoff and reduce erosion, such as cross culverts, sediment/infiltration basin, parking lot runoff infiltration area, and rock slope protection in an existing swale to limit runoff discharging from the area. Therefore, construction of the recreational features associated with the project would be *less than significant*.

4.17 TRANSPORTATION

Environmental Setting

The project area includes county roads and ROW that provide access to the residential subdivision of Country Club Heights.

The 2017 Regional Transportation Plan is the transportation element of the Lake Tahoe Regional Plan. The plan's vision is a first-class transportation system that prioritizes bicycling, walking, and transit and serves residents and visitors while contributing to the environmental and socioeconomic health of the region. The plan offers strategies to jump start innovation through electric vehicle infrastructure, address the routine travel demands of residents and commuters, and the recreational travel demands of visitors that during peak periods stress and cause congestion on Lake Tahoe's transportation system.

Environmental Checklist

Would the project:

Environmental Issue	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?		✓		
b) Would the project conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?				✓
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?				✓
d) Result in inadequate emergency access?			✓	

Answers to Checklist Questions

a) Would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?

Less than Significant Impact with Mitigation Incorporated. Implementation of the project could provide a pathway link to the larger trail system, supporting TRPA's Active Transportation Plan. During construction, the project would generate short-term vehicle trips to and from the project area during construction. These trips would include worker commute, construction equipment and materials transport, and import of fill materials and asphalt. These vehicle trips would add to

existing traffic volumes on local and regional roadways. Apart from the initial transport of construction equipment and materials, relatively minor construction-related traffic would occur. Construction staging would be located within the project area and would maintain local circulation throughout the construction period.

Elks Club Drive would be temporarily closed during construction in order to construct an 18-inch culvert underneath the roadway; this could cause a potentially significant impact should emergency response or evacuation be required during construction of the project. **Mitigation Measure T-1** requires development and implementation of a project specific Traffic Control Plan to mitigate for potential significant impacts related to implementation of applicable emergency response plans. Therefore, the impact is *less than significant with mitigation* incorporated.

- **Mitigation Measure T-1:** The contractor will be required to prepare and adhere to a Traffic Control Plan for TRPA and Transportation review and approval prior to construction. Elements of the plan must include appropriate use of signage, flaggers, traffic calming, and alternative routes to accommodate local and through traffic. In addition, Transportation will advise local residents regarding schedules for construction traffic detours through signage, press releases, and distribution of flyers in area neighborhoods well in advance of construction initiation. Access will not be prohibited, at any time, for local residents, school buses or emergency vehicles, only delayed. In case of emergency the contractor will be required to have traffic rated plates on site to allow access to be restored during trenching. Prior to construction, the County shall coordinate with emergency services and the contractor shall be required to include in the traffic control plan any mitigation determined necessary by emergency services to address project impacts to emergency services or evacuations.

b) Would the project conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b)?

No Impact. CEQA Guidelines § 15064.3, subdivision (b) applies to land use projects. The Phase III project is not a land use project, therefore there would be *no impact*.

c) 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)??

No Impact. The project does not propose changes to existing road layout, circulation, alignment, or structures which would have potential to increase hazards or use incompatible equipment. Therefore, there would be *no impact*.

d) Would the project result in inadequate emergency access?

Less than Significant Impact. As discussed above, the project would incorporate a Traffic Control Plan (**Mitigation Measure T-1**) that would outline measures to protect resident and worker safety during construction. Therefore, the project would have a *less than significant impact* on emergency access and additional mitigation would not be required.

4.18 TRIBAL CULTURAL RESOURCES

Environmental Setting

As of the mid-1800s, the Washoe inhabited the region of the study area. A Hokan-speaking hunting and gathering group, the Washoe inhabited the chain of valleys along the eastern slope of the Sierra Nevada, from Honey Lake to Antelope Valley. The Pine Nut Mountains and the Virginia Range formed the eastern boundary of Washoe territory, while the western boundary extended several miles beyond the Sierra crest.

A great deal of information has been written about Washoe land use in the Tahoe Basin and their use of the region's resources. Lake Tahoe is the center of the Washoe world, both geographically and socially. Legendary and mythological associations to places within the basin are common. While they were an informal and flexible political collectivity, Washoe ethnography hints at a level of technological specialization and social complexity uncharacteristic of their neighbors in the Great Basin. Semi-sedentism and higher population densities, concepts of private property, and communal labor and ownership are reported and may have developed in conjunction with their residential and subsistence resource stability.

As discussed in Cultural Resources (Section 4.5), based on the archival research and site reconnaissance conducted as part of the cultural resource investigations, the project area has low potential to contain undocumented pre-historic resources.

Native American Consultation

In accordance with Assembly Bill 52, as identified in the PRC Section 21080.3.1(b)(2) of CEQA and Section 106 of the National Historic Preservation Act, Native American tribes (tribes) identified by the Native American Heritage Commission (NAHC), must be invited to consult on projects.

Native American correspondence was initiated by NCE with a letter and attached maps to the NAHC on August 23, 2019. The letter requested a search of their Sacred Lands File (SLF) and a contact list for regional tribes that may have knowledge of cultural or tribal resources in the vicinity of the APE. A response was received from the NAHC on September 19, 2019 which identified the tribal representative as Darrel Cruz of the Washoe Tribe of Nevada and California (Washoe Tribe). SLF results within the project APE were negative. An inquiry letter was mailed on County letterhead to the Washoe Tribe on October 3, 2019.

Dan Kikkert, Project Engineer at the County, spoke with Darrel Cruz of the Washoe Tribe on October 15, 2019 regarding the inquiry letter. Mr. Cruz had received the letter and had a few questions regarding the project. Mr. Kikkert and Mr. Cruz discussed the APE limits and extent of the proposed improvements in detail. Mr.

Cruz referenced a cultural site that was near the project and wanted to complete a site visit to confirm the site's location was outside of the project area.

Mr. Kikkert, Mr. Cruz, and Molly Laitinen, NCE Cultural Resources Specialist, met at the Phase III project site on October 17, 2019; a field survey was conducted, and it was confirmed by Mr. Cruz that there are no known (mapped) cultural resources within the Phase III project limits. Mr. Cruz requested that the County, as part of project specifications, include what processes should be followed in the event a cultural resource is located during construction activities. Mr. Cruz confirmed that if the inadvertent discovery processes are implemented with the project, a site monitor would not be needed during construction. The County provided Mr. Cruz with proposed inadvertent discovery language via email on October 23, 2019. Mr. Cruz stated that proposed processes captured previous discussions about inadvertent discoveries. As a result, mitigation measures CR-1 and CR-2 were developed for the project to reduce potentially significant impacts to cultural resources in the event of inadvertent discovery.

The NAHC letter and response, and the Washoe inquiry letter and response are provided in the attached Heritage Resource Inventory Report (Appendix E).

Environmental Checklist

Would the project:

Environmental Issue	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC § 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:		✓		
i. Listed or eligible for listing in CRHR, or in a local register of historical resources as defined in PRC § 5020.1(k), or		✓		
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC § 5024.1. In applying the criteria set forth in subdivision (c) of PRC § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		✓		

Answers to Checklist Questions

a) Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC § 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:

i. Listed or eligible for listing in CRHR, or in a local register of historical resources as defined in PRC § 5020.1(k)?

Less than Significant Impact with Mitigation Incorporated. There are no resources within the project area listed or recommended eligible for listing in CRHR, or in a local register of historical resources as defined in PRC § 5020.1(k) (NCE 2019e). As discussed in the Environmental Setting section, Darrel Cruz, representative for the Washoe Tribe of Nevada and California, confirmed that there are no known (mapped) cultural resources within the Phase III project limits. However, without physical confirmation, the possibility of exposing previously undiscovered buried historic, archaeological or paleontological resources remains; therefore, Mr. Cruz of the Washoe tribe requested that the following processes, detailed in **Mitigation Measures CR-1 and CR-2** be implemented in the event of accidental discovery:

- **Mitigation Measure TCR-1**: Implement Mitigation Measures CR-1 and CR-2

ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of PRC § 5024.1. In applying the criteria set forth in subdivision (c) of PRC § 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?

Less than Significant Impact with Mitigation Incorporated. Significant impacts to a Tribal Cultural Resource (TCR) are those that diminish the integrity, research potential, or other characteristics that make a TCR significant or important. To be considered a TCR, a resource must be either: (1) listed, or determined to be eligible for listing, on the national, state, or local register of historic resources, or (2) a resource that the lead agency chooses, in its discretion, to treat as a TCR and meets the criteria for listing in the state register of historic resources pursuant to the criteria set forth in Public Resources Code Section 5024.1(c).

Consultation with the Washoe tribe confirmed that they are not aware of cultural resources located in the project area that could be affected by the project. TCRs that meet significant or importance criteria as defined in Public Resources Code

Section 5024.1(c) were not identified within the project area. The proposed construction in mostly previously disturbed areas is highly unlikely to inadvertently uncover buried resources. However, due to uncertainty prior to ground disturbance, mitigation measure CR-1 ensures that inadvertent discoveries during construction are handled appropriately to avoid significant impacts to TCRs; therefore, impacts to Native American resources would be *less than significant* as mitigated.

- **Mitigation Measure TCR-2**: Implement Mitigation Measure CR-1.

4.19 UTILITIES & SERVICE SYSTEMS

Environmental Setting

The project area is served by South Tahoe Public Utility District (STPUD) and Liberty Utilities. Liberty Utilities provides electricity to the Lake Tahoe area.

The Phase III project area contains multiple utilities, including electrical, sewer, and water mains. An existing electrical line is located within the Elks Club ROW and historically provided electrical power to serve the Elks Club Lodge (**Figure 6**).

STPUD has a sewer force main (designed and installed in 1966) that is located between the Upper Truckee River and the parking lot within the Phase III project boundary. This line is currently used as a back-up if issues arise with the primary force main (County of El Dorado 2019). During the winter of 1997 the line was exposed during high Upper Truckee River flows. Emergency work was initiated to recover the line and armor the location with large rock.

El Dorado County initiated an emergency repair project to address storm damage from 2017 winter storms. The improvements were constructed in 2018 and included raising the finish grade elevation of lower Elks Club Drive (outside of the limits of the Phase III boundary) to mitigate future flooding impacts and the need for application of sanding abrasives. Though the improvements have provided a benefit with reducing the overall amount of sanding abrasive applied in the area, there is still opportunity for flooding in high flow events. As part of the Phase III project, construction of the new 18-inch cross-culvert between Boca Raton Drive and the old "Elks Club Lodge" open space/parking lot area would provide additional conveyance capacity in high flood events (County of El Dorado 2019).

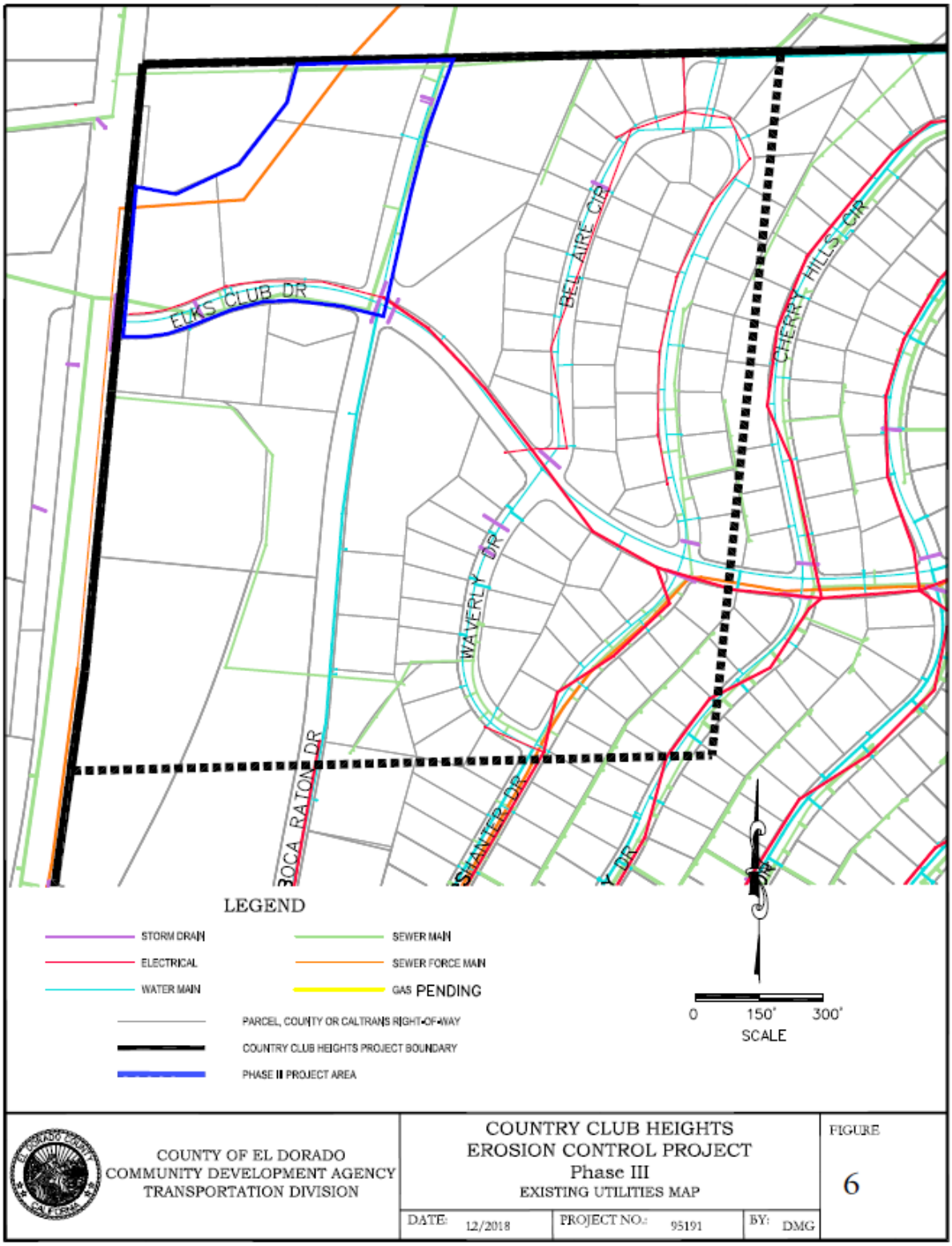

Figure 6. Utility Location Map

Source: County of El Dorado. 2019.

Environmental Checklist

Would the project:

Environmental Issue	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?			✓	
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?			✓	
c) Result in a determination by wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?			✓	
d) 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??			✓	
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?				✓

Answers to Checklist Questions

a) 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 telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Less than Significant Impact. The project proposes to construct and improve stormwater drainage as part of the project's water quality improvements. Specifically, the project proposes to construct two 18-inch culverts, one underneath Boca Raton Drive where the new paved shared use pathway would be constructed, and one underneath Elks Club Drive to direct stormwater flows into basin areas for infiltration and treatment. The project also proposes grading of a sediment infiltration basin, and installation of a parking lot runoff area that would also capture and infiltrate runoff. The environmental effects of the proposed water quality features have been analyzed throughout this IS/MND document for the Phase III project. Impacts from these features would be temporary only during construction, and with the implementation of construction controls and mitigation where required, impacts would *be less than significant*.

As part of the proposed recreational improvements, a 2-unit bathroom facility may be constructed adjacent to the parking lot. The future water needs of the proposed facility would include two sinks, two flush toilets, one urinal, and one exterior water faucet or bottle filler. The future water needs would be less than when the Elks Lodge was operating at this location. The existing Liberty Utility electrical line that supplied power to the old Elk's Club Lodge would be utilized to power the interior lighting of the bathroom; therefore, the bathroom lighting would not require construction of new or expanded electrical facilities. Additionally, the project is zoned for community-oriented facilities associated with recreation in this location and therefore the use would be consistent with zoning.

During construction, the project would utilize water for dust suppression. Water trucks would be filled using designated fire hydrants located in the project vicinity. Water usage for the construction and implementation of the project would be negligible and existing entitlements and resources have the capacity to serve any water needs for the project. The project does not propose expansion or relocation of electric power, natural gas, or telecommunications; there would be no impact on these utilities.

b) Would the project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?

Less than Significant Impact. As discussed in item a), the existing municipal system would serve the project needs for water associated with the proposed bathroom facility and dust suppression activities during construction and would not require expansion of utility systems. Additionally, the proposed project use of water would be less than what was required for the old Elks Club Lodge. The County has determined that the proposed use is consistent with, or less than, the previous intensity of uses on the site as the former Elks Lodge, and that there would be no new demand on water not previously accounted for in infrastructure planning.

Water usage for the construction and implementation of the project would be negligible and existing entitlements and resources from the municipal supply have the capacity to serve any temporary water needs for the project and reasonably foreseeable future development during normal, dry and multiple dry years. The impact on water supply would be *less than significant*.

c) Would the project result in a determination by wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

Less than Significant Impact. As discussed in items a) and b) above, the project is anticipated to have a less than significant impact on the existing utility system. The water usage at the proposed bathroom facility would be less than the previous

use by the Elks Club Lodge and would be served by the existing municipal water supply system; therefore, the project is anticipated to result in a determination by the wastewater treatment provider that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

d) 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?

Less than Significant Impact. Construction activities for the project would generate solid wastes requiring disposal at area landfills. Waste generated during project construction would be limited to vegetation debris and concrete.

Human waste from the new bathroom facility would be disposed into the existing sanitary sewer system that served the old Elks Club Lodge. Paper waste generated at the bathroom facility would be disposed of in on-site trash receptacles. CTC staff may evaluate options for removal of trash collected in the receptacles. Waste generation would not reduce available capacities at existing landfills as the project proposes to construct a smaller size unit bathroom facility which is significantly smaller in size than the old Elks Club Lodge site. The County has determined that the proposed use is consistent with, or less than, the previous intensity of uses on the site as the former Elks Lodge, and that there would be no new demand on water, electrical, sanitary sewer or solid waste not previously accounted for in infrastructure planning. Disposal of construction waste would comply with federal, state, and local statutes and regulations related to solid waste including TRPA requirement of exporting solid waste from the basin.

e) Would the project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact. Disposal of waste would comply with federal, state, and local statutes and regulations related to solid waste including TRPA requirement of exporting solid waste from the basin.

4.20 WILDFIRE

Environmental Setting

The CAL FIRE Fire Hazard Severity Zones Map was developed to guide construction standards for building permits, use of natural hazard disclosure at time of sale, guide defensible space clearance around buildings, set property development standards, and considerations of fire hazard in City and County general plans. The project area is located within a 'Very High' State Responsibility Area hazard zone (CAL FIRE 2007).

In 2007-2008, CAL FIRE updated the existing maps to coincide with the adoption of the new wildland-urban interface building standards, which are used by building officials to determine appropriate construction materials for new buildings in the wildland-urban interface.

Amador-El Dorado Strategic Fire Plan

The project area lies within the boundaries of the Amador-El Dorado Strategic Fire Plan boundary (CAL FIRE 2014). The Amador El Dorado Unit's Fire Management Plan assesses the fire potential within the unit and addresses fire safe planning and hazardous fuel reduction concerns of adjacent CAL FIRE Units, National Forests, and local collaborators. The plan is the foundation for planning, prioritizing, and funding the Unit's projects. The Plan also outlines fire safety, evacuation planning, and hazardous fuels reduction through the CWPP.

Environmental Checklist

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:

Environmental Issue	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?		✓		
b) 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?				✓
c) Require the installation or maintenance 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?				✓

d) 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?			✓	

Answers to Checklist Questions

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones:

a) Would the project substantially impair an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact with Mitigation Incorporated. As discussed in the Environmental Setting, the project is located in a 'Very High' State Responsibility hazard zone. During construction, should a wildfire occur, lane closure of Elks Drive for culvert construction could cause a significant impact on emergency response or evacuation. Construction activities could result in minor delays for emergency vehicles or law enforcement; however, the project specific Traffic Control Plan (Mitigation Measure T-1) would be required to coordinate with emergency services prior to construction and shall implement mitigation determined necessary by emergency services to ensure project activities would not impair response services; therefore, potential impacts would be *less than significant* as mitigated.

- **Mitigation Measure W-1**: Implement Mitigation Measure T-1.

b) 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??

No Impact. The project involves minor grading to construct the water quality and SEZ improvements in flat topography. The project site does not contain steep slope characteristics, or slopes that would become steep as a result of the project and constructs no improvements that would exacerbate wildfire risk; therefore, there would be *no impact* on wildfire risk.

c) Would the project require the installation or maintenance 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?

No Impact. Implementation of the project would not require the installation or maintenance of additional infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that would exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; therefore, there is *no impact*.

d) 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?

Less than Significant Impact. The project is not located on unstable or steep terrain which would expose people or structures to downstream flooding or landslides in the event of post-fire runoff. Implementation of the project's water quality, recreation, and SEZ improvements does not require creation of steep slopes. Construction of the project's stormwater features such as infiltration and runoff basin areas and revegetation would help stabilize the project area from negative impacts related to stormwater runoff. The project would not expose people or structures to significant risks.

4.21 MANDATORY FINDINGS OF SIGNIFICANCE

Environmental Issue	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) 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?		✓		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, or the effects of probable future projects.)			✓	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?		✓		

Answers to Checklist Questions

a) 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?

Less than Significant Impact with Mitigation Incorporated. The project proposes to construct water quality and recreation improvements, in addition to reducing coverage and restore SEZ habitat. Once constructed, the project is anticipated to result in beneficial effects to the quality of the environment. Construction activities such as grading and excavation have the potential to temporarily impact air quality, biological resources, GHG emissions, geology and soils, hazards, noise, transportation, cultural and tribal cultural resources, wildfire, and water quality; however, implementation of construction controls, BMPs, and mitigation measures would ensure that all project impacts are reduced to less than significant. After mitigation, the project would not have the potential to degrade the quality of the environment; would not substantially reduce the habitat of a fish or wildlife species; would not cause a fish or wildlife population to drop below self-sustaining levels; would not threaten to eliminate a plant or animal community; and would not reduce the number or restrict the range of a rare or endangered plants or animals.

b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, or the effects of probable future projects.)?

Less than Significant Impact. The project is a water quality, recreation improvement, and SEZ restoration project that proposes to implement erosion control and stormwater management features that would improve environmental quality, as identified by the TRPA EIP program; therefore, the Phase III project, once constructed, is anticipated to be cumulatively beneficial. Construction of the recreation and trail improvements would also be beneficial long term to the residents and visitors to the Lake Tahoe region and would also provide alternative non-motorized travel through the area, consistent with TRPA's *Active Transportation Plan.*

The Phase III project is proposed for construction in 2021. The following is a list of past and future projects located in the vicinity of the Phase III project that may, in connection to each other, have potential to result in cumulatively considerable impacts:

- Oflyng Erosion Control Project (construction planned for summer 2021 – funding dependent)
- Meyers SEZ/Erosion Control Project (construction planned for summer 2021 – funding dependent)
- CCH-ECP (Phases I and II) (constructed in 2018)

As discussed throughout this document, the Phase III project potential impacts are related to temporary construction activities. Through the use of construction controls, BMPs, and resource mitigation measures where required, all temporary impacts during construction have been minimized that could contribute to a cumulative impact; therefore, the Phase III project would not have incremental effects that would contribute to cumulatively considerable impacts.

The Oflyng ECP, Meyers SEZ/ECP, and Phases I and II of the CCH-ECP projects are similarly included in TRPA's EIP program and are identified for their beneficial environmental effects that once constructed, help attain TRPA thresholds. It is anticipated that the Phase III project will be constructed after ground disturbing activities associated with the Oflyng ECP and concurrent with the Meyers SEZ/ECP occur. In addition, the Meyers SEZ/ECP and Phase III project areas are in different neighborhoods over a mile apart separated by Highway 50; therefore, the temporary construction related impacts associated with the Phase III project would not contribute to cumulative impacts of being constructed at the same time as the projects planned for 2021 construction. Because construction and final stabilization

of Phase I/II of the CCH-ECP has occurred, there are no ongoing impacts which have potential to be cumulatively considerable in relation to the Phase III project.

The projects have been analyzed for potential environmental impacts; similar to the Phase III project, each of the projects contain potential to impact resources temporarily during construction, but with the use of construction controls, BMPs, protection measures, and mitigation, all were determined to have a less than significant impact or less than significant with mitigation; therefore, these projects would not have incremental effects which could cause cumulatively considerable impacts.

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?

Less than Significant Impact with Mitigation Incorporated. All potential impacts associated with construction and implementation of the project identified in this IS/MND to air quality, geology and soils, hazards, transportation, noise, public services, and wildfire are either less than significant after mitigation or less than significant and do not require mitigation. Adverse effects would be temporary in nature due to construction activities and potential risks were mitigated to less than significant; the project would not result in any permanent adverse effects on human beings or the environment. Therefore, the project does not have environmental effects that would cause substantial adverse effects on human beings either directly or indirectly.

Section 5 Mitigation Monitoring and Reporting Program

PROJECT NAME: Country Club Heights Erosion Control Project – Phase III

MITIGATED NEGATIVE DECLARATION #: XXXXXXXXXX

5.1 REGULATORY BACKGROUND

This Mitigation Monitoring and Reporting Plan (MMRP) was prepared to comply with Section 21081.6 of the PRC, which requires the following:

"The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation."

This MMRP is intended to ensure the effective implementation of mitigation measures that are within the authority of the County. The mitigation measures will be implemented (including monitoring where identified) throughout all phases of the development and operation of the Phase III project. Monitoring of such mitigation measures may extend through Phase III project permitting, construction, and project operations, as necessary.

The required monitoring and reporting shall be accomplished through the County's Standard Mitigation Monitoring Program and/or the Project Specific Mitigation Monitoring and Reporting Program as defined in the County Code.

5.2 PROGRAM IMPLEMENTATION

The MMRP Checklist (Table 1) lists all mitigation measures identified in the CEQA Checklist for the proposed Project. In general, monitoring becomes effective at the time the action is taken on the Project. Timing of monitoring is organized as follows:

- Prior to Construction: The monitoring activity consists of ensuring that a particular mitigation action has taken place prior to the beginning of any construction or grading activities.
- During Construction: The monitoring activity consists of active monitoring while grading or construction is occurring on the Project site.
- Prior to Operation: The monitoring activity consists of active monitoring after initial site grading and facility construction has occurred, but prior to the initiation of Project operations.
- Ongoing: The monitoring activity consists of monitoring after the grading and construction phase of the Project has been completed and relates to ongoing operation of the Project.

The mitigation measures listed in Table 1 are ordered as they are described in the CEQA Checklist. County staff will be responsible for implementing and/or ensuring that the mitigation measures listed in the MMRP are undertaken for this Phase III project, to the extent such mitigation measures apply to the Phase III project within the County. The MMRP provides a summary of each mitigation measure that is described in more detail in the MND. In implementing the MMRP, compliance within each mitigation measure shall be evaluated based on the detail in the MND. Implementation includes ensuring that any required actions are included in bid documents and contracts as part of the design/build process for the Phase III project and ensuring that the contractor includes specified mitigation activities in plans and specifications for construction. County staff shall designate mitigation measure responsibility and oversee the contractor and consultants.

Table 1. Mitigation Monitoring and Reporting Plan

Mitigation Measure	Implementing Responsibility [1,3]	Monitoring Responsibility [2,3]	Timing and Frequency	Compliance Verification (Init/Date)
Aesthetics				
No mitigation measures required.				
Agricultural Resources				
No mitigation measures required.				
Air Quality				
No mitigation measures required.				
Biological Resources				
Mitigation Measure B-1: In the event the Sierra Nevada yellow-legged frog is encountered at the Phase III project site, the County shall coordinate with TRPA, CDFW, and USFWS staff to determine the proper course of action to avoid impacts to the species which may include but not be limited to: • Revise the proposed project to avoid impacts to the Sierra Nevada yellow-legged frog(s) that exist within the project area. Avoidance may take the form of eliminating or relocating project features, eliminating construction activities or restoration activities that may have an adverse impact to known individuals; and • Create an exclusion zone surrounding the location of the observed frog, tadpole or larvae for a 30-meter distance that precludes disturbance within suitable habitat. No construction activities shall take place within the exclusion zone. Additionally, any waters flowing through the Project site that enter the exclusion zone shall not be impeded or diverted as a result of construction activities.	Transportation or its Consultant	Transportation	Prior to Construction	

Mitigation Measure	Implementing Responsibility [1,3]	Monitoring Responsibility [2,3]	Timing and Frequency	Compliance Verification (Init/Date)
Mitigation Measure B-2: If any construction activities (e.g. tree removal, grubbing or grading) are scheduled during the bird nesting season (typically defined by CDFW as February 1 to September 1), the County or approved construction contractor shall retain a qualified biologist to conduct a pre-construction survey of the project area to include a 100-foot buffer, as access is available, to locate active bird nests, identify measures to protect the nests, and locate any other special status species. The pre-construction survey shall be conducted no more than 14 days prior to the implementation of construction activities (including staging and equipment storage). Any active nest shall not be disturbed until young have fledged or under the direction provided by a qualified biologist. Any special status species shall not be disturbed unless under the direction provided by a qualified biologist. If an active nest is found during construction, disturbance shall not occur without direction from a qualified biologist.	Transportation or its Consultant	Transportation	Prior to Construction	
Mitigation Measure B-3: The County shall implement and require the contractor to adhere to a Noxious Weed Mitigation Plan to decrease habitat vulnerability to or below pre-construction levels. The Plan shall include preconstruction elements such as treatment methodologies for existing noxious weed populations identified in the project area, as well as operating procedures for both during and post-construction. Recommended BMPs will include, but are not limited to: hand removal of existing weeds prior to going to seed, equipment cleaning prior to use, area of disturbance minimization, disturbed ground stabilization upon completion of construction with mulch or other means,	Transportation or its Contractor	Transportation	Prior to and During Construction	

Mitigation Measure	Implementing Responsibility [1,3]	Monitoring Responsibility [2,3]	Timing and Frequency	Compliance Verification (Init/Date)
certified weed-free mulch and other materials, and disturbed areas revegetation with native plants.				
Mitigation Measure B-4: Implement Mitigation Measure B-2.	Transportation or its Consultant	Transportation	Prior to Construction	
Cultural Resources				
Mitigation Measure CR-1: The contractor and key members of crews working on excavation, trenching, and grading for sites preparation shall be instructed to be wary of the possibility of destruction of buried cultural and paleontological resource materials. They shall be instructed to recognize signs of prehistoric use and their responsibility to report any such finds (or suspected finds) immediately, as specified by measure CR-2 below, so damage to such resources may be prevented. No historic properties will be affected in compliance with Advisory Council on Historic Preservation regulations (36 CFR 800). However, in the event that cultural resources are discovered during Phase III project implementation, Phase III project personnel will halt all activities in the immediate area and will notify a qualified archaeologist, the County Project Engineer, and the Washoe Tribe, to determine the appropriate course of action. Archaeological resources are not to be moved or taken from the project site and work shall not resume until authorized.	Transportation or its Contractor	Transportation	Prior to and During Construction	
Mitigation Measure CR-2: Final plans and specifications shall include guidance in the event that human remains are discovered. Work in the area surrounding the remains shall cease and the County Coroner and local law enforcement shall be notified immediately of the discovery in accordance with PRC Section 5097.98 and Section	Transportation or its Contractor	Transportation	Prior to and During Construction	

Mitigation Measure	Implementing Responsibility [1,3]	Monitoring Responsibility [2,3]	Timing and Frequency	Compliance Verification (Init/Date)
7050.5 of California Health and Safety Code to conduct proper evaluation and treatment of remains. The coroner and law enforcement agency with jurisdiction will evaluate the find to determine whether it is a crime scene or a burial. If human remains are determined to be associated with an archaeological site (burial), the California OHP will be notified. The OHP will work with appropriate tribes to determine measures to take.				
Geology and Soils				
No mitigation measures required.				
Greenhouse Gas Emissions				
No mitigation measures required.				
Hazards and Hazardous Materials				
Mitigation Measure Haz-1: Implement Mitigation Measure T-1.	Transportation and its Contractor	Transportation	Prior to and During Construction	
Hydrology and Water Quality				
Mitigation Measure Hyd-1: Should excavation greater than 5 feet in depth occur as a result of project construction, a soils/hydrology report would be prepared approved by the TRPA prior to construction.	Transportation or its Contractor	Transportation	Prior to Construction	
Land Use and Planning				
No mitigation measures required.				
Mineral Resources				
No mitigation measures required.				

Mitigation Measure	Implementing Responsibility [1,3]	Monitoring Responsibility [2,3]	Timing and Frequency	Compliance Verification (Init/Date)
Noise				
No mitigation measures required.				
Population and Housing				
No mitigation measures required.				
Public Services				
No mitigation measures required.				
Recreation				
No mitigation measures required.				
Transportation and Traffic				
Mitigation Measure T-1: The contractor will be required to prepare and adhere to a Traffic Control Plan for TRPA and Transportation review and approval prior to construction. Elements of the plan must include appropriate use of signage, flaggers, traffic calming, and alternative routes to accommodate local and through traffic. In addition, Transportation will advise residents regarding schedules for construction traffic detours through signage, press releases, and distribution of flyers in area neighborhoods well in advance of construction initiation. Access will not be prohibited, at any time, for residents, school buses or emergency vehicles, only delayed. In case of emergency the contractor will be required to have traffic rated plates on site to allow access to be restored during trenching. Prior to construction, the County shall coordinate with emergency services and the contractor shall be required to include in the traffic control plan any mitigation determined necessary by emergency services to address project impacts to emergency services or evacuations.	Transportation and its Contractor	Transportation	Prior to and During Construction	

Mitigation Measure	Implementing Responsibility [1,3]	Monitoring Responsibility [2,3]	Timing and Frequency	Compliance Verification (Init/Date)
Tribal Cultural Resources				
Mitigation Measure TCR-1: Implement Mitigation Measures CR-1 and CR-2	Transportation and its Contractor	Transportation	Prior to and During Construction	
Mitigation Measure TCR-2: Implement Mitigation Measure CR-1	Transportation and its Contractor	Transportation	Prior to and During Construction	
Utilities / Service Systems				
No mitigation measures required.				
Wildfire				
Mitigation Measure W-1: Implement Mitigation Measure T-1.	Transportation and its Contractor	Transportation	Prior to and During Construction	

[1] The department listed in the Implementing Responsibility column is the department responsible for conducting the mitigation measure.
[2] The department listed in the Monitoring Responsibility column is responsible for verifying that compliance with the mitigation measure occurs and that all monitoring and reporting is completed.
[3] Responsible Entity: Transportation: El Dorado County, Department of Transportation, Tahoe Engineering

CDFW = California Department of Fish and Wildlife
CFR = Code of Federal Regulations
County/Transportation = El Dorado County, Department of Transportation
OHP =Office of Historic Preservation
PRC = Public Resource Code
SNYLF = Sierra Nevada yellow-legged frog
TRPA = Tahoe Regional Planning Agency

Section 6 References

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Appendix A

PHASES I AND II CCH-ECP IS/MND

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ERRATA SHEET FOR THE
Initial Study/ Mitigated Negative Declaration for the Country Club Heights Erosion Control Project (CIP No. 95191)

CEQA REQUIREMENTS

State CEQA Guidelines §15073.5(a) requires that a lead agency recirculate a negative declaration "when the document must be substantially revised." A "substantial revision" includes: (1) identification of a new, avoidable significant effect requiring mitigation measures or project revisions and/or (2) determination that proposed mitigation measures or project revisions will not reduce potential effects to less than significance and new measures or revisions must be required. Recirculation is not required when new information is added to the negative declaration which merely clarifies, amplifies, or makes insignificant modifications to the negative declaration.

In response to the concerns set forth by the California Department of Transportation, the following minor text changes are made to the Initial Study and incorporated as part of the Initial Study/ Mitigated Negative Declaration.

None of these changes substantially modify the analysis or conclusions of the document, but instead simply clarify aspects of the previously circulated document.

Changes to the text are noted with <u>underline</u> (for added text) or ~~strikeout~~ type (for deleted text).

3.0 ENVIRONMENTAL SETTING AND SITE CHARACTERISTICS

Hydrology: The United States Geological Survey (USGS) has divided the Tahoe Basin into 110 hydrologic basins and intervening areas contributing to outflow from Lake Tahoe. The majority of the Project site is located within USGS basin 73 with a small portion at the northeast within USGS hydrologic basin 72. Basin 73 has a drainage area of 56.5 square miles, is defined as the Upper Truckee River at Mouth, and drains into the Upper Truckee River through established storm drain and surface channel systems. Basin 72 has a drainage area of 41.2 square miles, is defined as Trout Creek at Mouth and drains into Saxon Creek through established storm drain and surface channel systems.

The Project site is comprised of six watersheds <u>(Watershed A, B, C, D, E, and F)</u> as defined by Transportation using 2013 LiDAR developed data and 2016 field surveys. Of the six, two watersheds drain to the west under Highway 50 towards the Meyers area <u>(Watersheds A and B)</u> and the remaining 4 watersheds draining to the northeast and east <u>(Watersheds C, D, E, and F)</u>, where the flows will ultimately reach the Upper Truckee River. Runoff from the Project site is conveyed through a series of drainage systems which generally outlet into County road side ditches. These storm drain systems consist of inlet/junction structures that provide minimal to no treatment.

Figures 2, 17, 18, and 19: Each Figure was updated to include the existing culverts that cross under Highway 50.

COMMUNITY DEVELOPMENT AGENCY

TRANSPORTATION DIVISION

http://www.edcgov.us/DOT/

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MITIGATED NEGATIVE DECLARATION

FINDINGS

The County of El Dorado (County), Community Development Agency, Transportation Division (Transportation), Tahoe Engineering has prepared an Initial Study to assess the project's potential effects on the environment and the significance of those effects. On the basis of that study the County hereby finds:

☐ The proposed project will not have a significant adverse effect on the environment; therefore, it does not require the preparation of an Environmental Impact Report and this **Negative Declaration** has been prepared.

☒ Although the proposed project could have a significant adverse effect on the environment, there will not be a significant adverse effect in this case because the County will adopt the Mitigation Monitoring and Reporting Program (Appendix B) that contains the mitigation measures necessary for the project to have a less than significant impact. A **Mitigated Negative Declaration** has thus been prepared.

Per Section 21082.1 of the CEQA Guidelines, Transportation has independently reviewed and analyzed the Initial Study and Proposed Mitigated Negative Declaration for the proposed project and finds that they reflect the independent judgment of Transportation. The environmental documents, which constitute the Initial Study and provide the basis and reasons for this determination are attached and/or referenced herein and are hereby made a part of this document.

Per Section 15072 (f) (5) of the CEQA Guidelines, the project site is not on any list compiled pursuant to Government Code section 65962.5 as a hazardous waste facilities, land designated as a hazardous waste property, or a hazardous waste disposal site.

PROJECT INFORMATION

Title: Country Club Heights Erosion Control Project (JN 95191)	
Description: Construction of erosion control and water quality improvement facilities.	
Location: The Project area is located in eastern El Dorado County, within the Lake Tahoe Basin, south of South Lake Tahoe. The Project is located in the south section of the Lake Tahoe Basin within portions of Sections 20, 21, 28, and 29, Township 12 North, Range 18 East, Mount Diablo Meridian. The Project is bounded by Highway 50 to the west, Southern Pines Drive, Crystal Air Drive, and Skyline Drive to the south, Crystal Air Drive and Elks Club Drive to the east, and the subdivision boundaries to the north.	
Owner/Applicant: County of El Dorado, Community Development Agency, Transportation Division, Tahoe Engineering	
Lead Agency: County of El Dorado, Community Development Agency, Transportation Division, Tahoe Engineering	
County Contact: Daniel Kikkert, Senior Civil Engineer	**Phone:** 530-573-7900
Address: 924 B Emerald Bay Road, South Lake Tahoe, CA 96150	

AVAILABILITY OF DOCUMENTS

The Initial Study for this Mitigated Negative Declaration is available for review at the County of El Dorado, Community Development Agency, Transportation Division, Tahoe Engineering office (Office), 924B Emerald Bay Road, South Lake Tahoe, CA. The Office's hours of operation are from 8:00 am – 5:00 pm, Monday through Friday, closed for lunch from 12:00 pm to 1:00 pm. The Office is also closed on Saturday and Sunday. The document is also available for review at the County of El Dorado South Lake Tahoe Branch Library (Library) at 1000 Rufus Allen Blvd., South Lake Tahoe, CA. The

Library's hours of operation are from 10:00 am – 8:00 pm on Tuesday and Wednesday; 10:00 am – 5:00 pm on Thursday, Friday, and Saturday. The Library is closed on Sunday and Monday. In addition to the South Lake Tahoe locations, the document is available at the California State Clearinghouse located at 1400 Tenth St., Sacramento, CA.

PROJECT DESCRIPTION

The County proposes to implement the Country Club Heights Erosion Control Project (Project) during the 2017 construction season to assist with meeting the goals of the Tahoe Regional Planning Agency's (TRPA) Environmental Improvement Program (EIP). In 1997, the TRPA developed a Basin-wide EIP that defined various projects which, once implemented, would assist in attaining and maintaining TRPA Environmental Threshold Carrying Capacities (ETCC) as well as meet other federal and state enviromental goals. TRPA has established thresholds for air quality, water quality, soil conservation, vegetation, noise, scenic resources, recreation, fisheries, and wildlife to address public health and safety of residents and visitors as well as the scenic, recreation, education, scientific, and natural values of the Lake Tahoe Basin. The Project is defined in the TRPA EIP as Project #01.01.01.0021 (TRPA 2012; formerly #189, TRPA 2001). This Project is being designed and constructed with financial assistance from the State of California, the United States Forest Service - Lake Tahoe Basin Management Unit (USFS-LTBMU) and TRPA mitigation funds.

The Project site is an existing residential development south of South Lake Tahoe and is bounded by Highway 50 to the west, Southern Pines Drive, Crystal Air Drive, and Skyline Drive to the south, Crystal Air Drive and Elks Club Drive to the east, and the subdivision boundaries to the north. (Figure 1). The overall goal of the Project is to design and implement erosion control and water quality improvement measures that will reduce the discharge of sediment and pollutants to Lake Tahoe from County administered rights-of-way (ROW). This includes the spreading of storm water runoff in adjacent meadow areas for enhancement of Stream Environment Zone (SEZ) capability lands as well as pollutant load reduction. The Project will not change the use of the site or surrounding area. The Project will benefit the natural environment with the implementation of the proposed improvements. After Project completion, less sediment will enter Lake Tahoe from the Project area, thereby improving water quality in Lake Tahoe.

PROJECT BACKGROUND

Transportation utilized the Lake Tahoe Basin Storm Water Quality Improvement Committee's (SWQIC) *Formulating and Evaluating Alternatives for Water Quality Improvement Projects* document for guidance in selecting a preferred Project alternative. The Project Development Team (PDT) investigated a range of possibilities for the water quality improvements in the Project area. The process of evaluating and selecting a preferred alternative for this Project included the production and analysis of the following documents in 2016:

- Draft Project Feasibility Report
- Final Project Feasibility Report
- Preferred Alternative Memorandum

In October of 2016, Transportation completed a Draft Project Feasibility Report that investigated existing conditions and identified problem areas within the Project boundary as well as proposed alternative solutions within the Project boundary. The alternatives evaluated different water quality improvements and erosion control mitigation measures for the problem areas. After receiving feedback from the PDT and the public, Transportation completed a Final Project Feasibility Report in December 2016. Finally, based upon further feedback, Transportation completed a Preferred Alternative Memorandum in December 2016.

PROPOSED PROJECT

The proposed Project was selected by Transportation with input from the PDT and the public and is described in further detail below (outlined on Figure 2). The proposed Project measures are a compilation of the most comprehensive design ideas for each street within the Project area which meets the goals and objectives of the EIP and the Project. All proposed measures will be in compliance with applicable laws and TRPA and the Lahontan Regional Water Quality Control Board (RWCQB) regulations.

The Project area contains existing storm drain systems which collects and conveys storm water through a series of corrugated metal pipe (CMP) risers, pipes, drainage inlets, roadside channels to existing outfalls which ultimately drain to the Upper Truckee River. The outfalls occur near existing meadow areas which are located on land owned by the California Tahoe Conservancy. This Project will be focused on reducing the peak flows and volumes as well as increasing the water quality of the runoff prior to reaching these outfalls.

The proposed Project will implement source control, hydrologic control, and treatment options to meet the Project goals and objectives. The source control will be to provide erosion control measures on targeted eroding roadside slopes and shoulders as well as stabilizing roadside drainages. Hydrologic controls will be met through construction of roadside conveyance systems, replacement of ineffective culverts, drainage inlets, replacement of inefficient CMP risers, and construction of offline/inline infiltration systems which will work towards reductions in peak flows and volumes. Treatment measures will consist of infiltrating channels, SEZ enhancement through flow spreading in adjacent meadow areas, and subsurface infiltration systems which will be designed to capture and infiltrate the first flush of storm water runoff.

In order to meet the goals and objectives of the Project, the Feasibility Report outlined three alternatives for consideration by the public and the PDT. Based on the comments received, the professional judgment of Transportation personnel, and the analyses outlined in the Feasibility Report, Alternative 2, with modifications, was chosen as the preferred alternative and is presented in Figure 2.

The locations requiring source control improvements include isolated areas of bare eroding slopes and shoulders on Meadowvale Drive, Thunderbird Drive (& Court), Crystal Air Drive, Skyline Drive, Glen Eagles Road, Elks Club, and Cherry Hills Circle. The primary BMPs proposed for stabilization in these areas is rock slope protection with revegetation. For areas with failing rock slope protection, replacement of the existing rock with heavier, angular rock is proposed. All locations to receive this treatment are within County ROW. On Meadowvale Drive there is a section of the existing gunite wall that has begun to break showing signs of slippage. Though in-kind replacement is proposed, Transportation is evaluating additional alternatives including the use of a Redi-Rock wall product or construction of a modified rock slope protection. In each case, the work area will be in the County ROW and existing slope easements within areas that have been previously disturbed.

In addition to the eroding slopes, the two other identified source control issues are eroding shoulders and eroding or incised channels. Stabilization of the eroding shoulders will consist of using compacted aggregate base while stabilization of the incised channels will be addressed with the addition of rock or seed with blanket and rock bowls or dissipators at the pipe inlets/outlets. Depending on availability, salvaged sod could be used to replace the seed and blanket material.

Multiple hydrologic conveyance issues will be addressed by the preferred alternative, including problematic road side conveyance systems on Elks Club and Boca Raton as well as undersized / inefficient culverts throughout the project area. Elks Club Drive, identified as a major collector, provides a connection between Highway 50 and Pioneer Trail. The road is relatively flat at Highway 50, steepening from Bel Air Drive to the ridge between Skyline and Crystal Air, before heading down to Pioneer Trail. The roadside conveyance systems consist of asphalt concrete swales with no facilities to capture sediment. With the steepness of the road, current County maintenance practices include the application of abrasives to the road during the winter. Due to the depth of the existing AC swales it is difficult and expensive for maintenance crews to clean out the swales. Alternative 2 will include the construction of curb and gutter near the high point ending at the intersection of Elks Club Drive. Structures installed at the corners will enable increased capture of sediment and material. Additional structures installed down Elks Club will allow for the capture of sediment as well as for easier maintenance practices. In the flatter reach of Elks Club Drive, between Bel Aire Circle and the Boca Raton Drive, impaired AC swales will be replaced with shallower AC swales that direct runoff onto the adjacent CTC parcels (APN 033-201-32 and APN 033-201-04). A new culvert will be installed at the corner of Bel Air and Elks Club which will direct stormwater flows to a CTC owned parcel (APN 033-211-09) with a 1B Land Capability. Flows will cross this meadow area to the existing manmade Boca Raton channel where excess flows would be conveyed through the existing outlet pipe crossing Elks Club into the channel at the corner of Boca Raton and Elks Club. This point of confluence is where these flows would have gone prior to this project. Both the replacement of the impaired AC swales and the new pipe will enable the treatment of stormwater runoff as well as the rewatering of the meadow areas through flow spreading. Alternative 1 looked at replacement of the existing AC swales between Bel Air and Glen Eagles on Elks Club using either the construction of shallower swales or curb and gutter. However, due to funding restrictions, the work on the swales at these locations was not included in the preferred alternative. The work will be included in the preferred alternative if additional funds are secured.

The conveyance issues at the intersection of Boca Raton and Meadowvale include existing shallow roadside swales that fill with material causing stormwater flows onto both roads. Alternative 2 will include replacement of the pipes crossing Meadowvale and Boca Raton for increased conveyance efficiency, as well as the construction of roadside swales and an infiltration basin on the CTC parcel at the corner of Boca Raton and Meadowvale (APN 033-221-03) for both the treatment of stormwater through flow spreading and capture of sediment. The inlets and outlets of the new culverts will be stabilized with either CSP inlets or flared end sections with rock energy disipators. The outlet channel from the culvert crossing Boca Raton will be re-configured to direct storm water runoff to the meadow area adjacent to Boca Raton on a CTC owned parcel (APN 033-223-05). The reconfiguration will allow for additional treatment of runoff as well as re-watering the existing meadow area, classified as a 1B Land Capability. Excess flows will re-enter the existing man made Boca Raton channel between Boca Raton and Elks Club Drive.

The Project will include the removal of a small number of trees for construction, fuels management, and habitat restoration. The trees to be removed are located within the County right of way or on CTC owned parcels. Tree removal will be

completed by California Conservation Corps contracted hand crews with oversight by CTC personnel. Trees tagged for removal will include those that are dead, diseased, or within a dense stand.

In order to construct the proposed erosion control and water quality aspects of the proposed Projects, license agreements must be obtained from the following public properties, listed by its Assessor Parcel Number (APN):

California Tahoe Conservancy APNs:

033-100-23	033-223-05	033-211-09	033-213-05	034-753-02
033-221-03	033-201-32	033-212-03	033-301-01	
033-222-17	033-201-04	033-212-09	033-291-07	

SUMMARY OF ENVIRONMENTAL ANALYSIS

The Transportation prepared an Initial Study to assess the proposed Project's potential effects on the environment and the significance of those effects. Based on the Initial Study, Transportation determined that the proposed Project will not have any significant environmental impacts with the implementation of mitigation measures. Transportation will adopt the mitigation measures located in the Mitigation Monitoring and Reporting Program. This conclusion is supported by the following findings:

- The proposed Project will have no adverse impacts in the areas of agriculture and forest resources, land use and planning, mineral resources, tribal cultural resources, population and housing, public services and recreation.
- The proposed Project will have a less than significant impact in the areas of aesthetics, air quality, biological resources, cultural resources, geology and soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, noise, transportation and traffic, and utilities and service systems. Discussion on each of these findings is provided below.

Aesthetics: A limited part of the Project area is visible from US Highway 50 / State Route 89, which is a designated Scenic Highway. The intent of the Project is to improve the quality of the area by stabilizing bare soil areas with native vegetation, by improving hydrology and vegetation in meadow areas including conifers encroaching into the meadow, by enhancing drainage features and by installing infiltration systems that will benefit the environment. While there will be temporary aesthetic impacts due to construction, there will be no long term degradation of aesthetic quality in the Project area and therefore the Project has a less than significant impact.

Air Quality: The proposed Project will have no long term impacts to air quality. Construction equipment may impact air quality for the short term during construction, but impacts are only temporary and will not result in a cumulative increase of criteria pollutants for which the Project region is in non-attainment nor will it expose sensitive receptors to substantial pollutant concentrations. The Project will not create objectionable odors affecting a substantial number of people. Proper Best Management Practices (BMPs), per TRPA's Handbook of Best Management Practices, and construction controls shall be implemented to prevent the Project activities from violating air quality standards and therefore the Project has a less than significant impact.

Biological Resources: Field surveys and assessments were conducted within the Project survey area for special status botanical and wildlife species on August 22, 2016. No special status plant species were found during the field surveys. In addition, no historical observations or detections of special status species were found with 0.5 miles of the project boundary during background information research. Field surveys and assessments were conducted within the Project survey area for special status botanical and wildlife species on August 10, 2016. The biological assessment surveys observed no federal or state-listed candidate or proposed botanical or wildlife species in the Project study area. However, there are recorded occurrences of one special status species immediately adjacent to the Project areas (northern goshawk). Suitable habitat conditions do exist within 0.5 miles of the Project area for bald eagle, bank swallow, willow flycatcher, northern goshawk, osprey, California spotted owl, waterfowl, Sierra Nevada mountain beaver, American badger, Sierra Nevada snowshoe hare, fisher (West Coast distinct population segment), Sierra Nevada red fox, America marten, and mule deer. Prior to construction, if new activity or occurrences are identified, appropriate limited operating periods will be observed and consultation with the appropriate agencies will be initiated.

A noxious weed survey was also conducted within the Project survey area on August 22, 2016. The survey identified four noxious weed species within the Project area: cheat grass (*Bromus* tectorum), bull thistle (*Cirsium* vulgare), poison hemlock (*Conium* maculatum), and yellow toadflax (*Linaria vulgaris*). USFS 2008 invasive plant data supplied by the USFS documents an additional species in the project area: oxeye daisy (*Leucanthemum vulgare*). A Noxious Weed Mitigation/Eradication Protocol (Protocol) will be implemented by Transportation as part of the Project which will help

decrease habitat vulnerability to at or below pre-construction levels. The Protocol includes pre-construction elements, such as treating existing noxious weed populations identified in the Project area, as well as during- and post-construction elements. Additionally, Transportation will specify weed-free seed mix and require all construction equipment working within a mapped SEZ to be certified steam cleaned prior to accessing the site.

Cultural Resources:
A cultural resources study, which included a literature search and an archaeological survey/inventory of the Project Area of Potential Effect (APE), was completed. Previous cultural resources studies have been conducted in the vicinity of the Project area, which included portions of the APE. Review of those inventories revealed resources that have been recorded previously within the immediate Project area. The current inventory resulted in the following observations:

- A segment of the Lake Valley Utility Line, site 05190000481 was relocated. The site has not been revaluated as a whole, and as result, for the segment within the project area, the potential eligibility of the segment to the National Register of Historic Places (NRHP) is deferred.
- Segment 5 of site 05190001042, part of Old Highway 89 was relocated. The site has not been revaluated as a whole, and as result the potential eligibility of segment 5 to the NRHP is deferred.
- Site 05199901275, a previously recorded road segment, was relocated and found to be mapped, photographed, and described adequately.
- Site 05199901276, an historic fence line, was relocated.
- Site 05199901278, a previously recorded historic trash scatter, was relocated.
- Site 05199901280, a previously recorded historic trash scatter, was relocated and found to be mapped, photographed, and described adequately.
- Individual examples of Comstock or later era high-cut stumps were observed but not recorded.
- Recent (less than 50 years in age) roadside debris was observed but not recorded.

Although significant heritage resources were not identified within the APE, two were not evaluated for their potential significance. Both resources are away from any planned improvements such that no historic properties will be affected by the Project. As part of the study a Native American Consultation was initiated for this project on August 11, 2016 with inquiry letters sent to Tribal representatives on September 12, 2016. As of October 27, 2016, none of the tribal representatives contacted had inquired about the project or requested consultation within the 30-day response timeframe. Pursuant of California Public Resource Code Section 21080.3.1(b)(2) of the CEQA, the 30-day response timeframe for Native American inquiry for a project has expired. Thus, the Project will not impact properties listed on or eligible to the NRHP, nor will it impact historic resources that meet the criteria outline in Section 5024.1 of the California Public Resource Code or Section 29 of the TRPA Code of Ordinances. No historic properties will be affected in compliance with Advisory Council on Historic Preservation regulations (36 CFR part 800).

Although improbable, it is possible that prehistoric burials might be found in the study area (none were apparent based on an examination of the ground surface). Should human remains be encountered while engaged in construction activities, work must cease in the immediate area and the contractor must immediately report the finding to the State Historic Preservation Office (and USFS representatives, if the find is located on USFS administered lands) and other designated officials. That office will contact the appropriate tribal representatives and consult on disposition of the remains and any associated artifacts.

Geology/Soils: The proposed Project involves earth-moving activities estimated at approximately 1,200 cubic yards (35,000 square feet), which will cause temporary soil erosion in the Project area. The County will prepare and require as part of the Contract Documents a Storm Water Pollution Prevention Plan (SWPPP) and a Revegetation Plan that the contractor must adhere to. The contractor will also implement temporary and permanent BMPs per the TRPA Handbook of Best Management Practices prior to and during construction to prevent erosion within the Project area. The Transportation Division will also perform two years of irrigation/vegetation establishment after the Project is complete to ensure that the site is restored to pre-project conditions, at a minimum. The SWPPP will also include and require appropriate measures to help sequence construction and minimize soil erosion through the use of approved sound construction practices to a less than significant level.

Hazards/Hazardous Materials: The proposed Project will have no long term impacts from hazards or hazardous materials in the Project area. During construction there is a risk of accidental fuel spills from construction equipment. The contractor will be required to prepare and adhere to a Spill Contingency Plan as part of the SWPPP and shall have spill prevention kits and other approved BMPs and construction controls available to prevent and/or contain any accidental spills.

Hydrology/Water Quality: The primary goal of the proposed Project is to benefit water quality by improving the existing storm water conveyance systems and associated facilities in the Project area; thereby reducing the amount of pollutants entering Lake Tahoe. The Project will have no long term negative impacts on hydrology/water quality. Though the project

will include improvements to re-water existing meadow areas, any flows in excess leaving these areas will reach existing manmade County conveyance facilities. Project construction related activities can pose short term water quality impacts during storm events or accidental fuel spills from construction equipment, however Transportation will prepare a SWPPP, Temporary Erosion Control Plan and a Revegetation Plan that the contractor must adhere to in order to address short term impacts associated with soil disturbance. At a minimum, this will include containing the site with proper BMPs, protecting existing storm water facilities, staging and storing materials properly, and sweeping daily. To ensure all mitigation measures are addressed and monitored, the contractor will prepare and adhere to the SWPPP in accordance with TRPA and Lahontan RWCQB requirements for storm water pollution prevention.

Noise: Project construction will result in a temporary increase in ambient noise levels due to equipment noise and construction activities. Per TRPA Standard Permit Conditions, operation shall be restricted to the hours of 8:00 a.m. to 6:30 p.m. All equipment and vehicles used for Project construction shall have proper muffler devices and be tuned to the manufacturer's specification. Transportation will advise potentially affected residents of the proposed construction activities, including duration, schedule, and contacts for filing noise complaints. Transportation and/or contractor will respond to all noise complaints received within one working day and will work to resolve the issue within two working days.

Recreation: The proposed Project will have no impact on recreation within the Project area.

Transportation/Traffic: There will be short term construction impacts on traffic from truck and daily work trips to the Project area. Traffic controls will only be implemented during work hours and when it is necessary to perform work, which will be outlined in a Traffic Control Plan prepared by and adhered to by the contractor. At no time will access for local residents, emergency vehicles, school buses, pedestrians, or bicyclists be prohibited, therefore the Project will have a less than significant impact on transportation and traffic.

Utilities and Service Systems: During Project construction, portions of the site may have exposed soil areas that, during a rain or high wind event or utility line breach, could cause minor erosion. Once construction is complete and the erosion control and water quality improvement measures are in place, surface runoff and erosion will be reduced and water quality will be improved. The contractor will adhere to the Transportation prepared SWPPP and a Temporary Erosion Control Plan which will include TRPA approved BMPs to minimize soil erosion during construction to a less than significant level.

Greenhouse Gas Emissions: Climate change refers to long-term fluctuations in temperature, precipitation, wind, and other elements of Earth's climate system. Natural processes such as solar-irradiance variations, variations in Earth's orbital parameters, and volcanic activity can produce variations in climate. The climate system can also be influenced by changes in the concentration of various gases in the atmosphere, which affect Earth's absorption of radiation.

During construction, the Project would temporarily cause direct greenhouse gas (GHG) emissions from the combustion of fossil fuels used to run construction equipment and vehicles, both onsite and offsite. These GHG emissions would be temporary and one-time emissions during the construction of the Project. Over its lifetime, the Project would directly and indirectly cause negligible GHG emissions from occasional maintenance and personal vehicle use. Therefore, Transportation's analysis focused on construction impacts estimated using Transportation's past project implementation database and the U.S. Environmental Protection Agency (USEPA) GHG emission factors for diesel fuel and gasoline combustion in construction equipment. Transportation has reviewed past construction logs for projects equivalent in size and scope to the Project to determine the typical number and type of vehicles that are actively working to construct the Project each day. Based on this analysis, the County has formulated the following assumptions:

- Fifteen workers per day, driving five vehicles to work an average of 40 miles round-trip per day
- Vehicles average 20 miles per gallon
- Twelve pieces of construction machinery per day
- Crews work eight hours per day with machinery running half that time (4 hours)
- Machinery burns an average of two gallons of diesel fuel per hour
- Diesel fuel contributes approximately 22.5 lbs CO_2/gallon
- Gasoline contributes approximately 20 lbs CO_2/gallon
- The Project will be completed in 35 working days

Based on these assumptions, the Project would emit approximately 50 metric tons of CO_2 equivalents.

This estimated amount is negligible in comparison to the statewide inventory of 372,400,000 metric tons discussed below in the Initial Study (0.00000013 percent). The estimated amount is also significantly less than the San Luis Obispo Air Pollution Control District's (SLOAPCD) significance threshold of 1,150 metric tons of CO_2 equivalents. Because of this and the fact

that direct onsite and offsite GHG emissions would terminate following completion construction work, the Project will have a less than significant impact on GHG emissions.

PUBLIC NOTICE

The comment period for this document closes on March 7, 2017. A copy of the Initial Study/Proposed Mitigated Negative Declaration is available for public review at the County of El Dorado, Transportation Division, Tahoe Engineering Group (Office) at 924 B Emerald Bay Road, South Lake Tahoe, CA 96150 between the hours of 8:00 am and 5:00 pm Monday through Friday. The Office is closed Saturday and Sunday. The document is also available for review at the County of El Dorado Library – South Lake Tahoe Branch at 1000 Rufus Allen Blvd., South Lake Tahoe, CA 96150 between the hours of 10:00 am and 8:00 pm Tuesday and Wednesday and 10:00 am and 5:00 pm Thursday through Saturday. The Library is closed on Sunday and Monday.

All parties providing written comments during this timeframe will be notified of the upcoming hearing before the Board of Supervisors. Additional information may be obtained by contacting the County of El Dorado, Community Development Agency, Transportation Division, Tahoe Engineering at (530) 573-7900 or 924 B Emerald Bay Road, South Lake Tahoe, CA 96150.

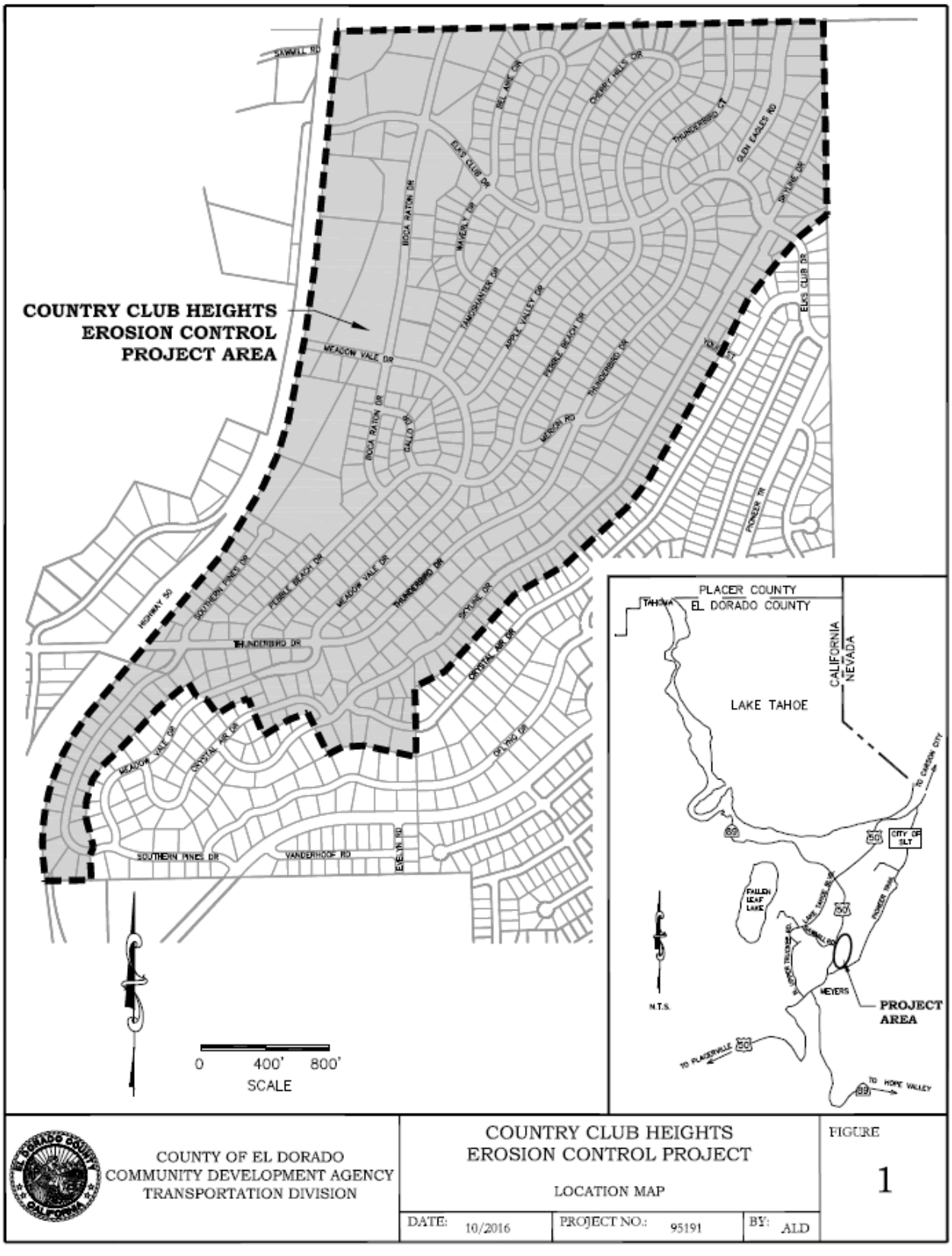
If you wish to appeal the appropriateness or adequacy of this document, address your written comments to our finding that the Project will not have a significant adverse effect on the environment: (1) identify the environmental effect(s), why they would occur, and why they would be significant, and (2) suggest any mitigation measures which you believe would eliminate or reduce the effect to an acceptable level. Regarding item (1) above, explain the basis for your comments and submit any supporting data or references.

Daniel Kikkert, Senior Civil Engineer

County of El Dorado—Lead Agency

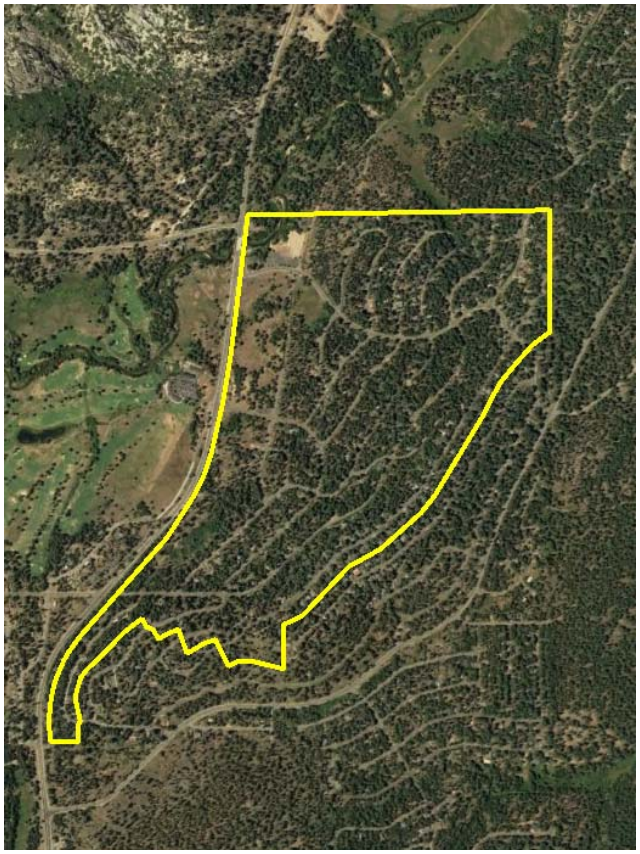
Recorder's Certification

FIGURE 1


COUNTRY CLUB HEIGHTS
EROSION CONTROL
PROJECT AREA
MEADOW VALE DR
THUNDERBIRD DR
PEBBLE BEACH DR
SOUTHERN PINES DR
VANDERHOOF RD
HIGHWAY 50
0
400'
800'
SCALE
PLACER COUNTY
EL DORADO COUNTY
TAHOE
CALIFORNIA
NEVADA
LAKE TAHOE
TO CARSON CITY
CITY OF SLT
FALLEN LEAF LAKE
MEYERS
PROJECT AREA
N.T.S.
TO PLACERVILLE
TO HOPE VALLEY
COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT AGENCY
TRANSPORTATION DIVISION
COUNTRY CLUB HEIGHTS
EROSION CONTROL PROJECT
LOCATION MAP
FIGURE
1
DATE: 10/2016
PROJECT NO.: 95191
BY: ALD

CEQA
INITIAL STUDY/
PROPOSED MITIGATED NEGATIVE DECLARATION

COUNTRY CLUB HEIGHTS
EROSION CONTROL PROJECT
EIP PROJECT # 01.01.01.0021
JN 95191



STATE CLEARINGHOUSE # 2017022004

Prepared by:

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

FINAL
January 2016

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Figure 1 – Project Location Map

Figure 2 – Preferred Alternative

Figure 17 –Problem Area Map

Figure 18 – Alternative 1

Figure 19 – Alternative 2

APPENDICES

Appendix A: CEQA Checklist

Appendix B: Mitigation Monitoring and Reporting Program

Appendix C: Plant, Noxious Weed and Wildlife Tables

Appendix D: Supplemental Reports

- Heritage Resource Inventory Report
- Final Aquatic Resource Delineation Report
- Memo on potential surface water connection of Wetland 1
- Invasive Plant Risk Assessment
- Wildlife Baseline Report
- Botanical Baseline Report

1.0 INTRODUCTION

The County of El Dorado (County), Community Development Agency, Transportation Division (Transportation), Tahoe Engineering prepared this Draft Initial Study to identify and assess the anticipated environmental impacts of the proposed Country Club Heights Erosion Control Project (Project). This document has been prepared to satisfy the California Environmental Quality Act (CEQA) (Public Resources Code, Section 21000 et seq.), including the State CEQA Guidelines (14 CCR 15000 et seq.). CEQA requires that all state and local government agencies consider the environmental consequences of projects over which they have discretionary authority before acting on those projects. This document may rely on previous environmental documents and site-specific studies prepared for the Project.

The Draft Initial Study is a public document used by the decision-making lead agency to determine whether a project may have a significant effect on the environment. If the lead agency finds substantial evidence that any aspect of the project, either individually or cumulatively, may have a significant effect on the environment, regardless of whether the overall effect of the project is adverse or beneficial, the lead agency is required to prepare an Environmental Impact Report (EIR). The lead agency may also use a previously-prepared EIR and supplement that EIR, or prepare a Subsequent EIR to analyze the project. If the agency finds no substantial evidence that the project or any of its aspects may cause a significant effect on the environment, a Negative Declaration shall be prepared. If in the course of analysis, the agency recognizes that the project may have a significant impact on the environment, but that by incorporating specific mitigation measures the impact will be reduced to a less than significant effect, a Mitigated Negative Declaration shall be prepared.

Transportation has reviewed the Project and determined that the Project, with mitigation measures as identified in this document, will not have a significant effect on the environment. Therefore, a Mitigated Negative Declaration will meet the requirements of CEQA.

A CEQA Checklist (Appendix A) has been completed based on the Project's Final Project Feasibility Report and Preferred Alternative Memorandum; however, should significant impacts or new mitigation measures result from the CEQA review process, Transportation will recirculate the document for public review. The public review period for the Draft Initial Study/Proposed Mitigated Negative Declaration shall begin on February 6, 2017 and end on March 7, 2017. Comments received after 5:00 pm on March 7, 2017 will not be considered. Written responses should be sent to Daniel Kikkert, Senior Civil Engineer, at the following address:

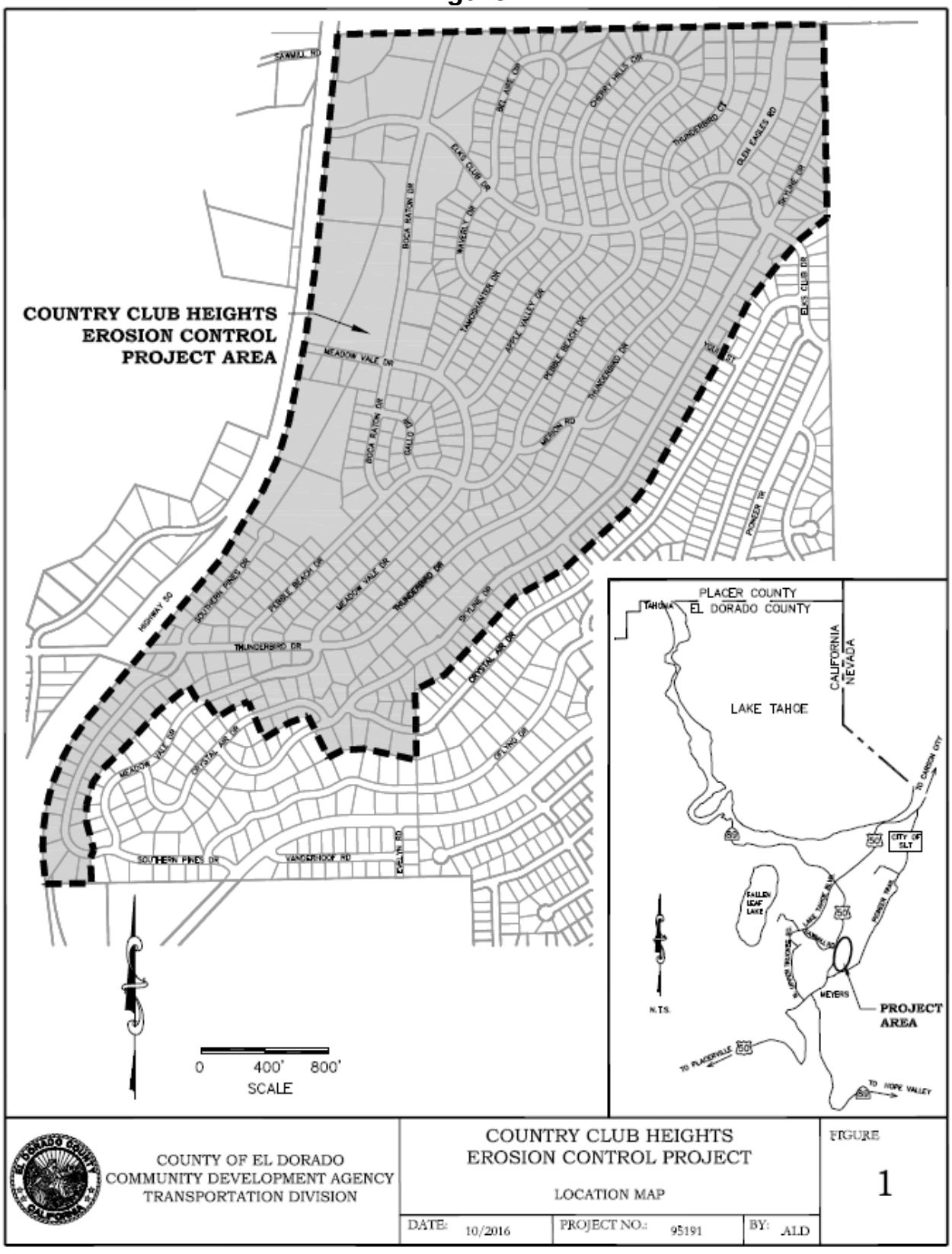
County of El Dorado Transportation Division
CEQA Compliance
924 B Emerald Bay Road
South Lake Tahoe, CA 96150
(530) 573-7900
dan.kikkert@edcgov.us

2.0 PROJECT DESCRIPTION AND LOCATION

Transportation proposes to implement the proposed Project during the 2017 construction season to assist with meeting the goals of the Tahoe Regional Planning Agency's (TRPA) Environmental Improvement Program (EIP). In 1997, the TRPA developed a Basin-wide EIP that defined various projects which, once implemented, would assist in attaining and maintaining TRPA Environmental Threshold Carrying Capacities (ETCC) as well as meet other federal and state enviromental goals. TRPA has established thresholds for air quality, water quality, soil conservation, vegetation, noise, scenic resources, recreation, fisheries, and wildlife to address public health and safety of residents and visitors as well as the scenic, recreation, education, scientific, and natural values of the Lake Tahoe Basin. The Project is defined in the TRPA EIP as Project #01.01.01.0021. This proposed Project is being designed and constructed with financial assistance from the State of California, United States Forest Service - Lake Tahoe Basin Management Unit (USFS-LTBMU), and TRPA mitigation funds.

The Project site is an existing residential development south of the City of South Lake Tahoe and is bounded by Highway 50 to the west, Southern Pines Drive, Crystal Air Drive, and Skyline Drive to the south, Crystal Air Drive and Elks Club Drive to the east, and the subdivision boundaries to the north (Figure 1).

Figure 1


COUNTRY CLUB HEIGHTS
EROSION CONTROL
PROJECT AREA
SAWMILL RD
BOCA RATON DR
ELKS CLUB DR
CHERRY HILLS DR
THUNDERBIRD CT
GLEN EAGLES RD
ST LUKE DR
MAGERLY DR
LANCASHIRE DR
APPLE VALLEY DR
PEBBLE BEACH DR
MEADOW VALE DR
GALLO DR
MEDEIROS RD
YUKON CT
PIONEER DR
HIGHWAY 50
SOUTHERN PINES DR
THUNDERBIRD DR
CRYSTAL AIR DR
SPRING DR
VANDERHOOF RD
EGLIN RD
0
400'
800'
SCALE
PLACER COUNTY
TAHOMA
EL DORADO COUNTY
CALIFORNIA
NEVADA
LAKE TAHOE
TO CARSON CITY
CITY OF SLT
FALLEN LEAF LAKE
MEYERS
PROJECT AREA
N.T.S.
TO PLACERVILLE
TO HOPE VALLEY
COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT AGENCY
TRANSPORTATION DIVISION
COUNTRY CLUB HEIGHTS
EROSION CONTROL PROJECT
LOCATION MAP
FIGURE
1
DATE: 10/2016
PROJECT NO.: 95191
BY: ALD

The overall goal of the Project is to design and implement erosion control and water quality improvement measures that will reduce the discharge of sediment and pollutants to Lake Tahoe from County administered rights-of-way (ROW). The Project will not change the use of the site or surrounding area. The proposed Project will benefit the natural environment with the implementation of the proposed improvements. After Project completion, less sediment will enter Lake Tahoe from the Project area, thereby improving water quality in Lake Tahoe. The Project will enable the enhancement of Stream Environment Zone (SEZ) capability lands through the spreading of flows in the adjacent meadow areas. The proposed Project is intended to improve water quality by reducing erosion and treating storm water runoff from the existing roadway infrastructure within the Project corridor by installing appropriate Best Management Practices (BMPs). Figure 2 outlines the proposed Project, and can be found at the end of this Initial Study.

2.1 Project Need and Existing Conditions

Pursuant to the requirements of Section 208 of the Clean Water Act, the TRPA prepared a Water Quality Management Plan for the Lake Tahoe Basin (208 Plan). The 208 Plan identified erosion, runoff, and disturbance resulting from developments, such as subdivision roads, in the Lake Tahoe Basin as major causes of the decline of Lake Tahoe's water quality and clarity. The 208 Plan also mandates that capital improvement projects such as the Project be implemented to bring all County roads into compliance with BMPs requirements. Additionally, the TRPA developed the EIP to assist in attaining and maintaining TRPA's Environmental Thresholds. The EIP identified the need to improve the quality of water entering Lake Tahoe by controlling upstream pollutant sources. Pollutant sources primarily include fine sediment and nutrients like nitrogen and phosphorus.

The Project Development Team (PDT) identified erosion, water quality, and drainage/infrastructure problems within the Project area. The problems within the Project area are typical of those found within older residential subdivisions and commercially developed areas in the Tahoe Basin. The problems were evaluated during site inspections by Transportation, California Tahoe Conservancy (CTC), TRPA, and USFS-LTBMU staff. The problem areas the Project intends to address are listed below.

Source Erosion

- Eroding Slopes
- Eroding Roadside Shoulders

Water Quality

- Road Sand and Cinder Accumulation
- Sediment Deposition and Tracking
- Concentration of Storm Water Flows
- Discharge of Untreated Storm Water

Drainage and Infrastructure

- Eroding Drainage Ditches and Channels
- Undersized and Damaged Culverts
- Deep Roadside Ditches

The Project area contains existing storm drain systems which collect and convey storm water through a series of corrugated metal pipe (CMP) risers, pipes, drainage inlets, and roadside channels to existing outfalls which ultimately drain to the Upper Truckee River. The outfalls occur near existing meadow areas which are dry and cutoff from existing storm water flows. These areas are located on land owned by the California Tahoe Conservancy. This Project will be focused on reducing the peak flows and volumes, increasing the water quality of the runoff prior to reaching these outfalls, and enhancing existing SEZ capability lands through flow spreading.

2.2 Project Approach

Transportation utilized the Lake Tahoe Basin Storm Water Quality Improvement Committee's (SWQIC) *Formulating and Evaluating Alternatives for Water Quality Improvement Projects* document for guidance in selecting a preferred Project alternative. The PDT investigated a range of possibilities for the water quality improvements in the Project area. The process of evaluating and selecting a preferred alternative for this Project included the production and analysis of the following documents:

- Draft Project Feasibility Report (County, 2016)
- Final Project Feasibility Report with Errata (County, 2016)
- Preferred Alternative Memorandum (County, 2016)

In October of 2016, Transportation completed a Draft Project Feasibility Report that investigated existing conditions and identified problem areas within the Project boundary as well as proposed alternative solutions with the Project boundary. The alternatives evaluated different water quality improvements and erosion control mitigation measures for the problem areas. After receiving feedback from the PDT and the public, Transportation completed a Final Project Feasibility Report (with Errata) in December 2016. Finally, based upon further feedback, Transportation completed a Preferred Alternative Memorandum in December 2016.

The above documents are available through the County. A synopsis of alternatives that were evaluated as part of the planning process is presented below.

2.3 Concept Alternatives

In order to develop the Project alternatives, Transportation presented three feasible alternatives for the erosion control and water quality aspects of the Project. Each had pros and cons that were outlined and analyzed in the Final Project Feasibility Report. Each alternative was evaluated using a matrix consisting of several factors that affected the feasibility and effectiveness of each alternative. These were factors such as cost, affects to sensitive species and cultural sites, safety, scenic issues, permittability, fundability, etc. Once each alternative was evaluated, the PDT and public had a chance to weigh in and decide, with Transportation, on the preferred Project alternative.

Transportation utilized a comprehensive watershed-based approach to develop BMP alternatives for each watershed within the Project area. This strategy helped to identify the existing storm water flow paths, sources of sediment and hydrologic and hydraulic characteristics in a very practical fashion and identified how to properly address the erosion and water quality issues. The Project focuses mainly on capturing and treating storm water and fine sediment. The BMP alternatives were developed for each problem area and were analyzed for effectiveness at solving the water quality issue at each location in a cost effective, easily maintainable manner. The BMP alternatives were developed using proven erosion source control, hydrologic design, and runoff treatment strategies.

The three Project alternatives that were considered are presented below, along with erosion control measures that were considered but not presented. Figure 17 outlines the existing conditions and known problem areas within the Project area. Figure 2 identifies the proposed improvements for the preferred Project alternative, which is described in further detail below in Section 2.4.

The three alternatives formulated to address the erosion, hydrologic, and treatment deficiencies within the Project area are described below.

Alternative 1

Figure 18 depicts the facilities and treatments proposed for Alternative 1. Conditions requiring source control include bare and eroding shoulders, eroding slopes, areas of sediment deposition, failing rock and gunite slope protection, and eroding or incised channels. For the eroding shoulders, stabilization will consist of compacted aggregate base, rock, or seed with blanket roadside channels and rock bowls or dissipators at pipes. For the slopes, rock slope protection and revegetation are proposed. For the failing rock slope protection, replacement of the existing rock with heavier, angular rock is proposed. Where the gunite slope protection is failing, in-kind replacement is proposed, however, Transportation will use available resources to perform an in-depth evaluation which may result in more extensive stabilization techniques than in-kind replacement. The two eroding or incised channels will be stabilized with seed with blanket or rock, if velocities are too great for blanket. Depending on availability, salvaged sod could be used to replace the seed and blanket material.

To improve hydrologic conveyance, seven new pipes are proposed to replace existing pipes that are either damaged or undersized and one new pipe is proposed at a new conveyance location across Pebble Beach Drive. The inlets and outlets of these pipes will be connected to CSP inlets or stabilized with rock bowls or flared-end sections with rock dissipators. The deep AC swales along the north side of Elks Club Drive will be replaced with shallower AC swales, or curb and gutter, providing safer roadway conditions and allow County

Maintenance staff to clean the swales with a sweeper. In the flatter reach of Elks Club Drive, between Bel Aire Circle and the Boca Raton Drive ROW, impaired AC swale will be replaced with new AC swale, or curb and gutter, that directs runoff onto the adjacent CTC parcels. Ponding within the road shoulder of Apple Valley Drive will be minimized with the interception of runoff from Pebble Beach Drive, above. These flows will be conveyed via channel across publicly owned parcels to Apple Valley Drive south of the ponding location. Runoff would then be conveyed south in a roadside channel to the pipe at the Apple Valley Drive and Meadow Vale Drive intersection.

To intercept and treat a portion of the runoff currently reaching the channels and basins in the Southern Pines Drive and Boca Raton Drive ROWs, surface flow from upper area watersheds will be conveyed into 22 infiltrating CSP inlets that also have the capacity to store sediment. Most CSP inlets will replace older inlets that currently do not provide infiltration or storage. An additional CSP inlet will be installed at the pipe inlet on the north end of Cherry Hills Circle in order to capture sediment and treat runoff before flows cross the subdivision boundary towards the Upper Truckee River. Treatment and sediment capture will also be provided through an infiltrating sediment basin proposed on a CTC parcel at the Boca Raton Drive and Meadow Vale Drive intersection and infiltrating channels directing runoff to re-water areas on CTC parcels from Boca Raton Drive and Elks Club Drive.

No conveyance or treatment is proposed for watershed A as storm runoff from this watershed will be treated by the Meyers SEZ and Erosion Control Project to be constructed in 2017.

A total of 14 public parcels are proposed for use with Alternate 1.

Alternative 2

Figure 19 depicts the facilities and treatments proposed for Alternative 2. Alternative 2 is a reduction in scope from that shown in Alternative 1.

The work proposed along Elks Club Drive in Alternative 1 is much more comprehensive than that shown in Alternative 2. The County's Tahoe Maintenance and Operations is proposing to grind and resurface Elks Club Drive within the next 5 years. Funding to include this work as part of this Project was applied for but not granted. The proposed grades and elevations of the roadway are not known at this time. Installing the south CSP inlets, shoulder stabilization measures, and the upper road AC swale R&R as part of this Project could result in these improvements not functioning integrally with the future roadway. Therefore, most of these items have been omitted from Alternative 2. The elements retained are those that we believe could be installed or constructed without impacting the future work. The resurfacing of Elks Club Drive will be completed at such time when funding is available.

The conditions requiring source control remain the same as that outlined in Alternative 1, but the proposed source control areas have been reduced from 31 locations depicted in Alternative 1 to 24 locations. For the remaining eroding shoulders, stabilization will consist of compacted aggregate base, rock, or seed with blanket roadside channels and rock bowls or dissipators at pipes. Eroding slope locations were reduced because they were found to be beyond the County ROW on private property or conditions were found to be not as compromised as other locations. For the remaining eroding slopes, rock slope protection and revegetation are proposed. For the failing rock slope protection, replacement of the existing rock with heavier, angular rock is proposed. Where the gunite slope protection is failing, in-kind replacement is proposed, however, Transportation will use available resources to perform an in-depth evaluation which may result in more extensive stabilization techniques than in-kind replacement. The two eroding or incised channels will be stabilized with seed and blanket or rock, if velocities are too great for blanket. Depending on availability, salvaged sod could be used to replace the seed and blanket material.

To improve hydrologic conveyance, four new pipes are proposed to replace existing pipes that are either damaged or undersized. This is a reduction from the eight pipes proposed in Alternative 1. The inlets and outlets of the pipes will be connected to CSP inlets or stabilized with rock bowls and flared-end sections with rock dissipators. In the flatter reach of Elks Club Drive, between Bel Aire Circle and the Boca Raton Drive ROW, impaired AC swale will be replaced with new AC swale that directs runoff onto the adjacent CTC parcels.

To intercept and treat a portion of the runoff currently reaching the channels and basins in the Southern Pines Drive and Boca Raton Drive ROWs, surface flow from the upper area watershed will be conveyed into six infiltrating CSP inlets that also have the capacity to store sediment. This is a reduction from the 22 inlets proposed in Alternative 1.

Treatment and sediment capture will also be provided through an infiltrating sediment basin proposed on a CTC parcel at the Boca Raton Drive and Meadow Vale Drive intersection and infiltrating channels directing runoff to re-water areas on CTC parcels from Boca Raton Drive and Elks Club Drive.

No conveyance or treatment is proposed for watershed A as storm runoff from this watershed will be treated by the Meyers SEZ and Erosion Control Project to be constructed in 2017.

A total of 12 public parcels are proposed for use with Alternate 2.

Alternative 3 – No Build Alternative

Under the No Build Alternative, the existing conditions and infrastructure would remain and would not comply with current design standards and satisfy the goals and objectives of the Project.

2.4 Detailed Site Conditions and Proposed Project

The proposed Project was selected by Transportation, the PDT, and the public and is described in further detail below and is a compilation of the most comprehensive design ideas for each street within the Project area which meets the goals and objectives of the EIP and the Project. All proposed measures will be in compliance with applicable laws and TRPA and Lahontan Regional Water Quality Control Board (RWQCB) regulations.

In order to meet the goals and objectives of the Project, the Feasibility Report outlined three alternatives for consideration by the public and the PDT. Based on the comments received, the professional judgment of Transportation personnel, and the analyses outlined in the Feasibility Report, Alternative 2, with modifications, was chosen as the preferred alternative and is presented in Figure 2.

The locations requiring source control improvements include isolated areas of bare eroding slopes and shoulders on Meadowvale Drive, Thunderbird Drive (& Court), Crystal Air Drive, Skyline Drive, Glen Eagles Road, Elks Club, and Cherry Hills Circle. The primary BMPs proposed for stabilization in these areas is rock slope protection with revegetation. For areas with failing rock slope protection, replacement of the existing rock with heavier, angular rock is proposed. All locations to receive this treatment are within County ROW. On Meadowvale Drive there is a section of the existing gunite wall that has begun to break showing signs of slippage. Though in-kind replacement is proposed, Transportation is evaluating additional alternatives including the use of a Redi-Rock wall product or construction of a modified rock slope protection. In each case, the work area will be in the County ROW and existing slope easements within areas that have been previously disturbed.

In addition to the eroding slopes, the two other identified source control issues are with eroding shoulders and eroding or incised channels. Stabilization of the eroding shoulders will consist of compacted aggregate base while stabilization of the incised channels will be addressed with the addition of rock or seed with blanket and rock bowls or dissipators at the pipe inlets/outlets. Depending on availability, salvaged sod could be used to replace the seed and blanket material.

Multiple hydrologic conveyance issues will be addressed by the preferred alternative, including problematic road side conveyance systems on Elks Club and Boca Raton as well as undersized / inefficient culverts throughout the project area. Elks Club Drive, identified as a major collector, provides a connection between Highway 50 and Pioneer Trail. The road is relatively flat at Highway 50, steepening from Bel Air Drive to the ridge between Skyline and Crystal Air, before heading down to Pioneer Trail. The roadside conveyance systems consist of asphalt concrete swales with no facilities to capture sediment. With the steepness of the road, current County maintenance practices include the application of abrasives to the road during the winter. Due to the depth of the existing AC swales it is difficult and expensive for maintenance crews to clean out the swales. Alternative 2 will include the construction of curb and gutter near the high point ending at the intersection of Elks Club Drive. Structures installed at the corners will enable increased capture of sediment and material. Additional structures installed down Elks Club will allow for the capture of sediment as well as for easier maintenance practices. In the flatter reach of Elks Club Drive, between Bel Aire Circle and the Boca Raton Drive, impaired AC swales will be replaced with shallower AC swales that direct runoff onto the adjacent CTC parcels (APN 033-201-32 and APN 033-201-04). A modification to Alternative 2 is the installation of a new culvert installed at the corner of Bel Air and Elks Club which will direct stormwater flows to a CTC owned parcel (APN 033-211-09) with a 1B Land Capability. Flows will cross this meadow area to the existing Boca Raton channel where excess flows would be conveyed through the existing outlet pipe crossing Elks Club into the channel at the corner of Boca Raton and Elks Club. This point of confluence is where these flows would have gone prior to this project. Both the

replacement of the impaired AC swales and the new pipe will enable the treatment of stormwater runoff as well as the rewatering of the meadow areas. Alternative 2 included the replacement of the existing AC swales between Bel Air and Glen Eagles on Elks Club using either the construction of shallower swales or curb and gutter. However, due to funding restrictions, the work on the swales at these locations was not included in the preferred alternative. The work will be included in the preferred alternative if additional funds are secured.

The conveyance issues at the intersection of Boca Raton and Meadowvale include existing shallow roadside swales that fill with material causing stormwater flows onto both roads. Alternative 2 will include replacement of the pipes crossing Meadowvale and Boca Raton for increased conveyance efficiency, as well as the construction of roadside swales and an infiltration basin on the CTC parcel at the corner of Boca Raton and Meadowvale (APN 033-221-03) for both the treatment of stormwater and capture of sediment. The inlets and outlets of the new culverts will be stabilized with either CSP inlets or flared end sections with rock energy disipators. The outlet channel from the culvert crossing Boca Raton will be re-configured to direct storm water runoff to the meadow area adjacent to Boca Raton on a CTC owned parcel (APN 033-223-05). The reconfiguration will allow for additional treatment of runoff was well as re-watering the existing meadow area, classified as a 1B Land Capability. Excess flows will re-enter the existing manmade Boca Raton channel between Boca Raton and Elks Club Drive.

The Project will also include the removal of a small number of trees for construction, fuels management, and habitat restoration. The trees to be removed are located within the County right of way or on CTC owned parcels. Tree removal will be completed by California Conservation Corps contracted hand crews with oversight by CTC personnel. Trees tagged for removal will include those that are dead, diseased, or within a dense stand.

A total of 13 public parcels are proposed for use with this modified Alternative 2.

2.5 Project Benefits

The following Project goals were recommended by the PDT to guide the Project through the planning, design, and formulating alternatives phases:

1. Reduce the amount of very fine inorganic sediment by 12%, fine inorganic sediment by 25%, and coarse inorganic sediment by 33% from the urbanized watershed bounded by the Project boundary or to the maximum extent practicable prior to discharging into Lake Tahoe. Very fine sediment is defined as particles with a diameter of 20 microns or less (<20 µm), fine sediment is defined as particles which pass a #200 sieve (<74 µm), and coarse sediment is defined as particles retained on or greater than the #200 sieve (>74 µm).
2. Reduce the 25-year, 1-hour storm surface water volume and surface water peak flow from the urbanized watershed bounded by the Project boundary by 33% or to the maximum extent practicable prior to discharging into Lake Tahoe.
3. Complete a BMP Retrofit Watershed Master Plan which will include the private BMP development as part of the Project Delivery Process (PDP). Achieve 25% participation with the private homeowners within the limits of the Project.

The Project objectives represent physical conditions that can be measured to assess the success of the Project in achieving the Project goals. The Project will conform to the Preferred Design Approach as detailed in the SWQIC process.

Goal # 1 Objectives

1. Stabilize eroding slopes and channels/ditches with County-approved stabilization (Source Control) BMPs.
2. Utilize various County-approved sediment trapping BMPs (Sediment Traps, Infiltration, Sedimentation/Infiltration Basins, etc.) to capture sediment and de-icing abrasives from impervious surfaces and eroding areas.
3. Define and maximize the sweeping frequency within the ROW as funding and resources are available. Current County sweeping frequency is approximately once per year.
4. Utilize publicly owned parcels to capture more sediment prior to discharging into Lake Tahoe.

Goal # 2 Objectives

1. Utilize County ROW and publicly owned parcels to capture, store, and infiltrate a portion of the 25-year, 1-hour storm water volume, which are at main discharge points within the watersheds.
2. Utilize various County-approved infiltration and storage BMPs prior to discharging into Lake Tahoe.
3. Utilize various storm water drainage systems to increase the time of concentration and reduce the peak discharge to the main discharge points.

Goal # 3 Objectives

1. Utilize the TRPA Home Landscaping Guide for evaluating and developing BMP solutions for driveways within the limits of the Project area.
2. Coordinate the private BMPs design within the ROW with the Tahoe Regional Planning Agency (TRPA).

3.0 ENVIRONMENTAL SETTING AND SITE CHARACTERISTICS

The Project area is located in the south section of the Lake Tahoe Basin within portions of Sections 20, 21, 28, and 29, Township 12 North, Range 18 East, Mount Diablo Meridian. The total Project area is approximately 270 acres and encompasses County lots and ROW, CTC lots, USFS lots, and privately owned residential lots and includes the Country Club Heights Unit Nos. 1, 2, 3, 4, and portions of Country Club Heights Unit No. 5 and Tahoe Paradise Unit No. 48 subdivisions. Improvements within the Project area include paved County roads within 50 to 100 foot wide ROW, unpaved roads, rock and gunite slope protection, timber and concrete block retaining walls, AC dike, AC swales, storm drain systems, sediment basins, check dams, channels, and overhead/underground utilities. Portions of the paved County roads may not be centered within the ROW.

Within the Project area approximately 44% of the parcels are publicly owned by the CTC, USFS, or El Dorado County. The majority of the privately owned parcels have been developed with single-family residences.

Topography: The approximate elevation range of the Project site is from 6,258 to 6,531 feet above mean sea level (NGVD 1929). The terrain ranges in slope from 3-30% slope with some areas exceeding 60%.

Hydrology: The United States Geological Survey (USGS) has divided the Tahoe Basin into 110 hydrologic basins and intervening areas contributing to outflow from Lake Tahoe. The majority of the Project site is located within USGS basin 73 with a small portion at the northeast within USGS hydrologic basin 72. Basin 73 has a drainage area of 56.5 square miles, is defined as the Upper Truckee River at Mouth, and drains into the Upper Truckee River through established storm drain and surface channel systems. Basin 72 has a drainage area of 41.2 square miles, is defined as Trout Creek at Mouth and drains into Saxon Creek through established storm drain and surface channel systems.

The Project site is comprised of six watersheds (Watershed A, B, C, D, E, and F) as defined by Transportation using 2013 LiDAR developed data and 2016 field surveys. Of the six, two watersheds drain to the west under Highway 50 towards the Meyers area (Watersheds A and B) and the remaining 4 watersheds draining to the northeast and east (Watersheds C, D, E, and F), where the flows will ultimately reach the Upper Truckee River. Runoff from the Project site is conveyed through a series of drainage systems which generally outlet into County road side ditches. These storm drain systems consist of inlet/junction structures that provide minimal to no treatment.

Groundwater/Wetlands: Jurisdictional waters of the U.S. are classified into multiple types based on topography, edaphics (soils), vegetation, and hydrologic regime. Primarily, the U.S. Army Corps of Engineers establishes two distinctions: Wetland and non-wetland waters of the U.S. Non-wetland waters are commonly referred to as other waters. In July of 2016, Transportation's consultant, Nichols Consulting Engineers (NCE), performed a review of published documents and on August 23 and 24 conducted a field inspection to determine the presence of wetlands within the Project boundary. During the review and field inspection the existing roadside ditches and manmade swales were believed by NCE to be not federally jurisdictional (Appendix D, Final Aquatic Resource Delineation Report). Of the two wetland type areas that were mapped, only one (Wetland 2 at Cherry Hills Circle) is believed to be federally jurisdictional. Wetland 1 (below Boca Raton) is believed by NCE and El Dorado County to not be federally jurisdictional as at the time of the original field survey, NCE did not attempt to confirm if there was a surface water connection. On Novemebr 17, 2016 El Dorado County completed a field visit and verified that it is not connected to a surface water (Appendix D, Memo on Potential Surface Water Connection). This information has been submitted to the Army Corp of Engineer to validate the determination, with confirmation expected in February 2017.

Soils in the Project area are generally well drained and gravelly with depth to groundwater ranging from 12 inches to 80 inches below ground surface.

Geology/Soils: A preliminary review of regional geology within the Project area has shown that this geomorphic unit has a moderate to steep slope, rock outcrops, and two main geologic map units outlined below.

- *Flood Plain Deposits (Holocene) (Qfp):* This soil type is found within the western northwest portion of the Project site. This soil is comprised of gravely to silty sand and sandy to clayey silt. Locally includes lacustrine and delta deposits, in part may be Pleistocene.
- *Till (Qog):* This soil type is found within the remaining Project site. Deeply weathered boulder deposits generally without morainal form; surface granitic boulders are weathered with stained, pitted and knobby surface; granitic boulders within the deposit are decomposed. Locally may include outwash deposits.
- ***Land Use:*** TRPA has primary jurisdiction over land use and regulatory decisions for the Lake Tahoe Basin. According to TRPA Plan Area Statements (PAS), the Project area falls into two plan areas:

- 119 – Country Club Meadow
- 120 – Tahoe Paradise Meadowvale

The majority of the Project area lies in Plan Area 120, representing most of the developed, central portions of the Project area. The primary use of Plan Area 120 is residential at a density of one single family dwelling per parcel. The Plan Area is approximately 30-percent built out. The management plan has the focus of mitigation. The subsequent information briefly summarizes information regarding plan area 120 found on the TRPA plan area statements:

- TRPA Plan Area # 120
- TRPA Plan Area Statement Tahoe Paradise Meadowvale
- Land Use Classification Residential
- Special Designation None

A small section of the northern limits of the Project area are located in the Country Club Meadow area (PAS 119). This is primarily classified as 1B – SEZ with the dominate feature being the Upper Truckee River. Homes within this PAS are often located with SEZs.

Cultural Resources: A cultural resource study, which included a literature search and an archaeological survey/inventory of the Project survey area, was completed on September 13, 2016 (Appendix D, Heritage Resource Inventory Report). As part of this study a Native American Consultation was initiated for this project on August 11, 2016 with inquiry letters sent to Tribal representatives on September 12, 2016. As of October 27, 2016, none of the tribal representatives contacted have inquired about the project or requested consultation within the 30-day response timeframe. Pursuant of California Public Resource Code Section 21080.3.1(b)(2) of the CEQA, the 30-day response timeframe for Native American inquiry for a project has expired. Previous cultural resources studies have been conducted in the vicinity of the Project area, including portions of the Area of Potential Effects (APE). From these studies 33 inventories and 22 sites have been recorded within 0.25 miles of the project area. Of these previously recorded sites seven were identified within the APE, but not near proposed improvements. Although significant heritage resources were not identified within the APE, two were not evaluated for their potential significance. Both resources are away from any planned improvements such that no historic properties will be affected by the Project. No rock outcroppings or historic building will be damaged during construction of the proposed project. Thus, the Project will not impact properties listed on or eligible to the National Register of Historic Places, nor will it impact historic resources that meet the criteria outline in Section 5024.1 of the California Public Resource Code or Section 29 of the TRPA Code of Ordinances. No historic properties will be affected in compliance with Advisory Council on Historic Preservation regulations (36 C.F.R. part 800). However, in the event that cultural resources are discovered during Project implementation, Project personnel shall halt all activities in the immediate area and notify a qualified archaeologist to determine the appropriate course of action.

Botanical Resources: Field surveys and assessments were conducted within the Project survey area for special status botanical species on August 22, 2016 (Appendix D, Botanical Baseline Report). No special status plant species were found during the field surveys. In addition, no historical observations or detections of special status species were found with 0.5 miles of the project boundary during background information research. An invasive

plant risk assessment was also conducted within the Project survey area on August 22, 2016 (Appendix D, Invasive Plant Risk Assessment). The survey identified four noxious weed species within the Project area: cheat grass (*Bromus* tectorum), bull thistle (*Cirsium* vulgare), poison hemlock (*Conium* maculatum), and yellow toadflax (*Linaria vulgaris*). USFS 2008 invasive plant data supplied by the USFS documents an additional species in the project area: oxeye daisy (*Leucanthemum vulgare*). A Noxious Weed Mitigation/Eradication Protocol (Protocol) will be implemented by Transportation as part of the Project which will help decrease habitat vulnerability to or below pre-construction levels. The Protocol includes pre-construction elements, such as treating existing noxious weed populations identified in the Project area, as well as during- and post-construction elements. Additionally, Transportation will specify weed-free seed mix and require all construction equipment be certified steam cleaned prior to accessing the site.

Vegetation types found in and/or adjacent to the Project area are typical of those found in the Lake Tahoe Basin. The Project area is composed primarily of Jeffery pine. The Project area also contains isolated pickets of perennial grasslands and urban/developed. An assessment of habitat types is described in depth in Appendix C.

Wildlife Resources: Field surveys and assessments were conducted within the Project survey area for special status botanical and wildlife species on August 10, 2016 (Appendix D, Wildlife Baseline Report). The biological assessment surveys observed no federal or state-listed candidate or proposed botanical or wildlife species in the Project study area. However, there are recorded occurrences of one special status species immediately adjacent to the Project areas (northern goshawk). Suitable habitat conditions do exist within 0.5 miles of the Project area for bald eagle, bank swallow, willow flycatcher, northern goshawk, osprey, California spotted owl, waterfowl, Sierra Nevada mountain beaver, American badger, Sierra Nevada snowshoe hare, fisher (West Coast distinct population segment), Sierra Nevada red fox, America marten, and mule deer. An assessment of habitat types is described in depth in Appendix C. Prior to construction, if new activity or occurrences are identified, appropriate limited operating periods will be observed and consultation with the appropriate agencies will be initiated.

Greenhouse Gas Emissions: Climate change refers to long-term fluctuations in temperature, precipitation, wind, and other elements of Earth's climate system. Natural processes such as solar-irradiance variations, variations in Earth's orbital parameters, and volcanic activity can produce variations in climate. The climate system can also be influenced by changes in the concentration of various gases in the atmosphere, which affect Earth's absorption of radiation.

State law defines greenhouse gases (GHG) to include the following: carbon dioxide (CO2), methane (CH4), nitrous oxide (N2O), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride (Health and Safety Code, Section 38505(g)). According to the Governor's Office of Planning and Research (OPR), the most common GHG that results from human activity is carbon dioxide, followed by methane and nitrous oxide.

According to California Air Resources Board (CARB) emission inventory estimates, California emitted approximately 372 million metric tons of carbon dioxide equivalents (CO2eq) in 2014. The California EPA Air Resources Board stated in its California Greenhouse Gas Emission Inventory (2016 edition) that the composition of gross climate change pollutant emissions in California in 2014 (expressed in terms of CO2eq) was as follows:

- Carbon dioxide (CO2) accounted for 84.3 percent;
- Methane (CH4) accounted for 9.0 percent;
- Nitrous oxide (N2O) accounted for 2.8 percent; and
- Fluorinated gases (HFCs, PFC, and SF6) accounted for 3.9 percent.

CARB estimates that transportation was the source of approximately 42 percent of California's GHG emissions in 2014, followed by electricity generation (both in-state and out-of-state) at 24 percent, and industrial sources at 23 percent. The remaining sources of GHG emissions are residential and commercial activities at 10 percent and agriculture at 1 percent

<u>Regulatory Setting</u>

Global Warming Solutions (AB 32)

The Global Warming Solutions Act of 2006 (AB 32) codifies California's goal of reducing statewide emissions of GHGs to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that began to be phased-in starting in 2012 to achieve maximum technologic ally feasible and cost-effective GHG reductions. In order to effectively implement the cap, AB 32 directs CARB to develop appropriate regulations and establish a mandatory reporting system to track and monitor GHG emissions.

Executive Order S-3-05

On June 1, 2005 Governor Arnold Schwarzenegger signed S-3-05 (Order) which established GHG emission reduction targets as follows: by 2010, reduce GHG emissions to 2000 levels; by 2020, reduce GHG emissions to 1990 levels; and by 2050, reduce GHG emissions to 80 percent below 1990 levels.

Senate Bill 97

As directed by Senate Bill 97 (SB 97), the Natural Resources Agency adopted Amendments to the CEQA Guidelines for greenhouse gas emissions on December 30, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010.

Senate Bill 375

California Senate Bill 375 (SB 375) aims to reduce GHG emissions by curbing sprawl because the largest sources of GHG emissions in California are passenger vehicles and light trucks. SB 375 provides emission reduction goals for which regions can plan, integrates disjointed planning activities, and provides incentives for local governments and developers to follow new conscientiously-planned growth patterns.

Senate Bill 1368

California Senate Bill 1368 (SB 1368) adds sections 8340 and 8341 to the Public Utilities Code (effective January 1, 2007) with the intent "to prevent long-term investments in power plants with GHG in excess of those produced by a combined-cycle natural gas power plant with the aim of "reducing emissions of greenhouse gases from the state's electricity consumption, not just the state's electricity production." The bill provides a mechanism for reducing the greenhouse gas emissions of electricity providers, both in-state and out-of-state, thereby assisting CARB in meeting its mandate under AB 32, the Global Warming Solutions Act of 2006.

Significance Criteria

CARB has proposed that different GHG thresholds of significance may apply to projects in different sectors, e.g., industrial, commercial, residential. Two primary reasons that sector-specific thresholds are appropriate are: 1) some sectors contribute more substantially to the problem, and therefore should have a greater obligation for emissions reductions; and 2) there are differing levels of emissions reductions expected from different sectors in order to meet California's objectives under AB 32. Different types of thresholds – quantitative, qualitative, and performance-based – can apply to different sectors under the premise that the sectors can and must be treated separately given the state of the science and data. The sector-specific approach is consistent with CARB's Proposed Scoping Plan.

Working with CARB in 2008, the Office of Planning and Research (OPR) drafted amendments to the CEQA Guidelines for GHG emissions as required by SB 97. In January 2009, OPR held workshops in Los Angeles and Sacramento to present the preliminary draft amendments and obtain input from the public. The workshops included a presentation by OPR and the Resources Agency staff, an overview of the preliminary draft CEQA Guideline amendments, and the process for adopting the regulations by 2010. On April 13, 2009, OPR submitted to the Secretary for Natural Resources its proposed amendments to the state CEQA Guidelines. As directed by SB 97, the Natural Resources Agency adopted Amendments to the CEQA Guidelines for greenhouse gas emissions on December 30, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010.

CEQA requires lead agencies to identify project GHG emissions impacts and their "significance," but is not clear what constitutes a "significant" impact. GHG impacts are inherently cumulative, and since no single project could cause global climate change, the CEQA test is if impacts are "cumulatively considerable." Not all projects emitting GHG contribute significantly to climate change. CEQA authorizes reliance on previously approved plans (i.e., a Climate Action Plan (CAP), etc.) and mitigation programs adequately analyzing and mitigating GHG emissions to a less than significant level. "Tiering" from such a programmatic-level document is the preferred method to address GHG emissions. County does not have an adopted CAP or similar program-level document; therefore, the Project's GHG emissions must be addressed at the project-level.

The El Dorado County Air Quality Management District (EDCAQMD) has established thresholds of significance for criteria air pollutants (Guide to Air Quality Assessment (February 2002) ("CEQA Guide"))[1]. However, the EDCAQMD has not yet adopted GHG emissions thresholds for land use development projects. In the absence of County adopted thresholds, EDCAQMD recommends using the thresholds adopted by other Counties that were found consistent with the goals of AB 32. Until the County adopts a CAP consistent with CEQA Guidelines Section 15183.5, and/or establishes GHG thresholds, the County will follow an interim approach to evaluate GHG emissions utilizing significance criteria adopted by the San Luis Obispo Air Pollution Control District (SLOAPCD) to determine the significance of GHG emissions. Transportation believes that since climate change is a global problem and the location of the individual sources of GHG emissions is somewhat irrelevant, it's appropriate to use thresholds established by other jurisdictions as a basis for impact significance determinations. Projects exceeding these thresholds would have a potentially significant impact and be required to mitigate those impacts to a less than significant level.

Transportation chose SLOAPCD's thresholds because they are comprehensive and have not been challenged. SLOAPCD's thresholds are very similar to the Bay Area Air Quality Management District (BAAQMD) thresholds. However, BAAQMD's GHG thresholds are under legal challenge because BAAQMD failed to comply with CEQA when adopting the thresholds. Additionally, SLOAPCD developed a screening table using CalEEMod which allows quick assessment of projects to "screen out" those below the thresholds as their impacts would be less than significant.

The thresholds are summarized below:

Significance Determination Thresholds	
GHG Emission Source Category	Operational Emissions
Non-stationary Sources	1,150 MTCO2e/yr OR 4.9 MT CO2e/SP/yr
Stationary Sources	10,000 MTCO2e/yr

SP = service population, which is resident population plus employee population of the project

Impacts

Construction Emissions

Project construction would generate temporary and one-time GHG emissions mainly from diesel-powered construction equipment and on-road trucks, with a small amount from workers' personal vehicles during the construction of the Project. Greenhouse gases emitted during the combustion of diesel fuel in off-road construction equipment and on-road vehicles would consist mainly of carbon dioxide, along with small amounts of methane and nitrous oxide during the construction period. Construction emissions would be intermittent, and short-term, during one summer construction season. Construction emissions would permanently cease at the end of the Project. Over the long-term, these temporary emissions would be partially offset or mitigated by the establishment of native vegetation at designated areas. The revegetation work, including shrubs, forbs, and grasses would be maintained over the life of the Project, up-taking carbon dioxide for decades.

[1] EDCAQMD CEQA Guide: http://edcgov.us/Government/AirQualityManagement/Guide_to_Air_Quality_Assessment.aspx

There currently is only limited federal, state, or local regulatory guidance for determining whether a project advances or hinders California's GHG reduction goals and no promulgated thresholds of significance for GHG impacts have been established. For purposes of this analysis, per the amendments to the CEQA Guidelines, an impact could be considered significant if the project would:

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

- Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

During construction, the Project would temporarily cause direct GHG emissions from the combustion of fossil fuels used to run construction equipment and vehicles, both on-site and off-site. These GHG emissions would be temporary and one-time emissions during the construction of the Project only. Over its lifetime, the Project would directly and indirectly cause negligible GHG emissions from occasional maintenance and personal vehicle use. Therefore, this analysis focuses on construction impacts estimated using Transportation's past project implementation database and the U.S. Environmental Protection Agency (USEPA) GHG emission factors for diesel fuel and gasoline combustion in construction equipment. Transportation has reviewed past construction project logs for projects equivalent in size and scope to the Project to determine the typical number and type of vehicles that are actively working to construct the Project each day. Based on this analysis, Transportation has formulated the following assumptions:

- Fifteen workers per day, driving five vehicles to work an average of 40 miles round-trip per day
- Vehicles average 20 miles per gallon
- Twelve pieces of construction machinery per day
- Crews work eight hours per day with machinery running half that time (4 hours)
- Machinery burns an average of two gallons of diesel fuel per hour
- Diesel fuel contributes approximately 22.5 lbs CO_2/gallon
- Gasoline contributes approximately 20 lbs CO_2/gallon
- The Project will be completed in 35 working days

Based on these assumptions, the proposed Project would emit approximately 50 metric tons of CO_2 equivalents.

This estimated amount is negligible in comparison to the statewide inventory of 372,400,000 metric tons discussed above (0.00000013 percent). The estimated amount is also significantly less than the SLOAPCD's significance threshold of 1,150 metric tons of CO_2 equivalents. Because of this and the fact that direct on-site and off-site GHG emissions would terminate following completion construction work, the Project will have a less than significant impact on GHG emissions.

4.0 PUBLIC INPUT AND PDT COORDINATION

The public involvement process for the Project included one public meeting, which was held on November 10, 2016. At the meeting, Transportation provided the public with information on the existing conditions, existing problem areas, and the three proposed draft conceptual alternatives. Transportation also asked the public to express their questions and concerns related to the Project and its potential environmental impacts. Public notices for the meeting were mailed to all property owners within a 300 foot radius of the Project boundary. Transportation received feedback from the public on the Project alternatives that were presented, which helped to add additional problems and solutions and to select the Preferred Project Alternative.

Transportation met and corresponded with the PDT during the Project development process to identify problems and to develop and refine Project alternatives. The PDT consists of resource agency representatives in the Lake Tahoe Basin, including, but not limited to, the Tahoe Regional Planning Agency, USFS-Lake Tahoe Basin Management Unit, California Tahoe Conservancy, Tahoe Resource Conservation District, and Lahontan RWQCB. The PDT meeting on the Project was held in October 2016. At this meeting the PDT discussed the existing conditions in the Project area as well as the draft alternatives for the Project as outlined in the Draft Project Feasibility Report. The PDT were given the opportunity to supply written and verbal comments on the Draft Project Feasibility Report. In December 2016, Transportation produced the Final Project Feasibility Report,

with Errata, based on comments received from the PDT and public. These documents were provided to the PDT in December 2016 along with the Preferred Alternative Memorandum (PAM) which outlines the preferred Project.

Transportation, through a consultant, contacted the California Native American Heritage Commission for a Sacred Land File Search and list of potentially affected tribes. The County contacted those on the supplied list of potentially affected tribes to request a Native American consultation for the project. Per AB 52, the potentially affected tribes were given 30 days to respond, at the end of which, no tribes had reached out to the County for consult.

Transportation also established a webpage on the County website providing information on the Transportation Program. Included in this page is a list of active Projects with corresponding links. This webpage is used as a location to update the public on updates to this and other projects.

5.0 RIGHT-OF-WAY REQUIREMENT

Transportation made every effort to locate proposed improvements within the County ROW, however in order to satisfy the goals and objectives of the Project, some public easements are required. These include the following Assessor Parcel Numbers (APNs):

California Tahoe Conservancy APNs:

033-100-23	033-223-05	033-211-09	033-213-05	034-753-02
033-221-03	033-201-32	033-212-03	033-301-01	
033-222-17	033-201-04	033-212-09	033-291-07	

6.0 COVERAGE AND PERMIT ISSUES

Clean Water Act Section 404

The fieldwork was conducted for the delineation of Waters of the U.S., including wetlands, as defined by Section 404 of the Clean Water Act. That fieldwork determined jurisdictional waters and wetlands are present within the Project area. A final aquatic resource delineation report was prepared which includes maps that identify the type, location, and size of all Waters of the US within the Project boundary. A Section 404 Permit will be obtained prior to Project construction based on final project design and its potential for work to impact jurisdictional waters.

Clean Water Act Section 401

If the Project involves discharge to surface waters, which includes Waters of the U.S., Waters of the State, and all other surface waters, a 401 Water Quality Certification will be required from the RWQCB. A 401 Water Quality Certification application will be prepared and submitted to the Lahontan RWQCB based on the final Project design and its potential to discharge to surface waters.

Lahontan RWQCB NPDES Permit and Basin Plan

Any disturbance to a Stream Environment Zone (SEZ) requires approval from the Lahontan RWQCB. If one acre or more of overall disturbance is slated to occur during construction, which is anticipated, compliance with the NPDES General Construction Permit will be required.

Tahoe Regional Planning Agency General Permit and Stream Environment Zones (SEZ)

A TRPA EIP Permit will be obtained prior to construction. A Land Capability Verification has been submitted to the TRPA for verification of the previously defined Land Capability District 1b lands (SEZ). The proposed Project requires disturbance within sensitive Land Capability District 1b lands (SEZ), and thus Transportation will work with TRPA to develop and implement appropriate SEZ mitigation credits to ensure compliance with TRPA throughout the permitting process.

7.0 MITIGATION AND MONITORING

Mitigation measures are described in the attached Mitigation Monitoring and Reporting Program (Appendix B). Transportation staff and/or their contractor will conduct on-site monitoring to ensure that mitigation measures are implemented as proposed. A full time construction inspector provided by Transportation and/or contractor will monitor proposed mitigation measures for potential temporary impacts associated with construction. The inspector will ensure that the contractor strictly adheres to all temporary erosion control requirements and other environmental protection requirements. In addition to Transportation inspections, regulatory agencies will review Project plans and specifications to ensure compliance with local, state, and federal requirements. Any additional mitigation measures required by regulatory agencies will be monitored in the same manner. Throughout the construction of the Project, the agencies will be invited to weekly "tailgate" meetings and will conduct periodic visits to the Project site to enforce the BMPs and ensure compliance with all other mitigation measures.

The maintenance and monitoring of the Project improvements will continue for twenty years after construction completion. Revegetation monitoring will continue for a minimum of two years following construction. Plant establishment will include irrigation and replanting, if necessary. Transportation will inspect all Project improvements during the spring and fall of each year during the twenty-year maintenance period. Transportation staff will direct maintenance based on results of the inspections. Photographs will be taken before and after construction for a period of two years and following significant storm events to monitor Project improvement performance.

8.0 REFERENCES

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County. 2016. Country Club Heights Erosion Control Project Preferred Alternative Memorandum. http://www.edcgov.us/DOT/TahoeEngineering/Documents/Country_Club_Heights_Erosion_Memo.aspx

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Nichols Consulting Engineers, Inc. (NCE). 2016. Country Club Heights Erosion Control Project Botanical Baseline Report.

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Storm Water Quality Improvement Committee. 2004. Collaborative Storm Water Quality Project Delivery for the Lake Tahoe Basin.

Tahoe Regional Planning Agency (TRPA). 2002. Plan Area Statements (PAS).

TRPA. 2012. Code of Ordinances.

TRPA. 1987. 208 Water Quality Management Plan.

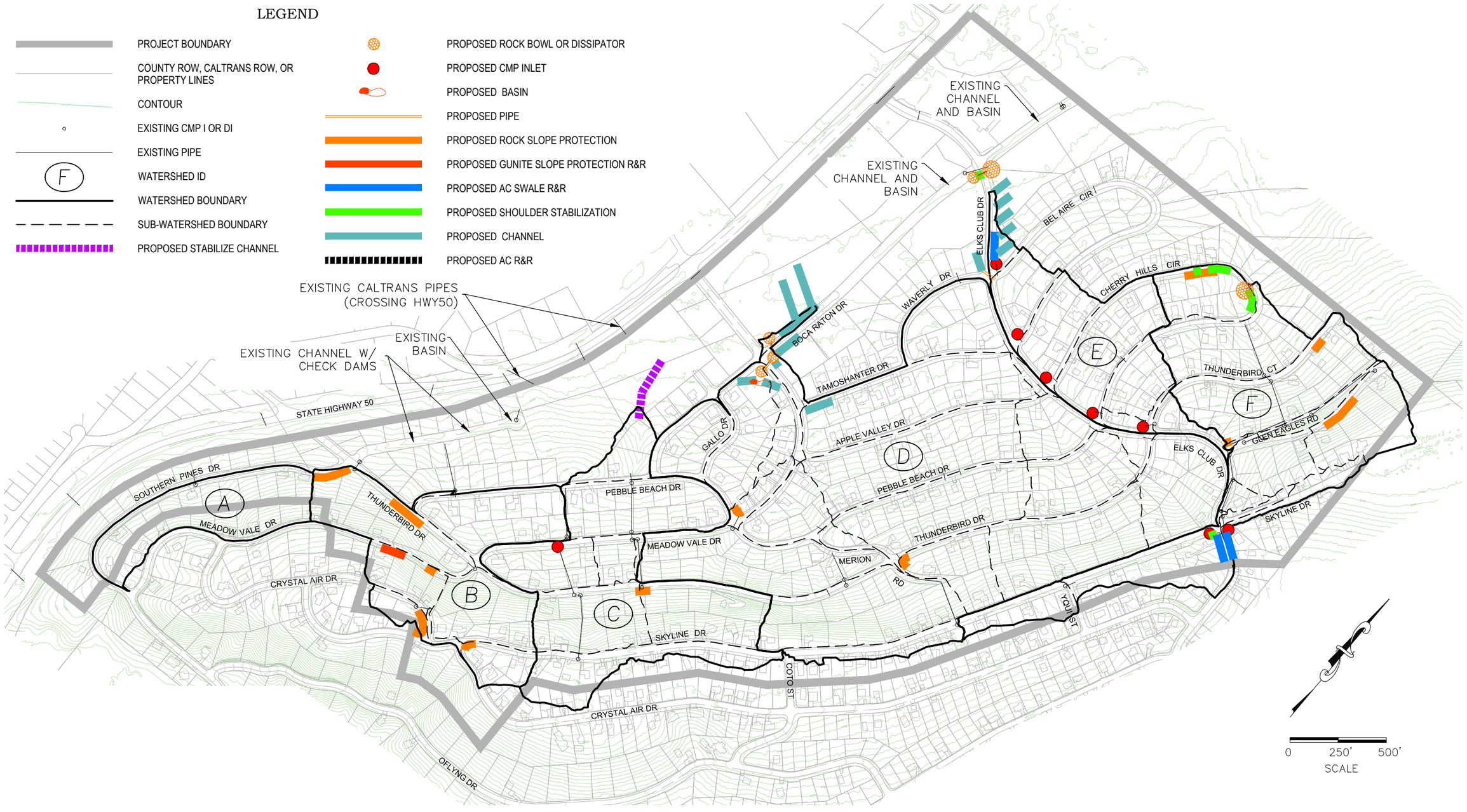
TRPA. 1997. Environmental Improvement Program.

Tahoe Resource Conservation District (TRCD). (October 2007). Soil Characteristics Survey.

FIGURES

LEGEND

- PROJECT BOUNDARY
- COUNTY ROW, CALTRANS ROW, OR PROPERTY LINES
- CONTOUR
- EXISTING CMP I OR DI
- EXISTING PIPE
- WATERSHED ID
- WATERSHED BOUNDARY
- SUB-WATERSHED BOUNDARY
- PROPOSED STABILIZE CHANNEL
- PROPOSED ROCK BOWL OR DISSIPATOR
- PROPOSED CMP INLET
- PROPOSED BASIN
- PROPOSED PIPE
- PROPOSED ROCK SLOPE PROTECTION
- PROPOSED GUNITE SLOPE PROTECTION R&R
- PROPOSED AC SWALE R&R
- PROPOSED SHOULDER STABILIZATION
- PROPOSED CHANNEL
- PROPOSED AC R&R



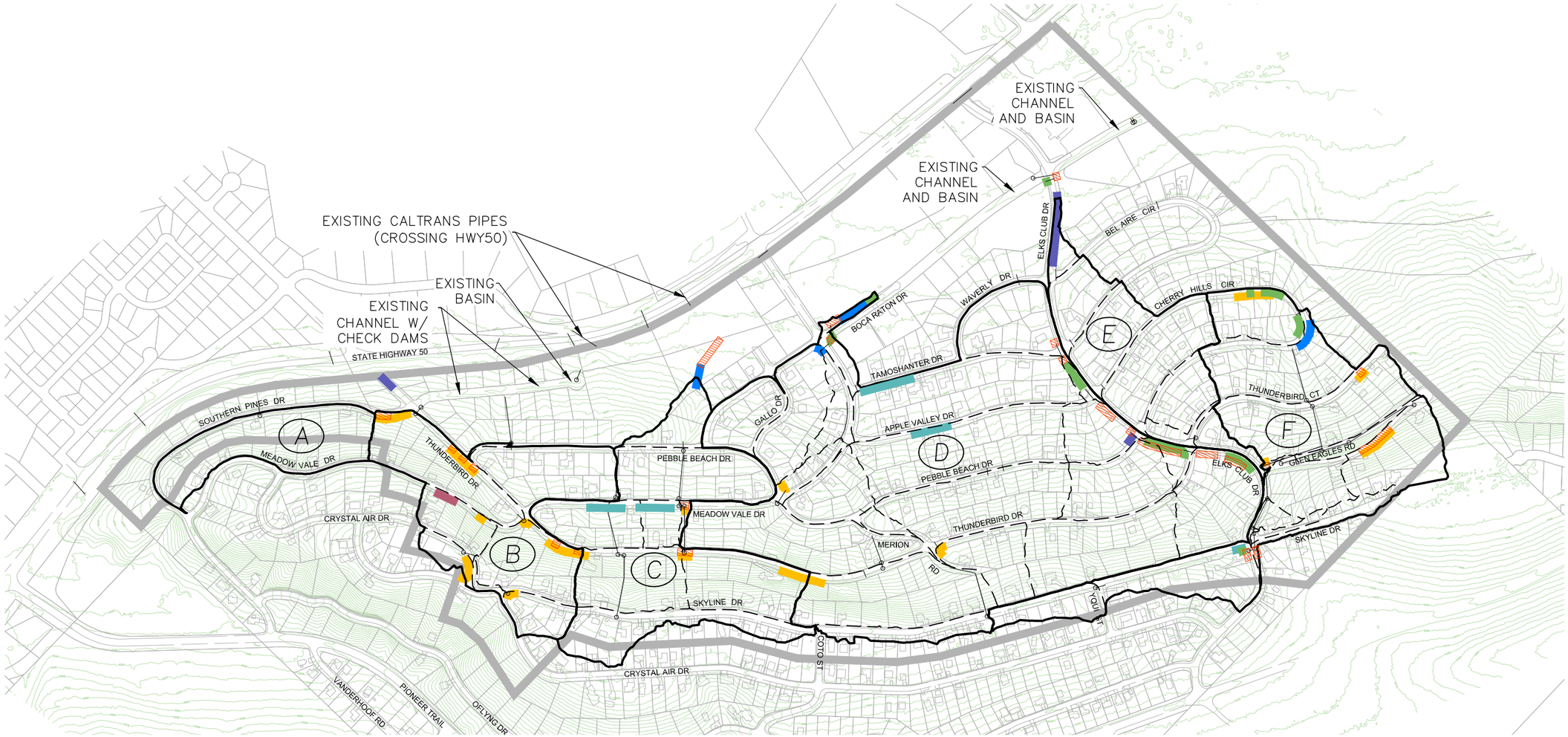
COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT AGENCY
TRANSPORTATION DIVISION

COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT

Proposed Improvements

DATE:	PROJECT NO.:	BY:
12/2016	95191	DWK

FIGURE 2



LEGEND

- PROJECT BOUNDARY
- COUNTY ROW, CALTRANS ROW, OR PROPERTY LINES
- CONTOUR
- EXISTING CMP I OR DI
- EXISTING PIPE
- F — WATERSHED ID
- WATERSHED BOUNDARY
- SUB-WATERSHED BOUNDARY
- ERODING OR INCISED CHANNEL
- IMPAIRED GUNITE SLOPE PROTECTION
- ERODING SHOULDER
- ERODING SLOPE
- PONDING LOCATION
- IMPAIRED ASPHALT
- SEDIMENT ACCUMULATION

0 300' 600'
SCALE

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT AGENCY
TRANSPORTATION DIVISION

COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT

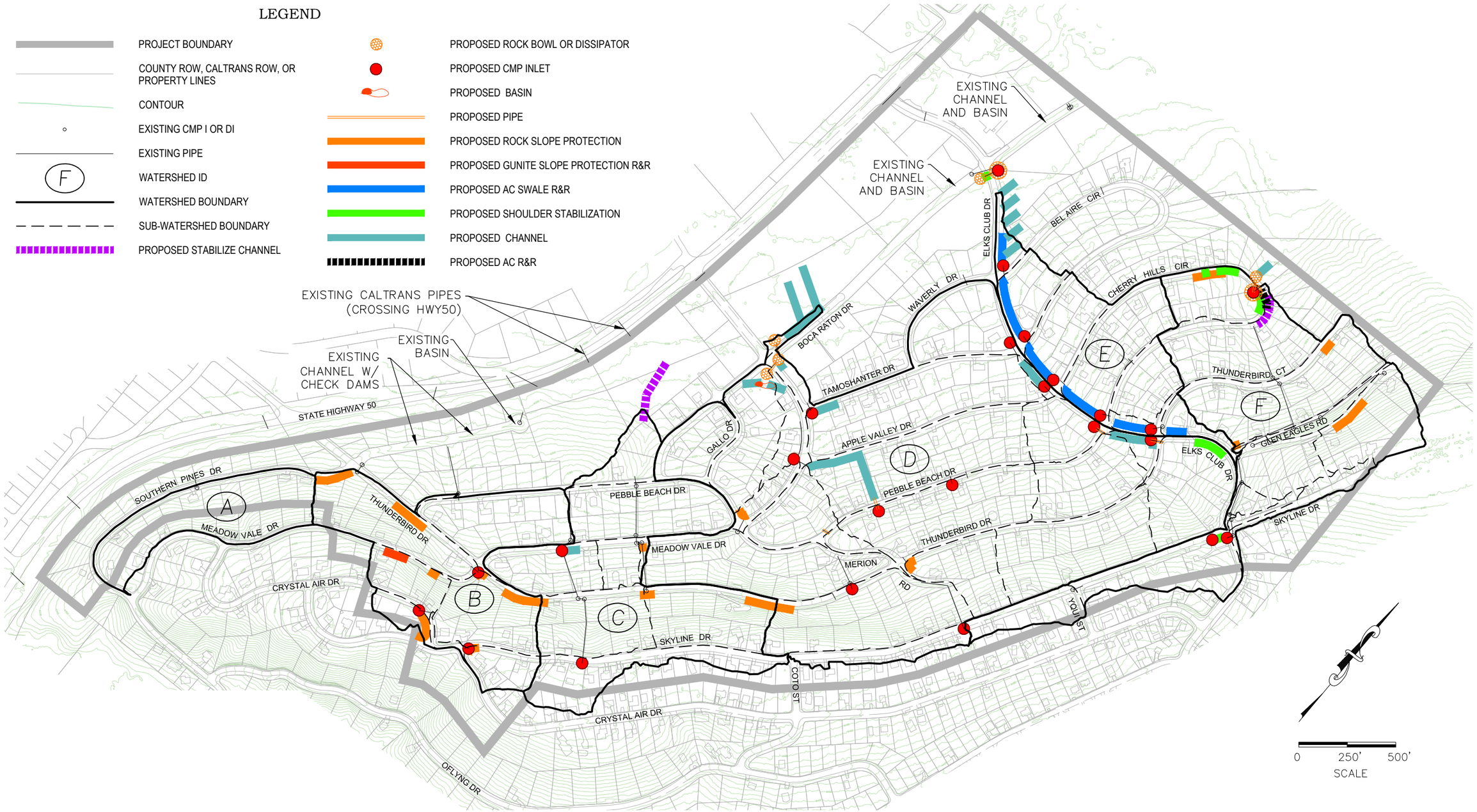
PROBLEM AREA MAP

FIGURE 17

DATE: 12/2016 | PROJECT NO.: 95191 | BY: DWK

LEGEND

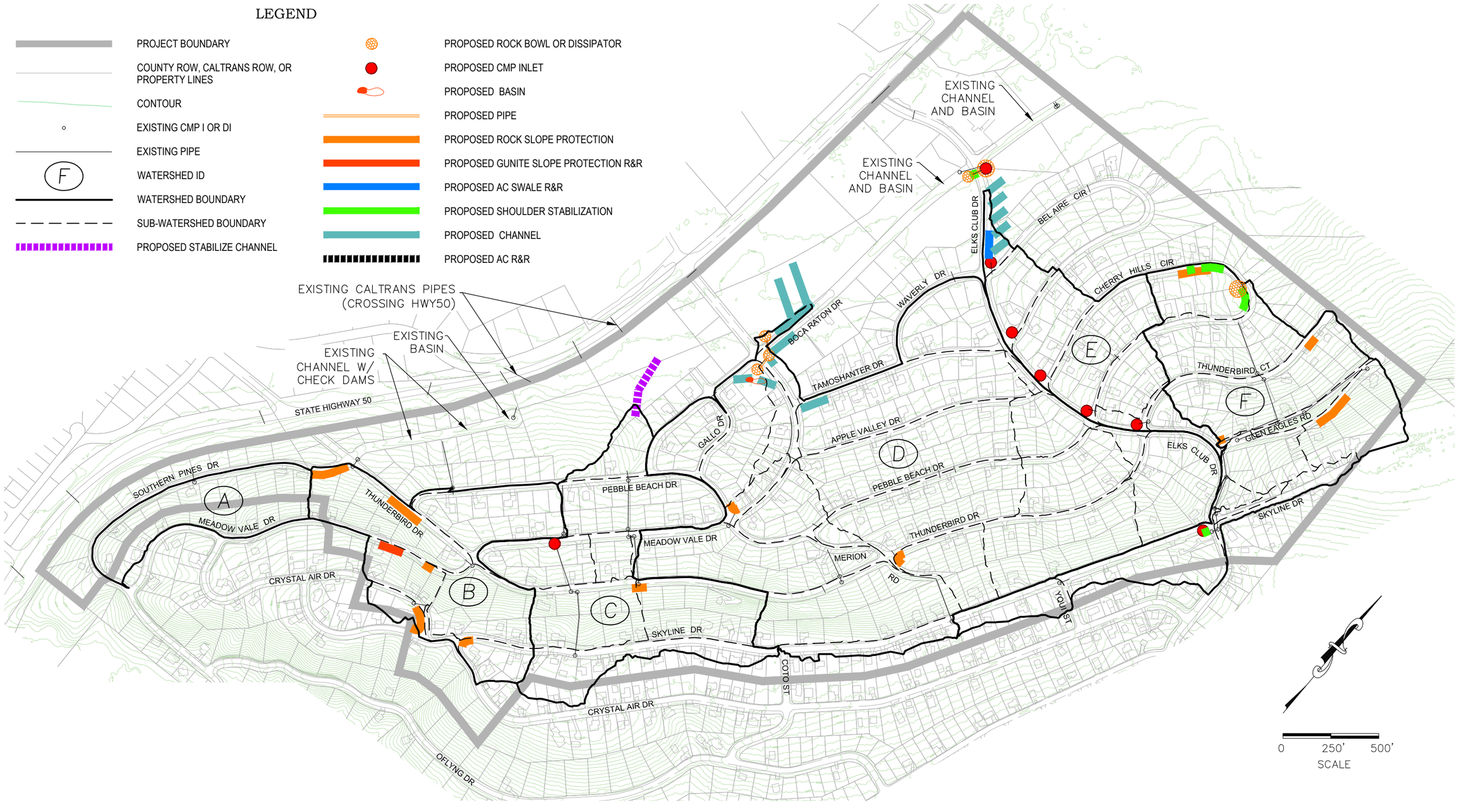
- PROJECT BOUNDARY
- COUNTY ROW, CALTRANS ROW, OR PROPERTY LINES
- CONTOUR
- EXISTING CMP I OR DI
- EXISTING PIPE
- WATERSHED ID
- WATERSHED BOUNDARY
- SUB-WATERSHED BOUNDARY
- PROPOSED STABILIZE CHANNEL
- PROPOSED ROCK BOWL OR DISSIPATOR
- PROPOSED CMP INLET
- PROPOSED BASIN
- PROPOSED PIPE
- PROPOSED ROCK SLOPE PROTECTION
- PROPOSED GUNITE SLOPE PROTECTION R&R
- PROPOSED AC SWALE R&R
- PROPOSED SHOULDER STABILIZATION
- PROPOSED CHANNEL
- PROPOSED AC R&R



COUNTY OF EL DORADO COMMUNITY DEVELOPMENT AGENCY TRANSPORTATION DIVISION	COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT ALTERNATIVE 1		FIGURE 18
	DATE: 10/2016	PROJECT NO.: 95191	BY: ALD

LEGEND

- PROJECT BOUNDARY
- COUNTY ROW, CALTRANS ROW, OR PROPERTY LINES
- CONTOUR
- EXISTING CMP I OR DI
- EXISTING PIPE
- WATERSHED ID
- WATERSHED BOUNDARY
- SUB-WATERSHED BOUNDARY
- PROPOSED STABILIZE CHANNEL
- PROPOSED ROCK BOWL OR DISSIPATOR
- PROPOSED CMP INLET
- PROPOSED BASIN
- PROPOSED PIPE
- PROPOSED ROCK SLOPE PROTECTION
- PROPOSED GUNITE SLOPE PROTECTION R&R
- PROPOSED AC SWALE R&R
- PROPOSED SHOULDER STABILIZATION
- PROPOSED CHANNEL
- PROPOSED AC R&R



COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT AGENCY
TRANSPORTATION DIVISION

COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT

ALTERNATIVE 2

DATE:	PROJECT NO.:	BY:
10/2016	95191	ALD

FIGURE 19

APPENDIX A:
CEQA CHECKLIST

COMMUNITY DEVELOPMENT AGENCY

TRANSPORTATION DIVISION

http://www.edcgov.us/DOT/

PLACERVILLE OFFICES:
MAIN OFFICE:
2850 Fairlane Court, Placerville, CA 95667
(530) 621-5900 / (530) 626-0387 Fax

MAINTENANCE:
2441 Headington Road, Placerville, CA 95667
(530) 642-4909 / (530) 642-0508 Fax

LAKE TAHOE OFFICES:
ENGINEERING:
924 B Emerald Bay Road, South Lake Tahoe, CA 96150
(530) 573-7900 / (530) 541-7049 Fax

MAINTENANCE:
1121 Shakori Drive, South Lake Tahoe, CA 96150
(530) 573-3180 / (530) 577-8402 Fax

CEQA Checklist

Title: Country Club Heights Erosion Control Project (JN 95191)	
Description: Construction of erosion control and water quality improvement facilities	
Location: The Project area is located in eastern El Dorado County, within the Lake Tahoe Basin, south of South Lake Tahoe. The Project is located in the south section of the Lake Tahoe Basin within portions of Sections 20, 21, 28, and 29, Township 12 North, Range 18 East, Mount Diablo Meridian. The Project is bounded by Highway 50 to the west, Southern Pines Drive, Crystal Air Drive, and Skyline Drive to the south, Crystal Air Drive and Elks Club Drive to the east, and the subdivision boundaries to the north.	
Owner/Applicant: County of El Dorado, Community Development Agency, Transportation Division, Tahoe Engineering	
Lead Agency: County of El Dorado, Community Development Agency, Transportation Division, Tahoe Engineering	
County Contact: Daniel Kikkert, Senior Civil Engineer	**Phone:** 530-573-7900
Address: 924 B Emerald Bay Road, South Lake Tahoe, CA 96150	
Have California Native American Tribes traditionally and culturally affiliated with the project requested consultation pursuant to Public Resource Code section 21080.3.1?: El Dorado County sent out letters to local tribes notifying them of the upcoming project and requesting information regarding cultural resources within the Project area. By the end of the 30 day response time frame El Dorado County had received no requests for consultation. **If so, has consultation begun?:** -	

The CEQA Checklist recommended by the California Environmental Quality Act (CEQA) Guidelines is used to determine potential impacts of the proposed Project on the physical environment. The Checklist provides a list of questions concerning a comprehensive array of environmental issues potentially affected by the Project. An evaluation of impacts for each resource follows:

1. A brief explanation is required for all answers except 'No Impact' answers that are adequately supported by the information a lead agency following each question. A 'No Impact' answer is adequately supported if the referenced information shows 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).
2. All answers must account for the whole action involved, including off-site and on-site impacts. The answer must also consider cumulative and project-level impacts, indirect and direct impacts and construction and operational impacts.
3. Once the lead agency has determined that a particular physical impact may occur, the Checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. A potentially significant impact is appropriate if there is substantial evidence that an effect may be significant. If there are one or more potentially significant impacts when the determination is made, an EIR is required.
4. Mitigated Negative Declaration - Less than Significant with Mitigation: This applies when mitigation measures have been incorporated into a project, which reduced an effect from a 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 (mitigation measures from "Earlier Analysis," as described in 5) below, may be cross-referenced).

5. Earlier analyses may be used where, pursuant to the tiering, programmatic EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or Negative Declaration (Section 15063(c)(3)(D)). In this case, a brief discussion should identify the following:
    i. **Earlier Analysis Used.** Identify and state where they are available for review.
    ii. **Impacts Adequately Addressed.** Identify which effects from the Checklist were within the scope of an earlier document pursuant to applicable legal standards, and state whether such effects were adequately analyzed and addressed by mitigation measures.
    iii. **Mitigation Measures.** For effects that are less than significant with mitigation measures, describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they addressed site-specific conditions for the project.
6. Lead agencies are encouraged to incorporate references into the checklist to provide information sources for potential impacts (e.g., general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.
7. Supporting Information Sources: A source list should be attached. Individuals who were contacted should be cited in the discussion.
8. This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.
9. The explanation of each issue should identify:
    i. The significance criteria or threshold, if any, used to evaluate each question.
    ii. The mitigation measure identified, if any, to reduce the impact to less than significant.

I. AESTHETICS – Would the project:

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

Item I-A Discussion: A limited part of the Project area is visible from US Highway 50 / State Route 89, which is a designated Scenic Highway. The intent of the Project is to improve the quality of the area by stabilizing bare soil areas with native vegetation, by improving hydrology and vegetation in meadow areas including conifers encroaching into the meadow, by enhancing drainage features and by installing infiltration systems to benefit the environment. While there will be temporary aesthetic impacts due to construction, there will be no long term degradation of aesthetic quality in the Project area and therefore the proposed Project has a less than significant impact.

Item I-B Discussion: The Project will remove a small number of conifer trees outside of a 100-foot buffer from Scenic US Highway 50 / State Route 89 for fuels management / fire hazard reduction, to improve forest health of diseased and infested trees, and provide for the successional management of the Stream Environment Zones / meadow. The Project will not degrade the aesthetic quality due to the number of trees within the Project area and the 100-foot tree screening buffer from California Department of Transportation right-of-way adjacent to the Scenic Corridor. No rock outcroppings or historic buildings will be damaged during construction of the proposed Project; therefore, the proposed Project will have a less than significant impact.

Item I-C Discussion: The proposed Project will implement new erosion control and water quality protection measures in the subdivision. Care will be taken in the design and construction of the improvements to integrate them into the natural surroundings. The proposed Project will restore degraded channels, bare soil areas, and enhance Stream Environment Zones / meadow habitat within the County of El Dorado (County) right-of-way and specified parcels. These erosion control, water quality, and habitat restoration improvement measures will increase the visual character and quality of the site. While construction activities may affect the scenic resources during construction, these impacts will be temporary. The proposed Project will not substantially degrade the existing visual character or quality of the site or its surroundings; therefore, the proposed Project will have a less than significant impact.

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

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

Category II Discussion: The Project area does not contain any lands used for agriculture, nor do the plan area statements that encompass the Project area allow for agriculture. Additionally, the Project will only remove a small number of trees for construction, fuels management, and habitat restoration in relation to the significant number of trees within the Project area. . The trees to be removed are located within the County right of way or on California Tahoe Conservancy (CTC) owned parcels. Tree removal will be completed by California Conservation Corps contracted hand crews with oversight by CTC personnel. Trees tagged for removal will include those which are dead, diseased, or within a dense stand. Therefore, the proposed Project will have no impact on agriculture or forest resources.

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

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☐	☒
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	☐	☒	☐	☐
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions, which exceed quantitative thresholds for ozone precursors)?	☐	☐	☒	☐
d) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

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

Item III-B Discussion: The proposed Project will involve excavation and grading. The El Dorado County Air Quality Management District (EDCAQMD) Rule 223 Fugitive Dust General Requirements states that "visible emissions shall not exceed 20% opacity at point-of-origin and shall not extend more than 50 feet from point-of-origin, or cross the Project boundary line, whichever is less." The contractor will comply with the Air Quality Plan and EDCAQMD regulations by implementing air quality Best Management Practices (BMPs) from the TRPA Handbook of Best Management Practices and practices outlined in the EDCAQMD Rule 223 to address fugitive dust. Compliance with the TRPA Air Quality Plan will attain TRPA threshold standards and, therefore, federal and state air quality standards.

The Project will have no long term impacts to air quality. Compliance with EDCAQMD and TRPA regulations through the permitting process will ensure that the Project will not conflict with or obstruct implementation of the air quality plans. Additionally, the Project will not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Finally, the Project will not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment. With the implementation of the mitigation measures outlined below in *Item III-B Mitigation Measures*, the proposed Project will not violate any air quality standard or contribute substantially to an existing or projected air quality violation; therefore, the proposed Project will have a less than significant impact.

Item III-B Mitigation Measures:

Mitigation Measure AQ-1: The construction contractor shall implement air quality Best Management Practices from the TRPA Code of Ordinances and Handbook of Best Management Practices.

Mitigation Measures AQ-2: The construction contractor shall water exposed soil twice daily, or as needed, to control wind borne dust. All haul/dump truckloads shall be covered securely.

Mitigation Measure AQ-3: The contractor shall sweep the Project site a minimum of once daily to remove all dirt and mud that has been generated from or deposited on roadways by construction equipment going to and from the construction site.

Mitigation Measure AQ-4: On-site vehicle speed shall be limited to 15 miles per hour on unpaved surfaces.

Mitigation Measure AQ-5: Construction activities shall comply with EDCAQMD Rule 223 - Fugitive Dust, so that emissions do not exceed hourly levels. The contractor will use approved BMPs as outlined in the TRPA Handbook of Best Management Practices and the EDCAQMD Rule 223 to address fugitive dust. Dust mitigation measures and dust control BMPs will include, but are not limited to, stabilizing unpaved areas subject to vehicular traffic, stabilizing storage piles and disturbed areas, suppressing dust by watering disturbed areas, cleaning all construction vehicles leaving the site, mulching bare soil areas, and ceasing grading and earth moving activities when wind speeds are high enough to result in dust emissions crossing the Project boundary.

Mitigation Measure AQ-6: Construction equipment idling shall be restricted to 5 minutes when not in use.

Mitigation Measure AQ-7: The construction contractor shall post a publicly visible sign on the Project site during construction operations that specifies the telephone number and person/agency to contact for complaints and/or inquiries on dust generation and other air quality problems resulting from Project construction.

Item III-C Discussion: Construction activities may impact air quality, but the impacts will be well below established significance levels since the activity is temporary and there will not be any long-term impacts. The proposed Project will not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in non-attainment; therefore, the proposed Project will have a less than significant impact.

Item III-D Discussion: Construction activities may impact air quality, but the impacts will be well below established significance levels since the activity is temporary and there will not be any long-term impacts. The proposed Project will not expose sensitive receptors to substantial pollutant concentrations; therefore, the proposed Project will have a less than significant impact.

Item III-E Discussion: Construction activities may impact air quality, but the impacts will be well below established significance levels since the activity is temporary and there will not be any long-term impacts. The proposed Project will not create objectionable odors affecting a substantial number of people; therefore, the proposed Project will have a less than significant impact.

IV. BIOLOGICAL RESOURCES – Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	☐	☒	☐	☐
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☒	☐	☐
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☒	☐	☐
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☒	☐
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

Item IV-A Discussion: A *Wildlife Biological Assessment (BA)* was performed for the proposed Project. A Biological Evaluation (BE), which evaluates Forest Service Regional 5 Sensitive Species, is required if improvements are proposed on United States Forest Service (USFS) land. Since no USFS land is being used a BE was not required for this project. The biological assessment surveys observed no federal or state-listed candidate or proposed wildlife species in the Project study area. However, there are recorded occurrences of one special status species immediately adjacent to the Project areas (northern goshawk). Suitable habitat conditions do exist within 0.5 miles of the Project area for bald eagle, bank swallow, willow flycatcher, northern goshawk, osprey, California spotted owl, waterfowl, Sierra Nevada mountain beaver, American badger, Sierra Nevada snowshoe hare, fisher (West Coast distinct population segment), Sierra Nevada red fox, America marten, and mule deer. This determination was based on a thorough data review and a survey of the Project area. The primary purpose of the field survey was to identify and determine the occurrence of, or the suitability of, habitat for special status wildlife species within the Project site.

A *Botanical Biological Assessment (BA)* was also performed for the proposed Project. A Biological Evaluation (BE), which evaluates Forest Service Regional 5 Sensitive Species, is required if improvements are proposed on USFS land. Since no USFS land is being used a BE was not required for this project. No special status plant

species were found during the field surveys. In addition, no historical observations or detections of special status species were found with 0.5 miles of the project boundary during background information research.

A *Invasive Plant Risk Assessment (IPRA)* was performed for the proposed Project. The survey identified four noxious weed species within the Project area: cheat grass (*Bromus* tectorum), bull thistle (*Cirsium* vulgare), poison hemlock (*Conium* maculatum), and yellow toadflax (*Linaria vulgaris*). USFS 2008 invasive plant data supplied by the USFS documents an additional species in the project area: oxeye daisy (*Leucanthemum vulgare*). The locations of the noxious weeds are documented in the IPRA.

With the implementation of the mitigation measures outlined below in *Item IV-A Mitigation Measures*, the proposed Project will not 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 & Game (CDFG) or U.S. Fish & Wildlife Service (USFWS); therefore, the proposed Project will have a less than significant impact.

Item IV-A Mitigation Measures:

Mitigation Measure B-1: Prior to construction, Transportation will confirm if any new special status species have been identified by the USFS – Lake Tahoe Basin Management Unit (USFS-LTBMU) or the CA Fish & Wildlife Service (via the California Natural Diversity Database - *CNDDB*) within, or immediately adjacent to, the Project area. If new activity or occurrences have been identified, appropriate limited operating periods (LOP) will be observed and consultation with the appropriate agencies will be initiated. If tree removal/trimming activities are scheduled during the nesting season of raptors and migratory birds (February 15 to September 1), a focused survey for active nests of such birds will be conducted within 15 days prior to the beginning of such related activities.

Mitigation Measure B-2: If special status plant species are found prior to or during construction, these populations will be identified and protected with appropriate measures per TRPA and the USFS-LTBMU.

Mitigation Measure B-3: Transportation will implement and require the contractor to adhere to a Noxious Weed Mitigation Plan (Plan) to decrease habitat vulnerability to or below pre-construction levels. The Plan includes pre-construction elements such as treatment methodologies for existing noxious weed populations identified in the Project area, as well as operating procedures for both during and post-construction. All temporarily disturbed areas will be re-vegetated with an assemblage of native wetland and upland vegetation suitable for the area. These areas will be properly protected from washout and erosion using appropriate erosion control devices, including coir netting, hydroseeding, revegetation, and blankets. Recommended BMPs will include, but are not limited to: hand removal of existing weeds prior to going to seed, equipment cleaning prior to use, area of disturbance minimization, disturbed ground stabilization upon completion of construction with mulch or other means, certified weed-free mulch and other materials, and disturbed areas revegetation with native plants.

Item IV-B Discussion: Transportation used the US Forest Service and TRPA developed Sinclair Land Capability Classification System to map soil types, including sensitive Class1B (stream environment zone (SEZ)) lands, within the project area. A Land Capability Verification Application has been submitted to TRPA for certification. The Project has been designed to minimize SEZ disturbance.

With the implementation of the mitigation measures outlined below in *Item IV-B Mitigation Measures,* the Proposed Project will not 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 U.S. Fish and Wildlife Service; therefore, the proposed Project will have a less than significant impact.

Item IV-B Mitigation Measures:

Mitigation Measure B-4: Groundwater is not expected to be encountered during construction, if groundwater is encountered and the excavated area requires dewatering to complete the work, TRPA and the Lahontan RWQCB shall be notified immediately to determine the appropriate course of action. The Storm Water Pollution Prevention Plan (SWPPP) for the proposed Project will include a Dewatering Contingency Plan (Item VI-B Mitigation Measures) that the contractor shall follow.

Mitigation Measure B-5: The proposed Project was designed around the findings of the final aquatic resource delineation report to avoid or minimize impacts to wetlands and/or other WOUS. Jurisdictional WOUS and wetlands were found within the Project area. Therefore Transportation does anticipate the need to obtain a 404 Permit and 401 Water Quality Certification which will be prepared and submitted based on the final Project design and its potential to discharge to surface waters. Transportation will also obtain a TRPA EIP Project Permit and will implement the required mitigation measures.

Item IV-C Discussion: A Land Capability Verification, with delineated sensitive Class 1B (stream environment zone (SEZ)) lands within the Project area has been completed and submitted to TRPA for certification. The Project has been designed to avoid minimize SEZ disturbance.

Item IV-D Discussion: With the implementation of Mitigation Measures B-1 - B-3 found in Section IV-A above, the proposed Project will not 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; therefore, the proposed Project will have a less than significant impact.

V. CULTURAL RESOURCES – Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	☐	☐	☒	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐
c) Directly or indirectly destroy a unique Paleontological resource or site or unique geologic feature?	☐	☐	☐	☒
d) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☐	☒

Category V Discussion: A cultural resources study, which included a literature search and an archaeological survey/inventory of the Project Area of Potential Effect (APE), was completed. Previous cultural resources studies have been conducted in the vicinity of the Project area, which included portions of the APE. Review of those inventories revealed resources that have been recorded previously within the immediate Project area. The current inventory resulted in the following observations:

- A segment of the Lake Valley Utility Line, site 05190000481 was relocated. The site has not been revaluated as a whole, and as result, for the segment within the project area, the potential eligibility of the segment to the National Register of Historic Places (NRHP) is deferred.
- Segment 5 of site 05190001042, part of Old Highway 89 was relocated. The site has not been revaluated as a whole, and as result the potential eligibility of segment 5 to the NRHP is deferred.
- Site 05199901275, a previously recorded road segment, was relocated and found to be mapped, photographed, and described adequately.
- Site 05199901276, an historic fence line, was relocated.
- Site 05199901278, a previously recorded historic trash scatter, was relocated.
- Site 05199901280, a previously recorded historic trash scatter, was relocated and found to be mapped, photographed, and described adequately.
- Individual examples of Comstock or later era high-cut stumps were observed but not recorded.
- Recent (less than 50 years in age) roadside debris was observed but not recorded.

Although significant heritage resources were not identified within the APE, two were unevaluated for their potential significance. Both resources are away from any planned improvements such that no historic properties will be affected by the Project. Thus, the Project will not impact properties listed on or eligible to the National Register of Historic Places, nor will it impact historic resources that meet the criteria outline in Section 5024.1 of

the California Public Resource Code or Section 29 of the TRPA Code of Ordinances. No historic properties will be affected in compliance with Advisory Council on Historic Preservation regulations (36 C.F.R. part 800).

Although improbable, it is possible that prehistoric burials might be found in the study area (none were apparent based on an examination of the ground surface). Should human remains be encountered while engaged in construction activities, work must cease in the immediate area and the contractor must immediately report the finding to the State Historic Preservation Office (and USFS representatives, if the find is located on USFS administered lands) and other designated officials. That office will contact the appropriate tribal representatives and consult on disposition of the remains and any associated artifacts.

No cultural resources have been previously recorded within the APE and none were identified within the APE during the pedestrian survey. The APE is considered to have a low sensitivity for the discovery of prehistoric, ethno historic, or historic cultural material or subsurface deposits. Because of this, no additional cultural resources work for this Project is recommended. However, in the event that cultural resources are discovered during Project implementation, Project personnel shall halt all activities in the immediate area and notify a qualified archaeologist to determine the appropriate course of action. Therefore, the Project will have no impact on cultural resources.

VI. GEOLOGY & SOILS – Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	☐	☐	☐	☒
i. Strong seismic ground shaking?	☐	☐	☐	☒
ii. Seismic-related ground failure, including liquefaction?	☐	☐	☐	☒
iii. Landslides?	☐	☐	☐	☒
b) Result in substantial soil erosion or the loss of topsoil?	☐	☒	☐	☐
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	☐	☐	☐	☒
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	☐	☐	☐	☒
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	☐	☐	☐	☒

Item VI-B Discussion: The intent of the proposed Project is to implement erosion control and water quality improvements within the Project area that will stabilize bare soils and improve storm water quality. During construction, portions of the site will have exposed soil areas that may, during a rain storm, high wind event or

utility line breach, erode and pose a threat to water quality. Once Project construction is complete, there will be an overall decrease of erosion in the Project area. With the implementation of the mitigation measures outlined below in *Item VI-B Mitigation Measures,* the proposed Project will not result in any significant increase in wind or water erosion of soils, either on or off the site; therefore, the proposed Project will have a less than significant impact.

Item VI-B Mitigation Measures:

Mitigation Measure G-1: The contractor shall prepare, submit, and adhere to a Storm Water Pollution Prevention Plan (SWPPP) to Transportation, Lahontan Regional Water Quality Control Board (Lahontan), and TRPA prior to construction. The SWPPP shall be in accordance with TRPA and Lahontan RWQCB requirements for storm water pollution prevention in the Tahoe Basin. As part of the SWPPP, the contractor will be required to prepare and adhere to a Temporary BMP Plan, a Spill Contingency Plan, and a Dewatering Plan.

The Temporary BMP Plan will include design and specifications that detail the required construction BMPs that shall be installed prior to and during construction to prevent any erosion that may occur during a rain or wind event. All temporary BMPs shall be installed and maintained per TRPA's Handbook of Best Management Practices. Temporary BMPs will include, but are not limited to: gravel bags, silt fencing, tree protection fencing, construction limit fencing, coir logs, visqueen, and construction access gravel. Prior to construction, all storage, access, and staging areas shall be secured by the contractor and approved by Transportation, Lahontan RWQCB, and TRPA. No staging or storage will occur in Stream Environment Zones (SEZs). The contractor shall be responsible for maintenance of mobilization sites, including placement and maintenance of BMPs. All equipment, vehicles, and materials shall be stored on paved or previously disturbed surfaces only, in locations approved by Transportation, Lahontan RWQCB, and TRPA.

The contractor shall limit the areas to be disturbed to the area within the boundary of the construction limit fencing, which shall be designed and installed prior to commencement of construction. The boundary of the construction limit fencing shall be displayed on the EC Sheets of the construction plans and shall be set to the minimum size required to construct proposed improvements, per the Project plans and specifications. All disturbed areas shall be restored to a better than pre-construction condition. The contractor shall meet the permit requirements for BMPs, staging areas, revegetation, grading season restrictions, and all other permitting agency approval conditions. Construction will take place within the Lake Tahoe construction season (between May 1st and October 15th).

The Spill Contingency Plan, which the contractor shall adhere to, shall outline how to properly handle accidental construction related spills and must include the requirement for spill prevention kits to be available on site to contain and properly clean any accidental spills. The Spill Contingency Plan will help the contractor to minimize the potential for and effects from spills of hazardous, toxic, or petroleum based substances during construction activities. The Spill Prevention Kit will contain, but is not limited to, absorbent pads, plastic bags, containment devices, drain seals, and drip pans. This plan will also outline who to call if utility lines are damaged during construction.

The Dewatering Plan, which the contractor shall adhere to, will outline the process that will be required of the contractor if groundwater is intercepted during construction. The Dewatering Plan shall be prepared and submitted for approval by Transportation, Lahontan RWQCB, and TRPA prior to commencement of construction. Construction sequencing shall be designed to avoid and minimize the potential of encountering groundwater during construction. However, if groundwater is encountered and the excavated area requires dewatering to complete the work, construction shall immediately cease and TRPA, Lahontan RWCQB, and Transportation shall be notified immediately. The agencies will then observe the construction work to ensure that the approved dewatering plan is being adhered to and that dewatering effluent is properly contained and disposed of.

Mitigation Measure G-2: The contractor shall attend the TRPA pre-grade onsite inspection meeting to ensure that proper BMPs are in place per the SWPPP and that all permit conditions have been met prior to commencement of construction.

Mitigation Measure G-3: Transportation shall conduct daily inspections of BMPs to ensure they are properly placed and maintained for maximum water quality benefit. As part of this process, Transportation and/or the contractor will complete inspection forms for submittal to regulatory agencies to demonstrate deficiencies and that corrective action has been immediately taken.

VII. GREENHOUSE GAS EMISSIONS – Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☒	☐	☐
b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

Item VII-A Discussion: Project construction would generate temporary and one-time greenhouse gas (GHG) emissions mainly from diesel-powered construction equipment and on-road trucks, with a small amount from workers' personal vehicles during construction of the Project. Greenhouse gases emitted during the combustion of diesel fuel in off-road construction equipment and on-road vehicles would consist mainly of carbon dioxide, along with small amounts of methane and nitrous oxide. Construction emissions would be intermittent, and short-term, during one summer construction season. Construction emissions would permanently cease at the end of the Project. Over the long-term, these temporary emissions would be offset or mitigated by the growth of native vegetation at designated restoration areas. The revegetation work, including trees, grasses, and shrubs would be maintained over the life of the Project to sequester carbon dioxide.

There currently is no federal, state, or local regulatory guidance for determining whether a project advances or hinders California's GHG reduction goals and no promulgated thresholds of significance for GHG impacts have been established. Therefore, this analysis focuses on construction impacts estimated using Transportation's past project implementation database and the U.S. Environmental Protection Agency (USEPA) GHG emission factors for diesel fuel and gasoline combustion in construction equipment. Transportation has reviewed past construction logs for projects equivalent in size and scope to the proposed Project to determine the typical number and type of vehicles that are actively working to construct the Project each day. Based on this analysis, Transportation has formulated the following assumptions:

- Fifteen workers per day, driving five vehicles to work an average of 40 miles round-trip per day
- Vehicles average 20 miles per gallon
- Twelve pieces of construction machinery per day
- Crews work eight hours per day with machinery running half that time (4 hours)
- Machinery burns an average of two gallons of diesel fuel per hour
- Diesel fuel contributes approximately 22.5 lbs CO_2/gallon
- Gasoline contributes approximately 20 lbs CO_2/gallon
- The Project will be completed in 35 working days

Based on these assumptions, the proposed Project would emit approximately 50 metric tons of CO_2 equivalents.

This estimated amount is negligible in comparison to the statewide inventory of 372,400,000 metric tons discussed above (0.00000013 percent). The estimated amount is also significantly less than the San Luis Obispo Air Pollution Control District's (SLOAPCD) significance threshold of 1,150 metric tons of CO_2 equivalents. GHG emissions would terminate following completion of construction work. Therefore, due to the intent of the Project and with the implementation of Mitigation Measures AQ-1 - AQ-7 found in Section III above, the proposed Project will not create a substantial amount of greenhouse gas emissions; therefore, the proposed Project will have a less than significant impact.

VIII. HAZARDS & HAZARDOUS MATERIALS – Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☒	☐	☐
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☒	☐	☐
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	☐	☐	☐	☒
g) Impair implementation of or interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒
h) Expose people or structures to a significant risk of loss, injury or death involving wild land fires, including where wild lands are adjacent to urbanized areas or where residences are intermixed with wild lands?	☐	☐	☐	☒

Item VIII-A Discussion: During Project construction, there exists a risk of accidental fuel spills from construction equipment. With the implementation of Mitigation Measures G-1, G-2, and G-3 found in Section VI above, the proposed Project will not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials; therefore, the proposed Project will have a less than significant impact.

Item VIII-B Discussion: During Project construction, there exists a risk of accidental fuel spills from construction equipment. With the implementation of Mitigation Measures G-1, G-2, and G-3 found in Section VI above, the proposed Project will not 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; therefore, the proposed Project will have a less than significant impact.

IX. HYDROLOGY & WATER QUALITY – Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements?	☐	☒	☐	☐
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	☐	☐	☒	☐
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site?	☐	☐	☒	☐
e) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	☐	☒	☐	☐
f) Otherwise substantially degrade water quality?	☐	☒	☐	☐
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	☐	☐	☐	☒
h) Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?	☐	☐	☐	☒
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	☐	☐	☐	☒
j) Inundation by seiche, tsunami, or mudflow?	☐	☐	☐	☒

Item IX-A Discussion: During construction, grading and excavation will take place that may have the potential to cause erosion. During Project construction, there exists a risk of accidental fuel spills from construction equipment. Once construction is complete and the erosion control and water quality improvement measures are in place, water quality in the area will be improved. With the implementation of Mitigation Measures G-1, G-2, and G-3 found in Section VI above, the proposed Project will not violate any water quality standards; therefore, the proposed Project will have a less than significant impact.

Item IX-C Discussion: One of the goals of the proposed Project is to reduce peak flows and volumes while providing treatment for the pollutants of primary concern. The Project will slightly affect drainage patterns in order to improve hydraulic and hydrologic connectivity of the site and move storm water to where it can be infiltrated. As a result, flow rates and volumes at the Project outflow locations will likely be decreased due to the infiltration components of this Project. The proposed Project will not substantially alter the existing drainage pattern of the site or area in a manner which would result in substantial erosion or siltation on- or off-site; therefore, the proposed Project will have a less than significant impact.

Item IX-D Discussion: One of the goals of the proposed Project is to reduce peak flows and volumes while providing treatment for the pollutants of primary concern. The Project will affect drainage patterns in order to improve hydraulic and hydrologic connectivity of the site and move storm water to where it can be infiltrated. As a result, flow rates and volumes at the Project outflow locations will likely be decreased due to the infiltration components of this Project. The proposed Project will not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner, which would result in flooding on- or off-site; therefore, the proposed Project will have a less than significant impact.

Item IX-E Discussion: During construction of the proposed Project, grading and excavation will take place that may have a potential to cause increased surface runoff. Once construction is complete and the erosion control and water quality improvement measures are in place, surface flows and volumes will likely be reduced from their existing condition and an improved storm water system will be in place. With the implementation of Mitigation Measures G-1, G-2, and G-3 found in Section VI above, the proposed Project will not create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff; therefore, the proposed Project will have a less than significant impact.

Item IX-F Discussion: During construction of the proposed Project, grading and excavation will take place that may have a potential to cause increased surface runoff and minor erosion. Once construction is complete and the erosion control and water quality improvement measures are in place, surface runoff and erosion will be reduced and water quality will be improved. With the implementation of Mitigation Measures G-1, G-2, and G-3 found in Section VI above, the proposed Project will not otherwise substantially degrade water quality; therefore, the proposed Project will have a less than significant impact.

X. LAND USE & PLANNING – Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	☐	☐	☐	☒

Category X Discussion: The proposed Project will not physically divide an established community; conflict with any applicable land use plan, policy, or regulation; or conflict with any applicable habitat conservation plan or natural community conservation plan. The Project area is located in an unincorporated area of El Dorado County within the Tahoe Basin. Land use policies for the Project area are discussed in the El Dorado County General Plan, the TRPA Regional Plan, and the TRPA Plan Area Statements (PAS). The majority of the Project lies within PAS 120, which has a land use classification of "Residential," with a maximum density of one single family dwelling per parcel. A smaller portion of the Project lies within PAS 119, which is classified as "Recreation," which also has a maximum density of one single family dwelling per parcel. The proposed Project will not impact the land use of the area and is consistent with the existing allowed uses; therefore, the proposed Project will have no impact on land use or planning.

XI. MINERAL RESOURCES – Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan?	☐	☐	☐	☒

Category XI Discussion: There are no known mineral resources that would be of value to the region or the state in the Project area. Therefore, the proposed Project will have no impact on mineral resources.

XII. NOISE – Would the project result in:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☒	☐	☐
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐
c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☐	☐	☒
d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	☐	☒	☐	☐
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	☐	☐	☐	☒

Item XII-A Discussion: Standard construction equipment shall be used to construct the improvements associated with the proposed Project. The equipment will increase noise levels over that of regular levels in the neighborhood, but the noise levels will be within allowable noise decibel standards imposed by Transportation and the TRPA. The TRPA Code of Ordinances states that TRPA-approved construction projects are exempt from the quantitative limits contained in the Noise Ordinance and Community Plan if construction activities take place between the hours of 8:00 a.m. and 6:30 p.m. With the implementation of the mitigation measures outlined below in *Item XII-A Mitigation Measures,* the proposed Project may result in a temporary or periodic exposure to or generation of noise levels in excess of standards established in the local General Plan, Community Plan, or Noise Ordinance, but it will be temporary and is allowable under local ordinances. Therefore, the proposed Project will have a less than significant impact.

Item XII-A Mitigation Measures:

Mitigation Measure N-1: In order to mitigate the impacts of temporarily increased ambient noise levels, construction noise emanating from all construction activities shall only occur between the hours of 8:00 a.m. and 6:30 p.m. per TRPA Code and the County's General Plan, unless other hours are approved by TRPA.

Mitigation Measure N-2: All construction equipment and vehicles used for Project construction shall be fitted with factory installed muffling devices and will be maintained in good working order. Transportation will advise potentially affected residents of the proposed construction activities including duration, schedule of activities, and contacts for filing noise complaints. Transportation staff and/or the contractor shall respond to all noise complaints received within one working day and resolve the issue within two working days.

Item XII-B Discussion: Standard construction equipment will be used to construct the proposed improvements. The equipment will create groundborne vibrations and noise levels over that of regular levels in the neighborhood, but the groundborne vibrations and noise levels will be within acceptable noise decibel standards imposed by the County and the TRPA. The proposed Project will not result in exposure of persons to or generation of groundborne vibration or noise levels in excess of standards established in the local General Plan, Community Plan, or Noise Ordinance, or applicable standards of other agencies; therefore, the proposed Project will have a less than significant impact.

Item XII-D Discussion: Refer to the information stated in the *Item XII-A Discussion*. With the implementation of Mitigation Measures N-1 and N-2 found in Section XII above, the proposed Project may result in a substantial temporary or periodic increase in ambient noise levels in the Project vicinity above levels existing without the Project, but it will be temporary and is allowable under local ordinances. Therefore, the proposed Project will have a less than significant impact.

XIII. POPULATION & HOUSING – Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

Category XIII Discussion: The proposed Project will not directly or indirectly induce or displace existing or future housing. Therefore, the proposed Project will have no impact on population and housing.

XIV. PUBLIC SERVICES – Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental services and/or 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, including:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Fire protection?	☐	☐	☐	☒

b) Police protection?	☐	☐	☐	☒
c) Schools?	☐	☐	☐	☒
d) Parks?	☐	☐	☐	☒
e) Other public facilities?	☐	☐	☐	☒

Category XIV Discussion: The proposed Project will have no impact on fire protection, police protection, schools, parks, or other public facilities. Improvements are designed and located to ensure that regular access and maintenance can take place. The proposed Project will not result in substantial adverse physical impacts associated with the new or altered facilities; therefore, the Project will have no impact on public services.

XV. RECREATION – Would the project:

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

Item XV-A Discussion: The proposed Project will not increase the use of or require construction or expansion of the recreational facilities in the Project area; therefore the Project will have no impact.

XVI. TRANSPORTATION & TRAFFIC – Would the project result in:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	☐	☐	☐	☒
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	☐	☐	☐	☒
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	☐	☐	☐	☒

d)	Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☐	☒
e)	Result in inadequate emergency access?	☐	☒	☐	☐
f)	Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	☐	☐	☐	☒

Item XVI-E Discussion: At some locations, temporary lane closures may be necessary to facilitate Project construction; however, at no time would access for local residents, school buses, or emergency vehicles be prohibited. Traffic controls will only be implemented during work hours and when it is necessary to perform work. With the implementation of the mitigation measures outlined below in *Item XVI-E Mitigation Measures,* the proposed Project will not result in inadequate emergency access; therefore, the proposed Project will have a less than significant impact.

Item XVI-E Mitigation Measures:

Mitigation Measure T-1: The contractor will be required to prepare and adhere to a Traffic Control Plan for TRPA and Transportation review and approval. Elements of the plan will include appropriate use of signage, flaggers, traffic calming, and alternative routes to accommodate local and through traffic. In addition, Transportation will advise local residents regarding schedules for construction traffic detours through signage, press releases, and distribution of flyers in area neighborhoods well in advance of construction initiation. Access will not be prohibited, at any time, for local residents, school buses, or emergency vehicles.

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

	Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
f)	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	☐	☐	☐	☒
g)	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.	☐	☐	☐	☒

Category XVII Discussion: A cultural resources study, which included a literature search and an archaeological survey/inventory of the Project Area of Potential Effect (APE) was completed. Previous cultural resources studies have been conducted in the vicinity of the Project area, which included portions of the APE. In addition outreach to the Native American Heritage Commission and a request for consultation with potentially affected tribes was initiated for the project. Through this process no tribal cultural resources were identified with the APE, therefore the Project will have no impact on tribal cultural resources.

XVIII. UTILITIES & SERVICE SYSTEMS – Would the project:

Environmental Issue	Potentially Significant Impact	Less Than Significant with Mitigation Measures	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	☐	☐	☐	☒
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☒	☐	☐
d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	☐	☐	☐	☒
e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
f) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	☐	☐	☐	☒
g) Comply with federal, state, and local statutes and regulations related to solid waste?	☐	☐	☐	☒

Item XVIII-C Discussion: The proposed Project will implement erosion control and water quality improvement measures that will reduce the discharge of sediment and pollutants to Lake Tahoe from the County rights-of-way. The proposed Project will install new storm water drainage and treatment facilities to supplement and improve the existing storm water infrastructure. All newly proposed storm water facilities will be installed within existing drainage areas. This Project is identified in the Lake Tahoe Environmental Improvement Program and is intended to improve the environment by addressing storm water deficiencies, erosion, and water quality problems. The proposed Project will require or result in the construction of new storm water drainage facilities or expansion of existing facilities, however with the implementation of Mitigation Measures G-1, G-2, and G-3 found in Section VI above, the construction will not cause significant environmental effects; therefore, the proposed Project will have a less than significant impact.

MANDATORY FINDINGS OF SIGNIFICANCE

Environmental Issue	Yes	No
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	☐	☒
b) Does the project have impacts that are individually limited, but cumulatively considerable? (Cumulatively considerable means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	☐	☒
c) Does the project have environmental effects, which will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☒

OTHER RESPONSIBLE AND TRUSTEE AGENCIES (whose approval is required)

☒ California Department of Fish and Game	☐ Local Agency Formation Commission (LAFCO)
☐ California Department of Forestry	☐ National Marine Fisheries Service
☐ California Department of Health Services	☒ Tahoe Regional Planning Agency
☐ California Department of Toxic Substances	☒ U.S. Army Corps of Engineers
☒ California Department of Transportation (Caltrans)	☒ U.S. Fish and Wildlife Service
☐ California Integrated Waste Management Board	☒ USFS - LTBMU
☒ California Regional Water Quality Control Board	☒ California Tahoe Conservancy

LIST OF PREPARERS

Principal Authors

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Contributors

Nichols Consulting Engineers, Inc.

DETERMINATION – The Environmental Review Committee finds that (choose one):

☐	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 _____ Date 13 March, 2017

Daniel Kikkert, County of El Dorado

APPENDIX B:
MITIGATION MONITORING AND REPORTING PROGRAM

MITIGATION MONITORING AND REPORTING PROGRAM

PROJECT NAME: COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT

MITIGATED NEGATIVE DECLARATION #: ***2017022004***

REGULATORY BACKGROUND

This Mitigation Monitoring and Reporting Plan (MMRP) was prepared to comply with Section 21081.6 of the Public Resources Code, which requires the following:

> "The public agency shall adopt a reporting or monitoring program for the changes made to the project or conditions of project approval, adopted in order to mitigate or avoid significant effects on the environment. The reporting or monitoring program shall be designed to ensure compliance during project implementation."

This MMRP is intended to ensure the effective implementation of mitigation measures that are within the authority of the County of El Dorado (County). The mitigation measures will be implemented (including monitoring where identified) throughout all phases of the development and operation of the Country Club Heights Erosion Control Project (Project). Monitoring of such mitigation measures may extend through Project permitting, construction, and Project operations, as necessary.

The required monitoring and reporting shall be accomplished through the County's Standard Mitigation Monitoring Program and/or the Project Specific Mitigation Monitoring and Reporting Program as defined in the County Code.

PROGRAM IMPLEMENTATION

The MMRP Checklist (Table B-1) lists all mitigation measures identified in the *CEQA Checklist* for the Proposed Project. In general, monitoring becomes effective at the time the action is taken on the Project. Timing of monitoring is organized as follows:

- Prior to Construction: The monitoring activity consists of ensuring that a particular mitigation action has taken place prior to the beginning of any construction or grading activities.
- During Construction: The monitoring activity consists of active monitoring while grading or construction is occurring on the Project site.
- Prior to Operation: The monitoring activity consists of active monitoring after initial site grading and facility construction has occurred, but prior to the initiation of Project operations.
- Ongoing: The monitoring activity consists of monitoring after the grading and construction phase of the Project has been completed and relates to ongoing operation of the Project.

The mitigation measures listed in Table B-1 are numbered as they are described in the *CEQA Checklist*. County of El Dorado staff will be responsible for implementing and/or ensuring that the mitigation measures listed in the MMRP are undertaken for this Project, to the extent such mitigation measures apply to the Project within the County. Implementation includes ensuring that any required actions are included in bid documents and contracts as part of the design/build process for the Project and ensuring that the contractor includes specified mitigation activities in plans and specifications for construction. County staff shall designate mitigation measure responsibility and oversee the contractor and consultants.

TABLE B-1. MITIGATION MONITORING AND REPORTING PROGRAM FOR THE COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
AESTHETICS				
No mitigation measures required.				
AGRICULTURAL RESOURCES				
No mitigation measures required.				
AIR QUALITY- Item III-B				
Mitigation Measure AQ-1: The construction contractor shall implement air quality Best Management Practices from the TRPA Code of Ordinances and Handbook of Best Management Practices.	Transportation or its Contractor	Transportation	Prior to and During Construction	
Mitigation Measures AQ-2*:* The construction contractor shall water exposed soil twice daily, or as needed, to control wind borne dust. All haul/dump truckloads shall be covered securely.	Transportation or its Contractor	Transportation	Prior to and During Construction	
Mitigation Measure AQ-3: The contractor shall sweep the Project site a minimum of once daily to remove all dirt and mud which has been generated from or deposited on roadways by construction equipment going to and from the construction site.	Transportation or its Contractor	Transportation	Prior to and During Construction	
Mitigation Measure AQ-4: On-site vehicle speed shall be limited to 15 miles per hour on unpaved surfaces.	Transportation or its Contractor	Transportation	Prior to and During Construction	
Mitigation Measure AQ-5: Construction activities shall comply with EDCAQMD Rule 223-Fugitive Dust, so that emissions do not exceed hourly levels. The contractor will use approved BMP practices as outlined in the TRPA Handbook of Best Management Practices and the EDCAQMD Rule 223 to address fugitive dust. Dust mitigation measures and dust control BMPs will include, but are not limited to, stabilization of unpaved areas subject to vehicular traffic, stabilization of storage piles and disturbed areas, dust suppression through watering of areas to be disturbed, cleaning of all construction vehicles leaving the site, mulching of bare soil areas, and suspension of grading and earth moving activities when wind speeds are high enough to result in dust emissions crossing the Project boundary.	Transportation or its Contractor	Transportation	Prior to and During Construction	

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
Mitigation Measure AQ-6: Construction equipment idling shall be restricted to 5 minutes when not in use.	Transportation or its Contractor	Transportation	Prior to and During Construction	
Mitigation Measure AQ-7: The construction contractor shall post a publicly visible sign on the Project site during construction operations that specify the telephone number and person/agency to contact for complaints and/or inquiries on dust generation and other air quality problems resulting from Project construction.	Transportation or its Contractor	Transportation	Prior to and During Construction	
BIOLOGICAL RESOURCES- Item IV-A				
Mitigation Measure B-1: Prior to construction, Transportation will confirm if any new special status species have been identified by the United States Forest Service – Lake Tahoe Basin Management Unit (USFS-LTBMU) or the CA Fish & Wildlife Service (via the California Natural Diversity Database - *CNDDB*) within, or immediately adjacent to, the Project area. If new activity or occurrences have been identified, appropriate limited operating periods (LOP) will be observed. If tree removal/trimming activities are scheduled during the nesting season of raptors and migratory birds (February 15 to September 1), a focused survey for active nests of such birds will be conducted within 15 days prior to the beginning of such related activities.	Transportation or its Consultant	Transportation	Prior to Construction	
Mitigation Measure B-2: If special status plant species are found prior to or during construction, these populations will be identified and protected with appropriate measures per TRPA and the USFS-LTBMU.	Transportation or its Consultant	Transportation	Prior to Construction	

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
Mitigation Measure B-3: Transportation will implement and require the contractor to adhere to a Noxious Weed Mitigation Plan (Plan) to decrease habitat vulnerability to or below pre-construction levels. The Plan includes pre-construction elements such as treatment methodologies for existing noxious weed populations identified in the Project area, as well as operating procedures for both during and post-construction. All temporarily disturbed areas will be re-vegetated with an assemblage of native wetland and upland vegetation suitable for the area. These areas will be properly protected from washout and erosion using appropriate erosion control devices, including coir netting, hydroseeding, revegetation, and blankets. Recommended BMPs will include, but are not limited to: hand removal of existing weeds prior to going to seed, equipment cleaning prior to use, area of disturbance minimization, disturbed ground stabilization upon completion of construction with mulch or other means, certified weed-free mulch and other materials, and disturbed areas revegetation with native plants.	Transportation or its Consultant	Transportation	Prior to Construction	

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
BIOLOGICAL RESOURCES - ITEM IV-B				
Mitigation Measure B-4: Groundwater is not expected to be encountered during construction, if groundwater is encountered and the excavated area requires dewatering to complete the work, TRPA and the Lahontan Regional Water Quality Control Board (RWQCB) shall be notified immediately to determine the appropriate course of action. The Storm Water Pollution Prevention Plan (SWPPP) for the proposed Project will include a Dewatering Contingency Plan (Item VI-B Mitigation Measures) that the contractor shall follow.	Transportation or its Consultant	Transportation	Prior to and During Construction	
Mitigation Measure B-5: The proposed Project was designed around the findings of the final aquatic resource delineation report to avoid or minimize impacts to wetlands and/or other Waters of the United States (WOUS). No wetlands were found, but jurisdictional WOUS were found within the Project area. Pending the final design and limits of work within identified jurisdictional areas, Transportation will obtain 404 and 401 Water Quality Certification from the ACOE and Lahontan RWQCB, respectively. In addition, Transportation will obtain a TRPA EIP Project Permit and will implement the required mitigation measures.	Transportation or its Consultant	Transportation	Prior to and During Construction	
CULTURAL RESOURCES				
No mitigation measures required.				
GEOLOGY AND SOILS - Item VI-B				

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
Mitigation Measure G-1: The contractor will adhere to a Storm Water Pollution Prevention Plan (SWPPP) submitted to Transportation, Lahontan RWQCB, and TRPA prior to construction. The SWPPP shall be in accordance with the TRPA and Lahontan RWCQB requirements for storm water pollution prevention in the Tahoe Basin. As part of the SWPPP, the contractor will be required to prepare and adhere to a Temporary BMP Plan, a Spill Contingency Plan, and a Dewatering Plan. The Temporary BMP Plan will include design and specifications that detail the required construction BMPs that shall be installed prior to and during construction to prevent any erosion that may occur during a rain or wind event. All temporary BMPs shall be installed and maintained per TRPA's Handbook of Best Management Practices. Temporary BMPs will include, but are not limited to: gravel bags, silt fencing, tree protection fencing, construction limit fencing, coir logs, visqueen and gravel construction access. Prior to construction, all storage, access, and staging areas shall be secured by the contractor and approved by Transportation, Lahontan RWCQB and TRPA. No staging or storage will occur in Stream Environment Zones (SEZs). The contractor shall be responsible for maintenance of mobilization sites, including placement and maintenance of BMPs. All equipment, vehicles, and materials shall be stored on paved or previously disturbed surfaces only; in locations approved by Transportation, Lahontan RWQCB and TRPA. The contractor shall limit the areas to be disturbed to the area within the boundary of the construction limit fencing, which shall be designed and installed prior to commencement of construction. The boundary of the construction limit fencing shall be displayed on the EC Sheets of the construction plans and shall be set to the minimum size required to construct proposed improvements, per the Projects plans and specifications. All temporary BMPs shall be maintained during construction and shall be monitored daily by the construction site inspector. All disturbed areas shall be restored to a better than pre-construction condition.	Transportation and its Contractor	Transportation	Prior to and During Construction	

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
Mitigation Measure G-1 (Continued): The contractor shall meet the permit requirements for BMPs, staging areas, revegetation, grading season restrictions, and all other permitting agency approval conditions. Construction will take place within the Lake Tahoe construction season (between May 1st and October 15th). The Spill Contingency Plan, which the contractor shall adhere to, shall outline how to properly handle accidental construction related spills and must include the requirement for spill prevention kits to be available on site to contain and properly clean any accidental spills. The Spill Contingency Plan will help the contractor to minimize the potential for and effects from spills of hazardous, toxic, or petroleum based substances during construction activities. The Spill Prevention Kit will contain, but is not limited to, sorbent pads, plastic bags, containment devices, drain seals, and drip pans. This plan will also outline who to call if utility lines are damaged during construction. The Dewatering Plan, which the contractor shall adhere to, will outline the process that will be required of the contractor if groundwater is intercepted during construction. The Dewatering Plan shall be prepared and submitted for approval by Transportation, Lahontan RWQCB and TRPA prior to commencement of construction. Construction sequencing shall be designed to avoid and minimize the potential of encountering groundwater during construction, however if groundwater is encountered and the excavated area requires dewatering to complete the work, construction shall immediately cease and TRPA, Lahontan RWQCB and Transportation shall be notified immediately to observe the construction work to ensure that the approved dewatering plan is being adhere to and that dewatering effluent is properly contained and disposed of.	Transportation and its Contractor	Transportation	Prior to And During Construction	

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
Mitigation Measure G-2: The contractor shall attend the TRPA pre-grade onsite inspection meeting to ensure that proper BMPs are in place per the SWPPP and that all permit conditions have been met prior to commencement of construction.	Transportation and its Contractor	Transportation	Prior to and During Construction	
Mitigation Measure G-3: Transportation shall conduct daily inspections of BMP measures to ensure they are properly placed and maintained for maximum water quality benefit. As part of this process, Transportation and/or the contractor will complete formal inspection forms for submittal to regulatory agencies to demonstrate deficiencies and that corrective action has been immediately taken.	Transportation and its Contractor	Transportation	Prior to and During Construction	
GREENHOUSE GAS EMISSIONS - Item VII-A				
Mitigation Measure: Implement Mitigation Measures identified under Item III-B Mitigation Measures.	Transportation or its Contractor	Transportation	Prior to and During Construction	
HAZARDS AND HAZARDOUS MATERIALS - Item VIII-A and Item VIII-B				
Mitigation Measure: Implement Mitigation Measures identified under Item VI-B Mitigation Measures.	Transportation or its Contractor	Transportation	Prior to and During Construction	
HYDROLOGY AND WATER QUALITY - Item IX-A, Item IX-E and Item IX-F				
Mitigation Measure: Implement Mitigation Measures identified under Item VI-B Mitigation Measures.	Transportation or its Contractor	Transportation	Prior to and During Construction	
LAND USE AND PLANNING				
No mitigation measures required.				
MINERAL RESOURCES				
No mitigation measures required.				
NOISE - Item XII-A and Item XII-D				

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
Mitigation Measure N-1: In order to mitigate the impacts of temporarily increased ambient noise levels, construction noise emanating from all construction activities shall only occur between the hours of 8:00 a.m. and 6:30 p.m. per TRPA Code and the County's General Plan, unless other hours are approved by TRPA.	Transportation or its Contractor	Transportation	During Construction	
Mitigation Measure N-2: All construction equipment and vehicles used for Project construction shall be fitted with the factory installed muffling devices and will be maintained in good working order. Transportation will advise potentially affected residents of the proposed construction activities including duration, schedule of activities, and contacts for filing noise complaints. Transportation staff and/or contractor shall respond to all noise complaints received within one working day and resolve the issue within two working days.	Transportation or its Contractor	Transportation	Prior to and During Construction	
POPULATION AND HOUSING				
No mitigation measures required.				
PUBLIC SERVICES				
No mitigation measures required.				
RECREATION				
No mitigation measures required.				
TRANSPORTATION AND TRAFFIC - Item XVI-E				
Mitigation Measure T-1: The contractor will be required to prepare and adhere to a Traffic Control Plan for TRPA and Transportation review and approval. Elements of the plan will include appropriate use of signage, flaggers, traffic calming, and alternative routes to accommodate local and through traffic. In addition, Transportation will advise local residents regarding schedules for construction traffic detours through signage, press releases, and distribution of flyers in area neighborhoods well in advance of construction initiation. Access will not be prohibited, at any time, for local residents, school buses or emergency vehicles.	Transportation	Transportation	Prior to and During Construction	
UTILITIES AND SERVICE SYSTEMS - Item XVI-C				

MITIGATION MEASURE	IMPLEMENTING RESPONSIBILITY[1,3]	MONITORING RESPONSIBILITY[2,3]	TIMING AND FREQUENCY	VERIFICATION OF COMPLIANCE (INITIALS/DATE)
Mitigation Measure: Implement Mitigation Measures identified under Item VI-B Mitigation Measures.	Transportation or its Contractor	Transportation	Prior to and During Construction	

[1] The department listed in the Implementing Responsibility column is the department responsible for conducting the mitigation measure.
[2] The department listed in the Monitoring Responsibility column is responsible for verifying that compliance with the mitigation measure occurs and that all monitoring and reporting is completed.
[3] Responsible Entity: Transportation : El Dorado County, Community Development Agency, Transportation Division, Tahoe Engineering

APPENDIX C:
PLANT, NOXIOUS WEED, AND WILDLIFE TABLES

Table C-1.1. Country Club Heights Erosion Control Project - Special Status Plant Species List and Habitat

Table 1. Special Status Species List and Habitat.

Species	Regulatory Status				Habitat Requirements	Identification Period	Potential for Occurrence in the Project Area and Results of Survey
	Federal	State	TRPA	CNPS			
Arabis rigidissima* var. *demota Galena Creek rockcress			SI	1B.2	Broad-leaved upland forests, upper montane coniferous forests on rocky substrates. Known in CA from only two occurrences near Martis Peak and in NV from eleven occurrences in the Carson Range. Elevation range 7,398 to 8,398 feet.	August	**Unlikely.** Outside of elevation range and site lacks suitable habitat.
Astragalus austiniae Austin's astragalus				1B.3	Alpine boulder and rock field, subalpine coniferous forest. Elevation range 8,005 to 9727 feet.	July to September	**Unlikely.** Outside of elevation range. Not encountered during surveys.
Boechera tularensis Tulare rockcress				1B.3	Perennial herb that prefers rocky slopes, subalpine coniferous forest, and upper montane coniferous forest. Elevation range is from 6,000 to 11,000 feet.	June to July	**Potential.** May occur. Not encountered.
Bolandra californica Sierra bolandra				4.3	Perennial herb that prefers mesic, rocky soils in lower to upper montane coniferous forests at elevations from 3,200 – 8,000 feet.	June to July	**Potential.** May occur. Not encountered.
Botrychium ascendens Upswept moonwort				2B.3	Wet or moist soils in lower montane coniferous forests, such as along the edges of lakes and streams. Elevation range 4,950 to 6,039 feet.	Fertile early July to early September	**Potential.** May occur as USFS modeled habitat exists within Project area. Not encountered.
Botrychium crenulatum Scalloped moonwort				2B.2	Lower montane coniferous forests, meadows and seeps, marshes and swamps. Elevation range 4,950 to 10,800 feet.	Fronds mature June to September	**Potential.** May occur. Not encountered.
Botrychium minganense Mingan moonwort				2B.2	Wet or moist soils in lower montane coniferous forests, such as along the edges of lakes and streams. Elevation range 4,950 to 6,039 feet.	Fronds mature June to September	**Potential.** May occur. Not encountered.

Table 1. Special Status Species List and Habitat.							
Species	Regulatory Status				Habitat Requirements	Identification Period	Potential for Occurrence in the Project Area and Results of Survey
	Federal	State	TRPA	CNPS			
Brasenia schreberi Watershield				2B.3	Perennial rhizomatous herb that prefers marshes and swamps or freshwater. Elevation range 100 to 7,200 feet.	June to September	**Potential.** May occur. Not encountered.
Bruchia bolanderi Bolander's bruchia				4.2	Meadows in mixed conifer and subalpine communities, streams and wet meadows, from 5,577 to 9,186 feet.	Moss	**Potential.** May occur as USFS modeled habitat exists within Project area. Not encountered.
Carex davyi Davy's sedge				1B.3	Perennial herb that prefers subalpine and upper montane coniferous forests between 5,000 to 10,500 feet.	May to August	**Unlikely.** Site lacks suitable habitat.
Carex limosa Mud sedge				2B.2	Perennial rhizomatous herb that prefers bogs, fens, meadows, seeps, marshes, swamps, and both lower and upper montane coniferous forests. Elevation range is between 3,900 and 8,900 feet.	June to August	**Potential.** May occur as CNDDB records exist within five miles of Project area; it was not encountered during surveys.
Carex tahoensis Tahoe sedge				4.3	Perennial rhizomatous herb that prefers alpine boulder and rock fields and subalpine coniferous forests. Elevation range is between 9,300 and 12,500 feet.	July to August	**Unlikely.** Site lacks suitable habitat, outside of elevation range.
Chaenactis douglasii* var. *alpina Alpine dusty maidens				2B.3	Open, subalpine to alpine gravel and crevices; granitic substrate. Elevation range is between 7,749 and 11,007 feet.	July to September	**Unlikely.** Site lacks suitable habitat, outside of elevation range.
Clarkia virgate Sierra clarkia				4.3	Annual herb that prefers Cismontane woodland and lower montane coniferous forest. Elevation range is between 1,300 and 5,300 feet.	May-August	**Unlikely.** Site lacks suitable habitat, outside of elevation range.
Cryptantha crymophila Subalpine cryptantha				1B.3	Subalpine coniferous forest. On dry talus of volcanic formation. Elevation range is between 8,792 and 10,810 feet.	July to August	**Unlikely.** Site lacks suitable habitat, outside of elevation range.

Table 1. Special Status Species List and Habitat.							
Species	Regulatory Status				Habitat Requirements	Identification Period	Potential for Occurrence in the Project Area and Results of Survey
	Federal	State	TRPA	CNPS			
Draba asterophora* var. *asterophora Tahoe draba			SI	1B.2	Alpine boulder and rock fields in crevices, and open talus slopes of decomposed granite in subalpine coniferous forests. Elevation range 8,325 to 11,670 feet.	July to September	**Unlikely.** Outside of elevation range.
Draba asterophora* var. *macrocarpa Cup Lake draba			SI	1B.1	Alpine boulder and rock fields in shade of granitic rocks in subalpine coniferous forest. Elevation range 8,202 to 9,235 feet.	July to August	**Unlikely.** Outside of elevation range and site lacks suitable habitat.
Epilobium howellii Subalpine fireweed				4.3	Meadows and seeps in upper montane coniferous forests. Elevation range 6,600 to 8,910 feet.	July to August	**Potential.** Modeled habitat occurs within Project area, but project area is outside of elevation range and site lacks suitable habitat. Not encountered during surveys.
Epilobium oregonum Oregon fireweed				1B.2	Perennial herb that prefers mesic habitat including bogs and fens, but also lower and upper montane coniferous forests. Elevation is between 1,650 and 7,300 feet.	June to September	**Unlikely.** Site lacks undisturbed suitable habitat.
Epilobium palustre Marsh willowherb				2B.3	Perennial rhizomatous herb that prefers mesic habitat including bogs, fens, meadows, and seeps.	July to August	**Unlikely.** Site lacks undisturbed suitable habitat.
Erigeron gracile Slender cottongrass				4.3	Perennial rhizomatous herb that prefers acidic soils in bogs and fens, meadows and seeps, and upper montane coniferous forests. Elevation range 4,200 to 9,500 feet.	May to September	**Unlikely.** Site lacks undisturbed suitable habitat.
Eriogonum luteolum* var. *saltuarium Jack's wild buckwheat				1B.2	Upper montane coniferous forest, great basin scrub on sandy, granitic substrates. Elevation range between 5,577 and 7,874 feet.	July to September	**Unlikely.** Site lacks suitable habitat.
Glyceria grandis American manna grass				2B.3	Perennial rhizomatous herb that prefers bogs, fens, meadows, seeps, marshes, and swamps along stream banks, or lake margins. Elevation range is from 50 to 6,500 feet.	June to August	**Potential.** May occur. Not encountered.

Table 1. Special Status Species List and Habitat.							
Species	**Regulatory Status**				**Habitat Requirements**	**Identification Period**	**Potential for Occurrence in the Project Area and Results of Survey**
	Federal	**State**	**TRPA**	**CNPS**			
Helodium blandowii Blandow's bog-moss				2B.3	Bogs and fens that are not too rich in iron. Elevation range 6,562 to 8,859 feet.	Moss	**Unlikely.** Site lacks suitable habitat.
Lewisia kelloggii* ssp. *hutchisonii Hutchison's lewisia				3.2	Ridge tops or flat open spaces with widely spaced trees and sandy granitic to erosive volcanic soil. Elevation range 5,000 to 7,000 feet.	June to July	**Potential.** May occur as it has USFS modeled habitat within Project area; however, it was not encountered.
Lewisia kelloggii* ssp. *kelloggii Kellogg's lewisia				3.2	Ridge tops or flat open spaces with widely spaced trees and sandy granitic to erosive volcanic soil. Elevation range 5,000 to 7,000 feet.	June to July	**Potential.** May occur as it has USFS modeled habitat within Project area; however, it was not encountered.
Lewisia longipetala Long-petaled lewisia			SI	1B.3	Alpine boulder and rock fields in subalpine coniferous forests. Elevation range 8,325 to 9,740 feet.	June to August	**Unlikely.** Outside of elevation range.
Meesia triquetra Three-ranked hump-moss				4.2	Bogs and fens, meadows and seeps in montane coniferous forests. Elevation range 4,290 to 8,250 feet.	Moss	**Unlikely.** Site lacks suitable habitat.
Meesia uliginosa Broad-nerved hump-moss				2B.2	Bogs and fens, meadows and seeps in montane coniferous forests. Elevation range 4,290 to 8,250 feet.	Moss	**Unlikely.** Site lacks suitable habitat.
Peltigera hydrothyria Veined water lichen					Mixed coniferous forests, bogs, fens, wet meadows, seeps, and clear, cold streams. Elevation range 4,000 to 8,000 feet.	Lichen	**Potential.** May occur as it has USFS modeled habitat within Project area; however, it was not encountered.
Peltigera gowardii western waterfan lichen				4.2	This foliose lichen (aquatic) is found in cold water creeks with little or no sediment or disturbance in riparian forests. Elevation range is from 3,490 to 8,595 feet.	n/a	**Potential.** May occur. Not encountered.

Table 1. Special Status Species List and Habitat.							
Species	Regulatory Status				Habitat Requirements	Identification Period	Potential for Occurrence in the Project Area and Results of Survey
	Federal	State	TRPA	CNPS			
Polystichum lonchitis northern holly fern				3	This perennial rhizomatous herb prefers granitic or carbonate soils in subalpine coniferous forest and upper montane coniferous forests. Elevation range 5,900 to 8,530 feet.	June to September	**Unlikely.** Site lacks suitable habitat.
Potamogeton robbinsii *Robbins' pondweed*				2B.3	This perennial rhizomatous herb prefers marshes and swamps (deep water, lakes). Elevation range 5,000 to 8,530 feet.	July to August	**Unlikely.** Site lacks suitable habitat.
Rorippa subumbellata Tahoe yellow cress			SI	1B.1/ SE	Shoreline supporting decomposed granitic soils; known only from the shoreline of Lake Tahoe. Elevation range 6,210 to 6,230 feet.	Blooms May to September	**Unlikely.** Outside of elevation range and site lacks suitable habitat.
Schoenoplectus subterminalis Water bulrush				2B.3	Perennial rhizomatous herb that prefers bogs, fens, marshes and swamps, especially along montane lake margins. Elevation range from 2,400 to 7,300 feet.	June to August	**Unlikely.** Site lacks suitable habitat.
Scutellaria galericulata Marsh skullcap				2B.2	Perennial rhizomatous herb that prefers lower montane coniferous forests, meadows, seeps, marshes, and swamps. Elevation range from 0 to 6,800 feet.	June to September	**Unlikely.** Site lacks suitable habitat.
Stuckenia filiformis Slender-leaved pondweed				2B.2	Perennial rhizomatous herb that prefers marshes, swamps, and a variety of shallow freshwater habitats. Elevation range from 980 to 7,000 feet.	May to July	**Potential.** May occur. Not encountered.
Tonestus eximius Tahoe tonestus				4.3	Perennial rhizomatous herb that prefers subalpine coniferous forests (granitic). Elevation range from 8,200 to 10,820 feet.	July to August	**Unlikely.** Outside of elevation range and site lacks suitable habitat.
Utricularia ochroleuca Cream-flowered bladderwort				2B.2	Perennial stoloniferous herb that can be found in meadows, seeps, marshes, swamps, and lake margins. Elevation range from 4,700 to 4,730 feet.	June to July	**Unlikely.** Site lacks suitable habitat.

Table 1. Special Status Species List and Habitat.

Species	Regulatory Status				Habitat Requirements	Identification Period	Potential for Occurrence in the Project Area and Results of Survey
	Federal	State	TRPA	CNPS			
Federally Listed Species (Federal): FE = Federally Endangered FT = Federally Threatened FD = Federally Delisted PT = Proposed Threatened FCE = Federally Endangered Candidate FPD = Proposed for Delisting		California State Listed Species (CA): SE = State Endangered ST = State Threatened SR = State Rare SC = State Candidate				California Native Plant Society (CNPS) List Categories: 1 = Rare in California and elsewhere 2 = Rare in California, but not elsewhere A = Presumed extirpated or extinct B = Rare, threatened, or endangered 3 = Plants about which we need more information 4 = Plants of limited distribution	
		Tahoe Regional Planning Agency (TRPA): SI = TRPA Special Interest Species				CNPS Threat Code Extensions: .1 = Seriously endangered in California (Over 80% of occurrences threatened) .2 = Fairly endangered in California (20-80% occurrences threatened) .3 = Not very endangered in California (<20% of occurrences threatened)	

Federally Listed Species (Federal):	**Tahoe Regional Planning Agency (TRPA):**	**California Native Plant Society (CNPS) List Categories:**
FE = Federally Endangered	SI = TRPA Special Interest Species	1A = Plants presumed extinct in California
FT = Federally Threatened		1B = Plants rare, threatened, or endangered in California and elsewhere
FD = Federally Delisted	**USFS – Lake Tahoe Basin Management Unit Species (LTBMU):**	
PT = Proposed Threatened	S = USFS Sensitive Species	2 = Plants rare, threatened or endangered in California, but common elsewhere
FCE = Federally Endangered Candidate	LSI = USFS Species of Interest	3 = Plants about which we need more information
FPD = Proposed for Delisting		4 = Plants of limited distribution
	California State Listed Species (CA):	**CNPS Threat Code Extensions:**
	SE = State Endangered	.1 = Seriously endangered in California (Over 80% of occurrences threatened)
	ST = State Threatened	
	SR = State Rare	.2 = Fairly endangered in California (20-80% occurrences threatened)
	SC = State Candidate	.3 = Not very endangered in California (<20% of occurrences threatened)

Table C-1.2. Country Club Heights Erosion Control Project - Invasive and Noxious Weed Plant Species List and Habitat Analysis

Species	Common Name	CDFA rating[1]	Cal-IPC rating[2]	Number of sites within:	
				Project area (FS)	Botany analysis area (FS + Non-FS)
Bromus tectorum	cheat grass	n/a	High	0	1
Cirsium vulgare	bull thistle	n/a	Moderate	3	13
Conium maculatum	poison hemlock	n/a	Moderate	0	3
Leucanthemum vulgare	oxeye daisy	n/a	Moderate	1	1
Linaria vulgaris	yellow toadflax	n/a	Moderate	0	1
TOTAL				**4**	**19**

[1] CDFA ratings - A-listed weeds: eradication or containment is required at the state or county level; B-listed weeds: eradication or containment is at the discretion of the County Agricultural Commissioner; C-listed weeds: eradication or containment required only when found in a nursery or at the discretion of the County Agricultural Commissioner. (California Department of Food and Agriculture 2009)

[2] Cal-IPC ratings- High: attributes conducive to moderate to high rates of dispersal and establishment; usually widely distributed among and within ecosystems. Moderate: impacts substantial and apparent, but not severe; attributes conducive to moderate to high rates of dispersal; distribution may range from limited to widespread. Limited : ecological impacts are minor or information is insufficient to justify a higher rating, although they may cause significant problems in specific regions or habitats; attributes result in low to moderate rates of invasion; distribution generally limited, but may be locally persistent and problematic. (California Invasive Plant Council 2010)

Table 1. Special Status Wildlife Species Considered for the Country Club Heights ECP.

Common Name *Scientific Name*	Federal Status[+]	State Status[+]		Local Status[+]	Occur within 0.5 miles of Project Area	Suitable Habitat within 0.5 miles of Project Area	Potential for Occurrence	Habitat Association (only discussed for species with a suitable habitat)
		CESA	CDFW					
Amphibians								
Sierra Nevada yellow-legged frog[1] *Rana sierrae*	FE	ST	WL		No	No	**Not expected to occur.** Suitable habitat does not exist in the Project vicinity.	
Northern leopard frog[2] *Lithobates pipiens*			SSC		No	No	**Not expected to occur.** This species is presumed extirpated from the Tahoe Basin (Schlesinger and Romsos 2000). Suitable habitat is not present in the Project area.	
Yosemite toad[3] *Anaxyrus canorus*	FT		SSC		No	No	**Not expected to occur.** Outside of the known range.	
Birds								
American peregrine falcon *Falco peregrines anatum*	DL (8/99)	SD	FP	TRPA	No	No	**Not expected to occur. No Potential to Impact TRPA Threshold Standard.** Suitable habitat does not exist in the Project area and this species is not known to occur in the Project area.	

[1] Formerly mountain yellow-legged frog, *Rana muscosa*
[2] Formerly *Rana pipiens*
[3] Formerly *Bufo canorus*

Table C-2.1. Special Status Wildlife Species Considered for the Country Club Heights Erosion Control Project

Table 1. Special Status Wildlife Species Considered for the Country Club Heights ECP.								
Common Name *Scientific Name*	Federal Status[+]	State Status[+]		Local Status[+]	Occur within 0.5 miles of Project Area	Suitable Habitat within 0.5 miles of Project Area	Potential for Occurrence	Habitat Association (only discussed for species with a suitable habitat)
		CESA	CDFW					
Bald eagle *Haliaeetus leucocephalus*	DL (8/07)	SE	FP	TRPA	No	Yes	**Moderate. No Potential to Impact TRPA Threshold Standard.** Suitable habitat does not exist within the Project boundary, but does along the Truckee River, which is within 0.5 miles from the Project. This species could pass through the Project area, but suitable breeding habitat is not present in the Project survey area.	Bald eagles have an expansive range with breeding areas in Northern California, wintering mostly in the Klamath Basin, and a few favored inland areas of Southern California. Locally, they are yearlong residents and migrants in the Tahoe Basin. Bald eagles use shorelines along large bodies of water and river courses for both nesting and wintering. Snags, broken-topped trees, or rocks near water are required for foraging and nesting. Most nests are located in large trees with open branches within 1 mile of a water body. In Lake Tahoe, known nesting sites include Emerald Bay and Marlette Lake. Wintering sites are located in Taylor, Tallac, Pope, and Upper Truckee Marshes (Romsos 2000)
Bank Swallow *Riparia riparia*		ST			No	Yes	**Moderate.** Suitable habitat is marginal in perennial grassland habitat within the Project area, however additional habitat is found within 0.5 miles of the Project. This species could pass through the Project area, but suitable breeding habitat is not present in the Project survey area.	This species prefers riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with fine-textured or sandy soils. It is also known to flock with other swallows over many open habitats during migration. Most of the current breeding population in California occurs along banks of the Sacramento and Feather rivers with others occurring along the central coast northeastern California. Locally, this species occurs as a migrant (CWHR 2016).

Table C-2.1. Special Status Wildlife Species Considered for the Country Club Heights Erosion Control Project

Table 1. Special Status Wildlife Species Considered for the Country Club Heights ECP.								
Common Name *Scientific Name*	Federal Status[+]	State Status[+]		Local Status[+]	Occur within 0.5 miles of Project Area	Suitable Habitat within 0.5 miles of Project Area	Potential for Occurrence	Habitat Association (only discussed for species with a suitable habitat)
		CESA	CDFW					
California spotted owl *Strix occidentalis occidentalis*			SSC		No	Yes	**Not expected to occur.** Suitable habitat does not exist in the Project area and only marginal habitat exists within 0.5 miles.	California spotted owl are found in Northwest California, the foothills and mid-elevation ranges of the Sierran Nevada, and localized pockets of Southern California. Locally, they are yearlong residents. They can occur in several forest types, but generally choose to breed in forested regions with high canopy cover. Because these owls are cavity dwellers, their reproductive habitat requires snags and decadent trees. Mature forests exhibit optimal habitat because they have complex forest structure, variation in tree size and age, large amounts of course woody debris, and scattered clearings that provide foraging opportunities.
Golden eagle *Aquila chrysaetos*			FP	TRPA	No	No	**Not expected to occur. No Potential to Impact TRPA Threshold Standard.** The Project area is impacted by human use and suitable habitat is lacking.	
Great gray owl *Strix nebulosa*		SE			No	No	**Not expected to occur.** Undisturbed mature red fir forests or wet meadows used for roosting and foraging are not present.	

Table C-2.1. Special Status Wildlife Species Considered for the Country Club Heights Erosion Control Project

Table 1. Special Status Wildlife Species Considered for the Country Club Heights ECP.								
Common Name *Scientific Name*	Federal Status[+]	State Status[+]		Local Status[+]	Occur within 0.5 miles of Project Area	Suitable Habitat within 0.5 miles of Project Area	Potential for Occurrence	Habitat Association (only discussed for species with a suitable habitat)
		CESA	CDFW					
Northern goshawk *Accipiter gentilis*			SSC	TRPA	Yes	Yes	**Moderate. No Potential to Impact TRPA Threshold Standard.** There is a TRPA Northern Goshawk Disturbance Zone outside of the Project area but within the 0.5 mile buffer. No improvements are proposed outside of the Project boundary and the TRPA Disturbance Zone does not overlap with the Project boundary. This species could pass through the Project area, but suitable breeding habitat is not present in the Project survey area.	Northern goshawk are distributed throughout California in middle to higher elevation forested areas, particularly in the North Coast Ranges through Sierra Nevada, Klamath, Cascade, and Warner Mountains (Zeiner et al. 1990). Locally, they can be yearlong residents and seasonal migrants. Goshawks usually nest on north-facing slopes near water and require mature conifer or aspen forests with large diameter trees, dense canopy cover, and an open under story interspersed with meadows or shrub patches. Open areas provide foraging opportunities, while logs, snags, and broken-top trees are used as "plucking posts" to de-feather prey. Nests are usually located within the largest tree in the stand, next to the bole of the tree, in the lower third of the canopy.
Osprey *Pandion haliaetus*			WL	TRPA	Yes	Yes	**Moderate. No Potential to Impact TRPA Threshold Standard.** Osprey could pass through the Project area as there several undocumented observations, but suitable breeding and foraging habitat is not present in the Project area.	Osprey are yearlong residents. Osprey diets are almost entirely fish; therefore, its range has a close association with open, calm, and clear waters for feeding. Platform nets are built atop large snags, living trees, and human structures. Tall, open trees called “pilot trees” are required nearby for landing approaches and flight practice for fledglings.

Table C-2.1. Special Status Wildlife Species Considered for the Country Club Heights Erosion Control Project

Table 1. Special Status Wildlife Species Considered for the Country Club Heights ECP.								
Common Name *Scientific Name*	Federal Status[+]	State Status[+]		Local Status[+]	Occur within 0.5 miles of Project Area	Suitable Habitat within 0.5 miles of Project Area	Potential for Occurrence	Habitat Association (only discussed for species with a suitable habitat)
		CESA	CDFW					
Waterfowl (collectively)				TRPA	Yes	Yes	**Moderate. No Potential to Impact TRPA Threshold Standard.** Designated Wildlife Habitat for Waterfowl is not located within the Project area. Waterfowl most likely will frequent the nearby Upper Truckee River, but existing disturbances and lack of suitable habitat make it unlikely they would nest in the Project area.	Mallards and other waterfowl are found throughout California in wetlands and waters such as lakes, creeks, drainages, marshes, and wet meadows. Locally, some species such as mallards are common, yearlong residents. While breeding, they need shallow-water areas with nest sites nearby. Usually nests in fairly dry sites in tall, dense herbaceous vegetation or low shrubbery within 100 m of water, rarely up to 8 km (Bellrose 1976).
Willow flycatcher *Empidonax traillii*		SE			No	Yes	**Low.** Willow flycatcher has very distinct habitat requirements that dictate meadow size, vegetation type, height, and access to water. There is modeled habitat within 0.5 miles of the Project, as well as a small pocket near the north-central Project boundary, but no suitable habitat was identified within the Project area.	Willow flycatchers are rare to locally uncommon, summer residents in the Sierra Nevada and Cascade Range. In the Sierra Nevada, suitable habitat typically consists of broad, flat meadows that support riparian deciduous shrubs (particularly willows) and retain soil moisture throughout the nesting season (May-July). Three critical habitat components are sufficient meadow size, access to water, and presence of willows. Suitable nesting habitat must have willows (at least 2m high with foliage density of 50-70%) with low, exposed branches present (Sanders and Flett 1989). Generally, willow flycatchers inhabit meadows larger than 8 hectares (at 2000-8000 ft. in elevation) and do not typically utilize willow clumps along steep terrain, or narrow bands bordered by conifer forests.
Mammals								

Table C-2.1. Special Status Wildlife Species Considered for the Country Club Heights Erosion Control Project

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Common Name *Scientific Name*	Federal Status[+]	State Status[+]		Local Status[+]	Occur within 0.5 miles of Project Area	Suitable Habitat within 0.5 miles of Project Area	Potential for Occurrence	Habitat Association (only discussed for species with a suitable habitat)
		CESA	CDFW					
California wolverine *Gulo gulo luteus*		ST	FP		No	No	**Not expected to occur.** Suitable alpine habitat is not present in the Project area. There are very few documented occurrences in the region.	
Sierra Nevada mountain beaver[4] *Aplodontia rufa californica*			SSC		No	Yes	**Not expected to occur.** Habitat requirements for cover, breeding, and foraging are lacking within the Project area but are within 0.5 miles. It is not expected this species would pass through the Project area as appropriate stream requirements are not found there.	Found throughout the Cascade, Klamath, and Sierra Nevada Ranges. Distribution often is scattered; populations local and uncommon in the Sierra Nevada and other interior areas. Occur in dense riparian-deciduous and open, brushy stages of most forest types. Typical habitat in the Sierra Nevada is montane riparian with a dense understory near water. Deep, friable soils are required for burrowing, along with a cool, moist microclimate (Zeiner et al. 1990).
American badger *Taxidea taxus*			SSC		No	Yes	**Not expected to occur.** Habitat requirements for cover, breeding, and foraging are lacking within the Project survey area but are within 0.5 miles. It is not expected this species would pass through the Project area as appropriate habitat requirements are not found there.	Uncommon, permanent resident found throughout most of the state, except in the northern North Coast area (Grinnell et al. 1937). Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Suitable habitat for badgers is characterized by herbaceous, shrub, and open stages of most habitats with dry, friable soils (Zeiner et al. 1990).

[4] Formerly mountain beaver, *Aplodontia rufa*

Table C-2.1. Special Status Wildlife Species Considered for the Country Club Heights Erosion Control Project

Table 1. Special Status Wildlife Species Considered for the Country Club Heights ECP.								
Common Name *Scientific Name*	Federal Status[+]	State Status[+]		Local Status[+]	Occur within 0.5 miles of Project Area	Suitable Habitat within 0.5 miles of Project Area	Potential for Occurrence	Habitat Association (only discussed for species with a suitable habitat)
		CESA	CDFW					
Mule deer *Odocoileus hemionus*				TRPA	Yes	Yes	**Moderate. No Potential to Impact TRPA Threshold Standard.** Suitable habitat is located outside the Project area. Habitat in the Project area is not suitable for fawning due to existing disturbance levels.	Mule deer have a widespread distribution throughout most of California (CDFW 2014). Locally, they are common to abundant migrants. Shrubs provide food, cover, and thermoregulation, making them essential habitat criteria. Openings interspersed through dense thickets and abundant edges are preferred. Deer require 3 quarts of water/day/100 lb. (Zeiner et al. 1990), so access to water and mineral licks are also critical features to suitable habitat.
Sierra Nevada snowshoe hare *Lepus americanus tahoensis*			SSC		No	Yes	**Moderate.** This species could use the Project area for foraging, but the small, exposed nature of the survey area does not meet breeding habitat requirements.	The Sierra Nevada snowshoe hare is a medium-sized, cinnamon-brown rabbit characterized by short ears, large hind feet, and a short tail. Snowshoe hares are secretive and typically observed when flushed. This species is most active during the night or early morning. Snowshoe hares in general have populations that tend to fluctuate dramatically; however, the *tahoensis* subspecies that occupies fragmented habitat may not show dramatic population fluctuations (Zeiner et al. 1990, CDFW 2014).
Fisher (West Coast Distinct Population Segment) *Pekania pennanti*	Proposed Threatened	SCT	SSC		No	Yes	**Not expected to occur.** Appropriate habitat for denning and foraging is not present within the Project area; however marginal resting habitat is located within 0.5 miles of the Project.	Fisher are rare residents in the Lake Tahoe Basin. They prefer woody debris, vegetated understory, and continuous, dense canopy cover is essential for foraging and cover. Fisher also favor riparian areas as rest sites. Dens are made in cavities of large conifers; both snags and live trees are used. Rarely enter areas of low canopy cover, or patches of large clearings.

Table C-2.1. Special Status Wildlife Species Considered for the Country Club Heights Erosion Control Project

Table 1. Special Status Wildlife Species Considered for the Country Club Heights ECP.								
Common Name *Scientific Name*	Federal Status[+]	State Status[+]		Local Status[+]	Occur within 0.5 miles of Project Area	Suitable Habitat within 0.5 miles of Project Area	Potential for Occurrence	Habitat Association (only discussed for species with a suitable habitat)
		CESA	CDFW					
Sierra Nevada red fox *Vulpes vulpes necator*		ST			No	Yes	**Not expected to occur.** Habitat requirements for cover, breeding, and foraging are lacking within the Project survey area but are within 0.5 miles. Presumed extirpated from the Tahoe Basin (Schlesinger and Romsos 2000).	Sierra Nevada red fox are found in the Cascades and from Lassen to Tulare County (CDFW 2014). Their local population size has high imperilment, but numbers are suspected to be increasing (Manley and Schlesinger 2000). Although most habitats found in the Lake Tahoe Basin are suitable for Sierra Nevada red fox, they are very rare in this region. Habitats they are found in include wet meadows, sub-alpine conifers, lodgepole pine, red fir, aspen, montane chaparral, riparian, mixed conifer, and Jeffrey pine. Open areas for hunting and covered areas for den sites are required, making habitat edges ideal.
Pallid bat *Antrozous pallidus*			SSC		No	No	**Not expected to occur.** They are not known to occur in the Project area. This species is vulnerable to disturbance, so it is not likely they would roost within the highly impacted Project area. Roosting sites (rocky outcrops, cliffs, and crevices with access to open habitats for foraging) are sensitive to disturbance.	

Table C-2.1. Special Status Wildlife Species Considered for the Country Club Heights Erosion Control Project

Table 1. Special Status Wildlife Species Considered for the Country Club Heights ECP.								
Common Name *Scientific Name*	Federal Status[+]	State Status[+]		Local Status[+]	Occur within 0.5 miles of Project Area	Suitable Habitat within 0.5 miles of Project Area	Potential for Occurrence	Habitat Association (only discussed for species with a suitable habitat)
		CESA	CDFW					
Townsend's big ear bat *Corynorhinus townsendii*		SCT	SSC		No	No	**Not expected to occur.** There are few occurrences of this species in the Tahoe Basin, and they are not known to occur in the Project area. This species is vulnerable to disturbance, so it is not likely they would roost within the highly impacted Project area. Because roosting sites (undisturbed caves or cave surrogates) are the most important limiting resource for Townsend's big ear bat (Zeiner et al. 1990), their occurrence in the Project area is unlikely.	
Fish								
Lahontan cutthroat trout *Oncorhynchus clarkii henshawi*	FT			TRPA	No	No	**Not expected to occur.** The USFS LCT Reintroduction Project removes non-native trout from the main stem of the Upper Truckee River (below Meiss Meadows, the outlet tributary of Round Lake, and the inlet and outlet of Dardanelles Lake). This project also removes and returns LCT from the lower reaches of the Upper Truckee River to the upper portion of the river so prevent hybridization with rainbow trout (USDA 2012). LCT is not expected to occur in the portion of the Upper Truckee River that passes within 0.5 miles of the Project.	
Lahontan Lake tui chub *Gila bicolor pectinifer*			SSC		No	No	**Not expected to occur.** Suitable habitat does not exist within or adjacent to the Project area.	

Table C-2.1. Special Status Wildlife Species Considered for the Country Club Heights Erosion Control Project

Special Status Codes

[+] Federal	State	CDFW
FE = Federally Endangered under the ESA	SCT = State Candidate Threatened	SSC = Species of Special Concern
FT = Federally Threatened under the ESA	SE = State Endangered under CESA	FP = Federally Protected
FC = Federal Candidate under the ESA	ST = State Threatened under CESA	WL = Watch List
DL = Federally De-listed	SD = State Delisted	Local
		TRPA = TRPA Special Interest Species

Sources: CDFW 2016, CNDDB 2016, TRPA 2011, TRPA 2016, USFWS 2016

APPENDIX D:

SUPPLEMENTAL REPORTS

AVAILABLE ONLINE AT:

HTTP://WWW.EDCGOV.US/GOVERNMENT/DOT/CEQA/95191_CCH_IS-MND_APPENDIXD.ASPX

Appendix B

Feasibility Study

COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT
Phase III
CIP No. 95191

Feasibility Report

EIP #01.01.01.0021

County of El Dorado
Community Development Services
Department of Transportation

June 2019

Country Club Heights Erosion Control Project
Phase III - Feasibility Report

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1.0 Existing Conditions

This Feasibility Report (Report) has been developed pursuant to the Storm Water Quality Improvement Committee (SWQIC) guidelines for environmental improvement projects[1] in the Lake Tahoe Basin (Basin) and has been prepared by the County of El Dorado Community Development Services, Department of Transportation (County). This Report includes analysis of the existing conditions and an analysis of potential alternatives for the Country Club Heights Erosion Control Project – Phase III (Project).

1.1 Introduction

The County is proposing to implement the Project funded by the California Tahoe Conservancy Proposition 1 funds, United States Forest Service (USFS) Southern Nevada Public Lands Management Act (SNPLMA) funds, and Tahoe Regional Planning Agency (TRPA) Water Quality Mitigation Funds. The Project's stakeholders include the general public and visitors of the Basin, County representatives, public agencies within the Basin, and other technical representatives which make up the Project Development Team (PDT).

1.1.1 Project Goals and Project Objectives

Project Goals

Phase 1 and 2 of the Project addressed existing Source Control issues, Hydrologic Design issues, and Treatment opportunities affecting water quality within the Project area. The Phase 3 project will focus on impacts to water quality at the northwestern end of the Project and opportunities to enhance recreation and access opportunities in the area. The area limits for this phase of the project includes Waverly Drive, Elks Club Drive between Waverly and Highway 50, and surrounding publicly owned parcels including the old "Elks Club Lodge" property and parking lot currently owned by the California Tahoe Conservancy (CTC).

There are two primary watershed outfalls within the project area and they include the drainage swale along the old Boca Raton stub road and a cross culvert on Elks Club Drive that drains into a meandering channel on a CTC owned parcel. The project will evaluate opportunities to remove existing coverage at or above these outfalls in order to reduce coverage, improve infiltration, and restore land to a previously identified land use.

The Elks Club property currently is a nexus for outdoor activity for the South Lake Tahoe community. The property has been used for a seasonal Flea Market during the summer months; river enthusiasts park their vehicles in the parking lot or on the north side of Elks Club Drive, between Highway 50 and the parking lot entrance, to launch kayaks, canoes, and tubes to float down the Upper Truckee River during the late spring and early summer; and people park their vehicles in the parking lot to access the existing unimproved trail network for hiking and biking throughout the area.

The CTC currently has plans in place for a continuous shared use path, commonly referred to as the Greenway, which will originate in the City of South Lake Tahoe and end in the community of Meyers[2]. Once complete, this path will connect to an existing trail network which includes the Pat Lowe Memorial Bike Trail (both sides of the highway through Meyers from State Route 89 to Pioneer Trail), the Sawmill Bike Trail (along the highway and Sawmill Rd from Santa Fe Rd to Lake Tahoe Blvd), and the bicycle trail contiguous with Lake Tahoe Blvd at Sawmill Pond towards Viking Rd/ D St. The current proposed alignment for the Greenway crosses through the Country Club Projects area east of the Elks Club property, continuing south across Elks Club Drive paralleling Boca Raton Drive, connecting to the existing Pat Lowe Trail at the intersection of Pioneer Trail and Highway 50.

The primary goals for this Project are to evaluate 1) opportunities to utilize the publicly owned parcels to improve the management of stormwater and dry weather runoff through capture, treatment, and reuse by using the natural functions of soils and plants; 2) the benefit of removing existing asphalt coverage to restore proper function of the floodplain, 3) opportunities to reduce flooding impacts to Elks Club Drive, 4) the effect that pavement condition has on water quality, and 5) opportunities to enhance recreational access at the "Elks Club Lodge" property.

The Project is identified in the El Dorado County Stormwater Resource Plan[3], the Environmental Improvement Program projects as a recreation project (EIP #612)[4], a watershed management project (EIP #948[5] and 01.02.01.0027[6]) and as a water quality project (EIP# 01.01.01.0021)[7]. Further the Project will be consistent with TRPA's *Linking Tahoe: Active Transportation Plan*[8] to provide access to local businesses, schools, and offices for bicyclists and pedestrians, to reduce vehicular transportation, and to enhance recreational opportunities within the basin.

Project Objective

The Project objectives represent physical conditions that can be measured to assess the success of the Project in achieving the Project goal. The Project will conform to the Preferred Design Approach as detailed in the SWQIC process. The objectives of the Project include:

- Reduce fine and coarse sediment, stormwater runoff volume, and peak flows by 33%, to the maximum extent practicable;
- Stabilize eroding cut slopes, roadside ditches, and capture road abrasives utilizing source control Best Management Practices (BMPs);
- Remove excess pavement and restore to the surrounding land capability;
- Increase opportunities for the infiltration of stormwater runoff.
- Provide a pathway link supporting TRPA's *Active Transportation Plan*;
- Enhance recreational opportunities within the Basin; and,
- Blend hardscape improvements into the scenic environment to the maximum extent practicable.

1.2 Project Area Information

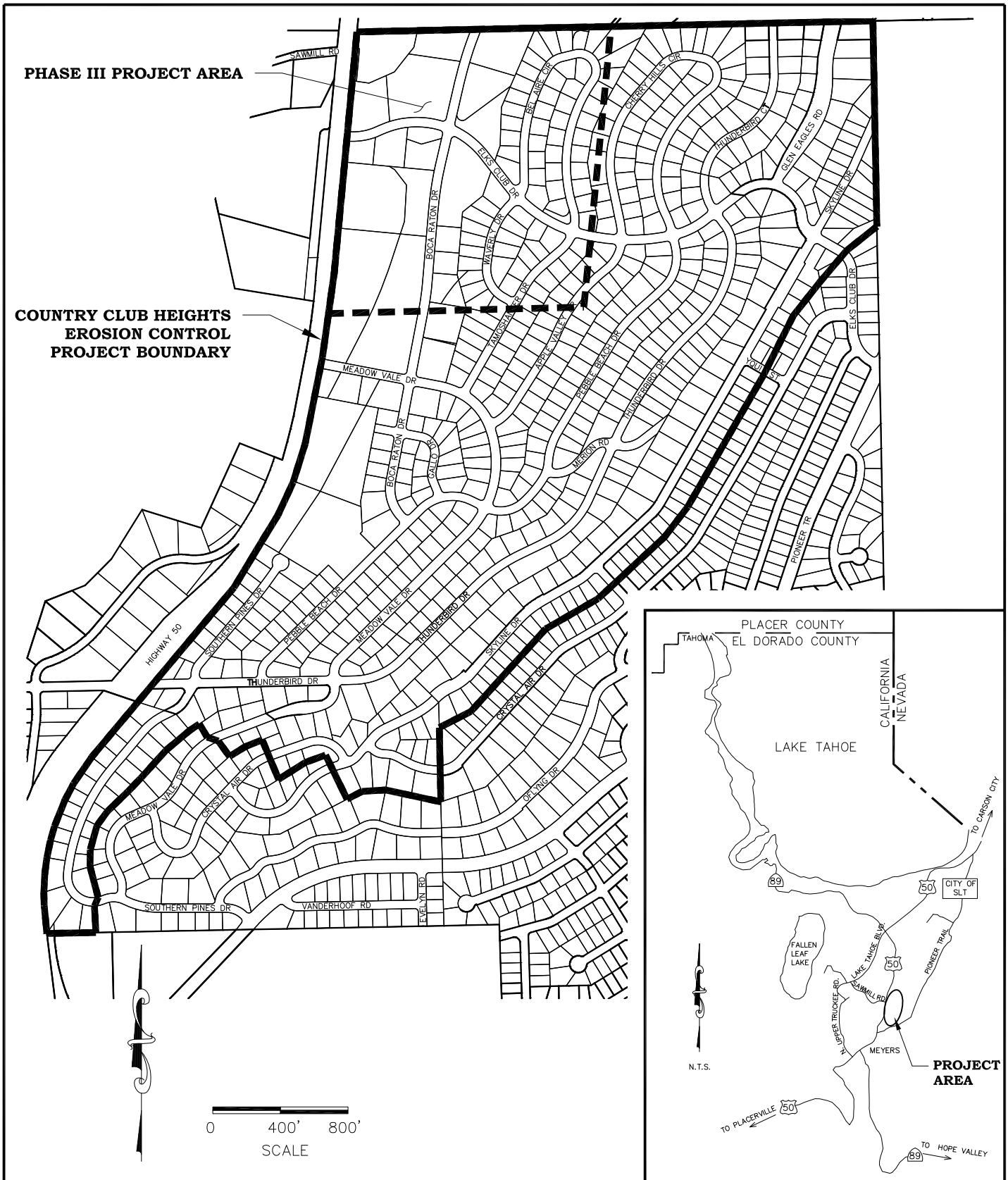
The Project is located in eastern El Dorado County, in the Tahoe Basin, near the community of Meyers (see Figure 1). The Project is located in the south section of the Lake Tahoe Basin within portions of Sections 20 and 21, Township 12 North, Range 18 East, Mount Diablo Meridian. This phase of the project area is approximately 57 acres within County Club Heights Unit 1 subdivision and encompasses County of El Dorado rights of way as well as County, CTC, USFS, and privately owned residential parcels. Improvements within the Project area include paved County roads ranging between approximate widths of 25-feet to 40-feet within ROW that varies in width between 50-feet to approximately 100-feet, unpaved access roads, the paved parking lot for the old "Elks Club Lodge" Property, storm drain systems (sediment basins, check dams, and channels), and overhead and underground utilities. Portions of the paved County roads may not be centered within the ROW.

The Upper Truckee River crosses through the northwestern corner of the project boundary and existing user trails cross through the project along the right of way for Boca Raton Drive. The old "Elks Club Lodge" parking lot is used by multiple users, but not limited to, recreational access to the Upper Truckee River, recreational access to the existing trail system, commercial access by campers and vehicles to a seasonal weekend flea market held during summer months, and by large turning radius commercial vehicles to check loads. South Tahoe Public Utility District (STPUD) has a force main, designed and installed in 1966, that is used as a back-up. The line is located between the river and the parking lot. During the winter of 1997[9] high flows exposed the force main along the southern banks of the river. STPUD supplied emergency placement of material and rock riprap protection along the south side of the Truckee in this location to protect the banks from further erosion and exposure of the line. The "Elks Club Lodge" parking lot is approximately 100 feet southeast of the river.

On the southeast side of the project area is Waverly Drive, a low volume connector road between Elks Club Drive and Tamoshanter Drive. Waverly Drive is bordered by CTC owned parcels on the northern end and privately owned parcels on the southern end. The road has two culvert crossings, one of which has been abandoned, with the overall road in very poor condition and adjacent to 1B classified land.

Urban development within the Project area resulted in concentrated storm water flows from the County ROW and developed parcels to be directed via dike, roadside ditch, and storm drain pipe toward conveyance systems that are connected to the Upper Truckee River. Infiltrating channels with rock check dams and vegetated detention basins were constructed as part of the 1987 Erosion Control Projects in the South Tahoe Basin, the 1994 Southern Pines Drive S.E.Z. Restoration Project, and the 2018 Country Club Heights Erosion Control Project to provide additional water quality treatment and peak flow / volume reduction.

The following sections provide further detail regarding the Project area's existing conditions with respect to topography, soils and geology, land use and land capabilities, land ownership, utilities, environmental resources, Federal Emergency Management Agency (FEMA) floodplain, and monitoring information.



COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT AGENCY
TRANSPORTATION DIVISION

COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT
Phase III
LOCATION MAP

FIGURE 1

DATE:	PROJECT NO.:	BY:
12/2018	95191	DMG

Topography

The Basin straddles the border of California and Nevada with about one-third of the Basin in Nevada and two-thirds in California. The Basin is a north trending basin bounded by the Sierra Nevada to the west and the Carson Range to the east.

The Basin was formed by geologic block (normal) faulting about 5 to 10 million years ago. Resulting mountain peaks rise to more than 10,000 feet (3,048 m) above sea level. Volcanic activity about 2 million years ago blocked the northern end of the Basin and ultimately filled the lake. The original surface of the lake was over 600 feet higher than it is today. The Truckee River flowed through the lava dam, eventually lowering the surface of Lake Tahoe to an average elevation of about 6,225 feet (1,897 m) above mean sea level (US Geological Survey 1927 datum). Glaciers that formed in the last Ice Age (10,000 years ago) are responsible for much of the area's current topography

The Project is located on the Echo Lake USGS 7.5-minute quadrangle map. In general, the topography of the Project area is relatively flat/level with an average slope of approximately 5 percent, rising to east (Figures 2 and 3).

1.2.1 Soils and Geology

Soils

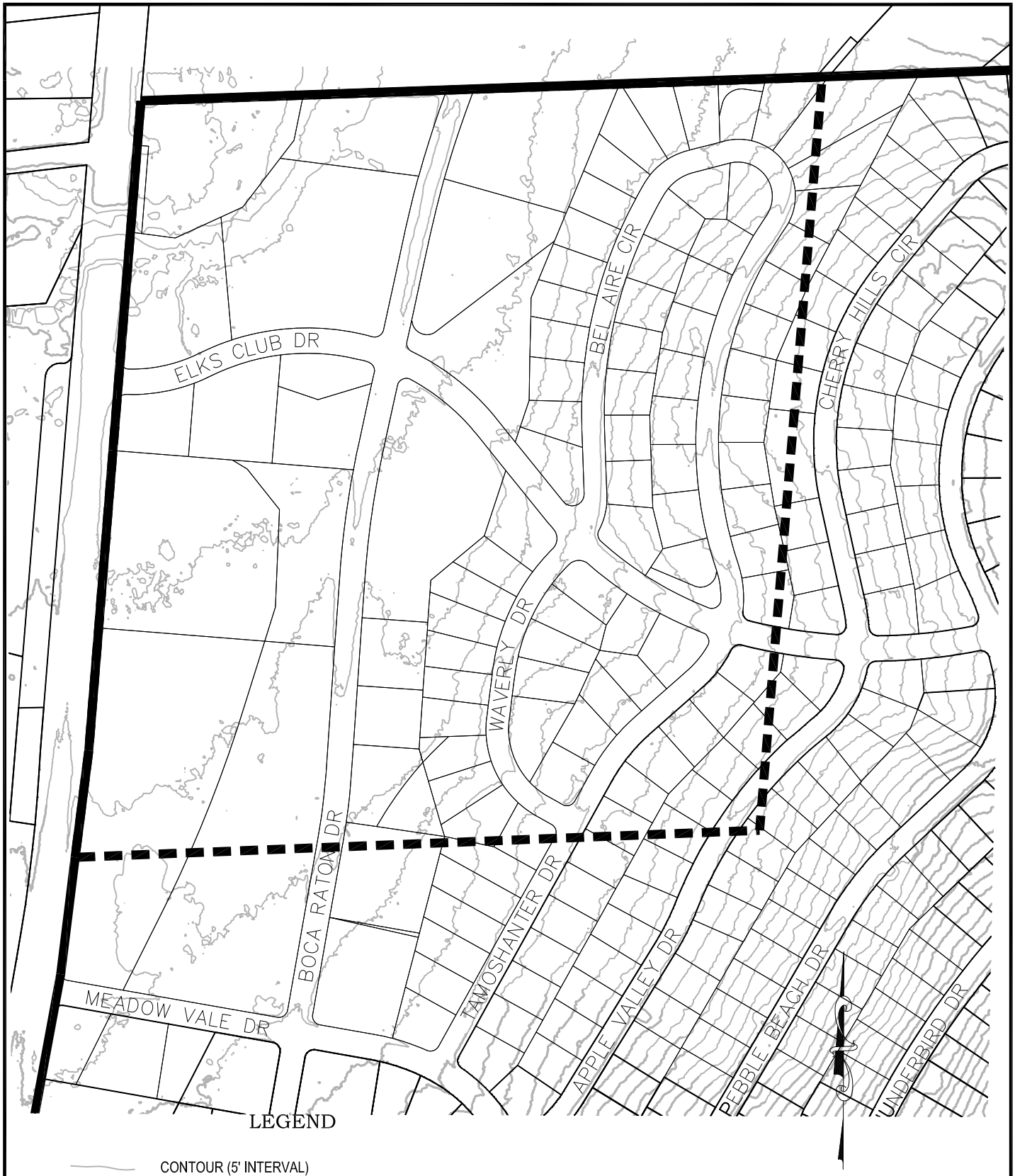
The 2007 National Resource Conservation Service (NRCS) soil survey data for the El Dorado County Tahoe Basin Area[10] indicates the primary soils units within the Project area as described below and shown in Figure 4:

- Celio series, 0 to 5 percent slopes (7431). This complex is typically found in the southern part of the Basin. The parental material consists of alluvium and/or outwash. The soil is somewhat poorly drained. Shrink-swell potential is low and the soil is rarely flooded. Surface runoff is high. The hydrologic soil group is A/D.

- Christopher series, 0 to 9 percent slopes (7441). This series consists of very deep, somewhat excessively drained soils that formed in glacial outwash derived from granodiorite. These soils are on glacial outwash terraces in the Lake Tahoe Basin.

- Gefo series, 2 to 9 percent slopes (7451). This series consists of very deep, somewhat excessively drained sols that formed in glacial outwash derived mainly from granitic rocks. These soils are on outwash terraces and alluvial fans.

- Jabu series, 0 to 9 percent slopes (7461). This series consists of very deep, well drained sols that formed in outwash and alluvium derived from granitic rocks. These soils are on glacial outwash terraces and moraines.



COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT AGENCY
TRANSPORTATION DIVISION

COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT - PHASE III

TOPOGRAPHIC MAP

FIGURE 2

DATE:	PROJECT NO.:	BY:
12/2018	95191	DMG

SURFACE SLOPE DATA

MINIMUM SLOPE	MAXIMUM SLOPE	COLOR
0%	3%	
3%	6%	
6%	9%	
9%	14%	
14%	23%	
23%	≥60%	

0 150' 300'
SCALE

LEGEND

PROPERTY LINE OR COUNTY OR CALTRANS RIGHTS-OF-WAY
95191 PROJECT BOUNDARY
PHASE III PROJECT BOUNDARY

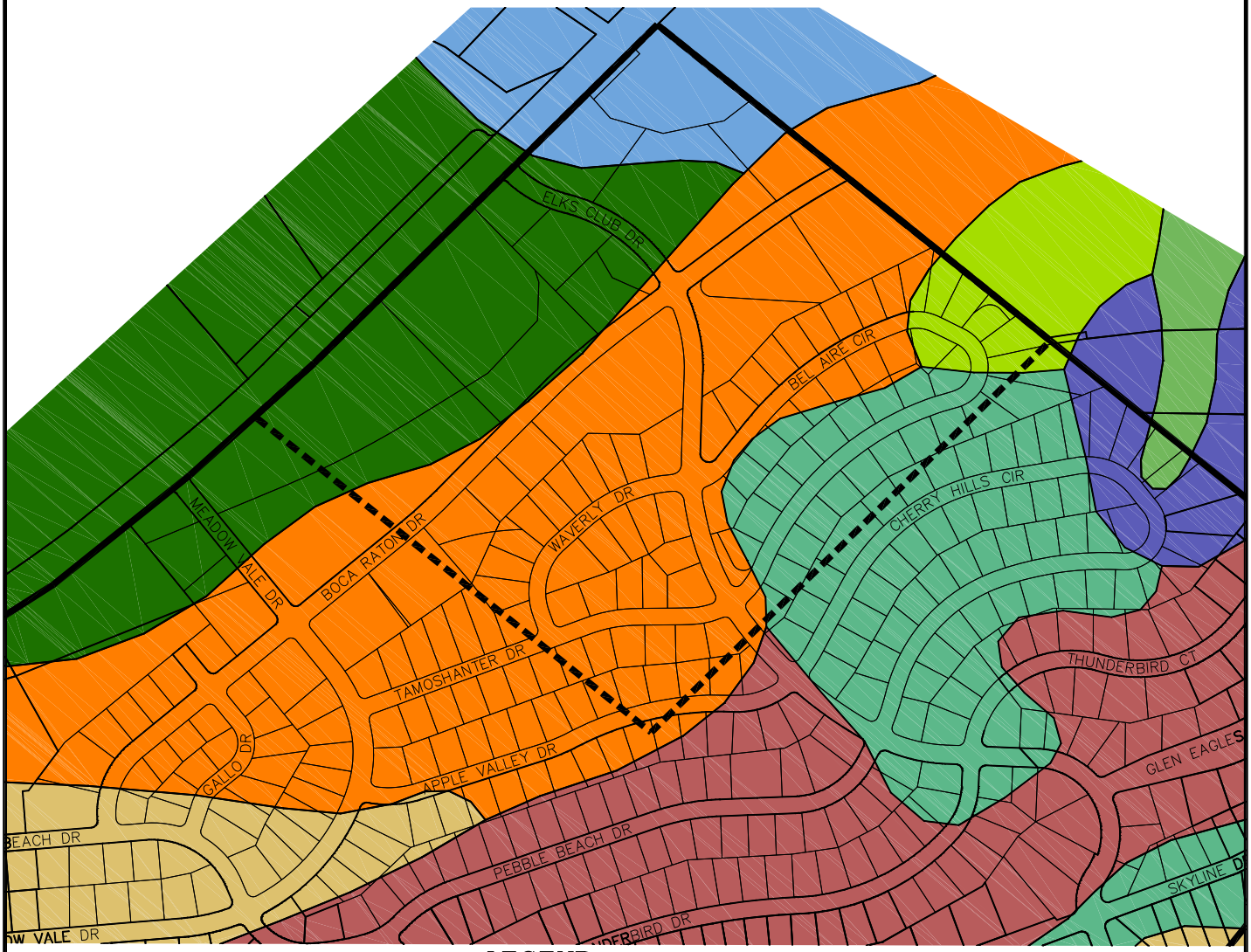
COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT AGENCY
TRANSPORTATION DIVISION

COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT - PHASE III

SLOPE MAP

FIGURE 3

DATE: 12/2018 | PROJECT NO.: 95191 | BY: DMG



LEGEND

MAP UNIT COLOR/SYMBOL		MAP UNIT NAME
	7041	TAHOE COMPLEX, 0% TO 2% SLOPES
	7431	CELIO LOAMY COARSE SAND, 0% TO 5% SLOPES
	7441	CHRISTOPHER LOAMY COARSE SAND, 0% TO 9% SLOPES
	7442	CHRISTOPHER LOAMY COARSE SAND, 9% TO 30% SLOPES
	7451	GEFO GRAVELLY LOAMY COARSE SAND, 2% TO 9% SLOPES
	7461	JABU COARSE SANDY LOAM, 0% TO 9% SLOPES
	7462	JABU COARSE SANDY LOAM, 9% TO 30% SLOPES
	7471	MARLA LOAMY COARSE SAND, 0% TO 5% SLOPES
	7541	UBAJ SANDY LOAM, 0% TO 9% SLOPES

PARCEL, COUNTY OR CALTRANS RIGHT-OF-WAY

COUNTRY CLUB HEIGHTS PROJECT BOUNDARY

PHASE III PROJECT BOUNDARY

0 250' 500'

SCALE

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT AGENCY
TRANSPORTATION DIVISION

COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT - PHASE III

SOILS MAP

FIGURE 4

DATE:	PROJECT NO.:	BY:
12/2018	95191	DMG

- Marla series, 0 to 5 percent slopes (7471). This series consists of very deep, poorly drained sols that formed in alluvium derived mostly from granitic rocks. These soils are on outwash terraces.

Table 1 - Distribution by Hydrologic Soil Group and Erosion Hazard

NRCS Series	Hydrologic Group	Erosion Hazard	% of Area
7431	A/D	slight	26.1
7441	A	slight	11.5
7451	A	slight	3.7
7461	A	slight	51.6
7471	A/D	slight	7.2

Geology

A preliminary review of regional geology within the Project area has shown that this geomorphic unit has flat to moderate slopes and moderate to steep slopes, weathered rock outcrops, and two main geologic map units as shown on Figure 5[11] and include *Flood Plain Deposits (Holocene) (Qfp) which consist of g*ravely to silty sand and sandy to clayey silt. Locally includes lacustrine and delta deposits. In part may be Pleistocene.

*The other primary unit is older Glacial Deposits (Pleistocene) - Pre-Tahoe Deposits; Till (Qog) which consist of d*eeply weathered bouldery deposits generally without morainal form; surface granitic boulders are weathered with stained, pitted and knobby surface; granitic boulders within the deposit are decomposed. Locally may include outwash deposits.

1.2.2 Land Use and Land Capability

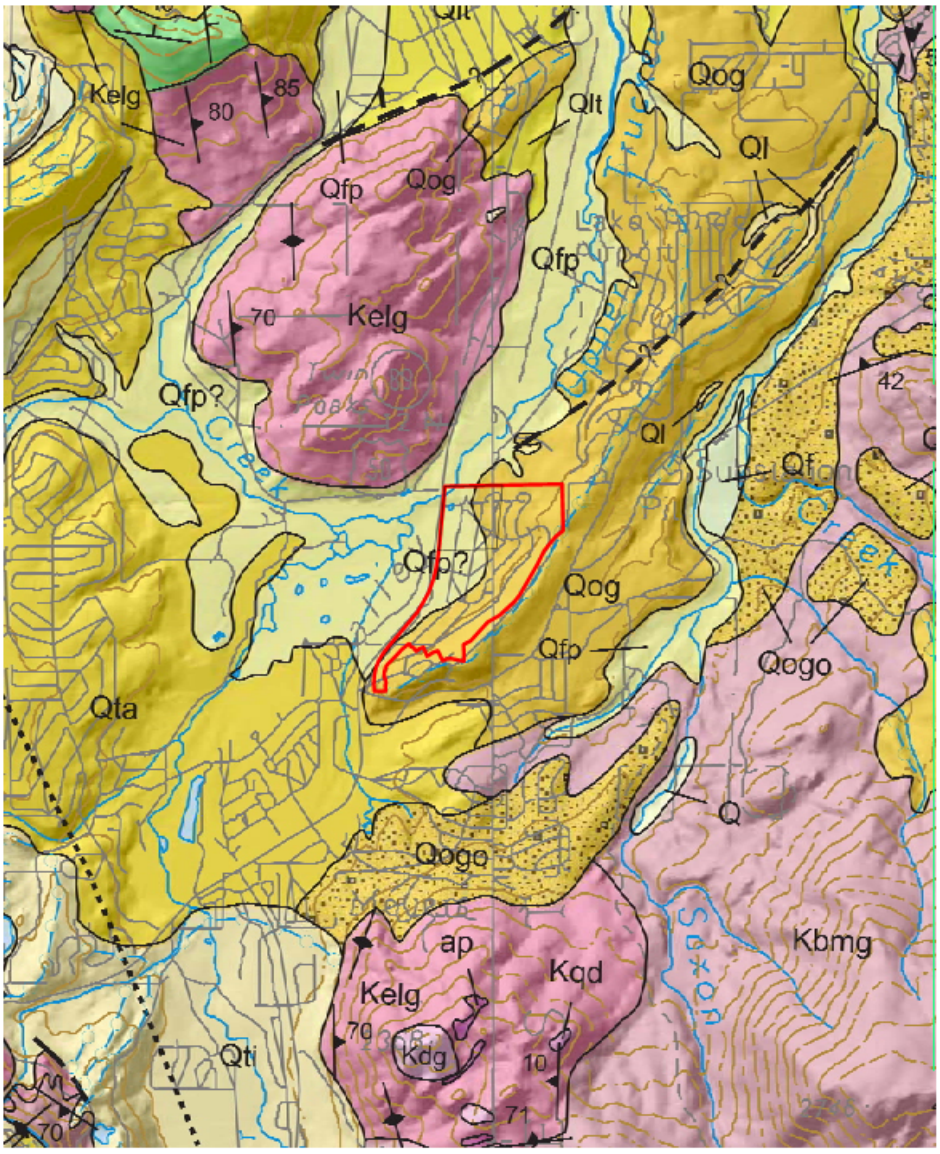
Land Use

The majority of the Project boundary lies within the TRPA Plan Area Statement (PAS) 119 – Country Club Meadow (Figure 6). The land use classification for PAS 119 is recreational, the management strategy is mitigation, and the special designation is scenic restoration area. The Planning Statement for this land use states that “this area should be managed for outdoor recreation and natural resource values to include opportunities for SEZ restoration”. Related special policies include, but are not limited to: 1. Areas of significant resource value or ecological importance within the Plan Area should be designated as natural areas, and should be buffered from intensive uses; 2. whenever possible, opportunities for restoration of disturbed stream environment zones and land coverage removal should be encouraged; 5. creation of waterfowl habitats in association with restoration efforts of disturbed areas should be encouraged; and 6. improved river access for fishing should be provided.

PAS 119 is primarily classified as 1B - SEZ with the dominate feature being the Upper Truckee River. Homes in this PAS are often located within SEZs.[12]

Land Capability

The USFS, in cooperation with TRPA, developed the land capability system currently used in the Basin. Lands within the Basin are divided into seven classes based on soil types, potential for erosion, and other related characteristics. Lands with a ranking of 1 have the highest potential for erosion and 7 have the lowest. Class 1 is also subdivided into 3 categories (1a, 1b, and 1c), all of which are high hazard. The land within this Project area fits into Classes 1b, 4, 5,



LEGEND

- Qfp — Flood-plain deposits (Holocene)
- Ql — Lake deposits (Holocene)
- Q — Alluvium (Holocene and Pleistocene)
- Qf — Alluvial fan deposits (Holocene and Pleistocene)
- Qlt — Lacustrine terrace deposits (Pleistocene)

Tahoe glacial deposits (Pleistocene)

- Qta — Till

Older glacial deposits - pre-Tahoe deposits (Pleistocene)

- Qog — Till
- Qogo — Outwash deposits
- Kelg — Echo Lake granodiorite (Cretaceous)
- Kbmg — Bryan Meadow granodiorite (Cretaceous)

95191 Project Boundary

Phase III Project Area

Fault - solid where well located; dashed where approximately located; short dash where inferred; dotted where concealed; queried where continuation or existence is uncertain. Ball and bar on downthrown side. *(The age and location of the faults in the lake bottom and cutting Quaternary deposits should be considered preliminary interpretations.)*

Glacial moraine crest.

Strike and dip of metamorphic and igneous foliation and cleavage.

49 — Foliation or cleavage

Vertical foliation or cleavage

0 2500' 5000'

SCALE

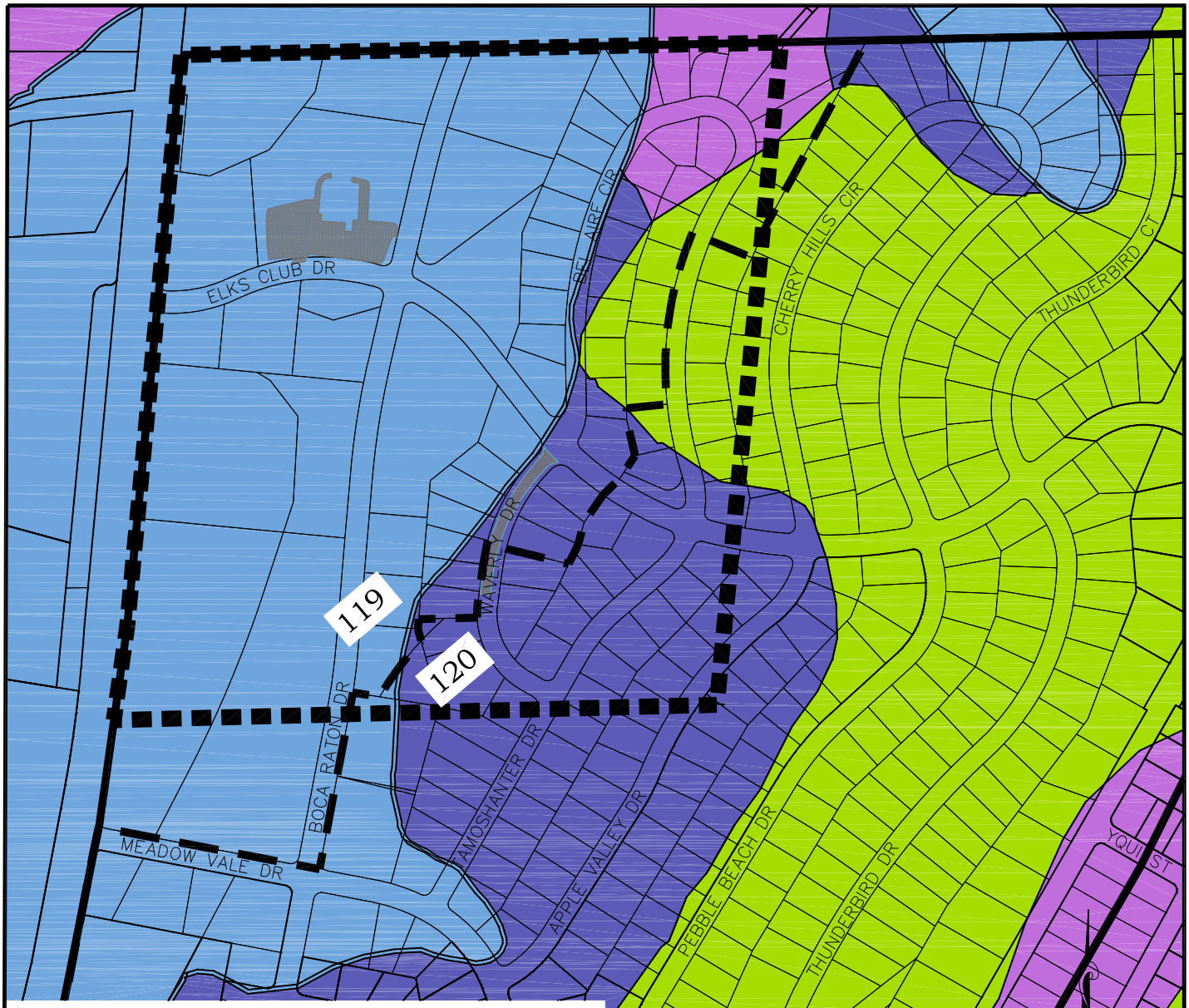
NOTE: ONLY THOSE GEOLOGIC REFERENCES CLOSEST TO THE PROJECT AREA ARE SHOWN IN THE LEGEND

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT AGENCY
TRANSPORTATION DIVISION

COUNTRY CLUB ESTATES EROSION CONTROL PROJECT
Phase III
GEOLOGY MAP

FIGURE 5

DATE:	PROJECT NO.:	BY:
12/2018	95191	DMG



LEGEND

LAND CAPABILITY GROUPS	PERMITTED LAND COVERAGE	AVERAGE SLOPE PERCENT	RELATIVE EROSION POTENTIAL	RUNOFF POTENTIAL
1B	1%	----	----	----
4	20%	9-30	MODERATE	LOW TO MODERATELY LOW
5	25%	0-16	SLIGHT	MODERATELY HIGH TO HIGH
6	30%	0-16	SLIGHT	LOW TO MODERATELY LOW

119 — TRPA PLAN AREA STATEMENT DESIGNATION

TRPA PLAN AREA STATEMENT BOUNDARY

COUNTRY CLUB HEIGHTS PHASE III AREAS

PARCEL, COUNTY OR CALTRANS RIGHT-OF-WAY

COUNTRY CLUB HEIGHTS PROJECT BOUNDARY

0 200' 400'

SCALE

*note: Land Capabiltiy shown is based on an updated Bailey boundary for the SEZ. This is not to be used for individual parcel evaluations.

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT AGENCY
TRANSPORTATION DIVISION

COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT - PHASE III

LAND USE AND LAND CAPABILITY MAP

FIGURE 6

DATE: 12/2018 | PROJECT NO.: 95191 | BY: DMG

and 6 (see Table 2). Classes 4, 5, and 6 have a lower potential for erosion than Class 1b. The land capability shown on Figure 6 is preliminary and still requires verification.

Table 2 - Area Distribution by Land Capability Class

Land Capability Class	NRCS Series			
	7431	7441	7451	7461
1b	☑		☑	☑
4		☑		☑
5				☑
6			☑	☑

The TRPA land capability verification (LCV) application was submitted in March 2019. The County anticipates having updated LCV results once the snow pack in the area has melted.

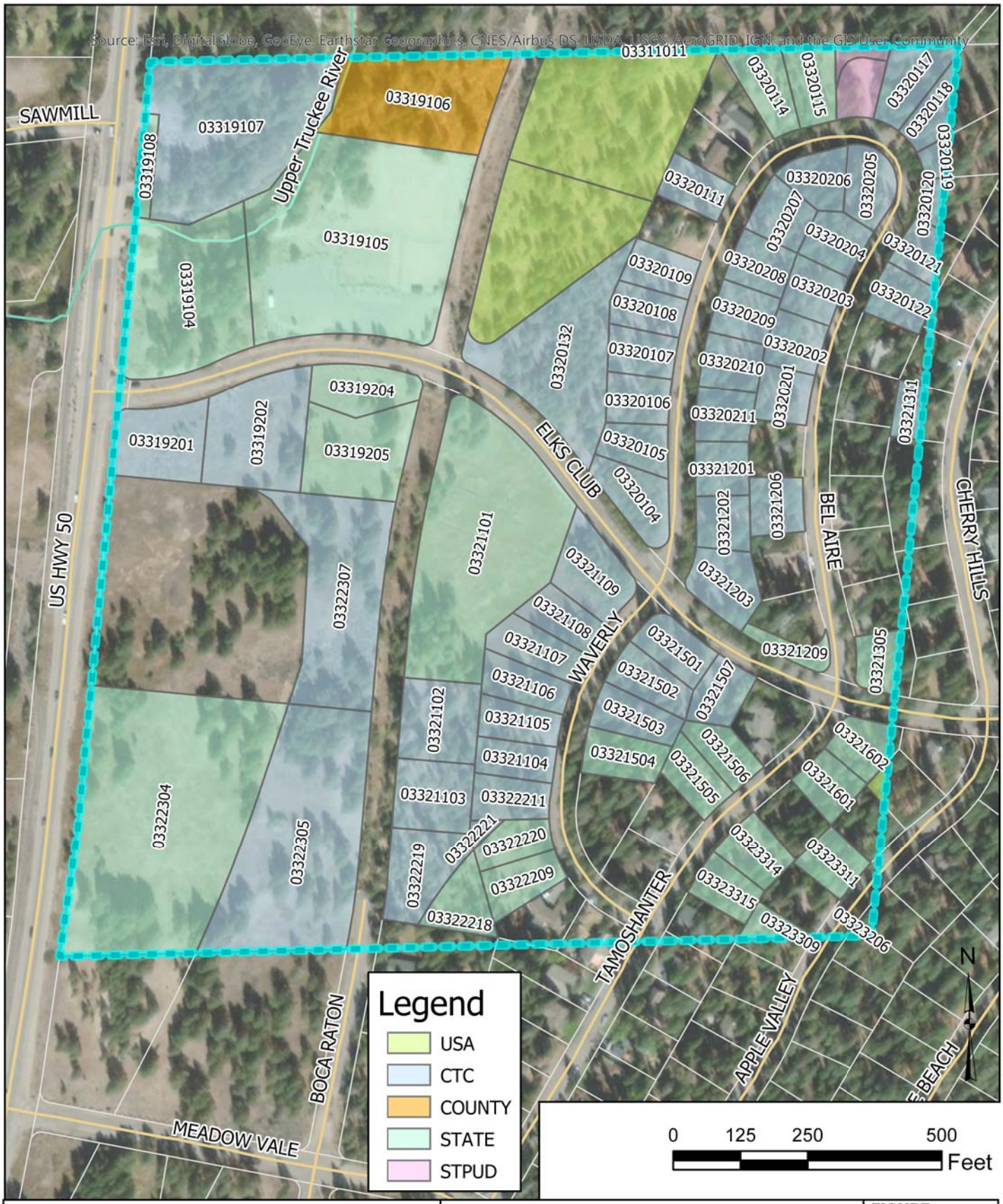
1.2.3 Land Ownership

The public land ownership, summarized in Table 3 and depicted in Figure 7, was developed from record parcel maps, subdivision maps, deed information, and assessors documents and shows County right-of-way, property lines, and publicly owned properties. The Project is comprised of County road right-of-way and private and public parcels, with the public parcels surrounding lower Elks Club and Waverly Drive owned by the County (1), State of California (25), California Tahoe Conservancy (44), and the USFS (3). The County will pursue the necessary easements, special use permits, and/or license agreements for any affected parcels during the development of the preferred project.

Table 3 – Public Land Ownership

United States Forest Service				
033-20-101	033-20-131	033-21-603	-	-
California Tahoe Conservancy				
033-21-103	033-22-211	033-22-219	033-22-221	033-19-107
033-21-102	033-22-305	033-21-105	033-21-503	033-21-104
033-21-107	033-21-501	033-21-106	033-21-502	033-21-507
033-21-206	033-21-202	033-21-109	033-21-203	033-21-108
033-20-211	033-20-105	033-21-201	033-20-104	033-22-307
033-19-202	033-20-201	033-19-201	033-20-106	033-21-311
033-20-209	033-20-108	033-20-202	033-20-107	033-20-210
033-20-208	033-20-132	033-20-109	033-20-203	033-20-122
033-20-117	033-20-118	033-20-119	033-20-205	033-20-206
033-11-011	033-20-115	033-20-114	033-19-108	033-19-105
033-19-104	033-19-204	033-21-101	033-21-305	033-21-209
033-22-304	033-21-602	033-21-504	033-21-506	033-21-601
033-21-505	033-22-220	033-23-314	033-22-218	033-22-209
033-23-311	033-23-315	033-23-309	033-23-206	033-19-205
El Dorado County				
033-19-106				

- As of February 2019.



COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION

COUNTRY CLUB HEIGHTS
WATER QUALITY PROJECT
PHASE 3
PUBLIC PROPERTY MAP

FIGURE
7

DATE: 03/2019 | PROJECT NO: 95191 | BY: DWK

1.2.4 Utilities

Numerous utilities are situated underground and overhead within the Project. In order to better define these utilities, a utilities base map was developed by coordinating with each company (see Figure 8). Utility owners are listed below in Table 4. Potential areas of impact include the existing STPUD force main that parallels the southern bank of the Upper Truckee River. Based on 1966 record drawings, the line is estimated to be as close as 15' to the existing top of bank and as shallow as 5' below ground surface. Any conflicts will be addressed with the corresponding utility owners.

Table 4 - Utilities Representative List

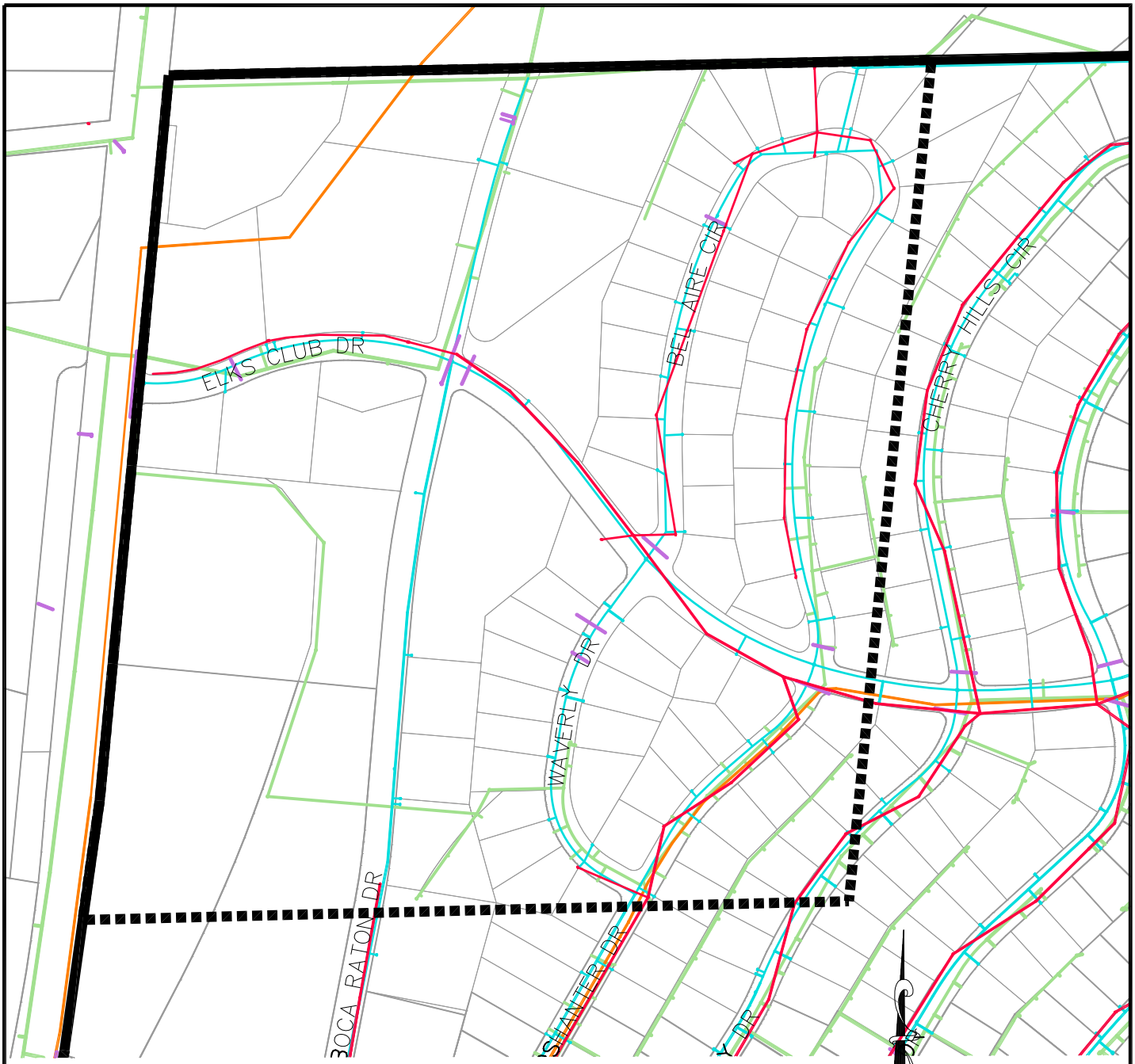
Utility	Owner	Owner Address	Contact
Natural Gas	Southwest Gas	1740 D St, Unit No. 4 S Lake Tahoe, CA 96150	Chris Foster
Telephone	AT&T	12824 Earhart Ave Auburn, CA 95602	Astrid Willard
Electricity	Liberty Utilities	933 Eloise Avenue S Lake Tahoe, CA 96150	Andrew Gregorich
Water & Sewer	South Tahoe PUD	1275 Meadow Crest Drive S Lake Tahoe, CA 96150	Steve Caswell
Cable Television	Charter Communications	9335 Prototype Dr Reno, NV 89521	Anthony Lefanto

1.2.5 Recreation and Access to Area

The lower area of Elks Club drive is a nexus for multiple recreation activities near the area (Figure 9). The proximity of the Upper Truckee River to the existing old "Elks Club Lodge" parking lot makes this location attractive for parking of vehicles and launching of small boats and tubes to float the river. A seasonal flea market is held on the improved and unimproved area of the CTC owned old Elks Club property. Portable toilets are stored seasonally on the parcel for use during the Flea Market. Customers park in the existing paved parking lot and on the sides of Elks Club Drive. An existing network of unimproved trails and existing improved trails are also accessed from this location, with users parking in the parking lot. The proposed alignment for the Greenway shared use trail goes through the project area within the Boca Raton Drive right-of-way along existing unimproved trails, including on the existing STPUD access road.

1.2.6 Environmental Resources

The environmental resources investigated as part of the Country Club Erosion Control Project include cultural/archaeological, biological, vegetation, and wetlands. The initial environmental evaluation included all County rights-of-way within this phase of the project and select parcels, but did not include 1) the parcels on either side of lower Elks Club Drive between Boca Raton and Highway 50 and 2) the parcels on either side of Waverly Drive. The County will be returning with NCE to complete an updated evaluation of affected parcels as a future amendment to the environmental documents. A summary of key findings relative to this phase are show below.



LEGEND

- STORM DRAIN
- ELECTRICAL
- WATER MAIN
- SEWER MAIN
- SEWER FORCE MAIN
- GAS **PENDING**
- PARCEL, COUNTY OR CALTRANS RIGHT-OF-WAY
- COUNTRY CLUB HEIGHTS PROJECT BOUNDARY
- PHASE III PROJECT AREA

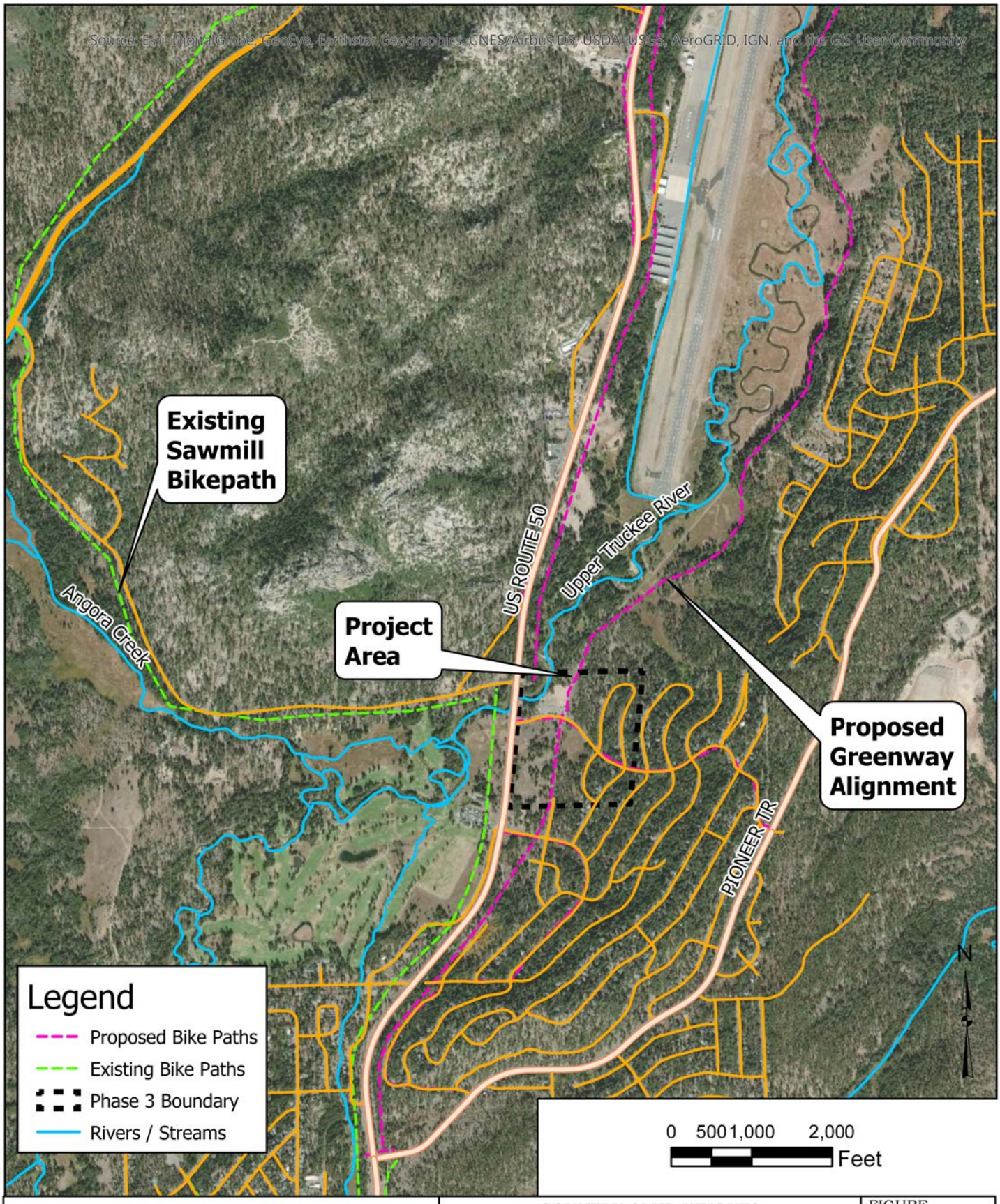
0 150' 300'
SCALE

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT AGENCY
TRANSPORTATION DIVISION

COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT
Phase III
EXISTING UTILITIES MAP

DATE:	PROJECT NO.:	BY:
12/2018	95191	DMG

FIGURE
8



COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION

COUNTRY CLUB HEIGHTS
WATER QUALITY PROJECT
PHASE 3
BIKE TRAILS MAP

FIGURE 9

DATE:	PROJECT NO:	BY:
03/2019	95191	DWK

Cultural/Archaeological Resources

A Cultural Resources Inventory Report was completed by NCE to document and evaluate the cultural resources present in the Project area (report available upon request). No resources were identified within this phase of the surrounding project area.

Biological Resources

The Lake Tahoe area provides suitable habitat for over 250 species of animals. In order to characterize the existing biological conditions present within the Project area, an inventory and evaluation of the Project area's vegetation and wildlife communities was conducted and a Biological Resources Inventory Report was completed in 2016 by NCE (report available upon request). This report also identifies the potential occurrence of special status plant and animal species within the Project area, which includes potential Willow Flycatcher habitat on CTC parcel to the west of the Elks Club parking lot (APN 033-191-040).

Vegetation

Several vegetation types were identified within the Project area during a 2016 field survey for the Biological Resources Inventory Report (report available upon request). These vegetation types were identified in both the lower Elks Club area and Waverly Drive area and include: Jeffrey pine, perennial grasses and forbs as reported by NCE. An invasive plant survey of surrounding parcels was completed in 2016 by NCE. The County will have NCE complete additional surveys this year in the area of interest. The County will develop a mitigation plan to eradicate any invasive species identified within the area.

Wetlands

A Wetlands Delineation and Waters of the US Inventory was completed by NCE in 2016 to identify the potential presence of wetlands and other jurisdictional waters. The areas analyzed included all County rights-of-ways (including Waverly Drive and the Boca Raton sub), but not the CTC owned parcels bounded by Boca Raton, Elks Club, and the Upper Truckee River. Based on the required wetland parameters, no potential wetland areas were identified within the County rights-of-way within the Project area. The existing swale that borders Elks Club Drive was determined to be man-made and is identified as potentially non-jurisdictional.

The delineation and mapping identified the existence of approximately 0.818 acres of non-jurisdictional features (pre-US Corps of Engineers verification) within the Project area. A final determination has not been issued by the Corps of Engineers. The County will utilize NCE to complete additional studies as needed in the project area.

Federal Emergency Management Agency Floodplain

The Federal Emergency Management Agency (FEMA) has designated a floodplain associated with the Upper Truckee River. The floodplain designation is identified on FEMA Flood Insurance Rate Maps:

- 06017C0369E effective September 26, 2008.
- 06017C0632E effective September 26, 2008.

The floodplains designated include:

- Zone AE: Areas of 100-year flood, including base flood elevations
- Zone X: Areas between limits of the 100-year and 500-year flood

Preliminary review of the flood plain maps indicate that the area west of Boca Raton and north of Elks Club Drive is within Zones AE and X. The County completed a hydrologic/hydraulic analysis of existing culverts in this area as part of the report.

1.2.7 Monitoring Information

A pre-construction photo inventory was completed and is included as Appendix B to this Report. The photographs were utilized to identify potential physical and environmental constraints and evaluate Project alternatives as discussed in Section 2 of this Report.

1.3 Hydrologic Conditions

The Basin has been divided into 63 Watersheds, all of which drain into Lake Tahoe. The Project area falls within the largest watershed (57 square miles) in the Basin, the Upper Truckee River (USGS Basin #73) (Figure 10).

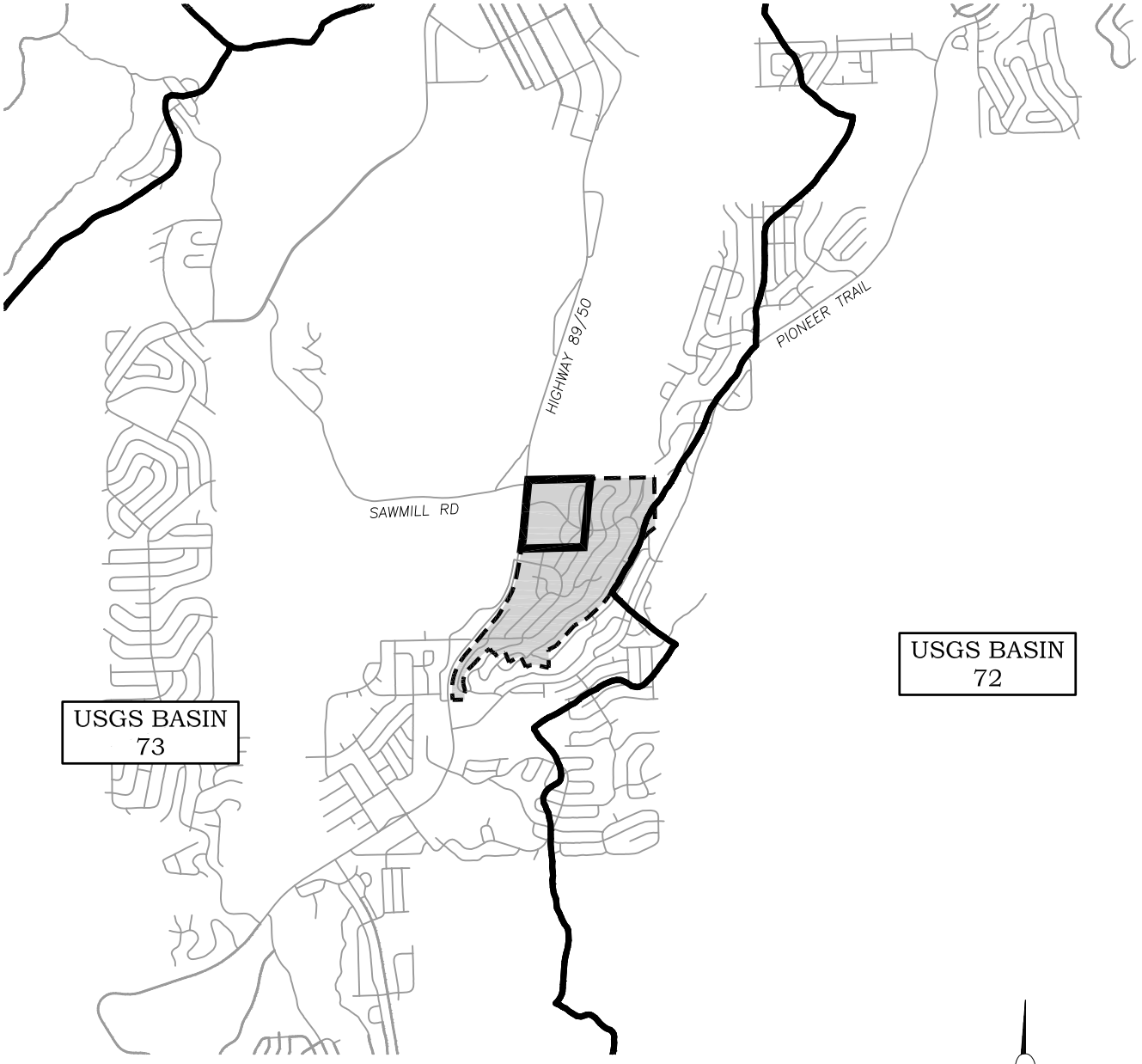
1.3.1 Watershed, Drainage Area and Sub-area Boundaries

The County completed construction of two phases of the Country Club Heights Erosion Control Project. The drainage study completed for this project was used as the basis for the analysis completed for this project (Figure 11).

The drainage outfalls that cross lower Elks Club Drive, between Waverly Drive and Highway 50, were looked at for this project. The Project will be analyzed for additional treatment opportunities through the removal of pavement on Waverly Drive, and restoration of impacts from the old “Elks Club Lodge” on the CTC owned parcel.

1.3.2 Storm Frequency

The County utilizes the 1995 County of El Dorado Drainage Manual[13] (Drainage Manual) as a guidance document for hydrologic design within the Basin. The Drainage Manual requires utilizing the 100-year storm event, which has the probability of occurrence of 0.01 in any given year, for drainage areas greater than 100 acres, to design drainage facility conveyance structures. All drainage facilities for areas less than 100 acres need to be designed to safely convey the 10-year event, probability of 0.10 in any given year, without the headwater depth exceeding the culvert barrel height.



COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT AGENCY
TRANSPORTATION DIVISION

COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT - PHASE III

USGS WATERSHED MAP

DATE:	PROJECT NO.:	BY:
12/2018	95191	DMG

FIGURE
10

150' 300'
SCALE

HWY 50
UPPER TRUCKEE RIVER
Elks Parking Lot
Ex. Weir
CHANNEL AND BASIN
BOCA RATON DR
CALLO DR
PEBBLE BEACH DR
MEADOW VALE DR
TAMOSHANTER DR
WAVERLY DR
ELKS CLUB DR
BEL AIRE CIR
APPLE VALLEY DR
SKYLINE DR
CRYSTAL AIR DR
MERION RD
THUNDERBIRD DR
CHERRY HILLS CIR
THUNDERBIRD CT
GLEN EAGLES RD
ELKS CLUB DR
COTO ST
YOLO ST

C1 4.2
C2 4.4
C3 3.1
C4 5.2
C5 4.5
C6 0.2
C7 1.2
C8 1.9
C9 7.8
C10 16.1
C 48.4
D1 2.6
D2 3.8
D3 1.7
D4 7.1
D5 7.0
D6 0.9
D7 0.5
D8 2.7
D9 3.0
D10 6.7
D11 7.8
D12 1.5
D13 7.8
D14 0.6
D15 0.3
D16 6.3
D17 3.9
D18 4.9
D19 0.6
D20 2.4
D21 0.3
D22 4.0
D23 16.3
D 92.9
E1 1.0
E2 0.6
E3 2.2
E4 4.6
E5 3.0
E6 2.2
E7 0.8
E 14.4

LEGEND

- PROJECT AREA
- D 30.4 — WATERSHED ID, AREA IN ACRES
- WATERSHED BOUNDARY
- D13 2.9 — SUB-WATERSHED, AREA IN ACRES
- SUB-WATERSHED BOUNDARY
- FLOWPATH
- 28 — NODE DESIGNATION
- EXISTING PIPE AND CMP INLET
- COUNTY ROW AND/OR PROPERTY LINES

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT AGENCY
TRANSPORTATION DIVISION

COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT Phase III

WATERSHED MAP

FIGURE 11

DATE: 12/2018 | PROJECT NO.: 95191 | BY: DMG

The TRPA 208 Plan[14] requires that the 10-yr, 24-hr storm event be used to design stormwater conveyance facilities and the 50-year storm event be used when designing the conveyance facility through a Stream Environment Zone (SEZ).

The Lahontan Regional Water Quality Control Board (Lahontan) Basin Plan requires that the minimum "design storm" for storm water treatment facilities in the Basin is the 20-year, 1-hour storm event. Based on several reports completed by Lahontan, this event equates to approximately 1 inch of rainfall within 1 hour.

Based on various spatial historical precipitation data within the Basin, the Drainage Manual requirements, the regulatory requirements mentioned, and the observed events, the hydrologic storm frequencies utilized for this Project design are as follows:

10-year, 6 hour

Conveyance facilities for areas less than 100 acres and not in an SEZ. The 10-year, 6-hour storms tend to be associated with Fall/Spring frontal systems with resultant peak Spring snow melt.

20-year, 1 hour

Conveyance facilities discharging to storm water treatment facilities for County right-of-way drainage tributary areas; storm water treatment capacity for County right-of-way drainage tributary areas for all impound/detention facilities. Typically, this event occurs in summer as localized thundershowers, or convective storm systems.

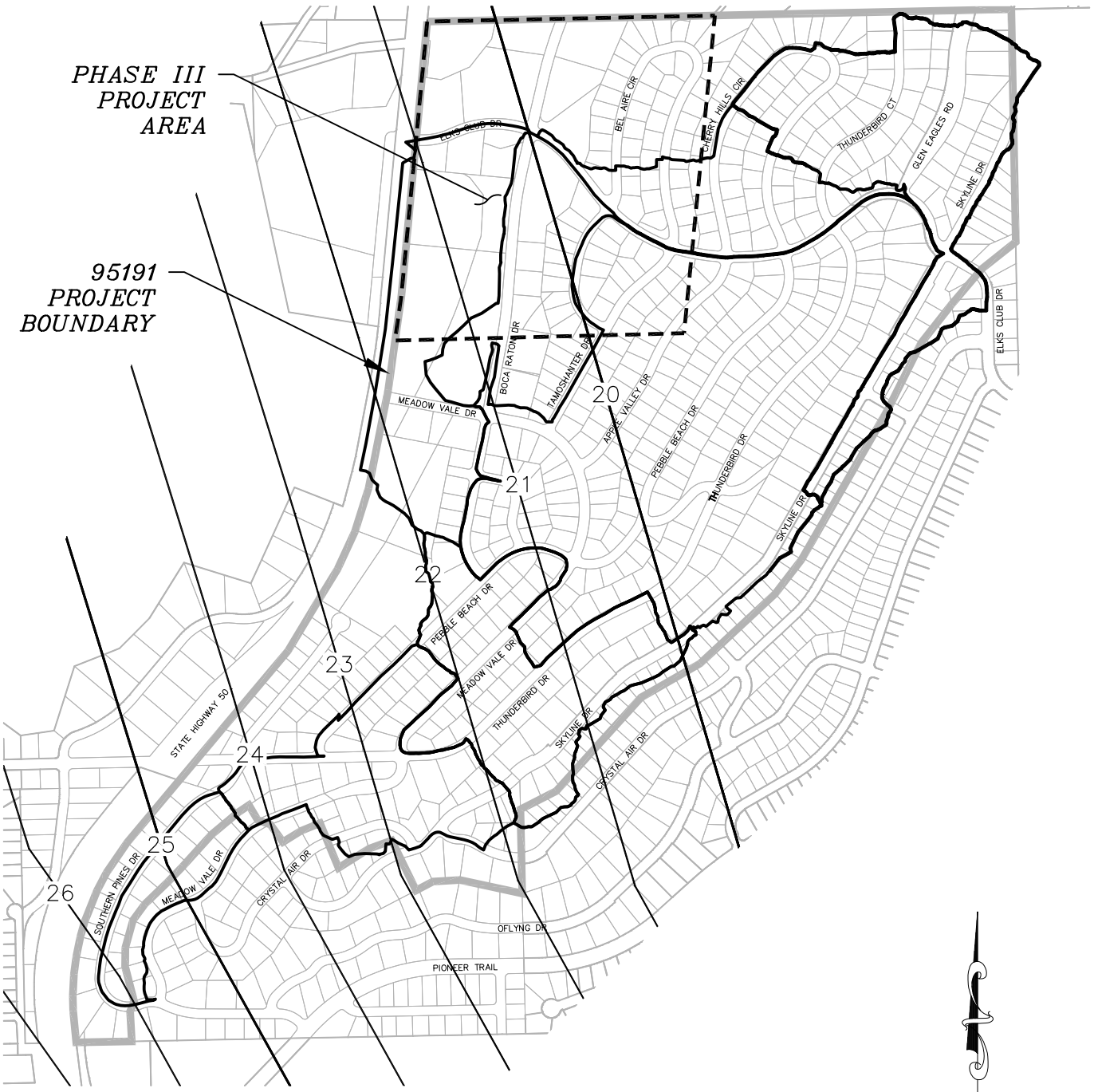
100 –year, 24 hour

Conveyance within the County right-of-way; all outfall structures from impound/detention facilities which discharge through an SEZ, or directly to a tributary of Lake Tahoe, or Lake Tahoe; conveyance facilities for drainage areas greater than 100 acres within the County right-of-way; conveyance facilities downstream of the impound facilities for hydrologic wave control. Events in this category may be characterized as warm frontal systems producing a rain-on-snow event.

1.3.3 Precipitation

The precipitation depth for the design storm frequency was obtained from the Drainage Manual. The mean annual precipitation depth isohyetal maps (Figure 12)was used to select the value of 21 inches per year for the Project area which was then used to determine the following Rainfall Depth table.

Design Storm	Rainfall Depth (inches)
10-year, 6-hour	1.3
20-year, 1-hour	0.6
100-year, 24-hour	3.8



26 MEAN ANNUAL PRECIPITATION, INCHES PER YEAR

PROJECT WATERSHED BOUNDARIES

0 400' 800'

SCALE

REFERENCE: REPORT ON EL DORADO COUNTY DESIGN RAINFALL BY JIM GOODRIDGE, 2008

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT AGENCY
TRANSPORTATION DIVISION

COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT- PHASE III

MEAN ANNUAL RAINFALL MAP

FIGURE 12

DATE:	PROJECT NO.:	BY:
12/2018	95191	DMG

1.3.4 Hydrologic Method

The Rational Method was used to calculate estimated peak flows within the Project area. The Rational Method was selected because the sub-basins within the Project area are less than one acre. This method is commonly used to determine peak flow when the watershed is small (less than 100 acres).

This method relies on four input variables and was calculated using equation 1:[15]

$$Q = C \cdot C_f \cdot I \cdot A \quad (1)$$

Where *Q* is peak discharge in cubic feet per second (cfs), *C* is the runoff coefficient, *Cf* is the runoff coefficient frequency adjustment factor, *I* is the rainfall intensity in inches per hour, and *A* is the area of the watershed in acres. For the Project area, an unadjusted runoff coefficient *C* of 0.1 was selected based on the drainage area being unimproved. For the Project design rainfall return periods of 10 and 25 years, a runoff coefficient frequency adjustment factor *Cf* of 1.0 was applied to the runoff coefficient and for the 100 year design rainfall return period, an adjustment factor *Cf* of 1.0 x 1.25 was applied.[16] The rain intensity *I* of the design storm was calculated using the estimated time of concentration *Tc* and the area *A* of the sub-watershed.

The flow paths for the Project watersheds were segregated into overland sheet flow, shallow concentrated flow, and, where applicable, channel flow and curb and gutter. The times of concentration were calculated for each watershed to determine the time required for runoff to travel from the hydraulically most distant part of the watershed to the outfall. For this Project area, the overland-flow roughness coefficient was estimated to be 0.40 based on Woods with light underbrush.

The travel times were calculated using methods established in the County Drainage Manual[17]. The travel time for sheetflow was calculated using the kinematic-wave equation and is presented as equation 2:

$$T_t = 0.007 \frac{(n \cdot L)^{0.8}}{P^{0.5} \cdot S^{0.4}} \quad (2)$$

Where T_t is sheetflow time of travel in hours, *n* is overland-flow roughness coefficient, *L* is length of overland flow in feet (300 foot maximum), *P* is rainfall depth in inches, and *S* is land slope in feet per feet.

The velocity of shallow flow over unpaved surfaces was estimated based on equation 3:

$$V_U = 16.1345 \cdot S_O^{0.5} \quad (3)$$

Where V_U is flow velocity in feet per second and S_0 is land slope in feet per foot.

The velocity of shallow flow over paved surfaces was estimated based on equation 4:

$$V_P = 20.3283 \cdot S_O^{0.5} \quad (4)$$

Where V_P is flow velocity in feet per second and S_0 is land slope in feet per foot.

The times of concentration for shallow flow over unpaved and paved surfaces were calculated by dividing the flow path length by the velocity. The watershed time of concentration for each of these flow path segments was summed to determine the total time. In all cases, a 6 minute initial time of concentration was used.

Input parameters and output results for the Rational Method are contained in Appendix A.

1.3.4.1 Unit Hydrograph Method (HEC-HMS)

The Unit Hydrograph Method is commonly used for determining the peak flow (Q) and the hydrograph from relatively large watersheds (up to 10 sq. mi.). Transportation used the unit hydrograph for an entire watershed tributary to its outflow as well as at specific drainage structures and treatment locations. This method was used to determine the peak runoff rates for the Project watersheds.

The program requires input parameters and variables such as a Basin Model, Meteorological Model, and a Control Storm. The Basin Model parameters include: input of the drainage area, lag time, percent impervious, initial abstraction I_a, and any base flow information. The lag time is the product of 0.6 multiplied by the time of concentration derived from the Rational Method. The impervious coverage was estimated using field survey data and existing aerial topographic maps for each watershed. The initial abstraction was calculated using equation 5:[18]

$$I_a = 0.2\left(\frac{1000}{RI} - 10\right) \quad (5)$$

With the runoff index (*RI*) being equivalent to a weighted curve number (CN). For the Meteorological Model, the Soil Conservation Services (SCS) method was chosen with a Type 1A storm, per the Drainage Manual.[19]

1.3.4.2 Hydrologic Results

Based on the results of the Rational Method, the peak discharge for the watersheds in this phase are presented in Table 5 and Appendix A.

Table 5 – Watershed Peak Flow Summary [25-yr, 1-hr] (Rational)

Main WS	Area (ac)	Parameters			Q Peak (cfs)			% Impervious
		C[1]	Tc (min)	I[2] (in/hr)	10-Yr, 6-Hr	25-Yr, 1-Hr	100-Yr, 24-Hr	
C (C1-C10)	48.4	0.22	83	0.56	5.1	6.0	9.2	15
D (D16-D22)	22.4	0.21	44	0.74	3.0	3.5	5.3	14
D (D1-D23)	92.9	0.23	63	0.61	11.3	13.2	19.9	17
E	14.4	0.3	49	0.7	2.5	3.0	4.5	25

1. For 100-year events, value increased by 25%.
2. Only 25-year event is listed here.

Based on the results of the HEC-HMS model, the peak discharge and volumes for the 25-year, 1-hour storm for the main watersheds in this phase are presented in Table 6 and Appendix A.

Table 6 – Main Watershed Peak Flow Summary [25-yr, 1-hr] (Unit Hydrograph)

WS	Area (acres)	Area (sq mi)	Q Peak (cfs)	Volume (ac-ft)	Volume (ft^3)
C	24.5	0.0382646361	4.5	0.2706	11,787
D	92.87	0.1451563	9.2	0.77530	33,772
E	14.4	0.0225000	2.9	0.21158	9,216

1.4 Hydraulics Summary

There are a number of existing pipes, inlets, and channels within this phase of the Project area. These facilities were installed as subdivision infrastructure, maintenance upgrades, or as part of previous erosion control projects. The existing conveyance facilities direct runoff toward the infiltrating channels/basin in the Boca Raton Drive ROW. The hydraulic analysis consisted primarily of two areas: the cross drainage culverts on lower Elks Club Drive and corresponding proposed infiltration basin on the CTC Elks Club Lodge parcel; and the existing Waverly Drive culvert and corresponding treatment opportunities for tributary flows.

1.4.1 Hydraulic Methods

For circular pipes, the full capacity of the pipe was calculated using the Manning's equation which is presented as equation 6:[20]

$$Q = 0.463 \cdot \frac{D^{8/3} \cdot S_f{}^{1/2}}{n} \qquad (6)$$

Where Q is discharge in cfs, D is pipe diameter in feet, S_f is slope of the energy grade line in feet/feet, and n is Manning's roughness coefficient.

The hydraulic capacity of the existing pipes was compared to the results of the hydrologic analysis for the design storm.

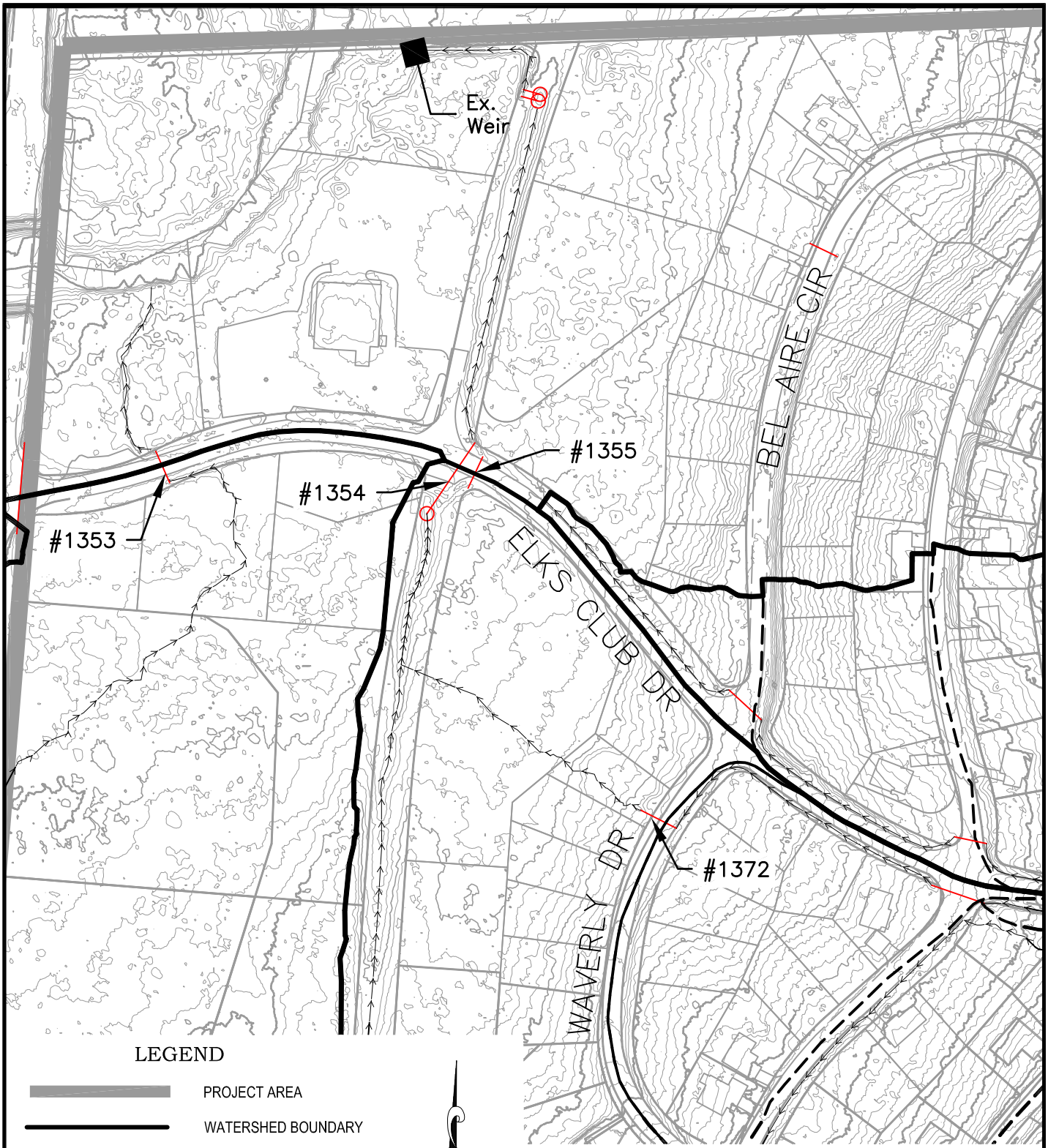
1.4.2 Hydraulic Results

There are three existing cross-culverts on Elks Club Drive within the proposed Project area. Two of the cross-culverts discharge stormwater flow into the manmade roadside swale that parallels the old Boca Raton stub road (south side of the old "Elks Club Lodge" parking lot). The other cross-culvert conveys flow into an existing swale north of the old Elks Club parking lot. The proposed shared use path will likely require one additional cross drainage culvert according to topographic features and vertical profile alignment of the path. Table 7 below contains a summary of the existing pipes, inflows, and capacities for this phase of the project.

Table 7 – Existing Pipe Characteristics

Street Crossing	WS	Pipe ID	Pipe Size / Material	Inlet / Outlet Facility[2]	Q Capacity (cfs)	Q 25-yr,1-hr	% Capacity
Elks (north of Boca)	C1-10	1353	18" HDPE	FES Inlet / Channel	10.5	6.0	57%
Waverly	D16-D22	1372	24" CMP	AC Swale / Channel	23.9	3.5	15%
Elks (south of Boca)	D1-D23	1354	30" CMP	Atrium / Channel	12.6	13.2	105%
		1355[1]	18" HDPE	FES Inlet / Channel	8.8	13.2	150%

1. Pipe 1355 is designed as overflow for pipe 1354
2. FES = Flared End Section



LEGEND

- PROJECT AREA
- WATERSHED BOUNDARY
- SUB-WATERSHED BOUNDARY
- FLOWPATH
- EXISTING PIPE AND CMP INLET
- COUNTY ROW AND/OR PROPERTY LINES

0 100' 200'
SCALE

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION

COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT - PHASE III

EXISTING PIPES

FIGURE 13

DATE: 03/2019 | PROJECT NO.: 95191 | BY: DMG

The results in Table 7 do not reflect potential head pressure or inlet structure capacities. There are two pipes that do not appear to convey the design storm peak runoff. The pipes are located at the intersection of Boca Raton Drive and Elks Club Drive. These are currently designed to work in tandem when flows exceed the capacity of the 30" CMP, the excess flows will flow through the 18" HDPE Pipe.

1.5 Stormwater Quality

The Lake Tahoe Watershed Assessment[21] provides a synthesis of water quality data and analysis with an emphasis on watershed sediment and nutrient loadings and their effects on Lake Tahoe. According to the report, research has shown the onset of cultural eutrophication of oligotrophic Lake Tahoe, and a corresponding decline in the lake's exceptional clarity at the rate of approximately one foot per year. Research has also shown a fundamental shift in the limiting nutrient for biostimulation in Lake Tahoe from nitrogen to phosphorous.

1.5.1 Priority Pollutants

It has been shown that a large portion of the total phosphorous load is transported with sediment; therefore, current research and management efforts in the Basin focus on the management of watershed sediment and erosion control. The long-term average nutrient flux from watersheds in the Basin has been significantly related to disturbance and land use, leading to sediment and the associated nutrients being the primary pollutants of concern.

1.5.2 Priority Pollutant Sources

Sediment Sources

In general, land disturbance is a primary cause of elevated sediment supply. However, the effects of land disturbance on sediment supply are manifested in different ways and may result in changes in sediment supply that vary by orders of magnitude. Because sediment transport is an exponential function of drainage discharge, identification of increased sediment supply is clearly linked to drainage or stream flows[22]. In addition, changes in hydrologic characteristics may initiate geomorphic changes in a project area or watershed that have the potential to modify land surface or channel characteristics, thereby increasing historical sediment supply by one or more orders of magnitude.

Nutrient Sources

The primary nutrients of concern with respect to Lake Tahoe clarity are phosphorous and nitrogen. Research over the past few decades has shown that primary productivity in Lake Tahoe is predominately phosphorous-limited. However, co-limitation by nitrogen and phosphorous still occurs, especially in summer months, so control of both nutrients is important. A nutrient-loading budget for Lake Tahoe indicates that atmospheric deposition, stream loading, direct runoff, and groundwater are major contributors of nutrients to Lake Tahoe. Most water quality improvement projects have little opportunity to affect atmospheric deposition. However, runoff from the Project area may contribute significantly to stream loading.

Total nutrient and sediment loads are related because a portion of the nutrient loads occur as particulates or adsorbed onto particulates. However, only a portion of the total nutrient loads may be in biologically available form. The biologically available fraction has the largest potential impact on water quality and is therefore of greatest concern in water quality projects. The atmosphere is the dominant global source of nitrogen as N_2, while rock weathering is the dominant source of phosphorous. Both nutrients are recycled and retained within the biosphere at rates that are much higher than contributions from original sources. Their uptake, retention, and recycling, in biomass is highly sensitive to landscape disturbance. Mobilization due to disturbance causes a loss of nutrients from the local biological or physical system, and transport downstream in particulate and dissolved forms.

1.5.3 Other Pollutant Sources

In addition to the priority pollutants described in Section 1.5.1 of this document, other potential pollutants have been identified based on Project area characteristics. These pollutants include typical materials used during construction such as oil and grease from equipment, vehicles, road base, concrete, and other construction materials. In order to mitigate the possibility of potential pollutants being discharged from the site, an aggressive Storm Water Pollution Prevention Plan (SWPPP) will be developed and implemented. The SWPPP will identify specific control measures to be implemented both during and after construction.

1.5.4 Pollutant Transport Processes

In addition to the identification of pollutant sources as described in Sections 1.5.2 and 1.5.3 of this document, key pollutant transport processes must be considered in order to formulate and evaluate potential control strategies in subsequent project phases. For this Project, it is anticipated that the pollutant transport process will be closely linked to the hydrology and existing impervious coverage, thus increasing the necessity of good stormwater management.

1.6 Project Opportunities and Constraints

Opportunities

This Project provides opportunities for three threshold areas: improved water quality of storm water runoff, soil conservation to address previously impacted areas, and recreation & access opportunities for the area. Completion of improvement to Waverly Drive and lower Elks Club Drive would provide for 1) additional treatment of stormwater runoff through utilization of publicly (CTC) owned lands 2) removal of hard coverage and restoration of the previously developed areas; 3) reconfiguration and reconstruction of the existing parking lot on the old Elks Lodge property including the reduction of impervious coverage and installation of BMPs; and 4) possible construction of permanent facilities for access to the Upper Truckee River for person powered boats and access to the future Tahoe Greenway multiuse shared use path. The above mentioned improvements may provide an opportunity to restore the flood plain along a short section of the Upper Truckee River.

The primary corridor for the proposed shared use path is also part of TRPA's *Linking Tahoe: Active Transportation Plan*, with the goals of providing access to local businesses, schools, and

offices for bicyclists and pedestrians, reducing vehicular transportation, and enhancing recreational opportunities within the Basin.

Improvements at this and the Waverly Drive location would provide useful locations for installation of both informational signage and wayfinding signage. Installation of signage would provide an opportunity to educate the public on the improvements, their effect on water quality, tourism impacts to the area, and flooding impacts. Quick Response (QR) codes could be used by smart phone users to take them to corresponding web pages with additional information.

Constraints

The Project faces several challenges, primarily in regard to current uses of the old "Elks Club Lodge" property. Seasonal use issues of the property, river access, parking and restroom facility constraints, and the presence of sensitive environmental resources each represent a consideration in determining the limits of parcel restoration. Any hard improvements within the existing SEZ/floodplain areas near the river will need to be avoided as much as possible during the design of the project. Impacts may involve mitigation at a 1.5:1 ratio, as needed. Sensitive environmental resources in the Project area would necessitate avoidance where possible. Specifically, the locations of wetlands, existing vegetation and mature trees, and Waters of the US will be considered and avoided to the maximum extent practicable.

The proposed alignment of the Tahoe Greenway has not been finalized as of this report. It is anticipated that the preferred alignment will be utilizing the existing STPUD access road that connects to the eastern end of the Boca Raton stub. Any design considerations for construction of a spur connection to the future Tahoe Greenway shared use trail would be limited to within the old, compacted, Boca Raton Road stub within the existing County right of way. Future maintenance of the existing underground sewer along Boca Raton Drive will need to be considered during the design.

Current public uses constrain the property for the short term. The CTC currently operates a yearly lease with the managers of the Tahoe Flea Market. This lease has been renewed on a year to year basis since CTC's acquisition of the property. Perceived benefits of the project may be impacted by the loss of this seasonal event. The parking lot was originally sized for the users of the Elks Lodge, which has since been demolished. The parking lot, with use varying by season, is used by recreational users, flea market vendors, commercial vehicle operators for load checking, staging area by local agencies/jurisdictions, and snow plow operators to check their vehicles during winter operations.

A STPUD force main line, designed and constructed in approximately 1966, is located along the south side of the Upper Truckee River. The line is currently used as a back-up if issues arise with the primary force main. The vertical and horizontal location of the line constrains opportunities to lower the flood plain above this line. During the winter of 1997 the line was exposed during high Upper Truckee River flows. Emergency work was initiated to recover the line and armor the location with large rock. Any future STPUD access for maintenance to this line will be considered in the selection of a preferred alternative.

El Dorado County initiated an emergency repair project to address storm damage from 2017 winter storms. The improvements were constructed in 2018 and included raising the finish grade elevation of lower Elks Club Drive to mitigate future flooding impacts and the need for application of sanding abrasives. Though the improvements have provided a benefit with reducing the overall amount of sanding abrasive applied in the area, there is still opportunity for flooding in high flow events. Construction of a new cross-culvert, between Boca Raton Drive and the old “Elks Club Lodge” property entrance would provide additional conveyance capacity in high flood events. Using this location for an additional cross culvert could be constrained by existing utilities that were undergrounded in this reach (gas, electric, and communications).

2.0 Formulating Alternatives

The County has proposed and evaluated three alternatives for this Report to mitigate past development of the Project area. The alternatives discussed are identified by general area below and include water quality improvements to the lower Elks Club Areas, water quality improvements to Waverly Drive, and recreation and access improvements within the lower Elks Club area. Figures 14 and 15 showcase Alternative 1 for the Lower Elks Club area and Waverly Drive, respectively. Figure 16 and 17 showcase Alternative 2 for the Lower Elks Club area and Waverly Drive, respectively. Appendix C contains a rough order of magnitude cost estimate for each of the alternatives.

2.1 Water Quality Improvements to Lower Elks Club Area

Three alignment alternatives were identified and evaluated for this Report.

- Alternative 1 – Construction of a large wet infiltration basin on CTC parcel 033-191-050. The existing compacted surface would be restored to allow for increased vegetation growth. The restoration would include removal of non-native fill material (including old concrete), ripping of the subsurface, applying seed, and mulch. The proposed basin would be sized to capture a large amount of tributary runoff from 25-year storm events. The existing parking lot would be reduced in half, allowing for placement of an additional cross culvert on Elks Club Drive to convey high flood flows into the wet basin. The parking lot could be striped to have up to 41 parking spaces, including 2 ADA spaces. A new pipe would be installed under the Boca Raton Drive stub to convey runoff collected in the manmade swale and divert it to the new basin. Once capacity of the basin has been reached flows would continue on down the manmade swale. Two feet plus of excess fill material, east of the force main alignment, would be removed to restore the flood plain. Zig-zag fencing constructed of lodge pole pine would be installed along the boundary of the basin and restoration area in order to protect restoration efforts.
- Alternative 2 – The current parking lot configuration would be reduced in size and reconstructed closer to Elks Club Drive. The reconstructed parking lot could be striped to have up to 42 parking spaces, including 2 ADA spaces. Access from both Elks Club Drive and the Boca Raton stub could be maintained with this configuration. The extent of the infiltration basin is limited to the area of current compacted surface north of the parking lot. This configuration would allow for both the restoration of the existing compacted surface and allow for capture and infiltration of stormwater runoff. The restoration would include removal of non-native fill material (including old concrete), ripping of the subsurface, applying seed, and mulch. Two feet plus of excess fill material, east of the force main alignment, would be removed to restore the flood plain. Zig-zag fencing constructed of lodge pole pine would be installed along the boundary of the basin and restoration area in order to protect restoration efforts.
- Alternative 3 – Leaving the current parking lot configuration as is. Restore the compacted surface to the north of the existing parking lot allowing for vegetation to become established. The restoration would include removal of non-native fill material,

ripping of the subsurface, applying seed, and mulch. No new drainage or treatment improvements would be constructed.

ALT 1 – Reduced parking lot and restoration of hard impacted surface for construction of wet infiltration basin

Advantages

- Removal of impervious coverage and restoration of hard compacted area impacted by previous development
- Provide additional treatment facility for capture and treatment of stormwater runoff before flows reach the Upper Truckee River
- Provide opportunity to remove additional non-native fill material to restore a portion of the floodplain
- Opportunity for additional groundwater recharge
- Further reduce localized flooding of Elks Club Drive
- Maintains access and parking for recreational users
- Provides permanent bathroom facilities eliminating the need for portable toilets

Disadvantages

- Reduction in size of existing parking lot would correspond to a reduction in certain vehicle use
- Larger temporary disturbance
- Potential higher costs to establish access to STPUDs backup force main with respect to removal of fill east of force main
- Requires agency to take on responsibility to clean and maintain of bathrooms

ALT 2 – Construction of wet basin within hard compacted surface area, while reconfiguring and reducing size of existing parking lot.

Advantages

- Restoration of hard compacted area impacted by previous development
- Provide opportunity to remove additional non-native fill material to restore a portion of the floodplain
- Provide additional treatment facility for capture and treatment of stormwater runoff before flows reach the Upper Truckee River
- Opportunity for additional groundwater recharge
- Provides parking for all afore mentioned vehicle uses and maintains vehicle access from Boca Raton
- Reduced foot print of parking lot could be reconfigured to be 1) located further away from river and 2) elevated to mitigate future impacts from flooding
- Provides permanent bathroom facilities eliminating the need for portable toilets

-

Disadvantages

- Does not address additional impacts from localized flooding
- Large temporary disturbance
- Potential higher costs to establish access to STPUDs backup force main with respect to removal of fill east of force main
- Requires agency to take on responsibility for clean and maintenance of bathrooms

ALT 3 – Address hard pack surface only.

Advantages

- Low cost alternative for the short term
- Provide opportunity to restore a portion of the flood plain

Disadvantages

- Does not address additional impacts from localized flooding
- Reduced opportunity for SEZ and flood plain restoration
- Increased future maintenance cost to maintain a parking lot that is oversized for current use

The removal of existing material to lower the flood plain locally is being evaluated as part of this Project. Figures 18 and 19 were generated to show cross sections through the Upper Truckee River with respect to the proposed improvements on the old Elks Club Lodge property. Note that the flood plain is currently lower on the north side of the Upper Truckee River. With the current alignment of the Upper Truckee River, limiting impacts to the existing STPUD force main will need to be examined as part of this alternative.

2.2 Waverly Drive Alternative

Waverly Drive is a low volume road that connects Elks Club Drive and Tam O Shanter Drive. There are three privately owned parcels which are accessible from Tam O Shanter, with the remaining parcels surrounding Waverly being owned by the CTC. The three alternatives evaluated for the project are:

- Alternative 1 – Remove the existing asphalt pavement on Waverly Drive where the road abuts CTC owned parcels. A cul-de-sac would be constructed at the southern end for emergency vehicles. A linear, zero slope, channel would be constructed on the southern edge of the old road to distribute flows from Elks Club Drive evenly across the rehabilitated area. County will work with local utilities regarding needs for access to any infrastructure in the Waverly Drive right of way. Approximately 30 feet of Waverly Drive would be kept on the northern end to allow parking for maintenance equipment during winter plow operations. Gates would be installed on either end of the rehabilitated section to limit public access with motorized vehicles.

- Alternative 2 – Same as Alternative 1 with the modification to eliminate any future access across the rehabilitated area.
- Alternative 3 – Leave Waverly in its current condition.

ALT 1 – Removal of pavement and construction of linear channel.

Advantages

- Removes unnecessary impervious coverage
- Restores land that abuts an existing meadow system
- Allows potential access by existing utilities

Disadvantages

- Eliminates a permanent connection to Tam O Shanter from Elks Club Drive

ALT 2 – Removal of pavement and removal of future access.

Advantages

- Removes unnecessary impervious coverage
- Restores land that abuts an existing meadow system

Disadvantages

- Eliminates a connection to Tam O Shanter from Elks Club Drive
- Does not allow potential vehicle access by existing utilities

ALT 3 – Address hard pack surface only.

Advantages

- Keeps open Waverly as an alternative option to access Tam O Shanter Drive

Disadvantages

- Will require future pavement rehabilitation work to a low volume road

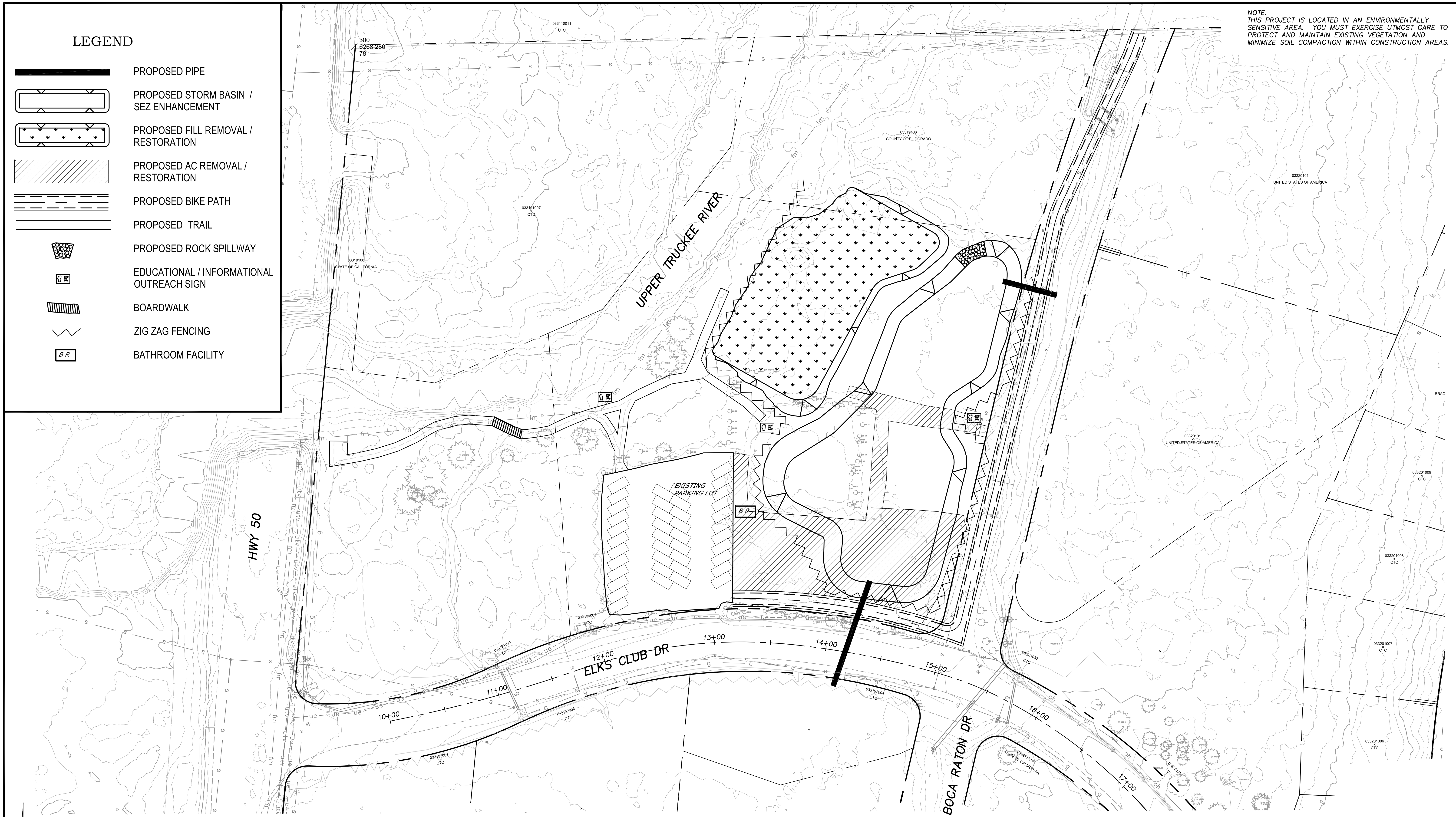
2.3 Recreation / Access Alternatives

The *Linking Tahoe: Active Transportation Plan* identifies a Class 1 shared use path through this reach and a Class 3 (Bike Route) along Elks Club Drive, connecting Highway 50 to Pioneer Trail. The parking lot is currently used by users for multiple recreation and access opportunities. The three alternatives evaluated for this project are:

- Alternative 1 – Design and construct a future spur of the Greenway Shared Use Trail. A 10 foot wide paved shared use trail would be constructed within the Boca Raton Drive right of way, over the existing dirt access road, terminating at Elks Club Drive. A spur connection would be constructed on the CTC owned parcel from the reduced size parking lot, connecting to the new Trail in the Boca Raton right of way. A permanent user access trail would be constructed on the north side of the parking lot to enable access from the parking lot to areas along the river, including an existing sand bar near

the south side of the Upper Truckee River, which has been used as a launch point by recreational users. The trail would be constructed of compacted decomposed granite with a boardwalk crossing over the drainage swale flowing from Elks Club Drive. Educational signage would be installed to educate users on such items as the Upper Truckee River, past development of the area, and the impact of aquatic invasive species. A 2-unit bathroom facility would be constructed on the edge of the parking lot. Existing utility connections (Sewer and Water) would be utilized in the design.

- Alternative 2 – Same as Alternative 1 with the modification to eliminate construction of a portion of the Greenway Shared Use trail and spur connection within the Boca Raton Drive right of way. A shared used trail would still be constructed on the south side of the reconfigured parking lot in order for users to gain access to the trail system off of Boca Raton. The Boardwalk crossing would be replaced with approximately 20 linear feet of 18" HDPE pipe to accommodate a trail crossing.
- Alternative 3 – No proposed improvements to the area.



COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION

COUNTRY CLUB HEIGHTS
PHASE III
WATER QUALITY PROJECT
ALTERNATIVE 1 - LOWER ELKS CLUB DR

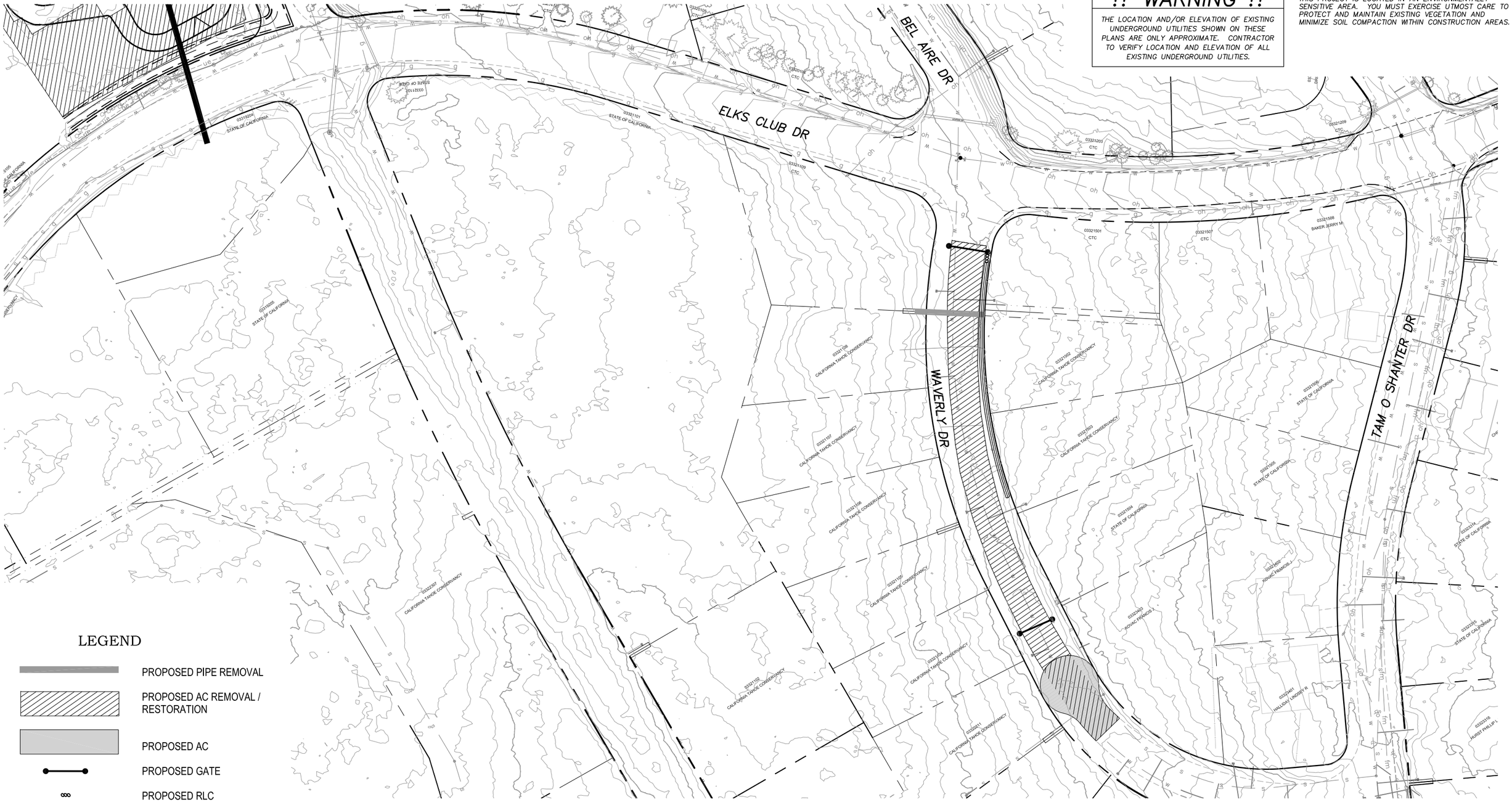
DATE: 03/2019 | PROJECT NO.: 95191 | BY: DMG

FIGURE 14

!! WARNING !!

THE LOCATION AND/OR ELEVATION OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE ONLY APPROXIMATE. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF ALL EXISTING UNDERGROUND UTILITIES.

NOTE:
THIS PROJECT IS LOCATED IN AN ENVIRONMENTALLY SENSITIVE AREA. YOU MUST EXERCISE UTMOST CARE TO PROTECT AND MAINTAIN EXISTING VEGETATION AND MINIMIZE SOIL COMPACTION WITHIN CONSTRUCTION AREAS.



LEGEND

- PROPOSED PIPE REMOVAL
- PROPOSED AC REMOVAL / RESTORATION
- PROPOSED AC
- PROPOSED GATE
- PROPOSED RLC
- PROPOSED BLC

0 20' 40'
SCALE

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION

COUNTRY CLUB HEIGHTS PHASE III WATER QUALITY PROJECT

ALTERNATIVE 1 - WAVERLY DR

DATE:	PROJECT NO.:	BY:
03/2019	95191	DMG

FIGURE 15

LEGEND

- PROPOSED PIPE
- PROPOSED BASIN / SEZ ENHANCEMENT
- PROPOSED FILL REMOVAL / RESTORATION
- PROPOSED AC REMOVAL / RESTORATION
- PROPOSED BIKE PATH
- PROPOSED TRAIL
- PROPOSED ROCK SPILLWAY
- EDUCATIONAL / INFORMATIONAL OUTREACH SIGN
- ZIG ZAG FENCING
- BR — BATHROOM FACILITY

NOTE:
THIS PROJECT IS LOCATED IN AN ENVIRONMENTALLY SENSITIVE AREA. YOU MUST EXERCISE UTMOST CARE TO PROTECT AND MAINTAIN EXISTING VEGETATION AND MINIMIZE SOIL COMPACTION WITHIN CONSTRUCTION AREAS.

UPPER TRUCKEE RIVER

HWY 50

EXISTING PARKING LOT

ELKS CLUB DR

BOCA RATON DR

10+00 11+00 12+00 13+00 14+00 15+00 16+00 17+00

033110011 CTC
033191007 CTC
03319108 STATE OF CALIFORNIA
03319106 COUNTY OF EL DORADO
03320101 UNITED STATES OF AMERICA
03320131 UNITED STATES OF AMERICA
033191005 CTC
033191004 CTC
033192000 CTC
033192001 CTC
033192004 CTC
033201009 CTC
033201008 CTC
033201007 CTC
033201006 CTC
03321101 STATE OF CALIFORNIA

0 20' 40'
SCALE

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION

COUNTRY CLUB HEIGHTS PHASE III WATER QUALITY PROJECT

ALTERNATIVE 2 - LOWER ELKS CLUB DR

FIGURE 16

DATE: 03/2019 | PROJECT NO.: 95191 | BY: DMG

!! WARNING !!

THE LOCATION AND/OR ELEVATION OF EXISTING UNDERGROUND UTILITIES SHOWN ON THESE PLANS ARE ONLY APPROXIMATE. CONTRACTOR TO VERIFY LOCATION AND ELEVATION OF ALL EXISTING UNDERGROUND UTILITIES.

NOTE:
THIS PROJECT IS LOCATED IN AN ENVIRONMENTALLY SENSITIVE AREA. YOU MUST EXERCISE UTMOST CARE TO PROTECT AND MAINTAIN EXISTING VEGETATION AND MINIMIZE SOIL COMPACTION WITHIN CONSTRUCTION AREAS.

ELKS CLUB DR

ELKS CLUB DR

WAVERLY DR

TAM O SHANTER DR

LEGEND

- PROPOSED PIPE REMOVAL
- PROPOSED AC REMOVAL / RESTORATION
- PROPOSED AC
- PROPOSED GATE
- PROPOSED RLC
- PROPOSED BLC

0 20' 40'
SCALE

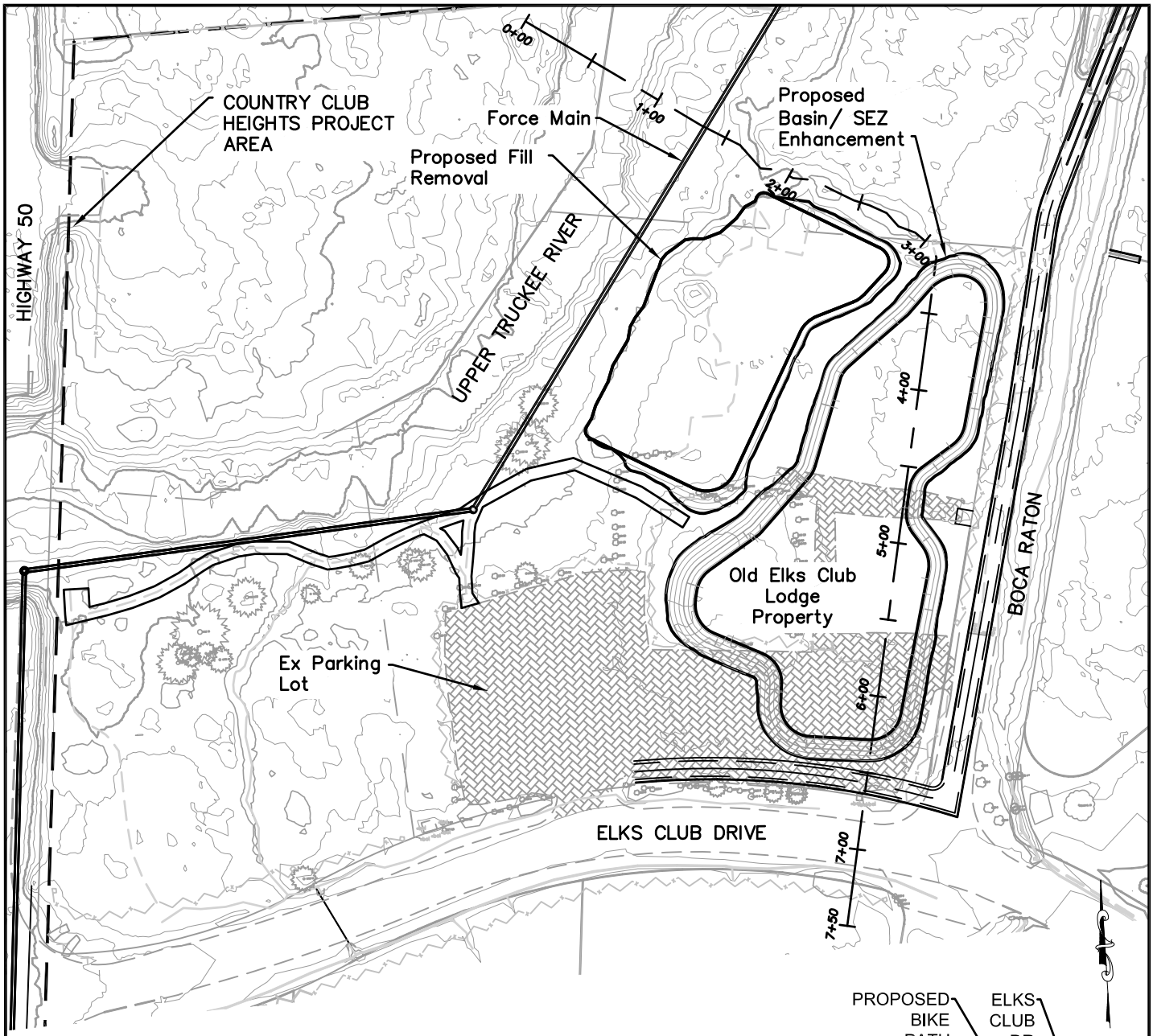
COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION

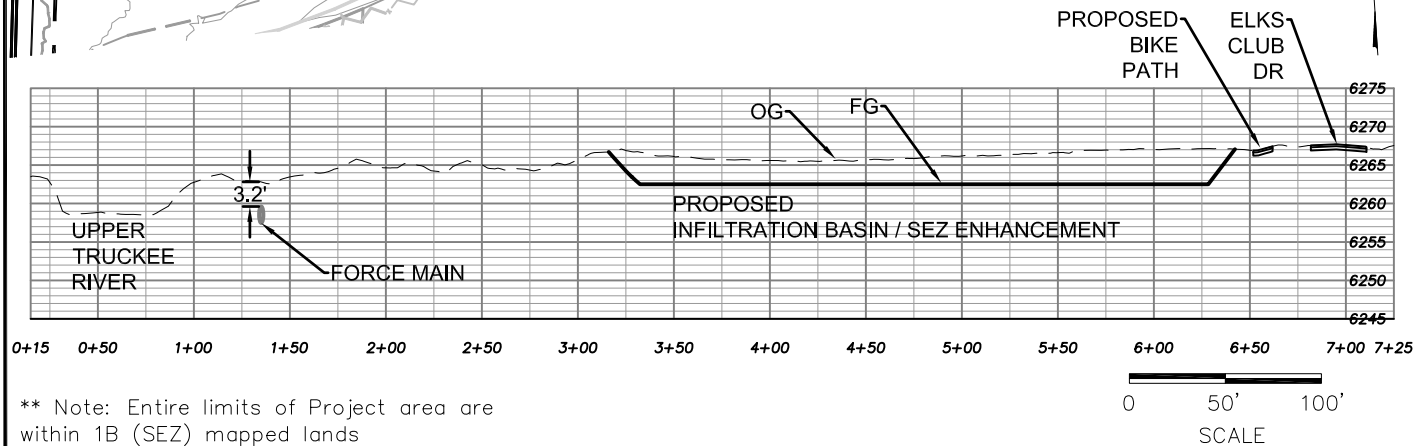
COUNTRY CLUB HEIGHTS PHASE III WATER QUALITY PROJECT

ALTERNATIVE 2 - WAVERLY DR

DATE: 03/2019 | PROJECT NO.: 95191 | BY: DMG

FIGURE 17





** Note: Entire limits of Project area are within 1B (SEZ) mapped lands

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION

COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT

Phase 3

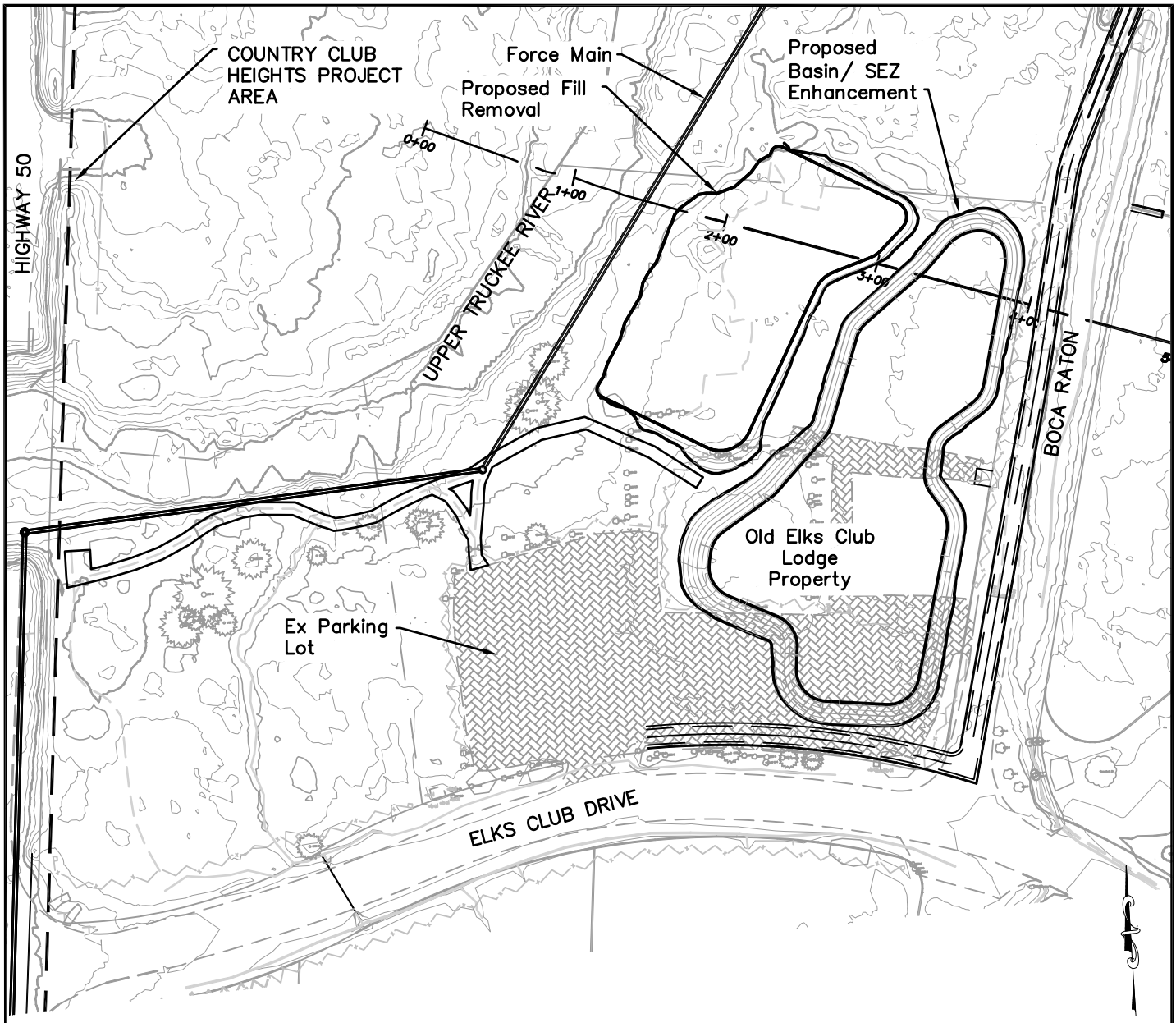
PROPOSED SECTION VIEW

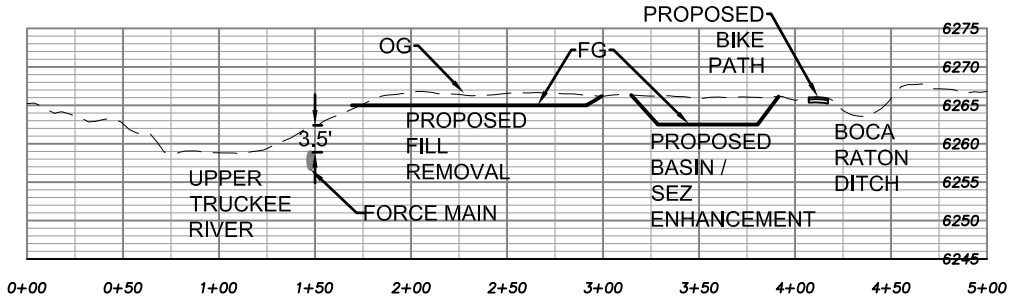
BASIN OUTLET, BASIN, & ELKS CLUB DR

DATE:	PROJECT NO.:	BY:
03/2019	95191	DMG

FIGURE

18





** Note: Entire limits of Project area are within 1B (SEZ) mapped lands

0 50' 100'
SCALE

COUNTY OF EL DORADO
COMMUNITY DEVELOPMENT SERVICES
DEPARTMENT OF TRANSPORTATION

COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT

Phase 3

PROPOSED SECTION VIEW

UPPER TRUCKEE RIVER, BASIN, & BOCA RATON DITCH

DATE:	PROJECT NO.:	BY:
05/2019	95191	DMG

FIGURE 19

3.0 Summary

3.1 Existing Conditions

This Report has sought to describe the existing conditions of the Project area in which proposed water quality and recreational access improvements are proposed to be constructed.

- **Topography**. In general, the topography of the Project area is relatively flat/level, with the grade of the parking lot now lower than Elks Club Drive. The topography rises to the east along Elks Club Drive in the direction of Waverly Drive.

- **User Trail**. An existing natural ground trail/path/access road is present along the STPUD access road north of Elks Club Drive along the old Boca Raton Drive roadway. The existing alternatives provide for connection to this trail via a spur trail from the Elks Club parking lot. This project could include the construction of a section of paved shared use trail along the existing shared use trail on the Boca Raton stub to minimize impact to existing land use.

- **Soils**. The Project area soils fall primarily within group A, signifying a moderate to low runoff potential.

- **Land Use**. Depending on the size of the constructed infiltration area, there is an opportunity to restore a large compacted area providing increased benefit to botanical and water quality thresholds. It is expected that any construction of the proposed shared use path as part of this project would be located within an existing disturbed, compacted area, and therefore the Project would likely not conflict with existing land uses in the area.

- **Land Capability**. The land within the Project area fits into land capability Classes 1b, 4, 5, and 6, with the majority falling into Class 1b and therefore having a moderate to low potential for erosion. The land capability verification has not yet been completed by TRPA, however, preliminary research indicates SEZ areas in addition to the Upper Truckee River within the Project area requiring a 25-foot setback.

- **Land Ownership**. As discussed in the Report, construction of an infiltration basin and restoration of the compacted areas would occur on lands owned by the California Tahoe Conservancy. Any construction involving reconfiguration of the parking lot and construction of a section of the shared use path would require both utilizing public lands (CTC) and El Dorado County right of way (Boca Raton Drive stub); the County will pursue the needed license agreements for any affected parcels during the development of the preferred project alignment.

- **Utilities**. A South Tahoe Public Utility District (STPUD) backup force main is a consideration for the extents of the infiltration basin. The County will consult with STPUD should any planned improvements conflict with this feature. Currently on Waverly Drive STPUD infrastructure includes laterals and mains for sewer and water lines in addition to one fire

hydrant. The County will coordinate possible abandonment, access to, or relocation of the above assets as part of the project.

- **Environmental Resources**. Initial environmental inventories including, biological, wetland/Waters of the US and cultural, have been conducted and sensitive resources identified. The short section of proposed shared use path will avoid these resources. The County will utilize a consultant to update the environmental inventories before moving forward with design of the project. If new resources are identified and cannot be avoided (e.g., possibly some vegetation and wetlands areas), potential impacts will be mitigated to the maximum extent feasible.

- **Hydrology**. Water quality improvements, utilizing low impact development principles, will be part of the Project. The design of the infiltration area will utilize existing channels or depressions to convey excess flows away from any improved parking lot or shared use trail.

3.2 Formulating Alternatives

The Three alternatives for the three areas were described and evaluated in this Report. The CTC purchased the old “Elks Club Lodge” property with the intent of restoring the parcel to as close to its predevelopment condition. Evaluating the alternatives with respect to current use of the parcel indicates an opportunity to meet the CTCs intent while providing both a water quality and recreational benefit.

In general, Alternative 1 will provide the greatest water quality and recreational benefit. Modifications to the size of the parking lot will provide parking for recreational use and access surrounding the property. Construction of a large wet infiltration basin will provide benefits of treating stormwater runoff, recharging groundwater, increasing meadow vegetation and wildlife habitat establishment. Removal of the pavement from the identified section of Waverly Drive will reduce stormwater runoff, provide additional area for the treatment of stormwater runoff, decrease long term maintenance costs, and increase vegetation and restoration of wildlife habitat. Alternative 2 is a reduced project scope that will provide reduced water quality and recreational benefits. Reducing the size of the parking lot and reconfiguring/reconstructing the parking lot to be closer to Elks Club Drive provides an opportunity to raise the grade of the parking lot to limit future flooding impacts. The number of possible parking spaces with Alternative 1 and Alternative 2 are near identical. Alternative 3 addresses the hard pack coverage on the old “Elks Club Lodge” property, providing for possible re-establishment of vegetation, but will not provide an additional treatment area to benefit water quality.

4.0 References

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Appendix C

Biological Assessment

Biological Assessment

Country Club Heights Erosion Control Project, Phase III

August 2019

NCE

Zephyr Cove, Nv
PO Box 1760
Zephyr Cove, NV 89449

County of El Dorado

Community Development Agency

Transportation Division

924B Emerald Bay Road
South Lake Tahoe, CA 96150

Report for:

BIOLOGICAL ASSESSMENT

Country Club Heights, Phase III
El Dorado County, California

Prepared for:

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

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NCE Project Number:
501.36.25

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1.0 INTRODUCTION

The Country Club Heights Erosion Control Project, Phase III (Project) is part of a series of capital improvement projects constructed within the Lake Tahoe Basin by the County of El Dorado Department of Transportation (County) to improve water quality and provide recreation and access benefits in the Tahoe Basin. Phase I and II of the Project addressed existing Source Control issues, Hydrologic Design issues, and Treatment opportunities affecting water quality within the Project area. The County constructed the Phase I and II improvements during the summer of 2018.

The Phase III project will focus on impacts to water quality at the northwestern end of the Project and opportunities to enhance recreation and access opportunities in the area. The Action Area for this phase of the Project includes Waverly Drive, Elks Club Drive between Waverly and Highway 50, and surrounding publicly owned parcels including the old "Elks Club Lodge" property and parking lot currently owned by the California Tahoe Conservancy (CTC).

The Elks Club property currently is a nexus for outdoor activity for the South Lake Tahoe Community. The property has been used for a seasonal Flea Market during the summer months; river enthusiasts park their vehicles in the parking lot or on the north side of Elks Club Drive, between Highway 50 and the parking lot entrance, to launch kayaks, canoes, and tubes to float down the Upper Truckee River during the late spring and early summer; and people park their vehicles in the parking lot to access the existing unimproved trail network for hiking and biking throughout the area.

The purpose of this Biological Assessment (BA) is to review the proposed Project in sufficient detail to determine the extent to which the Project may affect any federally threatened or endangered species (Special Status Species) and/or designated critical habitat. This biological assessment is prepared in accordance with legal requirements set forth under Section 7 of the Endangered Species Act (16 U.S.C. 1536 (c)).

Based on a literature review, the BA considers the following species:

- Sierra Nevada yellow-legged frog (*Rana sierra*) (SNYLF)

Other federally listed special status species may be present near the Project alignment; however, the Action Area does not fall within any Critical Habitat Areas for any USFWS species and as a result the Project is not anticipated to effect other federally listed special status species.

1.1 CONSULTATION TO DATE

The Sacramento Fish and Wildlife Office was contacted on August 26, 2019 to develop a species list via the ECOS-IPaC website (USFWS 2019). Site specific references and background information reviewed include:

- California Department of Fish and Wildlife. *California Natural Diversity Database* (CNDDB). 2019. Accessed online.
- United States Fish and Wildlife Service. Information for Planning and Conservation (IPaC). 2019. Accessed online.
- California Native Plant Society. 2019. *Inventory of Rare and Endangered Vascular Plants of California*. Accessed online.
- Natural Resource Conservation Service. 2019. Web Soil Survey. Accessed online.
- United States Department of Agriculture. 2018 CALVEG GIS Layers.

- United States Forest Service (USFS). USFS suitable habitat GIS layer for sierra Nevada yellow-legged frog.

2.0 PROJECT DESCRIPTION

2.1 PROJECT OVERVIEW

The County proposes to plan, design, and implement a project that will improve water quality, restore an impacted stream environment zone (SEZ), and achieve recreation and natural resource objectives within the northwest corner of the Country Club Heights-Erosion Control Project (CCH-ECP) in El Dorado County, California.

Country Club Heights is an existing residential development south of the City of South Lake Tahoe and is bounded by Highway 50 to the west, Southern Pines Drive, Crystal Air Drive, and Skyline Drive to the south, Crystal Air Drive and Elks Club Drive to the east, and the subdivision boundaries to the north (**Appendix A, Figure 1**). In 2017, the County approved an MND for Phases 1 and 2 of the CCH-ECP (Notice of Determination 6/19/2017, SCH Number 2017022004 [County of El Dorado 2017]). Phases 1 and 2 of the Project addressed existing source control and hydrologic design issues.

This Project constitutes Phase III of the CCH-ECP. The proposed Phase III project lies entirely within the northwestern end of the CCH-ECP limits. The proposed Phase III project would focus on reducing water quality impacts, enhancing recreation and access opportunities in the area, and SEZ restoration.

The objectives of the proposed Phase III project are to improve water quality at the northwestern end of the CCH-ECP and enhance recreation and access opportunities at the site. Specifically, the Phase III project would:

- Reduce fine and coarse sediment, stormwater runoff volume, and peak flows;
- Stabilize eroding cut slopes, roadside ditches, and capture road abrasives utilizing source control Best Management Practices (BMPs);
- Remove excess pavement and restore the Action Area to surrounding land capability, including SEZ restoration;
- Increase opportunities for the infiltration of stormwater runoff.
- Provide a pathway link supporting TRPA's Active Transportation Plan;
- Enhance recreational opportunities within the Basin; and,
- Blend hardscape improvements into the scenic environment to the maximum extent practicable.

As part of the overall CCH-ECP, the Phase III project is identified in the El Dorado County Stormwater Resource Plan, the Environmental Improvement Program projects as a recreation project (EIP #612), a watershed management project (EIP #948 and 01.02.01.002) and as a water quality project (EIP# 01.01.01.0021). The Phase III project would also be consistent with goals stated in the *Linking Tahoe: Active Transportation Plan* by enhancing recreational opportunities within the basin (FS:4).

The Action Area is defined in **Section 2.2** and illustrated in **Figure 1** in **Appendix A**.

2.1.1 Project Location

The parcels associated with the Phase III project comprise approximately 6.4 acres within the County Club Heights Unit 1 subdivision and encompasses County of El Dorado rights of way as well as CTC and privately-owned parcels. The Phase III project abuts the Truckee River in the northwest portion of the Project boundary.

The Phase III project is bound to the south by Elks Club Drive, Highway 50/Highway 89 to the west, and the Upper Truckee River to the west-northwest, and Boca Raton Drive to the east.

The Phase III project is primarily contained in an area formerly known as the Elks Club site. The location is currently used for recreational access to the Upper Truckee River and the existing trail system; commercial access by campers and vehicles to a seasonal weekend flea market held during summer months; and by large-turning-radius commercial vehicles to check loads.

2.1.2 Project Construction

The Project includes the following construction activities:

- Reconfigure and reduce the size of the existing parking lot (including shoulder)
- Grade a runoff depressional area within the parking lot restoration area
- Construct bathroom
- Remove existing concrete and expand existing SEZ area and provide restoration
- Install basin with rock slope protection area at existing channel connection
- Construct decomposed granite (DG) pathway for improved access to Upper Truckee River area, with culvert to convey storm runoff to Upper Truckee River.
- Construct a 10ft. wide paved trail with 2ft. shoulders in an existing, unimproved trail area
- Install fencing to protect basin area and encourage SEZ restoration
- Install signage
- Install two 18-inch culverts with connection to the SEZ restoration and basin area
- Revegetation of parking lot/concrete removal areas

2.1.3 Work Area Dimensions

The Project activities would require an area totaling approximately 3.2 acres. The dimensions of each Project component are provided in **Table 1**.

Table 1. Work Area Dimensions

Work Area	Work Plan	Approximate Total Acreage
Remove Pavement in Existing Parking Lot	Reduce the size of existing parking lot by removing pavement. Grade a BMP	0.50
New DG Pathway for River Access	Construct new sections of trail (≤ 5' width) and stabilize drainage crossings	0.20
AC Path	Construct 10' wide paved trail with 2' shoulders in existing unimproved trail area	0.24
Reconfigure Existing Parking Lot	Re-design existing parking lot	0.39
Retention Basin	Construct basin with rock slope protection to accept water from drainage channel.	0.70
Construction Staging	Stage materials and any equipment when not being used for work activities.	0.57
SEZ Restoration	Remove existing concrete and compacted soils to expand and restore SEZ within Action Area.	0.60
Total	This number is the sum of the new trail construction area, the maintenance and reconstruction area, and the staging area. Together they represent the total Action Area of the Project.	3.2

2.2 ACTION AREA

The Action Area is defined as "all areas affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (Code of Federal Regulations Title 50, Section 402.02). The action area includes the work area as well as surrounding areas that may be impacted by Project activities. The Action Area is presented as **Figure 1** in **Appendix A**. This action area is based on a conservative approach that considers the total area of impacts from the Project. All construction activity would be confided to the previously identified work area limits, and no additional impacts to habitat for special status species would occur as a result of the Project.

2.3 AREAS AND ACTIVITIES WITHIN ARMY CORPS JURISDICTION

In 2016, an Aquatic Resource Delineation was conducted for the Country Club Heights Erosion Control Project in support of Phases I and II which is adjacent to the 2019 Phase III survey area. NCE performed an aquatic resource delineation for the Phase III project on August 6, 2019, evaluating the potential jurisdictional status of waters of the United States (WOUS) within the Action Area. NCE surveyed a total of approximately 6.07 acres during the 2019 survey.

A jurisdictional determination, SPK-2016-00783, was received for the 2016 survey area. Based on communications with the USACE Reno Field office, NCE is requesting that the 2016 and 2019 survey areas are combined, and a revised jurisdictional determination is issued.

Details and results of these delineation surveys can be found in the Final Aquatic Resource Delineation Report submitted to the County of El Dorado and dated September 2019.

3.0 SPECIES/ CRITICAL HABITAT CONSIDERED

3.1 LITERATURE REVIEW AND DATABASE QUERIES

A query of federally-listed wildlife species for the U.S. Geological Survey (USGS) 7.5-minute quadrangle encompassing the Action Area was obtained from the USFWS's Sacramento Endangered Species Office IPaC website on August 26, 2019 (USFWS 2019).

Additional information about the distribution of special status species with the potential to occur within the Action Area was compiled from the California Department of Fish and Wildlife (CDFW) California Natural Diversity Database (CNDDB) for occurrences of special status species within a 1-mile radius of the Action Area (CNDDB 2019); from the California Native Plant Society's Inventory of Rare and Endangered Vascular Plants of California database (CNPS 2019); from aerial photographs of the Action Area; and from USGS 7.5-minute quadrangle maps. Information on the distribution of special status species with potential to occur in the Project region also was compiled from published literature.

The database searches identified three federally-listed fish and wildlife species and no federally listed plant species with potential to occur within the Action Area. The official list is provided in **Appendix B**. Suitable habitat for SNYLF is shown in **Figure 2** in **Appendix A**.

3.2 FIELD SURVEYS

NCE Biologist Mack Casterman conducted a reconnaissance-level survey of the Action Area on August 2, 2019. This survey was focused on identifying the presence of special status species or their habitats within the Action Area.

4.0 AFFECTED ENVIRONMENT

The Action Area is characterized by predominantly urban development intermixed with fragmented Jeffrey pine forest. This area produces concentrated stormwater runoff that flows from County rights of way to pervious, naturally vegetated land and ultimately the Upper Truckee River. Because the Action Area is connected to Lake Tahoe through Meyers Creek and the Upper Truckee River, there is potential for fine sediments produced in the residential area to deposit directly into Lake Tahoe. Current sediment sources within Action Area include residential use and vehicular traffic; road sand/cinder accumulation from local and collector roadways; and eroding cut slopes, drainages, and roadside ditches throughout the Action Area.

Jeffrey Pine Alliance (CALVEG Code JP)
The Jeffrey pine alliance can be found in eastside northern Sierra Nevada habitats up to an elevation of about 7,300 feet. This alliance grows in xeric micro-environments on granitic outcrops or on glaciated soils such as tills and outwash deposits. It is prominent in the Sierra Valley and Carson Range Subsections on the east side of the range. This forest is tall and open, and is dominated by Jeffrey pine (*Pinus jeffreyi*) with a sparse understory of chaparral or sagebrush shrubs and young trees. The understory may include white fir (*Abies concolor*), greenleaf manzanita (*Arctostaphylos patula*), mountain whitethorn (*Ceanothus cordulatus*), wax currant (*Ribes cereum*), and mountain sagebrush (*Artemisia tridentata* ssp. *vaseyana*). Lodgepole pine (*Pinus contorta* ssp. *murrayana*) can be found in areas that collect more moisture (Holland 1986). This alliance is mapped throughout the Action Area.

Perennial Grasslands (CALVEG Code HM)
Perennial grasslands have been mapped sparsely in fourteen subsections of the Sierran zone at elevations between 2000 – 9400 ft (610 – 2867 m). This type is a form of dry to moist grassland in which it is difficult to determine species composition without detailed onsite surveys. Some of these areas are currently being used for livestock pasture and are a mix of perennial and annual grasses and legumes that vary according to management practices. Perennial bunchgrasses introduced from Eurasia such as desert, tall, and intermediate wheatgrasses (*Agropyron desertorum, Elytrigia pontica, Elytrigia intermedia*), in addition to tall fescue (*Festuca arundinacea*), clover (*Trifolium* spp.), needlegrass (*Achnatherum* spp.), squirreltail (*Elymus elymoides*), rock cress (*Arabis* spp.), monardella (*Monardella* spp.), buckwheat (*Eriogonum* spp.), cheatgrass (*Bromus tectorum*) and others generally found in northern California may be included in the mixture. Mules-ears (*Wyethia mollis*) are a typical associate towards the east. This Alliance is often associated with moist openings in Red Fir (*Abies magnifica*) forests.

Urban or Developed (CALVEG Code UB)
The urban or developed category applies to landscapes that are dominated by urban structures, residential units, or other developed land use elements such as highways or city parks. Areas mapped as urban or developed exist throughout the Action Area, but are primarily located along the roads and paved parking area. Furthermore, the entire Action Area can be described as a mix of forested vegetation within urban development.

5.0 EFFECTS ANALYSIS

The following section provides a discussion of special status species that may be affected by the Project. This section includes a description of the status, distribution, and habitat effects for the special status species that have potential to be affected as a result of this Project. **Appendix C** contains a comprehensive list of special status species evaluated for the proposed Project and includes species on which the Project was determined to have no effect, and the reason for each determination. Areas in which temporary and permanent Project impacts to special status species habitat will occur are shown in **Figure 3** in **Appendix A**. The species listed in this section are considered possibly present based on existing occurrence data and the potential for habitat near the Action Area.

5.1 SIERRA NEVADA YELLOW-LEGGED FROG

5.1.1 Status and Distribution

The SNYLF is listed as federally endangered (USFWS 1996) and is considered a Species of Special Concern by CDFW. Critical habitat was designated in 2006 and revised in 2010 (USFWS 2006, 2010). The Project is located outside of designated critical habitat for the SNYLF and the nearest critical habitat unit is located in El Dorado County, approximately 3.4 miles west of the action area. (**Appendix A, Figure 4**)

SNYLF reproduce aquatically and tend to live near the breeding site. Mating and egg laying occur in waters shortly after snow melt post hibernation May – August. This is a high elevation diurnal frog usually found within 6 feet of water that most likely spends the winter at the bottom of frozen lakes (Nafis, 2019).

The nearest recorded observation of SNYLF in the CNDDB is from 1863 and occurred 3 miles west of the Action Area in Fallen Leaf Lake. The closest recent occurrence was made in 2011 approximately 5 miles west of the Action Area.

5.1.2 Assessment Results

While unlikely, given the historical occurrences of SNYLF in the Upper Truckee River system, it is possible that SNYLF could occur within the Project impact area. However, this likelihood is very low and SNYLF is not known to use the Upper Truckee River system near the Action Area for breeding, foraging, or dispersal. A visual encounter survey for SNYLF within the Action Area was conducted by NCE scientist Mack Casterman on August 2, 2019. No signs or detections of NSYLF or any other amphibians were encountered during the survey.

The section of the Action area that contains SNYLF suitable habitat is limited to a portion of the north-west corner of the Action Area where the Upper Truckee River flows along the Project boundary. This section of river is adjacent to a parking lot and previously developed area and is heavily used by the public as a river access point and for other forms of recreation. Within the Action Area, the southern bank of the river is armored with riprap. This stabilization measure was constructed to prevent erosion following a damaging flood event in 1997 that resulted in bank erosion and underground utilities being exposed. Historic known population occurrences suggest that the presence of SNYLF within this portion of Upper Truckee River is unlikely.

While the presence of SNYLF is unlikely, it is recommended that all regulatory requirements and permit conditions be followed including the implementation of TRPA sediment and erosion control measures. Since construction is occurring outside of the river channel and the

historical occurrences are either miles away from the Project impact area or are in excess of 75 years old, we believe potential impacts to SNYLF are unlikely.

5.1.3 Project Effects to SNYLF Habitat

The proposed Project will result in temporary disturbance of 1.6 acres of USFS suitable upland habitat for SNYLF during the April to October construction period. Project activities within SNYLF suitable habitat are limited to the improvement of an existing pathway adjacent to the river and the restoration of disturbed soils to return approximately half an acre of Stream Environment Zone to its natural function. It should be noted that USFS suitable habitat for SNYLF within the Action Area includes approximately 1 acre of paved and compacted parking areas that are currently unsuitable for SNYLF breeding, foraging, or dispersal. The proposed Project will improve and restore this area and will result in an improvement of habitat function for SNYLF as a result of Project activities.

The County will minimize potential adverse effects to the SNYLF through avoidance and minimization measures as prescribed by Tahoe Regional Planning Agency, California Department of Fish and Wildlife, the United States Forest Service, or other required Project permit mitigation measures. These measures will be developed through consultation with the regulatory and permitting agencies.

Given the lack of riparian areas or suitable breeding habitat within the Action Area, and the distance to the closest known breeding area, no effects to CRLF or their habitat are anticipated as a result of this Project.

5.2 INDIRECT EFFECTS

Indirect effects are defined by USFWS as effects that are caused by the action and occur later in time but are still reasonably certain to occur. No indirect effects on SNYLF populations are anticipated as a result of Project action. The Project will not change the existing land-use of the Action Area. Restoration of the SEZ zone within the action area will make habitat within the upland habitat within the action area more suitable for the SNYLF. Therefore, no indirect effects to SNYLF are anticipated.

5.3 CUMULATIVE EFFECTS ANALYSIS

No future State, Tribal, local or private actions were identified that are anticipated to occur within the Action Area. Therefore, no cumulative effects arising from future non-federal actions are anticipated.

6.0 AVOIDANCE AND MINIMIZATION MEASURES

The following avoidance and minimization measures (AMMs) will be considered for implementation as part of the proposed Project to avoid and/or minimize the risk of potential impacts to special status species and their habitats:

1) The Upper Truckee River is the largest source of sediment to Lake Tahoe; therefore, a rigorous suite of BMP's per TRPA standards will be included in the Project's stormwater pollution and prevention plan to protect water quality during construction.

2) The Migratory Bird Treaty Act makes it unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, or kill migratory birds. The law applies to the removal of nests (such as swallow nests on bridges) occupied by migratory birds during the breeding season. California Fish and Game (CDFG) Code (Section 3500) also prohibits the destruction of any nest, egg, or nestling. If vegetation removal or construction occurs during the nesting season (typically February 1 through September 1) then a survey for active bird nests shall be conducted by a qualified biologist no more than two weeks prior to initiation of construction activities. If nests are identified, then mitigation measures must be implemented.

7.0 DETERMINATION OF EFFECTS FOR EACH PROTECTED RESOURCE

7.1 NO EFFECT

The species for which the action was determined to have no effect are the California wolverine *(Gulo gulo luscus)* and Lahontan cutthroat trout (*Oncorhynchus clarkii henshawi*). Habitat for Lahontan cutthroat trout is present in the Upper Truckee River adjacent to the Action Area, but Project activities will not occur within the waterway and the avoidance and minimization measures described in Section 6 of this document will ensure that Project activities will not impact the species. Suitable habitat for California wolverine is absent from the action area. Therefore, no effects on these species are expected to occur as a result of Project activities.

An official special status species list for the Project, generated from the USFWS IPaC website is provided in **Appendix B**. A list of all special status species evaluated in this BA and the reasons for this determination are provided in **Appendix C**.

7.2 MAY AFFECT, NOT LIKELY TO ADVERSELY AFFECT

Based on this assessment, the Project may affect, but is not likely to adversely affect SNYLF. Due to the presence of suitable, but low-quality habitat for SNYLF within and adjacent to the action area, there is a low potential for SNYLF to occur within the action area. Conservation measures recommended in this document will ensure any adverse effects are avoided.

7.3 RESTORATION AND MITIGATION TO OFFSET EFFECTS ON SPECIES

The Project will incorporate measures to avoid, minimize, and compensate for effects on special status species and their habitats. Effects on habitat will be minimized through the implementation of the avoidance and minimization measures described in Section 6 of this biological assessment that have been incorporated into the Project. Following the completion of Project activities, all construction material and debris will be removed and disposed of appropriately. Work areas will be restored with native plants.

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Appendix A

FIGURES

Legend

- Action Area
- Streams

NCE

Country Club Heights Erosion Control Project, Phase III

Action Area Map

N

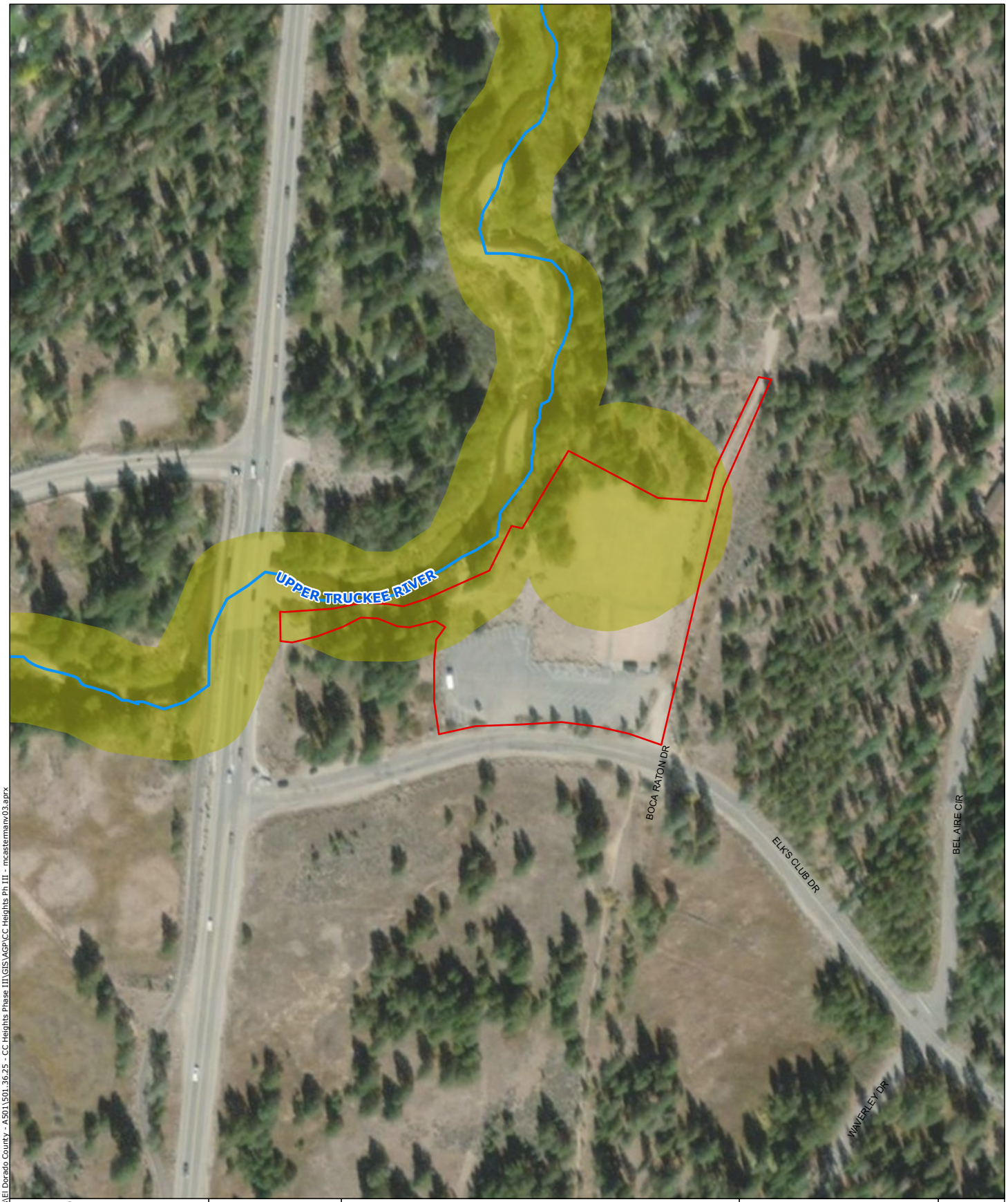
1 in. = 200 ft.

0 100 200 ft.

FIGURE 1

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap, TRPA	501.36.25	mcasterman	9/26/2019	-	drios

Document Path: P:\Active Projects\El Dorado County - A501\501.36.25 - CC Heights Phase III\GIS\AGP\CC Heights Ph III - mcastermanv03.aprx



Legend

- Action Area
- SNYLF Suitable Habitat
- Streams

NCE

Country Club Heights Erosion Control Project, Phase III

SNYLF Suitable Habitat Map

N

1 in. = 200 ft.

0 100 200 ft.

FIGURE 2

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap, TRPA, USFS	501.36.25	mcasterman	9/26/2019	-	drios

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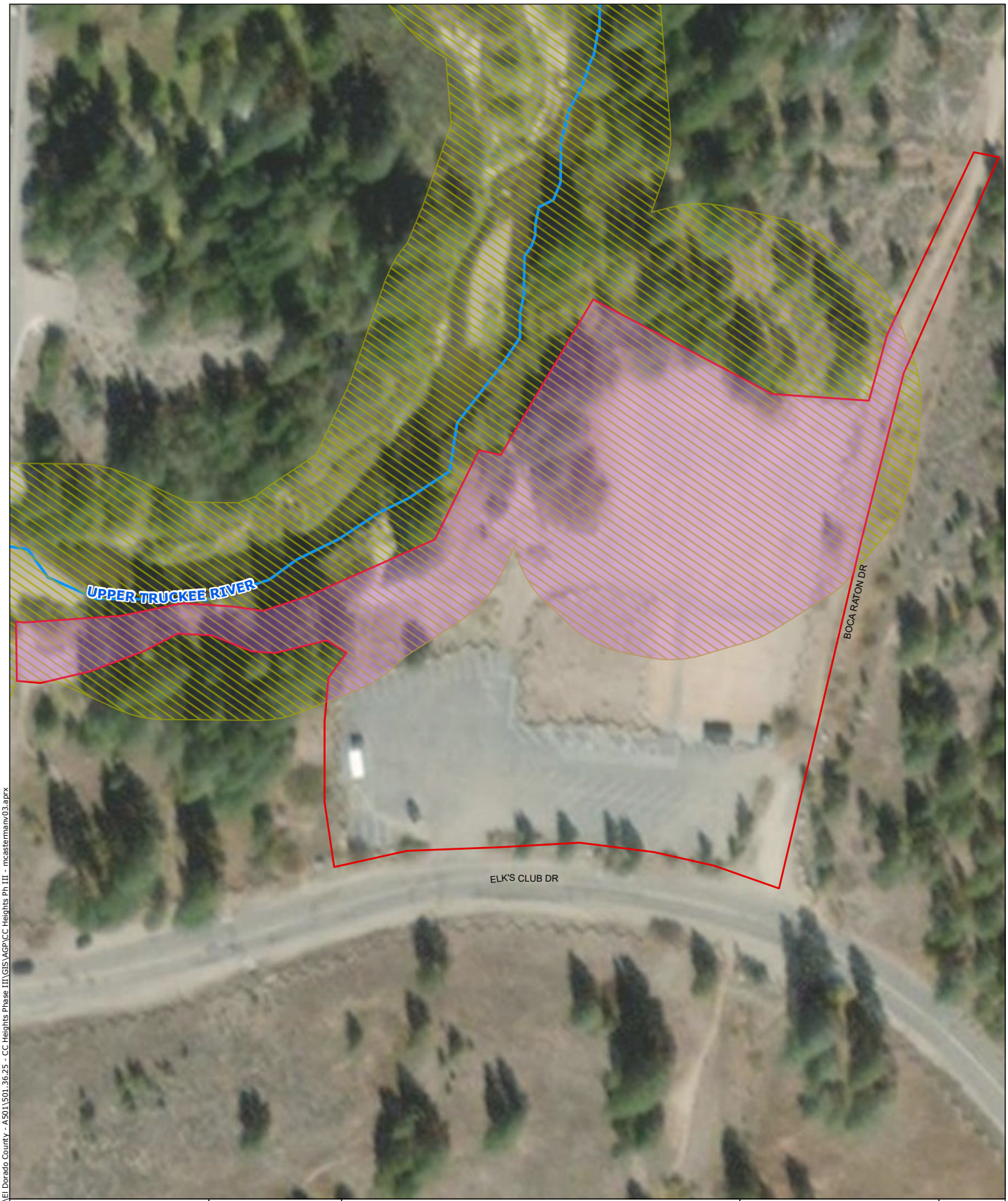


Legend

- Action Area
- SNYLF Suitable Habitat
- SNYLF Habitat Temporary Impact
- Streams

NCE

Country Club Heights Erosion Control Project, Phase III

SNYLF Habitat Impact Area Map

N

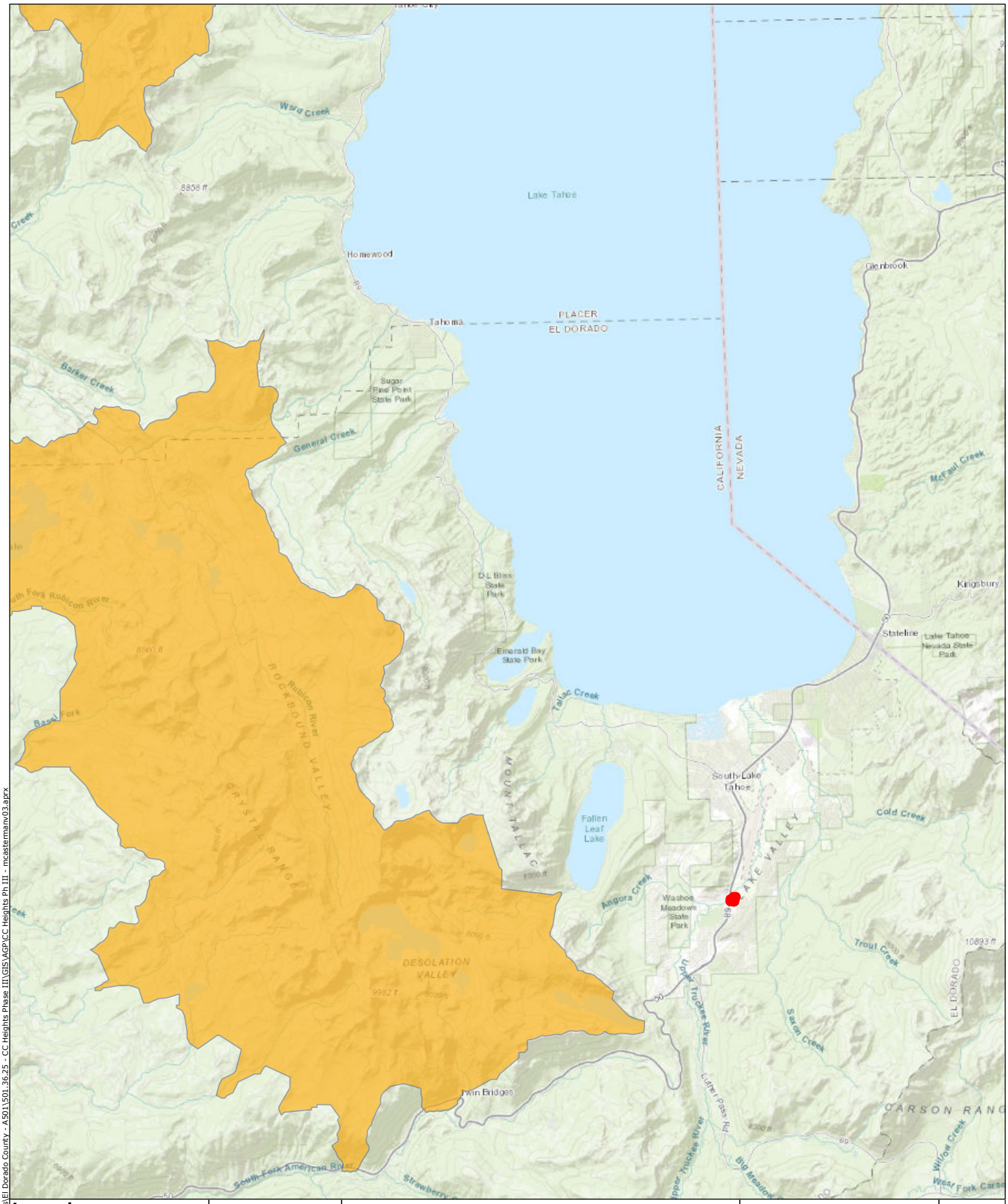
1 in. = 100 ft.

0 50 100 ft.

FIGURE 3

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap, TRPA, USFS	501.36.25	mcasterman	9/26/2019	-	drios

Document Path: P:\Active Projects\El Dorado County - A501\501.36.25 - CC Heights Phase III\GIS\AGP\CC Heights Ph III - mcastermanv03.aprx



Legend

- Project Area
- SNYLF Critical Habitat

Country Club Heights
Erosion Control Project, Phase III
Sierra Nevada Yellow-Legged Frog Critical Habitat

N

1 in. = 16,000 ft.

0 8,000 16,000 ft.

FIGURE 4

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap, TRPA	501.36.25	mcasterman	9/5/2019	-	drios

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Appendix B

OFFICIAL USFWS LIST OF SPECIAL STATUS SPECIES WITH POTENTIAL TO OCCUR IN ACTION AREA

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-0686
Event Code: 08ENVD00-2019-E-01750
Project Name: Country Club Heights Phase 3

August 26, 2019

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/Program

County	Ownership/Program	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=Arcata 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=Yreka 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-0686

Event Code: 08ENVD00-2019-E-01750

Project Name: Country Club Heights Phase 3

Project Type: LAND - DRAINAGE

Project Description: Country Club Heights erosion control project

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.875216927634085N120.00364881697948W

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 Wildlife 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
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

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.

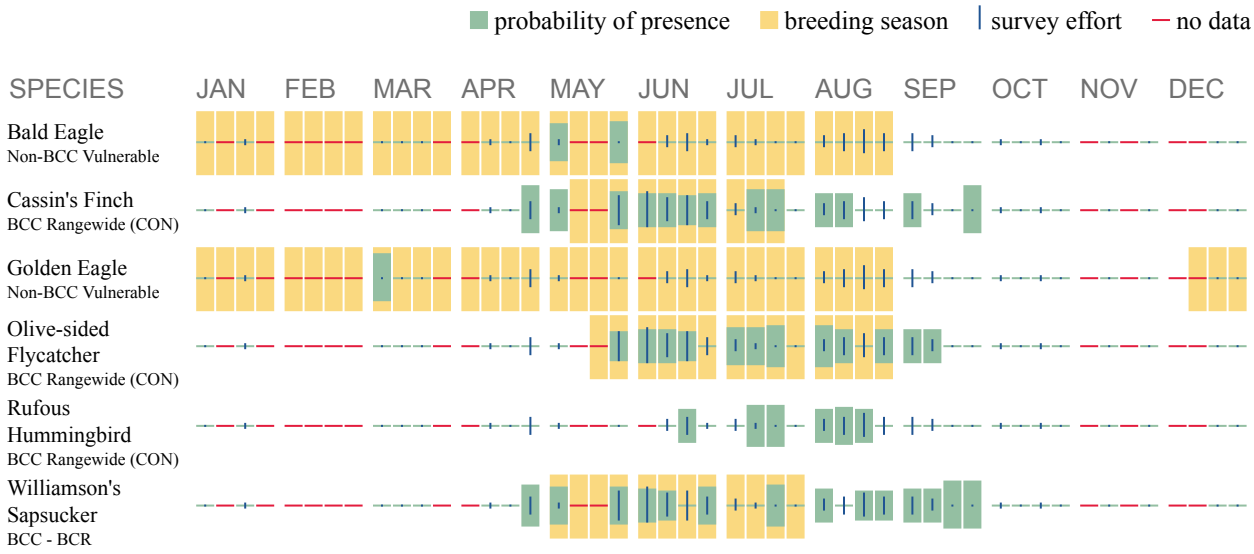
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 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 FAQ

Tell me more about conservation measures 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 AKN Phenology 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 are potentially affected by offshore projects
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.

Proper Interpretation 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.

FRESHWATER FORESTED/SHRUB WETLAND

- PSSC

Appendix C

SPECIAL STATUS SPECIES CONSIDERED FOR ANALYSIS

Species	Regulatory Status			Habitat Requirements	Potential for Occurrence in the Action Area
	Federal	State	TRPA		
Rana sierrae Sierra Nevada yellow-legged frog	FE	ST, WL		Typical habitat includes lakes, ponds, marshes, meadows, and streams at high elevations – typically ranging from about 4,500 to 12,000 feet. Sierra Nevada yellow-legged frogs are highly aquatic. They are rarely found more than 3.3 feet from water. Waters that do not freeze to the bottom and which do not dry up are required for breeding.	**Unlikely.** USFS suitable habitat occurs within the Action Area; however, the habitat is of marginal quality. Not encountered during surveys
Gulo gulo luscus California wolverine	PT	ST, FP		Extensive wilderness dominated by coniferous forest. Wolverines generally den in areas with snags, downed logs, large hollow trees, or talus.	**Absent.** Suitable alpine habitat is not present in the Action Area. There are very few documented occurrences in the region.
Oncorhynchus clarkii henshawi Lahontan cutthroat trout	FT			Cold-water habitats including large terminal alkaline lakes, and alpine lakes, slow meandering rivers, mountain rivers, and small headwater tributary streams.	**Absent**. Suitable aquatic habitat is present within the Upper Truckee River which flows north of the Action Area but is not present within the Action Area itself. Project activities will not impact Upper Truckee River waterway.

Species	Regulatory Status			Habitat Requirements		Potential for Occurrence in the Action Area
	Federal	State	TRPA			
Present: Species observed on the sites at time of field surveys or during recent past. Possible: Species not observed on the sites, but it could occur there from time to time. Unlikely: Species not observed on the sites, and would not be expected to occur there except, perhaps, as a transient. Absent: Species not observed on the site and precluded from occurring there because habitat requirements not met.	Federally Listed Species (Federal): FE = Federally Endangered FT = Federally Threatened FD = Federally Delisted PT = Proposed Threatened FCE = Federally Endangered Candidate FPD = Proposed for Delisting BCC = Bird of Conservation Concern Tahoe Regional Planning Agency (TRPA): SI = TRPA Special Interest Species	California State Listed Species (CA): SE = State Endangered ST = State Threatened SCT = State Candidate Threatened SR = State Rare SC = State Candidate WL = CDFW Watch List SSC = CDFW Species of Special Concern FP = CDFW Fully Protected	California Native Plant Society (CNPS) List Categories: 1 = Rare in California and elsewhere 2 = Rare in California, but not elsewhere A = Presumed extirpated or extinct B = Rare, threatened, or endangered 3 = Plants about which we need more information 4 = Plants of limited distribution CNPS Threat Code Extensions: .1 = Seriously endangered in California (Over 80% of occurrences threatened) .2 = Fairly endangered in California (20-80% occurrences threatened) .3 = Not very endangered in California (<20% of occurrences threatened)	

Appendix D

REPRESENTATIVE PHOTOGRAPHS

Photograph 1: Central Action Area

Photograph 2: Sierra Nevada yellow-legged frog habitat in Upper Truckee River near northern end of Action Area.

Photograph 3: Sierra Nevada yellow-legged frog habitat in Upper Truckee River near western end of Action Area.

Appendix D

Aquatic Resource Delineation Report

Final Draft Aquatic Resource Delineation Report

Country Club Heights Erosion Control Project Phase III
September 2019

NCE

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Engineering & Environmental Services

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FINAL DRAFT AQUATIC RESOURCE DELINEATION REPORT

Country Club Heights Erosion Control Project Phase III

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Executive Summary

In 2016, an Aquatic Resource Delineation was conducted in El Dorado County, California for the Country Club Heights Erosion Control Project in support of Phases I and II. A jurisdictional determination, SPK-2016-00783, was received for the 2016 survey area. Per the March 6, 2017 jurisdictional determination, Wetland 2 is a federally jurisdictional feature and it is 0.573 acres in size.

On August 6, 2019, NCE performed a field investigation evaluating the potential jurisdictional aquatic resources for the Country Club Heights Erosion Control Project Phase III, which is adjacent to Phases I and II.

NCE is requesting that the 2016 and 2019 survey areas are combined, and one jurisdictional determination is issued for the amended survey area.

Within the survey area, one drainage (Upper Truckee River) was mapped by the United States Geological Survey (USGS). At the location of the Upper Truckee River, Freshwater Forested/Shrub Wetland was recognized by the United States Fish and Wildlife Service National Wetlands Inventory.

NCE surveyed a total of approximately 6.07 acres. Within the survey area, NCE delineated the edge of the Upper Truckee River, and two man-made swales. The Upper Truckee River is a potentially jurisdictional aquatic resource due to the presence of ordinary high-water mark indicators and a direct hydrologic connection to Lake Tahoe, a traditional navigable waterway. The man-made swales were created in uplands for stormwater management, and therefore are not federally jurisdictional.

One potentially jurisdictional feature was identified within the survey area **(Appendix A, Figure 1)**:

- Upper Truckee River: The Upper Truckee River contained flow during the survey. This drainage is a relatively permanent water, Cowardin classified as Lower Perennial Riverine, and is approximately 0.134 acres in size within the survey area.

Two potentially non-jurisdictional features were identified within the survey area **(Appendix A, Figure 1)**:

- Man-Made Swale (MMS) - Boca Raton Drive Continued (MMS 7): this is a man-made swale created in an upland to transport stormwater, it is approximately 0.058 acres in size.
- Man-Made Swale – Elks Club Drive 2 (MMS 8): this is a man-made swale created in an upland to transport stormwater, it is approximately 0.008 acres in size.

The delineation was conducted in accordance with the:

- 1987 Corps of Engineers Wetland Delineation Manual;
- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), May 2010; and
- A Field Guide to the Identification of the Ordinary High-Water Mark (OHWM) in the Arid West Region of the Western United States, August 2008.

These findings should be considered preliminary until the United States Army Corps of Engineers makes a final approved jurisdictional determination in accordance with the United States Environmental Protection Agency.

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LIST OF ACRONYMS AND ABBREVIATIONS

MMS 5	Man-Made Swale Boca Raton Drive, Feature 5
MMS 7	Man-Made Swale - Boca Raton Drive Continued
MMS 8	Man-Made Swale – Elks Club Drive 2
NWI	National Wetlands Inventory
NRCS	Natural Resource Conservation Service
OHWM	Ordinary High-Water Mark
Project	Country Club Heights Erosion Control Project Phase III
RPW	Relatively Permanent Water
TNW	Traditional Navigable Waterway
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WOUS	Waters of the United States, including wetlands

1.0 INTRODUCTION

1.1 CONTACT AND PROJECT INFORMATION

Mr. Daniel Kikkert of County of El Dorado, Community Development Agency, Transportation Division, contracted NCE to conduct a formal United States Army Corps of Engineers (USACE) delineation of aquatic resources at the Country Club Heights Erosion Control Project Phase III (project).

Mr. Kikkert's contact information is:

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Ms. Debra Lemke and Ms. Sarah Bryan of NCE conducted the aquatic resource delineation on August 6, 2019.

The project is in the County of El Dorado, California, northeast of the intersection of U.S. Highway 50 and Elks Club Drive. The Lake Tahoe Airport is north of the survey area and the community of Meyers is south of the survey area (**Appendix B, Figure 1**).

In 2016, an Aquatic Resource Delineation was conducted for the Country Club Heights Erosion Control Project in support of Phases I and II which is adjacent to the 2019 Phase III survey area (**Appendix B, Figures 2A and 2B**). A jurisdictional determination, SPK-2016-00783, was received for the 2016 survey area. Per the March 6, 2017 jurisdictional determination, Wetland 2 is a federally jurisdictional feature and it is 0.573 acres in size. **Appendix A** contains the March 6, 2017 jurisdictional determination, the 2016 Aquatic Resource Delineation cover letter and report for the Country Club Heights Erosion Control Project, and a supplemental memo on the status of Wetland 1's lack of a surface water connection.

Based on communications with the USACE Reno Field office, NCE is requesting that the 2016 and 2019 survey areas are combined, and a revised jurisdictional determination is issued. **Appendix B, Figure 2C** depicts the amended survey area. For the purpose of this report, the following text is for the 2019 survey area.

The survey area consists of parking lots, vacant residential land, and a portion of the Upper Truckee River (**Appendix B, Figure 2B**).

The survey area is presented on United States Geological Survey (USGS) Echo Lake and Emerald Bay 7.5-minute series topographic quadrangle maps (**Appendix B, Figure 3**).

1.2 PURPOSE

The purpose of this report is to identify and describe aquatic resources and to identify known possible sensitive plant, fish, wildlife species, and cultural/historic resources in the survey area. This report facilitates efforts to:

1. Avoid or minimize impacts to aquatic resources during the project development process.
2. Document aquatic resource boundary determinations for review by the USACE.

3. Provide early indications of known sensitive species and historic/cultural properties within the survey area.
4. Provide background information.

2.0 BACKGROUND

2.1 SITE DESCRIPTION

2.1.1 Location

The project is in the County of El Dorado, California, northeast of the intersection of U.S. Highway 50 and Elks Club Drive. The Lake Tahoe Airport is north of the survey area and the community of Meyers of south of the survey area (**Appendix B, Figure 1**). The survey area is in Sections 20, and 21 in Township 12 North and Range 18 East of the Mt. Diablo Meridian which may be found on the USGS 7.5-minute Echo Lake and Emerald Bay quadrangle maps in El Dorado County, California. At the southwest corner of the survey area near Elks Club Drive the latitude is: 38.874449 and the longitude is: -120.0054190.

2.1.2 Site Access

Driving directions from South Lake Tahoe to the survey area are as follows:

> From South Lake Tahoe, continue south on U.S. Highway 50/Lake Tahoe Boulevard to the intersection of U.S. Highway 50/State Route 89/Emerald Bay Road and Lake Tahoe Boulevard. At this intersection, turn south onto U.S. Highway 50/State Route 89/Emerald Bay Road. Travel for approximately 2.8 miles to Elks Club Drive. At this intersection, turn east onto Elks Club Drive, the survey area is to the north.

2.1.3 Land Use

The land within the survey area contains publicly-owned land by the County of El Dorado, the California Tahoe Conservancy, and the State of California. The extent of the survey area is fully located within El Dorado County limits.

The survey area surrounding land uses include residential, the Lake Tahoe Golf Course, and the Upper Truckee River that runs through the survey area as well as north and south.

2.1.4 Vegetation

The survey area is characterized predominantly by urban land, with some Jeffrey pine and perennial grassland (**Appendix B, Figure 4**).

2.1.5 National Wetland Inventory

Within the survey area, the Upper Truckee River is identified by the United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) (**Appendix B, Figure 5**).

The Upper Truckee River is recognized as a perennial stream by the USGS Topographic Map (**Appendix B, Figure 3**).

2.1.6 Soils

The soils within the survey area have been mapped by the Department of Agriculture, Natural Resource Conservation Service (NRCS) and were downloaded from the Web Soil Survey (NRCS 2019a). NRCS identified three soil types within the survey area (**Appendix B, Figure 6**); the three soil types are on the national hydric soils list (NRCS 2019a). The three soil types are presented below.

Marla loamy coarse sand, 0 to 5 percent slopes
Marla loamy coarse sand, 0 to 5 percent slopes is a soil component that occurs on outwashes terraces and valley flats. The parent material consists of alluvium derived from granidiorite. The natural drainage class is poorly drained. This soil is considered hydric (NRCS 2019b).

Jabu coarse sandy loam, 0 to 9 percent slopes
Jabu coarse sandy loam, 0 to 9 percent slopes is a soil component that occurs on hillsides on outwash terraces. The parent material consists of outwash derived from granidiorite. Depth to a restrictive layer is 39 to 79 inches to fragipan, and 59 to 79 inches to densic material. The natural drainage class is well drained. This soil is considered hydric (NRCS 2019b).

Celio loamy coarse sand, 0 to 5 percent slopes
Celio loamy coarse sand, 0 to 5 percent slopes is a soil component that occurs on outwash terraces. The parent material consists of alluvium and/or outwash. Depth to a restrictive layer is 39 to 59 inches to duripan. The natural drainage class is somewhat poorly drained. This soil is considered hydric (NRCS 2019b).

2.1.7 Hydrology
The sources of water for the survey area include direct precipitation, stormwater runoff from higher elevations to the south and southeast, and snowmelt within the project boundary and vicinity.

3.0 METHODS

3.1 LITERATURE REVIEW

Available information pertaining to the natural resources of the region was reviewed. References reviewed for this delineation are listed in Section 5.0. Pertinent site-specific reports and general references utilized for the delineation include the following:

- USFWS NWI mapping.
- Google Earth.
- United States Department of the Interior, USGS. Echo Lake and Emerald Bay, California 7.5-minute series topographic quadrangle.
- United States Department of Agriculture (USDA), NRCS. 2019a. Soils survey data for the project site accessed online at: *http://websoilsurvey.nrcs.usda.gov/app/*
- USDA, NRCS. 2019b. National and State of California hydric soils for the project study area accessed online at: *http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/use/hydric/*
- USGS National Hydrography Data. *https://nhd.usgs.gov/tools.html#MDTool*
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. U.S. Army Corps of Engineers Waterways Experiment Station. Vicksburg, MS.
- USACE. 2010. *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region* (Version 2.0).
- USACE U.S. Environmental Protection Agency. 2007. *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States and Carabell v. United States.*
- USDA, NRCS. 2010. *Field Indicators of Hydric Soils in the United States*, Version 7.0. L.M. Vasilas, G.W. Hurt, and C.V. Noble (eds). USDA, NRCS in cooperation with the National Committee for Hydric Soils.
- Gretag, Macbeth. 2000. *Munsell Soil Color Charts*. New Windsor, NY.
- Cowardin, *et al*. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Fish and Wildlife Service, Washington D.C.
- California Department of Fish and Wildlife. California Interagency Wildlife Task Group. 2014. CWHR version 9.0 personal computer program. Sacramento, CA.
- USACE. 2019. *National Wetland Plant List, version 3.3.* Accessed online at: http://wetland_plants.usace.army.mil/

3.2 RESEARCH AND FIELD METHODOLOGY

Prior to the field investigation, USGS topographic maps, aerial photographs, USFWS NWI mapping, and a NRCS custom soil report of the survey area were reviewed for indications of ephemeral, intermittent, and perennial drainages as well as mapped wetlands and spring locations.

Wetlands

The survey area was delineated for the presence of wetlands utilizing the USACE 1987 three-parameter (vegetation, hydrology, and soils) methodology. This methodology was refined in the Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), May 2010 and requires the collection of data on soils, vegetation, and hydrology at several locations to establish the potential jurisdictional boundary of wetlands.

The team identified representative locations for data collection. Soil pits were dug, and the team collected data on vegetation, hydrology, and soils. Soils were also examined, and correlations were developed between the three parameters to determine if the potential resource meets the three parameters to be considered a wetland. Data points were evaluated to determine the composition and identification of dominant plant species. The indicator status of all dominant plant species, as determined by the 2016 National Wetland Plant List, version 3.3, was applied and evaluated as part of the vegetation assessment portion of the wetland determination process. Additionally, immediate subsurface soil conditions were examined for hydric attributes or a lack thereof. Observations were made and recorded for both primary and secondary wetland hydrology indicators, if present. Soil pit locations were recorded with a Trimble Geo7x GPS unit and were documented with representative photographs.

Roadside Ditches and Man-Made Swales

The survey area was delineated to determine if roadside ditches and/or man-made swales were constructed within jurisdictional drainages.

Drainages

The survey area was delineated for drainages utilizing the presence of ordinary high-water mark (OHWM) indicators, evidence of frequent surface water flows, and a connection to a navigable waterway. These characteristics were indicative of a jurisdictional WOUS. Arid West Ephemeral and Intermittent Stream OHWM Data Sheets were completed for each drainage with the presence of OHWM indicators. If the drainage had OHWM indicators present, the drainage was followed to determine if the drainage flowed into another drainage with OHWM indicators or if these indicators terminated. Where the drainage exhibited OHWM indicators, width measurements were taken to be used in determining an average width of the drainage and height measurements from the OHWM to the drainage bottom were taken. When drainages with OHWM indicators left the area, an attempt was made to follow the drainage to determine if OHWM indicators terminated or a connection to a navigable waterway. Ordinary high-water mark indicator locations were recorded with a Trimble Geo7x GPS unit and representative photographs were taken.

3.3 SURVEY DATA INTEGRATION

Boundaries of the potential WOUS within the survey area were mapped using a Trimble Geo7x GPS unit and digitized in ESRI ArcGIS Pro 2.4.0 software.

3.4 PRIVATE PROPERTY OWNER ACCESS

A signed letter allowing USACE personnel to enter the property and collect samples during business hours will not be needed as the survey area is within public land of the State of California and/or the California Tahoe Conservancy.

4.0 RESULTS

4.1 LANDSCAPE SETTING

The survey area is approximately 6.07 acres. The entire survey area was field delineated by NCE. The survey area includes publicly owned land by the County of El Dorado, and the State of California. The extent of the survey area is fully located within El Dorado County limits. The survey area slopes from the east to the west, with the east being 6,274 feet above mean sea level, and the west being 6,269 feet above mean sea level. The lowest elevation of the survey area is in the northwestern corner at 6,268 feet above mean sea level.

The project is on the east side of U.S. Highway 50. A portion of the Upper Truckee River is within the northwestern section of the survey area.

At the location of the Upper Truckee River, Freshwater Forested/Shrub Wetland is recognized on NWI mapped wetlands (**Appendix B, Figure 5**). There is one USGS 'blue line' drainage within the survey area, the Upper Truckee River (**Appendix A, Figure 3**). Two man-made swales were identified within the survey area (discussed below in Section 4.2).

Vegetation types were initially identified with the CALVEG GIS data (USDA 2009), and then verified based on an NCE reconnaissance botanical field survey (**Appendix C Plant List**).

4.2 AQUATIC RESOURCES

4.2.1 Wetlands

Near the survey area's northern edge, a data point was taken adjacent to the Upper Truckee River. The data point (SP1) was collected within a representative area along the river, although SP1 was north of the survey area due to the field maps using inaccurate Tahoe Regional Planning Agency parcel data. The vegetation at SP1 consisted of 90% California Brome (*Bromus carinatus)* which is a native grass species and 10% Threenerve goldenrod (*Solidago velutina*) a native species. The data point SP1 is not within a wetland because there are no signs of wetland hydrology, hydrophytic vegetation, nor hydric soils.

Appendix B, Figure 3 depicts the location of the data point SP1. **Appendix B, Figure 7** presents the ground photograph figure and a representative photograph is provided in **Appendix D**. The plants identified within the entire survey area are presented in **Appendix C**. The wetland datasheet is provided in **Appendix E**.

4.2.2 Drainages

The Upper Truckee River was identified flowing generally south to north along the western edge of the survey area. This is an USGS topographic drainage. This drainage was flowing at the time of the survey. Data Point UTR Edge was collected at the right bank.

The Upper Truckee River discharges into Lake Tahoe, a Traditional Navigable Waterway (TNW). Due to the presence of OHWM indicators and the drainage's connection to a TNW, NCE believes that Upper Truckee River is a jurisdictional waterway. This drainage is Cowardin classified as Lower Perennial Riverine and within the survey area is approximately 0.134 acres (**Appendix A, Figure 1**).

Appendix B, Figure 3 depicts the location of the data point UTR Edge. **Appendix B, Figure 7** presents the ground photograph figure and a representative photograph is provided in **Appendix D**. The plants identified within the entire survey area are presented in **Appendix C**.

4.2.3 Roadside Ditches
No roadside ditches were identified within the survey area.

4.2.4 Man-Made Swales
Two man-made swales were delineated within the survey area.

Man-Made Swale - Boca Raton Drive Continued (MMS 7)
A man-made swale was identified along the northern survey area, Man-Made Swale - Boca Raton Drive Continued (MMS 7). This man-made swale (MMS 7) begins at the northeastern corner of the survey area. To the south is another man-made swale which was identified during the 2016 delineation; this feature was labeled as Man-Made Swale Boca Raton Drive, Feature 5 (MMS 5). These two features are separated by an increase in surface elevation. It is possible that MMS 5 may discharge into MMS 7 during very high storm events. MMS 7 is present along the northern survey area. There is no direct discharge into the Upper Truckee River.

The bottom of MMS 7 is 120 inches wide, while the top of MMS 7 is 224 inches wide, and the height is approximately 36 inches. An OHWM datasheet was not completed since the USACE does not regulate stormwater features created in uplands. Representative photographs were taken (**Appendix D**). Three GPS datapoints were collected: MMS 7A at the eastern edge, MMS 7C at a flow gage, and MMS 7B at the termination of MMS 7.

This is not an USGS mapped drainage, not does this appear on the NWI mapping.

NCE believes that MMS 7 is non-federal jurisdictional resource because it is a man-made stormwater feature that was constructed in an upland to convey, treat, and/or store stormwater.

Man-Made Swale – Elks Club Drive 2 (MMS 8)
A man-made swale was identified in the southwestern area of the survey area, Man-Made Swale – Elks Club Drive 2 (MMS 8). There is a culvert under Elks Club Drive, within the survey area, MMS 8 begins at the downstream side of the culvert. Upstream of the culvert there were no previously identified features from the 2016 WOUS delineation.

The width of MMS 8 is 15 inches. An OHWM datasheet was not completed since the USACE does not regulate stormwater features created in uplands. Representative photographs were taken (**Appendix D**). Three GPS datapoints were collected: C3A at the southern (upstream) edge of the culvert; C3 at the northern (downstream) edge of the culvert; and C3B at the termination of MMS 8.

This is not an USGS mapped drainage, nor does this appear on the NWI mapping.

NCE believes that MMS 8 is a non-federal jurisdictional resource because it is a man-made stormwater feature that was constructed in an upland to convey, treat, and/or store stormwater.

Appendix B, Figure 3 depicts the location of the data points. **Appendix B, Figure 7** presents the ground photograph figure and representative photographs are provided in **Appendix D**. The plants identified within the entire survey area are presented in **Appendix C**.

4.2.5 Aquatic Resources Types and Amounts
Below is **Table 1** with the aquatic resources identified within the 2019 survey area.

Table 2 presents the proposed jurisdictional status for the 2019 survey area and the jurisdictional waters of the United States (WOUS) based on the March 6, 2017 jurisdictional determination from the 2016 Aquatic Resource Delineation report.

Table 1. Aquatic Resources within the 2019 Survey Area

Aquatic Resource Name	Aquatic Resources Classification		Length of Drainage Within Survey Area (acres)	Aquatic Resource Size (acre) Required for all resources	Aquatic Resource Size (linear feet)
	Cowardin	Location (lat/long)			
Upper Truckee River	R2 – Lower Perennial Riverine	38.8753739 N -120.0043324 W	0.134	0.134	564.91
Man-Made Swale – Boca Raton Continued (MMS 7)	Upland	38.8759915 N -120.0033505 W	0.058	0.058	253.28
Man-Made Swale – Elks Club Drive 2 (MMS 8)	Upland	38.8747804 N -120.0049122 W	0.008	0.008	293.04

Table 2. Waters of the U.S Proposed Jurisdictional Status for 2016/2019 Amended

Water Type	Total Acres	Jurisdictional	Non-Jurisdictional
Upper Truckee River	0.134	0.134	
Man-Made Swale – Boca Raton Continued (MMS 7)	0.058		0.058
Man-Made Swale – Elks Club Drive 2 (MMS 8)	0.008		0.008
Wetland 2 – Cherry Hills Circle	0.573	0.573	
Total	0.773	0.707	0.066

Appendix A, Figure 1 depicts the proposed jurisdictional status of the 2019 identified features. **Appendix A, Figure 2** depicts the proposed jurisdictional status of the 2019 identified features and the wetland (Wetland 2 – Cherry Hills Circle) that was determined to be a WOUS by the March 6, 2017 jurisdictional determination.

4.3 SIGNIFICANT NEXUS

The U.S Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook (USACE 2007) was consulted to aid the preliminary determination whether an area would be subject to USACE jurisdiction under Section 404 of the Clean Water Act. The significant nexus

test, outlined in a memorandum jointly authored by the U.S. Environmental Protection Agency and USACE, was applied to each potentially jurisdictional habitat type (Grumbles and Woodley 2008). To facilitate jurisdictional determination consistent with the guidance, each water body delineated was evaluated as a TNW, Relatively Permanent Water (RPW), or non-RPW, based on the following definitions:

- TNWs include all waters subject to the ebb and flow the tide, or waters that are presently used, have been used in the past, or may be used in the future to transport interstate or foreign commerce, and all waters that are navigable in fact under federal law for any purpose.
- RPWs are waters that flow continuously at least seasonally (typically at least 3 months of the year) and are not TNWs.
- Non-RPWs are waters that do not have continuous flow at least seasonally.

The following types of water bodies are subject to Clean Water Act jurisdiction:

- All TNWs and adjacent wetlands;
- Relatively permanent tributaries of TNWs and wetlands with a continuous surface connection to such tributaries; and
- Non-relatively permanent tributaries of TNWs and adjacent wetlands if they have a significant nexus to a TNW. Non-RPWs and adjacent wetlands are determined to have a significant nexus to a TNW if they significantly affect the chemical, physical, or biological integrity of a downstream TNW.

NCE's professional opinion is that the Upper Truckee River is an RPW and a tributary to Lake Tahoe. The Upper Truckee River can affect the chemical, physical, and/or biological integrity of Lake Tahoe, resulting in a significant nexus to Lake Tahoe.

NCE's professional opinion is that the two man-made swales (MMS 7 and MMS 8) are non-federally jurisdictional because each one is a man-made stormwater feature that was constructed in an upland to convey, treat, and/or store stormwater.

Appendix F contains two Aquatic Resource Excel Sheets (2016 and 2019) and the GIS metadata for both the 2016 and 2019 survey areas.

The above findings should be considered preliminary until the USACE makes a final approved jurisdictional determination in coordination with the United States Environmental Protection Agency. Areas deemed jurisdictional will then be subject to the regulatory requirements of the federal Clean Water Act.

5.0 REFERENCES

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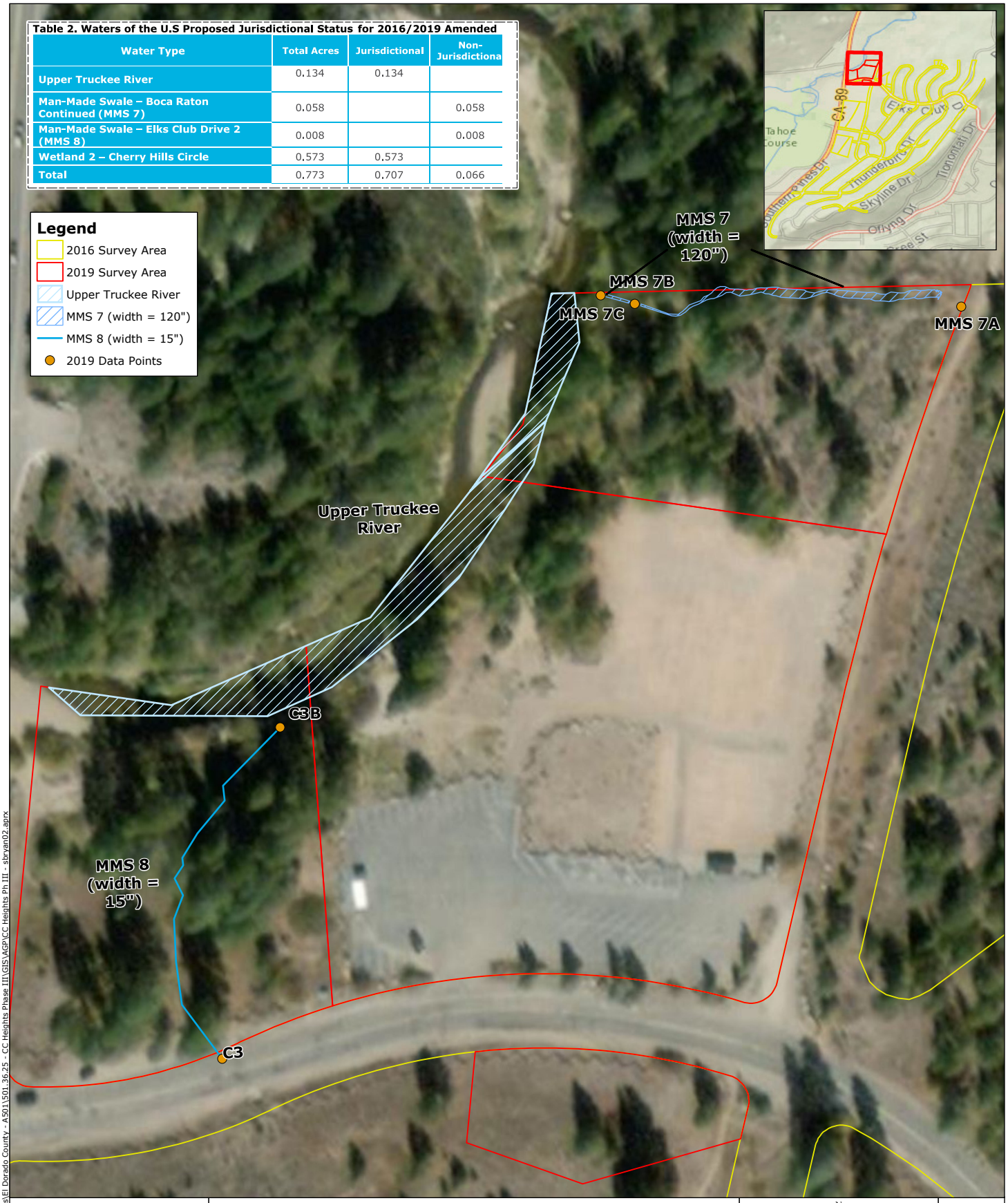
Appendix A

2019 Proposed Delineation Map
2016/2019 Amended Proposed Delineation Map
2017 Jurisdictional Determination, 2016 Aquatic Resource Delineation Cover letter and Report, and Wetland 1 Addendum

Table 2. Waters of the U.S Proposed Jurisdictional Status for 2016/2019 Amended

Water Type	Total Acres	Jurisdictional	Non-Jurisdictiona
Upper Truckee River	0.134	0.134	
Man-Made Swale – Boca Raton Continued (MMS 7)	0.058		0.058
Man-Made Swale – Elks Club Drive 2 (MMS 8)	0.008		0.008
Wetland 2 – Cherry Hills Circle	0.573	0.573	
Total	0.773	0.707	0.066



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NCE

Country Club Heights Erosion Control Project Phase III

2019 Proposed Delineation Map

N

1 in. = 100 ft.

0 50 100 ft.

FIGURE 1

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2016/2019	501.36.25	sbryan	9/9/2019	-	drios

Table 2. Waters of the U.S Proposed Jurisdictional Status for 2016/2019 Amended

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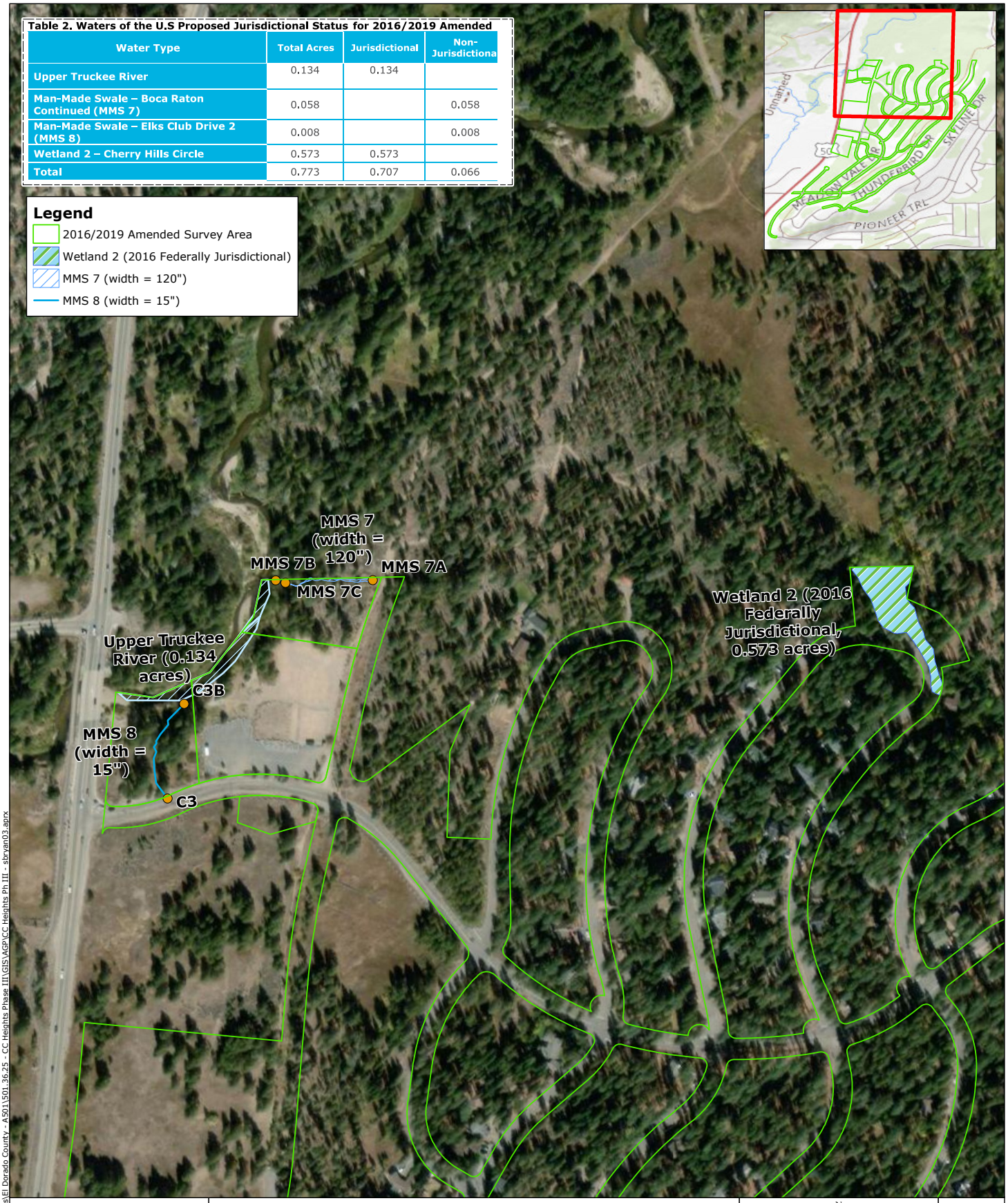

NCE

Country Club Heights Erosion Control Project Phase III

2016/2019 Amended Proposed Delineation Map

N

1 in. = 350 ft.

0 350 ft.

FIGURE 2

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2016/2019	501.36.25	sbryan	9/9/2019	9/10/2019	drios

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APPROVED JURISDICTIONAL DETERMINATION FORM
U.S. Army Corps of Engineers

This form should be completed by following the instructions provided in Section IV of the JD Form Instructional Guidebook.

SECTION I: BACKGROUND INFORMATION

A. REPORT COMPLETION DATE FOR APPROVED JURISDICTIONAL DETERMINATION (JD): March 6, 2017

B. DISTRICT OFFICE, FILE NAME, AND NUMBER: Sacramento District, Country Club Heights Erosion Control Project, SPK-2016-00783

C. PROJECT LOCATION AND BACKGROUND INFORMATION:
State: **California** County/parish/borough: **El Dorado** City: **Meyers**
Center coordinates of site (lat/long in degree decimal format): Lat. **38.8697°**, Long. **-120.0026°**
Universal Transverse Mercator: **10 760052.08 4306592.24**
Name of nearest waterbody: **Upper Truckee River**
Name of nearest Traditional Navigable Water (TNW) into which the aquatic resource flows: **Lake Tahoe**
Name of watershed or Hydrologic Unit Code (HUC): **Lake Tahoe, 16050101**
☒ Check if map/diagram of review area and/or potential jurisdictional areas is/are available upon request.
☐ Check if other sites (e.g., offsite mitigation sites, disposal sites, etc…) are associated with this action and are recorded on a different JD form:

D. REVIEW PERFORMED FOR SITE EVALUATION (CHECK ALL THAT APPLY):
☒ Office (Desk) Determination. Date: **March 6, 2017**
☐ Field Determination. Date(s):

SECTION II: SUMMARY OF FINDINGS

A. RHA SECTION 10 DETERMINATION OF JURISDICTION.

There **Are no** "*navigable waters of the U.S.*" within Rivers and Harbors Act (RHA) jurisdiction (as defined by 33 CFR part 329) in the review area. [*Required*]
☐ Waters subject to the ebb and flow of the tide.
☐ Waters are presently used, or have been used in the past, or may be susceptible for use to transport interstate or foreign commerce. Explain:

B. CWA SECTION 404 DETERMINATION OF JURISDICTION.

There **are and are not** "*waters of the U.S.*" within Clean Water Act (CWA) jurisdiction (as defined by 33 CFR part 328) in the review area. [*Required*]

1. **Waters of the U.S.**
   a. **Indicate presence of waters of U.S. in review area (check all that apply):** [1]
      ☐ TNWs, including territorial seas
      ☐ Wetlands adjacent to TNWs
      ☐ Relatively permanent waters[2] (RPWs) that flow directly or indirectly into TNWs
      ☐ Non-RPWs that flow directly or indirectly into TNWs
      ☒ Wetlands directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to but not directly abutting RPWs that flow directly or indirectly into TNWs
      ☐ Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs
      ☐ Impoundments of jurisdictional waters
      ☐ Isolated (interstate or intrastate) waters, including isolated wetlands

   b. **Identify (estimate) size of waters of the U.S. in the review area:**
      Non-wetland waters: linear feet, wide, and/or acres.
      Wetlands: **0.573** acres.

   c. **Limits (boundaries) of jurisdiction** based on: **1987 Delineation Manual**
      Elevation of established OHWM (if known):

2. **Non-regulated waters/wetlands (check if applicable):**[3]
   ☒ Potentially jurisdictional waters and/or wetlands were assessed within the review area and determined to be not jurisdictional. Explain: **One isolated wetland (wetland 1) found to have no surface or subsurface connection to an RPW or TNW and and has no effect on the chemical, physical or biological integrity of a TNW.**

SECTION III: CWA ANALYSIS

A. TNWs AND WETLANDS ADJACENT TO TNWs

[1] Boxes checked below shall be supported by completing the appropriate sections in Section III below.
[2] For purposes of this form, an RPW is defined as a tributary that is not a TNW and that typically flows year-round or has continuous flow at least "seasonally" (e.g., typically 3 months).
[3] Supporting documentation is presented in Section III.F.

The agencies will assert jurisdiction over TNWs and wetlands adjacent to TNWs. If the aquatic resource is a TNW, complete Section III.A.1 and Section III.D.1. only; if the aquatic resource is a wetland adjacent to a TNW, complete Sections III.A.1 and 2 and Section III.D.1.; otherwise, see Section III.B below.

1. TNW
Identify TNW:

Summarize rationale supporting determination:

2. Wetland adjacent to TNW
Summarize rationale supporting conclusion that wetland is "adjacent":

B. CHARACTERISTICS OF TRIBUTARY (THAT IS NOT A TNW) AND ITS ADJACENT WETLANDS (IF ANY):

This section summarizes information regarding characteristics of the tributary and its adjacent wetlands, if any, and it helps determine whether or not the standards for jurisdiction established under *Rapanos* have been met.

The agencies will assert jurisdiction over non-navigable tributaries of TNWs where the tributaries are "relatively permanent waters" (RPWs), i.e. tributaries that typically flow year-round or have continuous flow at least seasonally (e.g., typically 3 months). A wetland that directly abuts an RPW is also jurisdictional. If the aquatic resource is not a TNW, but has year-round (perennial) flow, skip to Section III.D.2. If the aquatic resource is a wetland directly abutting a tributary with perennial flow, skip to Section III.D.4.

A wetland that is adjacent to but that does not directly abut an RPW requires a significant nexus evaluation. Corps districts and EPA regions will include in the record any available information that documents the existence of a significant nexus between a relatively permanent tributary that is not perennial (and its adjacent wetlands if any) and a traditional navigable water, even though a significant nexus finding is not required as a matter of law.

If the waterbody[4] is not an RPW, or a wetland directly abutting an RPW, a JD will require additional data to determine if the waterbody has a significant nexus with a TNW. If the tributary has adjacent wetlands, the significant nexus evaluation must consider the tributary in combination with all of its adjacent wetlands. This significant nexus evaluation that combines, for analytical purposes, the tributary and all of its adjacent wetlands is used whether the review area identified in the JD request is the tributary, or its adjacent wetlands, or both. If the JD covers a tributary with adjacent wetlands, complete Section III.B.1 for the tributary, Section III.B.2 for any onsite wetlands, and Section III.B.3 for all wetlands adjacent to that tributary, both onsite and offsite. The determination whether a significant nexus exists is determined in Section III.C below.

1. Characteristics of non-TNWs that flow directly or indirectly into TNW

(i) General Area Conditions:
Watershed size: **Pick List**
Drainage area: **Pick List**
Average annual rainfall: inches
Average annual snowfall: inches

(ii) Physical Characteristics:
(a) Relationship with TNW:
☐ Tributary flows directly into TNW.
☐ Tributary flows through **Pick List** tributaries before entering TNW.

Project waters are **Pick List** river miles from TNW.
Project waters are **Pick List** river miles from RPW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Project waters are **Pick List** aerial (straight) miles from RPW.
Project waters cross or serve as state boundaries. Explain:

Identify flow route to TNW[5]:
Tributary stream order, if known:

[4] Note that the Instructional Guidebook contains additional information regarding swales, ditches, washes, and erosional features generally and in the arid West.
[5] Flow route can be described by identifying, e.g., tributary a, which flows through the review area, to flow into tributary b, which then flows into TNW.

(b) General Tributary Characteristics (check all that apply):
Tributary is: ☐ Natural
☐ Artificial (man-made). Explain:
☐ Manipulated (man-altered). Explain:

Tributary properties with respect to top of bank (estimate):
Average width: feet
Average depth: feet
Average side slopes: **Pick List.**

Primary tributary substrate composition (check all that apply):
☐ Silts ☐ Sands ☐ Concrete
☐ Cobbles ☐ Gravel ☐ Muck
☐ Bedrock ☐ Vegetation. Type/% cover:
☐ Other. Explain:

Tributary condition/stability [e.g., highly eroding, sloughing banks]. Explain:
Presence of run/riffle/pool complexes. Explain:
Tributary geometry: **Pick List**
Tributary gradient (approximate average slope): %

(c) Flow:
Tributary provides for: **Pick List**
Estimate average number of flow events in review area/year: **Pick List**
Describe flow regime:
Other information on duration and volume:

Surface flow is: **Pick List.** Characteristics:

Subsurface flow: **Pick List**. Explain findings:
☐ Dye (or other) test performed:

Tributary has (check all that apply):
☐ Bed and banks
☐ OHWM[6] (check all indicators that apply):
☐ clear, natural line impressed on the bank ☐ the presence of litter and debris
☐ changes in the character of soil ☐ destruction of terrestrial vegetation
☐ shelving ☐ the presence of wrack line
☐ vegetation matted down, bent, or absent ☐ sediment sorting
☐ leaf litter disturbed or washed away ☐ scour
☐ sediment deposition ☐ multiple observed or predicted flow events
☐ water staining ☐ abrupt change in plant community
☐ other (list):
☐ Discontinuous OHWM.[7] Explain:

If factors other than the OHWM were used to determine lateral extent of CWA jurisdiction (check all that apply):

☐ High Tide Line indicated by: ☐ Mean High Water Mark indicated by:
☐ oil or scum line along shore objects ☐ survey to available datum;
☐ fine shell or debris deposits (foreshore) ☐ physical markings;
☐ physical markings/characteristics ☐ vegetation lines/changes in vegetation types.
☐ tidal gauges
☐ other (list):

(iii) Chemical Characteristics:
Characterize tributary (e.g., water color is clear, discolored, oily film; water quality; general watershed characteristics, etc.). Explain:
Identify specific pollutants, if known:

[6]A natural or man-made discontinuity in the OHWM does not necessarily sever jurisdiction (e.g., where the stream temporarily flows underground, or where the OHWM has been removed by development or agricultural practices). Where there is a break in the OHWM that is unrelated to the waterbody's flow regime (e.g., flow over a rock outcrop or through a culvert), the agencies will look for indicators of flow above and below the break.
[7]Ibid.

(iv) Biological Characteristics. Channel supports (check all that apply):
☐ Riparian corridor. Characteristics (type, average width):
☐ Wetland fringe. Characteristics:
☐ Habitat for:
☐ Federally Listed species. Explain findings:
☐ Fish/spawn areas. Explain findings:
☐ Other environmentally-sensitive species. Explain findings:
☐ Aquatic/wildlife diversity. Explain findings:

2. Characteristics of wetlands adjacent to non-TNW that flow directly or indirectly into TNW

(i) Physical Characteristics:
(a) General Wetland Characteristics:
Properties:
Wetland size: acres
Wetland type. Explain:
Wetland quality. Explain:
Project wetlands cross or serve as state boundaries. Explain:

(b) General Flow Relationship with Non-TNW:
Flow is: **Pick List**. Explain:

Surface flow is**: Pick List**
Characteristics:

Subsurface flow: **Unknown**. Explain findings:
☐ Dye (or other) test performed:

(c) Wetland Adjacency Determination with Non-TNW:
☐ Directly abutting
☐ Not directly abutting
☐ Discrete wetland hydrologic connection. Explain:
☐ Ecological connection. Explain:
☐ Separated by berm/barrier. Explain:

(d) Proximity (Relationship) to TNW
Project wetlands are **Pick List** river miles from TNW.
Project waters are **Pick List** aerial (straight) miles from TNW.
Flow is from: **Pick List.**
Estimate approximate location of wetland as within the **Pick List** floodplain.

(ii) Chemical Characteristics:
Characterize wetland system (e.g., water color is clear, brown, oil film on surface; water quality; general watershed characteristics; etc.). Explain:
Identify specific pollutants, if known:

(iii) Biological Characteristics. Wetland supports (check all that apply):
☐ Riparian buffer. Characteristics (type, average width):
☐ Vegetation type/percent cover. Explain:
☐ Habitat for:
☐ Federally Listed species. Explain findings:
☐ Fish/spawn areas. Explain findings:
☐ Other environmentally-sensitive species. Explain findings:
☐ Aquatic/wildlife diversity. Explain findings:

3. Characteristics of all wetlands adjacent to the tributary (if any)
All wetland(s) being considered in the cumulative analysis: **Pick List**
Approximately acres in total are being considered in the cumulative analysis.

For each wetland, specify the following:

Directly abuts? (Y/N)	Size (in acres)	Directly abuts? (Y/N)	Size (in acres)

Summarize overall biological, chemical and physical functions being performed:

C. SIGNIFICANT NEXUS DETERMINATION

A significant nexus analysis will assess the flow characteristics and functions of the tributary itself and the functions performed by any wetlands adjacent to the tributary to determine if they significantly affect the chemical, physical, and biological integrity of a TNW. For each of the following situations, a significant nexus exists if the tributary, in combination with all of its adjacent wetlands, has more than a speculative or insubstantial effect on the chemical, physical and/or biological integrity of a TNW. Considerations when evaluating significant nexus include, but are not limited to the volume, duration, and frequency of the flow of water in the tributary and its proximity to a TNW, and the functions performed by the tributary and all its adjacent wetlands. It is not appropriate to determine significant nexus based solely on any specific threshold of distance (e.g. between a tributary and its adjacent wetland or between a tributary and the TNW). Similarly, the fact an adjacent wetland lies within or outside of a floodplain is not solely determinative of significant nexus.

Draw connections between the features documented and the effects on the TNW, as identified in the *Rapanos* Guidance and discussed in the Instructional Guidebook. Factors to consider include, for example:

- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to carry pollutants or flood waters to TNWs, or to reduce the amount of pollutants or flood waters reaching a TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), provide habitat and lifecycle support functions for fish and other species, such as feeding, nesting, spawning, or rearing young for species that are present in the TNW?
- Does the tributary, in combination with its adjacent wetlands (if any), have the capacity to transfer nutrients and organic carbon that support downstream foodwebs?
- Does the tributary, in combination with its adjacent wetlands (if any), have other relationships to the physical, chemical, or biological integrity of the TNW?

Note: the above list of considerations is not inclusive and other functions observed or known to occur should be documented below:

1. **Significant nexus findings for non-RPW that has no adjacent wetlands and flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary itself, then go to Section III.D:

2. **Significant nexus findings for non-RPW and its adjacent wetlands, where the non-RPW flows directly or indirectly into TNWs.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

3. **Significant nexus findings for wetlands adjacent to an RPW but that do not directly abut the RPW.** Explain findings of presence or absence of significant nexus below, based on the tributary in combination with all of its adjacent wetlands, then go to Section III.D:

D. DETERMINATIONS OF JURISDICTIONAL FINDINGS. THE SUBJECT WATERS/WETLANDS ARE (CHECK ALL THAT APPLY):

1. **TNWs and Adjacent Wetlands.** Check all that apply and provide size estimates in review area:
   - ☐ TNWs: linear feet, wide, Or acres.
   - ☐ Wetlands adjacent to TNWs: acres.

2. **RPWs that flow directly or indirectly into TNWs.**
   - ☐ Tributaries of TNWs where tributaries typically flow year-round are jurisdictional. Provide data and rationale indicating that tributary is perennial:
   - ☐ Tributaries of TNW where tributaries have continuous flow "seasonally" (e.g., typically three months each year) are jurisdictional. Data supporting this conclusion is provided at Section III.B. Provide rationale indicating that tributary flows seasonally:

   Provide estimates for jurisdictional waters in the review area (check all that apply):
   - ☐ Tributary waters: linear feet wide.
   - ☐ Other non-wetland waters: acres.
     Identify type(s) of waters:

3. Non-RPWs[8] that flow directly or indirectly into TNWs.

☐ Waterbody that is not a TNW or an RPW, but flows directly or indirectly into a TNW, and it has a significant nexus with a TNW is jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional waters within the review area (check all that apply):

☐ Tributary waters: linear feet, wide.

☐ Other non-wetland waters: acres.

Identify type(s) of waters:

4. Wetlands directly abutting an RPW that flow directly or indirectly into TNWs.

☒ Wetlands directly abut RPW and thus are jurisdictional as adjacent wetlands.

☒ Wetlands directly abutting an RPW where tributaries typically flow year-round. Provide data and rationale indicating that tributary is perennial in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW: **The Upper Truckee River directly abuts Wetland 2 - Cherry Hills Circle outside of the delineated area. The Upper Truckee River and Wetland 2 - Cherry Hills Circle are mapped on NWI. The Upper Truckee River is mapped as a perennial stream by USGS.**

☐ Wetlands directly abutting an RPW where tributaries typically flow "seasonally." Provide data indicating that tributary is seasonal in Section III.B and rationale in Section III.D.2, above. Provide rationale indicating that wetland is directly abutting an RPW:

Provide acreage estimates for jurisdictional wetlands in the review area: **0.573** acres.

5. Wetlands adjacent to but not directly abutting an RPW that flow directly or indirectly into TNWs.

☐ Wetlands that do not directly abut an RPW, but when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisidictional. Data supporting this conclusion is provided at Section III.C.

Provide acreage estimates for jurisdictional wetlands in the review area: acres.

6. Wetlands adjacent to non-RPWs that flow directly or indirectly into TNWs.

☐ Wetlands adjacent to such waters, and have when considered in combination with the tributary to which they are adjacent and with similarly situated adjacent wetlands, have a significant nexus with a TNW are jurisdictional. Data supporting this conclusion is provided at Section III.C.

Provide estimates for jurisdictional wetlands in the review area: acres.

7. Impoundments of jurisdictional waters.[9]

As a general rule, the impoundment of a jurisdictional tributary remains jurisdictional.

☐ Demonstrate that impoundment was created from "waters of the U.S.," or

☐ Demonstrate that water meets the criteria for one of the categories presented above (1-6), or

☐ Demonstrate that water is isolated with a nexus to commerce (see E below).

E. ISOLATED [INTERSTATE OR INTRA-STATE] WATERS, INCLUDING ISOLATED WETLANDS, THE USE, DEGRADATION OR DESTRUCTION OF WHICH COULD AFFECT INTERSTATE COMMERCE, INCLUDING ANY SUCH WATERS (CHECK ALL THAT APPLY):[10]

☐ which are or could be used by interstate or foreign travelers for recreational or other purposes.

☐ from which fish or shellfish are or could be taken and sold in interstate or foreign commerce.

☐ which are or could be used for industrial purposes by industries in interstate commerce.

☐ Interstate isolated waters. Explain:

☐ Other factors. Explain:

Identify water body and summarize rationale supporting determination:

Provide estimates for jurisdictional waters in the review area (check all that apply):

☐ Tributary waters: linear feet, wide.

☐ Other non-wetland waters: acres.

[8]See Footnote # 3.

[9] To complete the analysis refer to the key in Section III.D.6 of the Instructional Guidebook.

[10] Prior to asserting or declining CWA jurisdiction based solely on this category, Corps Districts will elevate the action to Corps and EPA HQ for review consistent with the process described in the Corps/EPA *Memorandum Regarding CWA Act Jurisdiction Following Rapanos.*

Identify type(s) of waters:
☐ Wetlands: acres.

F. NON-JURISDICTIONAL WATERS, INCLUDING WETLANDS (CHECK ALL THAT APPLY):

☐ If potential wetlands were assessed within the review area, these areas did not meet the criteria in the 1987 Corps of Engineers Wetland Delineation Manual and/or appropriate Regional Supplements.
☒ Review area included isolated waters with no substantial nexus to interstate (or foreign) commerce.
  ☒ Prior to the Jan 2001 Supreme Court decision in "*SWANCC*," the review area would have been regulated based solely on the "Migratory Bird Rule" (MBR).
☐ Waters do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction. Explain:
☐ Other: (explain, if not covered above):

Provide acreage estimates for non-jurisdictional waters in the review area, where the sole potential basis of jurisdiction is the MBR factors (i.e., presence of migratory birds, presence of endangered species, use of water for irrigated agriculture), using best professional judgment (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, wide.
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource:
☐ Wetlands: acres.

Provide acreage estimates for non-jurisdictional waters in the review area that do not meet the "Significant Nexus" standard, where such a finding is required for jurisdiction (check all that apply):
☐ Non-wetland waters (i.e., rivers, streams): linear feet, wide.
☐ Lakes/ponds: acres.
☐ Other non-wetland waters: acres. List type of aquatic resource:
☒ Wetlands: **0.014** acres.

SECTION IV: DATA SOURCES.

A. SUPPORTING DATA. Data reviewed for JD (check all that apply - checked items shall be included in case file and, where checked and requested, appropriately reference sources below):

☒ Maps, plans, plots or plat submitted by or on behalf of the applicant/consultant: **Final Aquatic Resource Delineation Report Country Club Heights Erosion Control Project October 2016**
☒ Data sheets prepared/submitted by or on behalf of the applicant/consultant.
  ☒ Office concurs with data sheets/delineation report.
  ☐ Office does not concur with data sheets/delineation report.
☐ Data sheets prepared by the Corps:
☐ Corps navigable waters' study:
☐ U.S. Geological Survey Hydrologic Atlas:
  ☐ USGS NHD data.
  ☐ USGS 8 and 12 digit HUC maps.
☒ U.S. Geological Survey map(s). Cite scale & quad name: **1:24K; CA-FREEL PEAK**
☒ USDA Natural Resources Conservation Service Soil Survey. Citation: **http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx**
☒ National wetlands inventory map(s). Cite name: **http://www.fws.gov/wetlands/Data/Mapper.html**
☐ State/Local wetland inventory map(s):
☐ FEMA/FIRM maps:
☐ 100-year Floodplain Elevation is: (National Geodectic Vertical Datum of 1929)
☒ Photographs: ☒ Aerial (Name & Date): **Google Earth 12/1940, 12/1968, 7/2016**
  or ☒ Other (Name & Date):
☐ Previous determination(s). File no. and date of response letter:
☐ Applicable/supporting case law:
☒ Applicable/supporting scientific literature: **Rowe, Timothy G., and Kip K. Allander. Surface-and Ground-Water Characteristics in the Upper Truckee River and Trout Creek Watersheds, South Lake Tahoe, California and Nevada, July-December 1996. No. 2000-4001. US Dept. of the Interior, US Geological Survey; Branch of Information Services [distributor],, 2000.**
☒ Other information (please specify): **Memo on potential water connection of Wetland 1, as referenced in the NCE - Final Aquatic Resources Delineation Report for the Country Club Heights Erosion Control Project. November 22, 2016**

B. ADDITIONAL COMMENTS TO SUPPORT JD:

Wetland 2 - Cherry Hills Circle directly abuts the Upper Truckee River. The Upper Truckee River is an RPW and mapped (USGS) perennial stream that flows directly to Lake Tahoe, a Traditional Navigable Water of the U.S regulated under Section 10 of the Rivers and Harbors Act and Section 404 of the Clean Water Act.

Wetland 1 - Highway 50 is isolated with no connection to the nearest TNW (Lake Tahoe) and has no effect on its chemical, physical or biological integrity. Wetland 1 - Highway 50 is 1,000 feet from Meyers Creek, 1,175 feet from the Upper Truckee River and seprated from both by the Lake Tahoe Golf Course and Highway 50. Wetland 1 - Highway 50 and Wetland 2 - Cherry Hills Circle are documented on wetland determination forms located in the documents submitted by NCE on October 6, 2016. These sheets include the general area conditions, physical characteristics, chemical characteristics, and biological characteristics of each wetland evaluated.

NCE Collaboration. Commitment. Confidence.℠

October 5, 2016

Mr. Aaron Park
United States Army Corps of Engineers
Reno Field Office
300 Booth Street, Room 3050
Reno, Nevada 89509

Re: Country Club Heights Erosion Control Project, Final Aquatic Resource Delineation Report
Project Number: 501.25.25

Dear Mr. Park:

On behalf, of Mr. Dan Kikkert, of the County of El Dorado, Community Development Agency, Transportation Division, please find enclosed a Final Aquatic Resource Delineation Report for the Country Club Heights Erosion Control Project (Report). Also enclosed is a CD with the Report, supporting GIS metadata, and the Aquatic Resource Excel Sheet.

We are requesting an Approved Jurisdictional Determination for this project.

Please contact me with any questions.

Thank you very much,

Debra Lemke, PWS, CPESC
Senior Scientist

Attachments

CC: Dan Kikkert, County of El Dorado, Community Development Agency, Transportation Division

Lake Tahoe, NV
P.O. Box 1760
Zephyr Cove, NV 89448
(775) 588-2505

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FINAL AQUATIC RESOURCE DELINEATION REPORT

Country Club Heights Erosion Control Project
October 2016

Prepared By:
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Prepared For:
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924 B Emerald Bay Road, South Lake Tahoe, California 96150
(530) 573-7914
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Executive Summary

NCE performed field investigations on August 23 and 24, 2016 evaluating the potential jurisdictional status of waters of the United States for the Country Club Heights Erosion Control Project in El Dorado County, California.

Within the survey area, no streams or intermittent drainages were mapped by the United States Geological Survey and no waters of the United States were recognized by the United States Fish and Wildlife Service National Wetlands Inventory.

NCE surveyed a total of approximately 67 acres. NCE delineated two wetlands that are potentially jurisdictional waters of the United States due to the presence of wetland indicators, and a connection to the Upper Truckee River, which is a tributary to Lake Tahoe, a navigable waterway.

Two potentially jurisdictional features were identified within the survey area:

- Wetland 1 – Highway 50 (Appendix H, Feature 2) contained the presence of wetland vegetation, hydric soils, and wetland hydrology, may be Cowardin classified as palustrine emergent nonpersistent, and is approximately 0.014 acres in size.
- Wetland 2 – Cherry Hills Circle (Appendix H, Feature 3) contained the presence of wetland vegetation, hydric soils, and wetland hydrology, may be Cowardin classified as palustrine emergent persistent, and is approximately 0.573 acres in size.

Four potentially non-jurisdictional features were identified within the survey area:

- Man-Made Swale – Elks Club Drive (Appendix H, Feature 4) is a man-made swale created in an upland to transport storm water, it is approximately 0.099 acres in size.
- Man-Made Swale – Boca Raton Drive (Appendix H, Feature 5) is a man-made swale created in an upland to transport storm water, it is approximately 0.719 acres in size.
- Man-Made Swale – Southern Pines Drive (Appendix H, Feature 6,) is a man-made swale created in an upland to transport storm water, it is approximately 0.223 acres in size.
- The unnamed drainage (Appendix H, Feature 1) was dry during the survey, may be Cowardin classified as Intermittent Riverine, and is approximately 0.007 acres in size. This drainage terminates in a man-made sediment basin with no surface water connection to the Upper Truckee River.

The delineation was conducted in accordance with the:

- 1987 Corps of Engineers Wetland Delineation Manual;
- Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0), May 2010; and
- A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States, August 2008.

These findings should be considered preliminary until the United States Army Corps of Engineers makes a final approved jurisdictional determination in coordination with the United States Environmental Protection Agency.

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Acronyms and Abbreviations

CTC	California Tahoe Conservancy
CALVEG	Classification and Assessment with Landsat of Visible Ecological Groupings
NCIC	North Central Information Center
NHD	National Hydrologic Dataset
NWI	National Wetlands Inventory
NRCS	Natural Resource Conservation Service
OHWM	Ordinary High Water Mark
RPW	Relatively Permanent Water
TNW	Traditional Navigable Waterway
USACE	United States Army Corps of Engineers
USDA	United States Department of Agriculture
USFWS	United States Fish and Wildlife Service
USFS	United States Forest Service
USGS	United States Geological Survey
WOUS	waters of the United States, including wetlands

1.0 INTRODUCTION

The purpose of this report is to identify and describe aquatic resources and to identify known possible sensitive plant, fish, wildlife species, and cultural/historic resources in the survey area. This report facilitates efforts to:

1. Avoid or minimize impacts to aquatic resources during the erosion control design process.

2. Document aquatic resource boundary determinations for review by the United States Army Corps of Engineers (USACE).

3. Provide early indications of known sensitive species and historic/cultural properties within the survey area.

4. Provide background information.

Dan Kikkert of County of El Dorado, Community Development Agency, Transportation Division, contracted NCE to conduct a formal USACE delineation of waters of the United States, including wetlands (WOUS) at the Country Club Heights Erosion Control Project.

Mr. Kikkert's contact information is:

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County of El Dorado, Community Development Agency, Transportation Division
924 B Emerald Bay Road, South Lake Tahoe, California 96150
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The Country Club Heights Erosion Control Project is located in the County of El Dorado, California, east of U.S. Highway 50 and west of Pioneer Trail. The Lake Tahoe Airport is north of the project survey area (Appendix A, Figure 1).

The project survey area consisted of approximately 67 acres of roads right-of-ways and a few undeveloped parcels owned by the California Tahoe Conservancy (CTC) and the United States Forest Service (USFS).

The project survey area may be found on United States Geological Survey (USGS) Echo Lake, Freel Peak, and South Lake Tahoe 7.5-minute series topographic quadrangle maps (Appendix A, Figure 2).

The survey area is characterized by predominantly urban development intermixed with fragmented Jeffrey Pine forest. The mapped Classification and Assessment with Landsat of Visible Ecological Groupings (CALVEG) Alliances were found to be consistent with the project location, density, and size; however, the survey area was predominantly residential and does not reflect characteristics associated with these vegetation alliances in most locations in the project area. The project area is composed mainly of Jeffrey Pine and also contains isolated pockets of non-native/ornamental grass, mixed conifer, lodgepole pine, basin sagebrush, perennial grasses, and urban (Appendix A, Figure 3).

2.0 BACKGROUND

The Country Club Heights Erosion Control Project is located in the County of El Dorado, California, east of U.S. Highway 50 and west of Pioneer Trail. The Lake Tahoe Airport is north of the project area (Appendix A, Figure 1). The project area is located in Sections 20, 21, 28, and 29 in Township 12 North and Range 18 East of the Mt. Diablo Meridian which may be found on the following USGS 7.5 minute quadrangle maps: Echo Lake; Freel Peak; and South Lake Tahoe in El Dorado County, California. The town of Meyers is south of the project area and the City of South Lake Tahoe is north of the project area.

At the intersection of Pebble Beach Road and Meadow Vale Drive the latitude is: 38.868159 and the longitude is: -120.002600.

Driving directions from South Lake Tahoe to the survey area are as follows:

> From South Lake Tahoe, continue south on U.S. Highway 50/Lake Tahoe Boulevard to the intersection of U.S. Highway 50/State Route 89/Emerald Bay Road and Lake Tahoe Boulevard. At this intersection, turn south onto U.S. Highway 50/State Route 89/Emerald Bay Road. Travel for approximately 2.8 miles to Elks Club Drive. Elks Club Drive is the northern access into the survey area.

3.0 METHODS

3.1 LITERATURE REVIEW

Available information pertaining to the natural resources of the region was reviewed. References reviewed for this delineation are listed in Section 6.0. Pertinent site-specific reports and general references utilized for the delineation include the following:

- United States Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) mapping.
- USGS National Hydrologic Dataset (NHD) mapping.
- Google Earth.
- United States Department of the Interior, USGS. Echo Lake, Freel Peak, and South Lake Tahoe California 7.5-minute series topographic quadrangles.
- United States Department of Agriculture (USDA), Natural Resource Conservation Service (NRCS). 2016a. Soils survey data for the project site accessed online at: http://websoilsurvey.nrcs.usda.gov/app/
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- USACE U.S. Environmental Protection Agency. 2007. *Clean Water Act Jurisdiction Following the U.S. Supreme Court's Decision in Rapanos v. United States and Carabell v. United States.*
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- Cowardin, *et al*. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. U.S. Fish and Wildlife Service, Washington D.C.

3.2 RESEARCH AND FIELD METHODOLOGY

Prior to the field investigation, USGS topographic maps and NHD mapping, aerial photographs, USFWS NWI mapping, and a NRCS custom soil report of the project survey area were reviewed for indications of ephemeral, intermittent, and perennial drainages as well as mapped wetlands and spring locations.

NCE visited the project survey area on August 23 and 24, 2016 and conducted a formal field investigation to identify possible jurisdictional WOUS (including wetlands). NCE personnel walked all areas possibly containing wetlands and drove all roads in the entire project survey area and identified roadside ditches, man-made swales, an unnamed drainage, and two wetlands within the project survey area.

Roadside Ditches and Man-Made Swales
The team surveyed the entire road system and investigated the presence of the roadside ditches. The roadside ditches were mapped for the presence of a curb and gutter/ac dike conveyance systems or the presence of a swale to better understand the hydrologic flow patterns.

Three man-made swales were identified within the survey area (Appendix H, Features 4-6). The swales were investigated for the presence of ordinary high water mark (OHWM) indicators, some evidence that the drainage experiences surface water flows on a frequent and regular basis, and a connection to a navigable waterway. Two of the three swales were constructed in uplands perpendicular to the slope of the surrounding area.

It appears that the roadside ditches and man-made swales were constructed in uplands to transport storm water downhill or across the slopes, towards the Upper Truckee River.

Unnamed Drainage
The Unnamed Drainage (Appendix H, Feature 1) within the project survey area was assessed for the presence of OHWM indicators, evidence of frequent surface water flows, and a connection to a navigable waterway. These characteristics were considered to be indicative of a jurisdictional WOUS. Arid West Ephemeral and Intermittent Stream OHWM Data Sheets were completed for each drainage with the presence of OHWM indicators. A datasheet for the Unnamed Drainage was labeled CC35/Data Point 11. If the drainage had OHWM indicators present, the drainage was followed to determine if the drainage flowed into another drainage with OHWM indicators or if these indicators terminated. Where the drainage exhibited OHWM indicators, width measurements were taken to be used in determining an average width of the drainage and height measurements from the OHWM to the drainage bottom were taken. When drainages with OHWM indicators left the project survey area, an attempt was made to follow the drainage to determine if OHWM indicators terminated or if there was a connection to a navigable waterway. Ordinary high water mark indicator locations were recorded with a Trimble Geo7x GPS unit and representative photographs were taken.

Representative photographs are provided in Appendix B. The Arid West OHWM data sheets are provided in Appendix C.

Wetlands

Two wetlands within the project survey area were delineated utilizing the USACE 1987 three-parameter (vegetation, hydrology, and soils) methodology (Appendix H, Features 2 and 3). This methodology has been refined in the 2010 *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* and requires the collection of data on soils, vegetation, and hydrology at several locations to establish the potential jurisdictional boundary of wetlands.

The team identified representative locations for data collection. Soil pits were dug and the team collected data on vegetation, hydrology, and soils. Soils were also examined and correlations were developed between the three parameters to make wetland determinations. Data points were evaluated to determine the composition and identification of dominant plant species. The indicator status of all dominant plant species, as determined by the 2016 National Wetland Plant List, version 3.3, was applied and evaluated as part of the vegetation assessment portion of the wetland determination process. Additionally, immediate subsurface soil conditions were examined for hydric attributes or a lack thereof. Observations were made and recorded for both primary and secondary wetland hydrology indicators, if present. Soil pit locations were recorded with a Trimble Geo7x GPS unit and representative photographs were taken.

Representative photographs are provided in Appendix B. The Western Mountains, Valleys, and Coast Region, Wetland Determination data sheets are provided in Appendix D. The plants identified are presented in Appendix E.

3.3 SURVEY DATA INTEGRATION

Boundaries of the potential WOUS within the project survey area were mapped using a Trimble Geo7x GPS unit and digitized in ESRI ArcGIS 10.3 software and by mapping features on aerial photographs as well as topographic basemap.

4.0 RESULTS

4.1 LANDSCAPE SETTING

The project survey area is approximately 67 acres. The entire survey area was delineated by NCE. The survey area includes County of El Dorado road rights of way and undeveloped parcels owned by the CTC and the USFS. The project survey area slopes from the east to the west, with the east being 6520 ft. above mean sea level, and the west being 6280 ft. above mean sea level. The lowest elevation of the project survey area is located in the northwest corner at 6270 ft. above mean sea level.

The project is on the east side of U.S. Highway 50. In the vicinity of the project survey area, the Upper Truckee River begins on the west side of U.S. Highway 50 until crossing under the highway near the northwestern corner of the survey area. The river is not within the survey area.

There are no major water bodies, NWI mapped wetlands, or USGS 'blue line' drainages within the survey area (Appendix A, Figure 4). Outside of the survey area, to the west are two USGS 'blue line' drainages: Meyers Creek and the Upper Truckee River. There are NWI mapped wetlands and drainages to the west of the survey area as well a NWI mapped wetland north of the survey area.

USGS NHD indicated the presence of drainages within the survey area (Appendix A, Figure 4); these features in their entirety were not identified in the field. A portion of one man-made swale and one drainage were identified near the USGS NHD lines (discussed below in Sections 4.2.1 and 4.2.2) and two wetlands were identified near USGS NHD lines (discussed below in Section 4.2.3).

The topography, roadside ditches, and man-made swales within the survey area convey storm water to the west and northwest toward the Upper Truckee River. Two culverts under U.S. Highway 50 were identified within the survey area along the western portion of the project.

Vegetation types were initially identified with the CALVEG GIS data (USDA 2009), and then verified based on a NCE reconnaissance botanical field survey. Vegetation types found in and/or adjacent to the project area are typical of those found in the Lake Tahoe Basin. The project area is composed mainly of Jeffrey Pine. The project area also contains isolated pockets of non-native/ornamental grass, mixed conifer, lodgepole pine, basin sagebrush, perennial grasses, and urban (Appendix A, Figure 3).

Soils within the project survey area have been mapped by the NRCS (NRCS 2016a) (Appendix F). A total of eight types of soil are present; all eight soil types are on the national hydric soils list (NRCS 2016b).

The project area is characterized by predominantly urban development intermixed with fragmented Jeffrey Pine forest. This area produces concentrated storm water runoff that flows from County rights of way to pervious naturally vegetated land and ultimately the Upper Truckee River. Current sediment sources within project area include residential and vehicular traffic, road sand/cinder accumulation from both arterial and collector roadways, and eroding cut slopes and roadside ditches throughout the project area.

Project improvements may include infiltrating and/or treating of storm water from County rights of way, stabilizing eroding cut slopes with vegetation and/or rock protection, stabilizing

existing drainages with rock and/or bio-engineering techniques (where feasible), and disconnecting existing storm drain conveyance systems from directly discharging into the Upper Truckee River. Sediment trapping devices and infiltration basins (on publicly owned parcels) will be used to capture and treat road abrasives and pollutants to reduce the overall storm water volume discharging to the Upper Truckee River.

The overall goal of the project is to design and implement erosion control and water quality improvement measures that will reduce the discharge of sediment and pollutants to Lake Tahoe from County administered rights of way within the Country Club Heights Erosion Control Project area.

A signed statement from the property owner allowing access is not needed because the project survey area is on public property.

4.2 AQUATIC RESOURCES

4.2.1 Roadside Ditches and Man-Made Swales

Roadside Ditches
The majority of the project survey area included roadside ditches. The roadside ditches were investigated to determine if the roadside ditches were potentially federally jurisdictional features. The roadside ditches included ac dike conveyance systems as well as small swales. These features appear to have been constructed in uplands to transport storm water away from development and downhill towards the Upper Truckee River.

A roadside ditch along U.S. Highway 50 on the most western edge of the survey area was identified. The ditch did not show multiple or consistent OHWM indicators along the length of U.S. Highway 50, no NHD data proved that this was once a functioning drainage, and this ditch appears to have been constructed in uplands to transport storm water away from development and the highway.

Due to the ditches being constructed in uplands, NCE determined that the roadside ditches are not federally jurisdictional.

Man-Made Swales
Three man-made swales were identified within the survey area. One at the northern portion of Southern Pines Drive, the second one near the intersection of Meadow Vale Drive and Boca Raton Drive, and one along Elks Club Drive. These swales were constructed perpendicular to the slope of the surrounding area. Appendix A, Figure 2 shows the presence of Southern Pines Drive and Boca Raton Drive, but in the field, portions of these roads are dirt.

Man-Made Swale - Southern Pines Drive: Data Point 12 was collected at the man-made swale near Southern Pines Drive (Appendix A, Figure 5b). Appendix B, Photograph 12 shows a portion of the man-made swale. There is a culvert at the end of Southern Pines Drive, and then the beginning of the man-made swale. The culvert outfall contained water during the investigation, but the water infiltrated into the ground just after the culvert outfall. At the data point location, the man-made swale was dry. The man-made swale is approximately 31 inches wide, with small rocks placed along the edges of the swale. The man-made swale was followed to its end where a sediment basin was constructed. This man-made swale appears to have been constructed in an upland and does not connect to the Upper Truckee River, resulting in this feature being non-federally jurisdictional.

Man-Made Swale – Boca Raton Drive: Data Point 8 was collected at the man-made swale near the intersection of Meadow Vale Drive and Boca Raton Drive (Appendix A, Figure 5a). The feature starts alongside Meadow Vale Drive, then crosses under Meadow Vale Drive with a culvert and continues north along western edge of Boca Raton Drive. Boca Raton Drive pavement stops about 490 feet north of the intersection of Meadow Vale Drive and Boca Raton Drive. The man-made swale continues north under Elks Club Drive near Data Point 4 (OHWM width is 56 inches) and continues to a culvert system near Data Point 5 (OHWM width is 169 inches). The culvert extended to the limits of the project survey area. NCE did not leave the project survey area to determine if there is a surface water connection to the Upper Truckee River due to private land holdings. The Man-Made Swale – Boca Raton Drive contained OHWM widths ranging from 24 inches to 169 inches. Appendix B, Photographs 3, 4, 5, and 7 show this man-made swale.

Man-Made Swale – Elks Club Drive: Data Point 6 was collected at the man-made swale near the intersection of Elks Club Drive and Bel Aire Circle (Appendix A, Figure 5a). The man-made swale contained an OHWM width of 105 inches and is located near a NHD line. The man-made swale followed Elks Club Drive and then turned north to converge with the Boca Raton Drive man-made swale. Appendix B, Photograph 6 shows this man-made swale.

The Man-Made Swales appear to have been constructed in uplands to convey storm water away from the paved roads. Due to the Man-Made Swales being constructed in uplands, NCE determined that the Man-Made Swales are not federally jurisdictional.

Representative photographs are provided in Appendix B (additional photographs are available upon request). The collected data points, and photo-point locations and compass directions are shown on Appendix A, Figures 5a and 5b.

The Arid West OHWM data sheets are provided in Appendix C.

4.2.2 Unnamed Drainage

Unnamed Drainage: One unnamed drainage was identified west of the intersection of Pebble Beach Drive and Boca Raton Road. Within the survey area, Data Point 11 was collected in this drainage and Appendix B, Photograph 11 depicts the upper portion of the drainage. The drainage is mapped on the NHD and had the presence of OHWM indicators. The lower portion of this drainage becomes a man-made swale with check dams and a man-made sediment basin. The drainage was walked to the end where it terminates into a man-made sediment basin in an empty lot of land near U.S. Highway 50. In a large rain event, it appears that the water could overtop and sheet flow into the surrounding landscape with no direct connection to the Upper Truckee River. NCE believes the Unnamed Drainage is not federally jurisdictional.

Representative photographs are provided in Appendix B (additional photographs are available upon request). The collected data points, and photo-point locations and compass directions are shown on Appendix A, Figure 5b.

The Arid West OHWM datasheet is provided in Appendix C.

4.2.3 Wetlands

Two wetlands were delineated within the survey area, one west of Boca Raton Drive and adjacent to U.S. Highway 50 and one north of Cherry Hills Circle.

Wetland 1 – Highway 50: Wetland 1 is west of Boca Raton Drive, and adjacent/east of U.S Highway 50 on the western edge of the project survey area. This wetland is in an undeveloped, publically owned parcel. Data Points 1 and 3 were collected while delineating

the boundary of this wetland; Photographs 1 and 2 were taken (Appendix B). Data Point 1 is in an upland, and Data Point 3 is within the wetland. The wetland had the presence of wetland vegetation, hydric soils, and two secondary hydrology indicators. This area is in a depression just upstream of a culvert under U.S. Highway 50. It appears that in high water years, the wetland would discharge into the culvert and then into the Upper Truckee River. NCE did not confirm the surface water connection due to private land holdings. NCE believes the wetland is federally jurisdictional.

Wetland 2 – Cherry Hills Circle: This wetland is north of Cherry Hills Circle at the northern portion of the project survey area. This wetland is in undeveloped, publically owned parcels. Data Points 9 and 10 were collected while delineating the boundary of this wetland. Data Point 9 is in an upland, and Data Point 10 is within the wetland. Appendix B, Photographs 8, 9, and 10 depict the upland and wetland soil pits, as well as an overview of the wetland. The wetland had the presence of wetland vegetation, hydric soils, and the presence of standing water in the low spots of the wetland. The wetland is hydrologically connected to the NWI mapped wetland north of the survey area. NCE assumes the NWI mapped wetland is hydrologically connected to the Upper Truckee River, resulting in Wetland 2 – Cherry Hills Circle being federally jurisdictional.

Representative photographs are provided in Appendix B (additional photographs are available upon request). The collected data points, and photo-point locations and compass directions are shown on Appendix A, Figures 5a and 5b.

The Western Mountains, Valleys, and Coast Region, Wetland Determination Data Sheets are provided in Appendix C.

The plants identified at the two wetlands are included in Appendix E.

Table 1 below presents the aquatic resources within the survey area.

Table 1. Aquatic Resources within the Survey Area

Aquatic Resource Name	Aquatic Resources Classification		Aquatic Resource Size (acre) Required for all resources	Aquatic Resource Size (linear feet) Required for only stream channels
	Cowardin	Location (Latitude and Longitude)		
Man-Made Swale - Southern Pines Drive	Upland	38.866351, -120.008101	0.223	854
Man-Made Swale – Boca Raton Drive	Upland	38.874472, -120.003164; 38.870223, -120.003968; 38.875724, -120.002807	0.719	2,317
Man-Made Swale – Elks Club Drive	Upland	38.873512, -120.002076	0.099	493
Unnamed Drainage	Intermittent Riverine	38.868561, -120.00527	0.007	309
Wetland 1 – Highway 50	Palustrine Emergent Nonpersistent Wetland	38.868713, -120.006675	0.014	Not Applicable
Wetland 2 – Cherry Hills Circle	Palustrine Emergent Persistent Wetland	38.875466, -119.997785	0.573	Not Applicable
Total			**1.635**	

Table 2 below provides acreage per class and summarizes the total acreage of wetlands and waters in the survey area.

Table 2. Waters of the U.S: Acreage According to Class

Class	Total Acres	Jurisdictional	Non-Jurisdictional
Ditches (Man-Made Swale - Southern Pines Drive)	0.223	0.0	0.223
Ditches (Man-Made Swale - Boca Raton Drive)	0.719	0.0	0.719
Ditches (Man-Made Swale – Elks Club Drive)	0.099	0.0	0.099
Intermittent Drainage (Unnamed Drainage)	0.007	0.0	0.007
Palustrine Emergent Nonpersistent (Wetland 1 – Highway 50)	0.014	0.014	0.0
Palustrine Emergent Persistent (Wetland 2 – Cherry Hills Circle)	0.573	0.573	0.0
TOTAL	**1.635**	**0.587**	**1.048**

4.3 SIGNIFICANT NEXUS

The U.S Army Corps of Engineers Jurisdictional Determination Form Instructional Guidebook (USACE 2007) was consulted to aid the preliminary determination whether an area would be subject to USACE jurisdiction under Section 404 of the Clean Water Act. The significant nexus test, outlined in a memorandum jointly authored by the U.S. Environmental Protection Agency and USACE, was applied to each potentially jurisdictional habitat type (Grumbles and Woodley 2008). To facilitate jurisdictional determination consistent with the guidance, each water body delineated was evaluated as a Traditional Navigable Waterway (TNW), Relatively Permanent Water (RPW), or non-RPW, based on the following definitions:

- TNWs include all waters subject to the ebb and flow the tide, or waters that are presently used, have been used in the past, or may be used in the future to transport interstate or foreign commerce, and all waters that are navigable in fact under federal law for any purpose.
- RPWs are waters that flow continuously at least seasonally (typically at least 3 months of the year) and are not TNWs.
- Non-RPWs are waters that do not have continuous flow at least seasonally.

The following types of water bodies are subject to Clean Water Act jurisdiction:

- All TNWs and adjacent wetlands;
- Relatively permanent tributaries of TNWs and wetlands with a continuous surface connection to such tributaries; and
- Non-relatively permanent tributaries of TNWs and adjacent wetlands if they have a significant nexus to a TNW. Non-RPWs and adjacent wetlands are determined to have a significant nexus to a TNW if they significantly affect the chemical, physical, or biological integrity of a downstream TNW.

NCE's professional opinion is that Wetland 1 and Wetland 2 are hydrologically connected to Meyers Creek and/or the Upper Truckee River which is a tributary to Lake Tahoe, a navigable waterway. Both wetlands have the ability to affect the chemical, physical, and/or biological integrity of Lake Tahoe, resulting in a significant nexus to Lake Tahoe.

Appendix G contains a digital copy of the Aquatic Resource Excel Sheet, the GIS metadata, and a compact disc of Final Aquatic Resources Delineation Report.

Appendix H contains the Aquatic Resource Delineation Maps.

The above findings should be considered preliminary until the USACE makes a final approved jurisdictional determination in coordination with the United States Environmental Protection Agency. Areas deemed jurisdictional will then be subject to the regulatory requirements of the federal Clean Water Act.

5.0 OTHER STUDIES

Database searches, field assessments and surveys were conducted for the presence of species, habitat and range for wildlife, botanical, and invasive weeds. Also, database searches, tribal coordination, and a pedestrian foot survey were/will be conducted for cultural resources.

Botanical

Special status botanical species were not found within the project area during a field survey performed by NCE biologists on August 22, 2016 (NCE 2016a). There is USFS modeled habitat for *Lewisia kellloggii, Peltigera hydrothria, Epilobium howellii, Meesia* spp.*, Helodium blandowii Botrychium* spp.*,* and *Bruchia bolanderi* within the project area; however, the probability for these species occurring is low as the required habitat conditions are marginal in the project vicinity.

Invasive Weeds

Five invasive plant species were found in the project area during a field survey performed by NCE biologists on August 22, 2016 (NCE 2016b). These species are: bull thistle (13 square feet of infested area); oxeye daisy (1.5 square feet of infested area); cheat grass (100 square feet of infested area); poison hemlock (5 square feet of infested area); and yellow toadflax (30 square feet of infested area). There is low risk of new introduction and a moderate risk of spreading invasive plants due to this project.

Wildlife

There are no known occurrences of special status species within the project survey area (NCE 2016c); however, there are recorded occurrences of special status species immediately adjacent to the project survey area and within the project's 0.5 mile buffer. No signs, evidence, or suitable habitat were found for special status species during surveys performed by NCE biologists on August 10, 2016. Furthermore, habitat within the survey area is small, fragmented, and presently highly impacted by human use and disturbance.

Cultural Resources

NCE requested a records search from the North Central Information Center (NCIC) on August 11, 2016 and received results on September 7, 2016. Results indicate that two cultural resources have been previously identified within the project area (300 acres). A search of the USFS cultural resources database indicates that three additional cultural resources, not accounted for by the NCIC, are within the project area.

Inquiry letters are in the process of being mailed to the applicable parties and a pedestrian foot survey will be conducted on September 13, 2016.

These reports are available upon request.

6.0 REFERENCES

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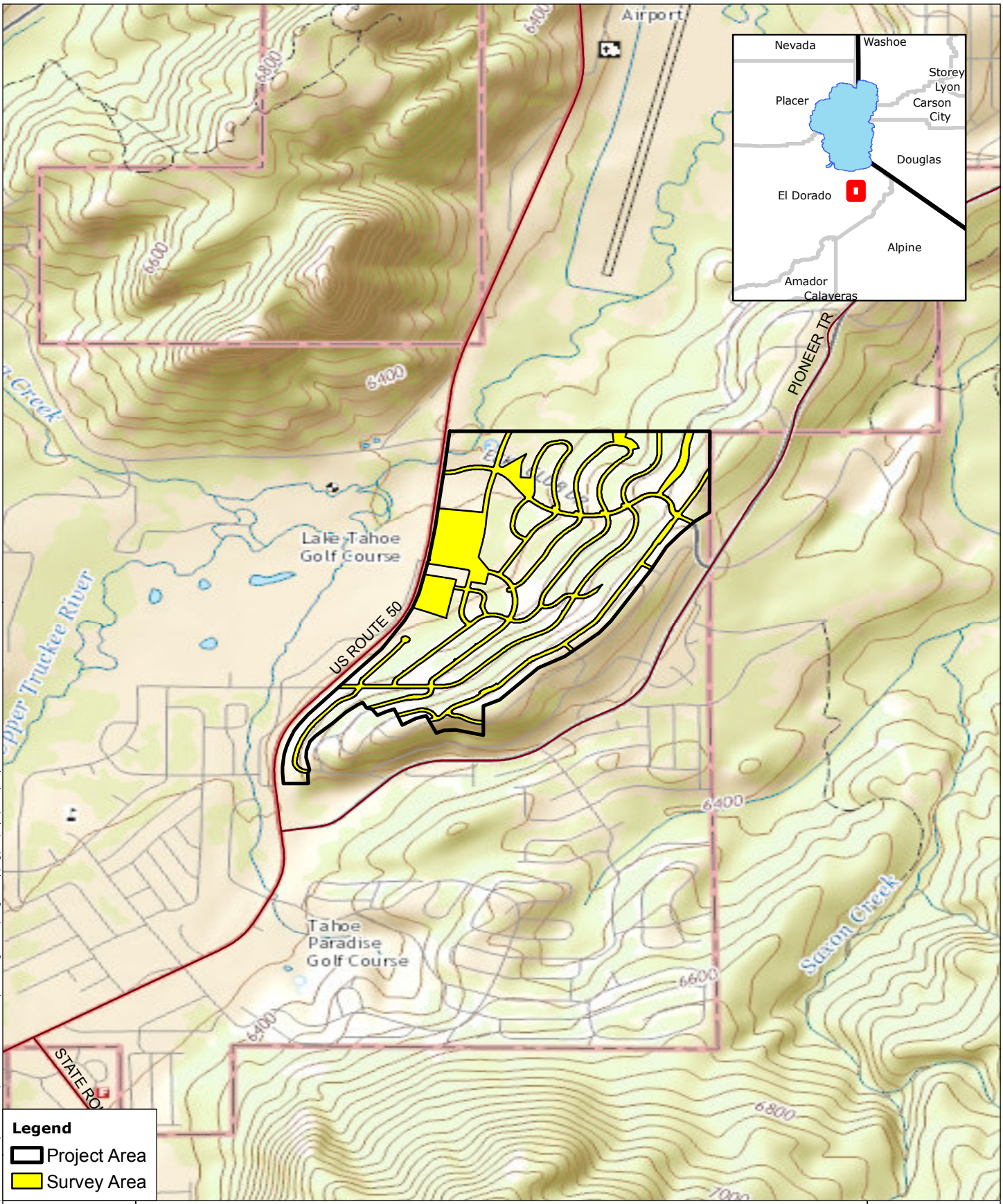
United States Geological Survey. Echo Lake, Freel Peak, and South Lake Tahoe 7.5-minute series topographic quadrangles. U.S. Department of the Interior.

Appendix A

SUPPORTING MAPS



Country Club Heights Erosion Control Project

Vicinity Map

1 in. = 2,000 ft.

0 1,000 2,000 ft.

N

Credits: ESRI World Imagery basemap; other data sources

Date: 9/14/2016
Author: kkelso

Figure 1

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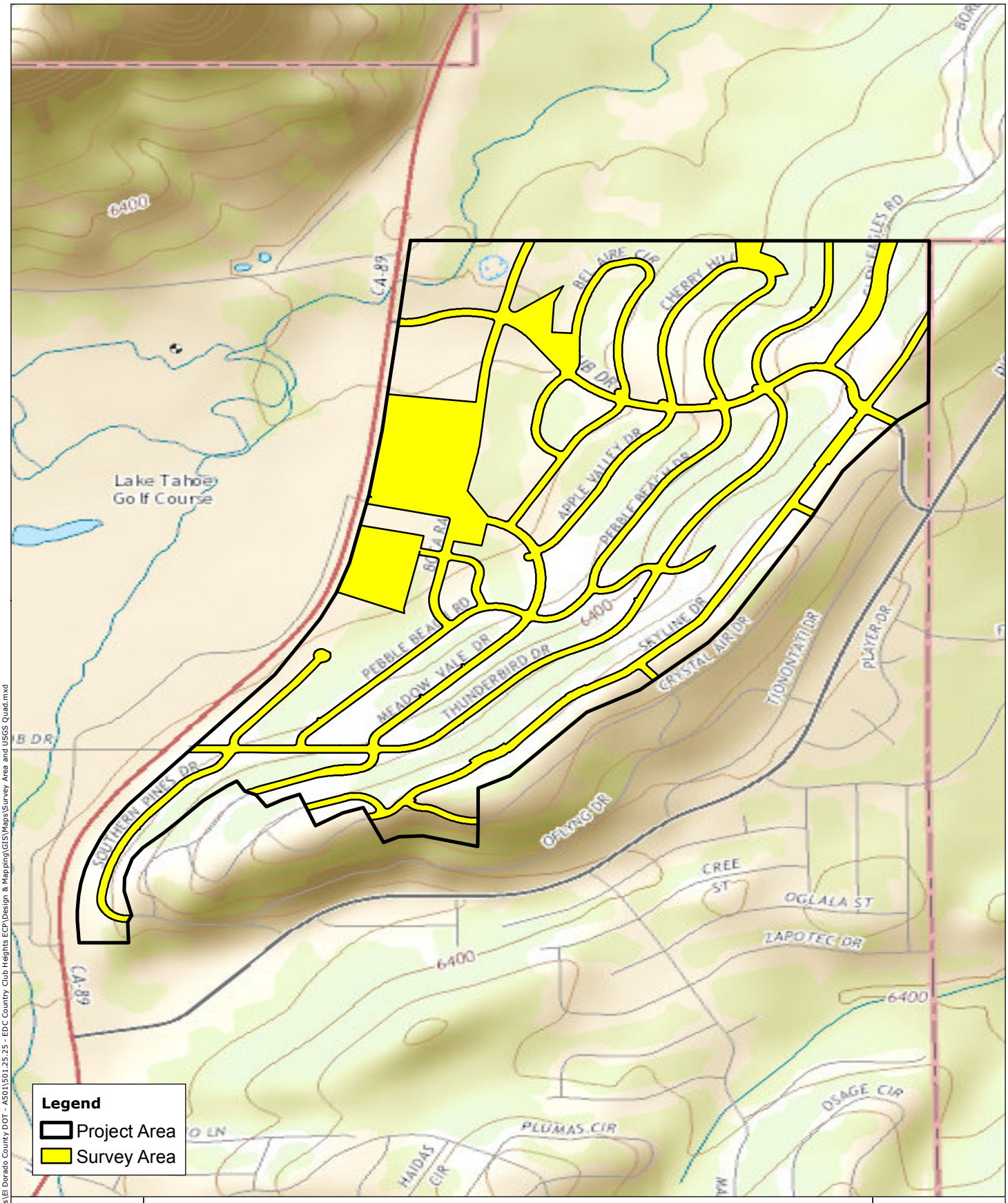


Country Club Heights Erosion Control Project

Project Survey Area with USGS Quadrangle

1 in. = 1,000 ft.

0 500 1,000 ft.

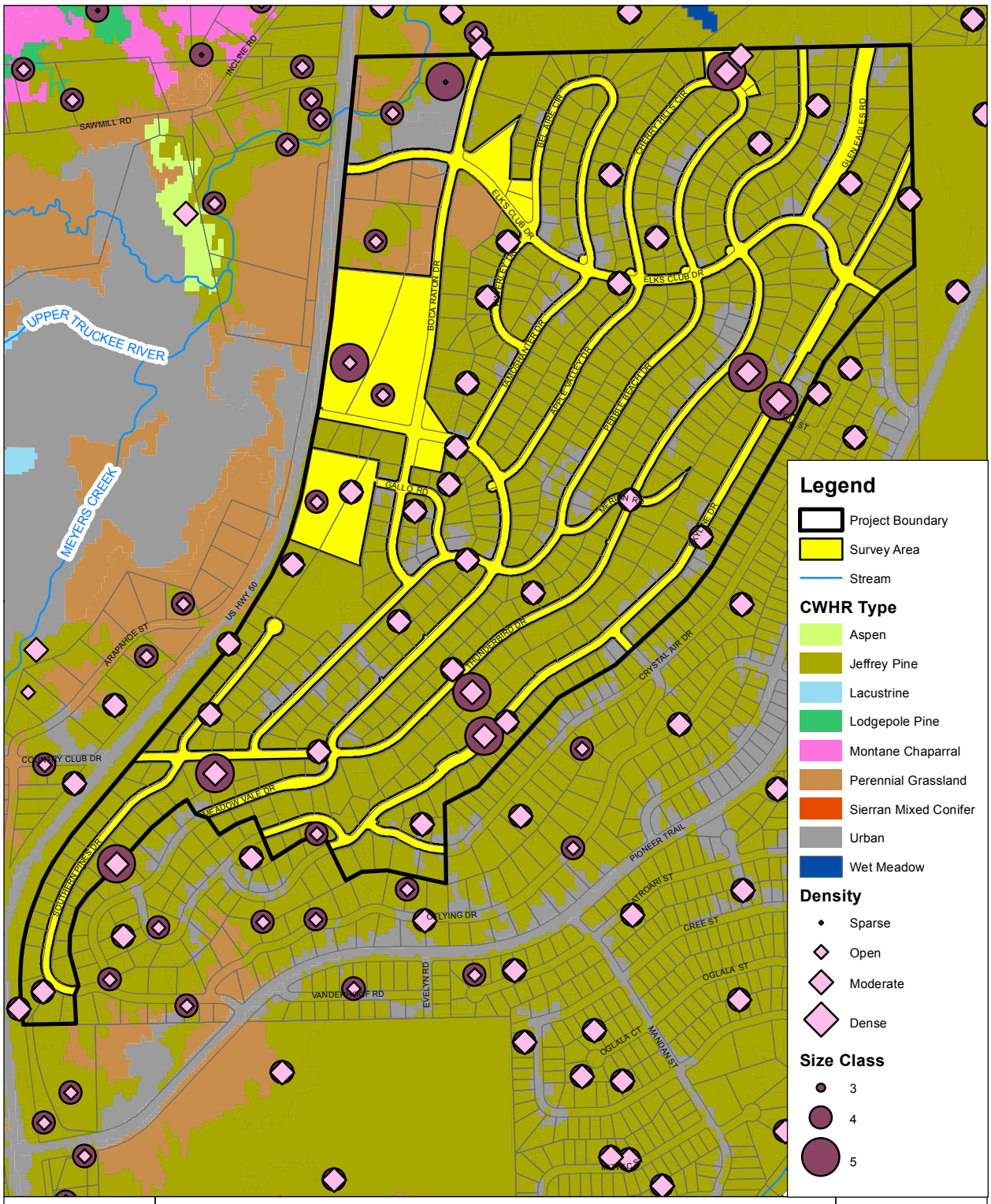
N

Credits: ESRI World Imagery basemap; other data sources

Date: 9/14/2016
Author: kkelso

Figure 2

Document Path: P:\Active Projects\El Dorado County DOT - A501\501.25.25 - EDC Country Club Heights ECP\Design & Mapping\GIS\Maps\Survey Area and USGS Quad.mxd



Country Club Heights ECP

CWHR Type, Size, and Density

1:10,000

0 500 1,000 ft.

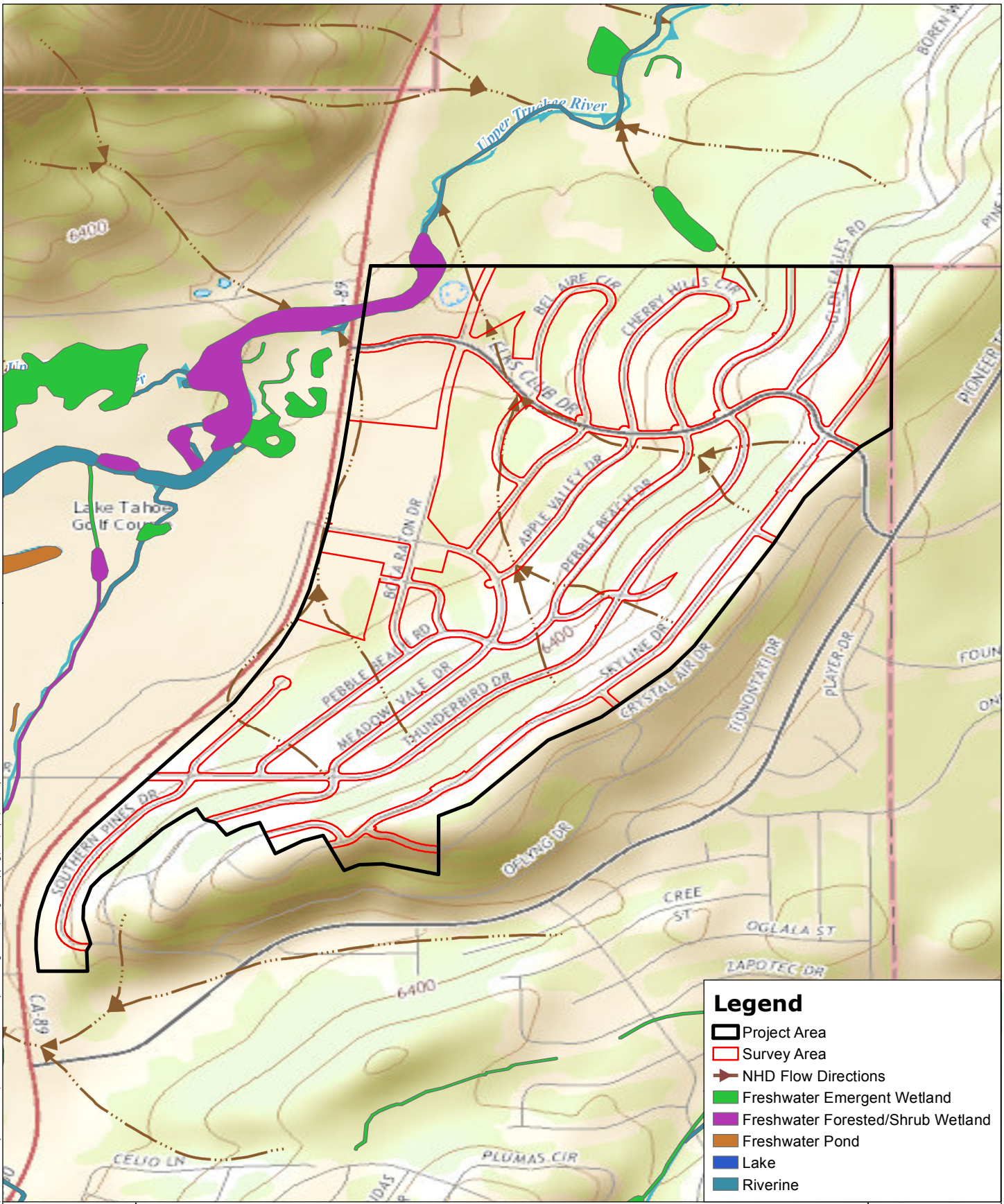
N

Credits: ESRI; El Dorado County; CWHR; TRPA

Date: 9/2/2016

Author: mrios

Figure 3



Country Club Heights Erosion Control Project

USGS Blue Line Drainages, NHD, and NWI Map

1 in. = 1,000 ft.

0 500 1,000 ft.

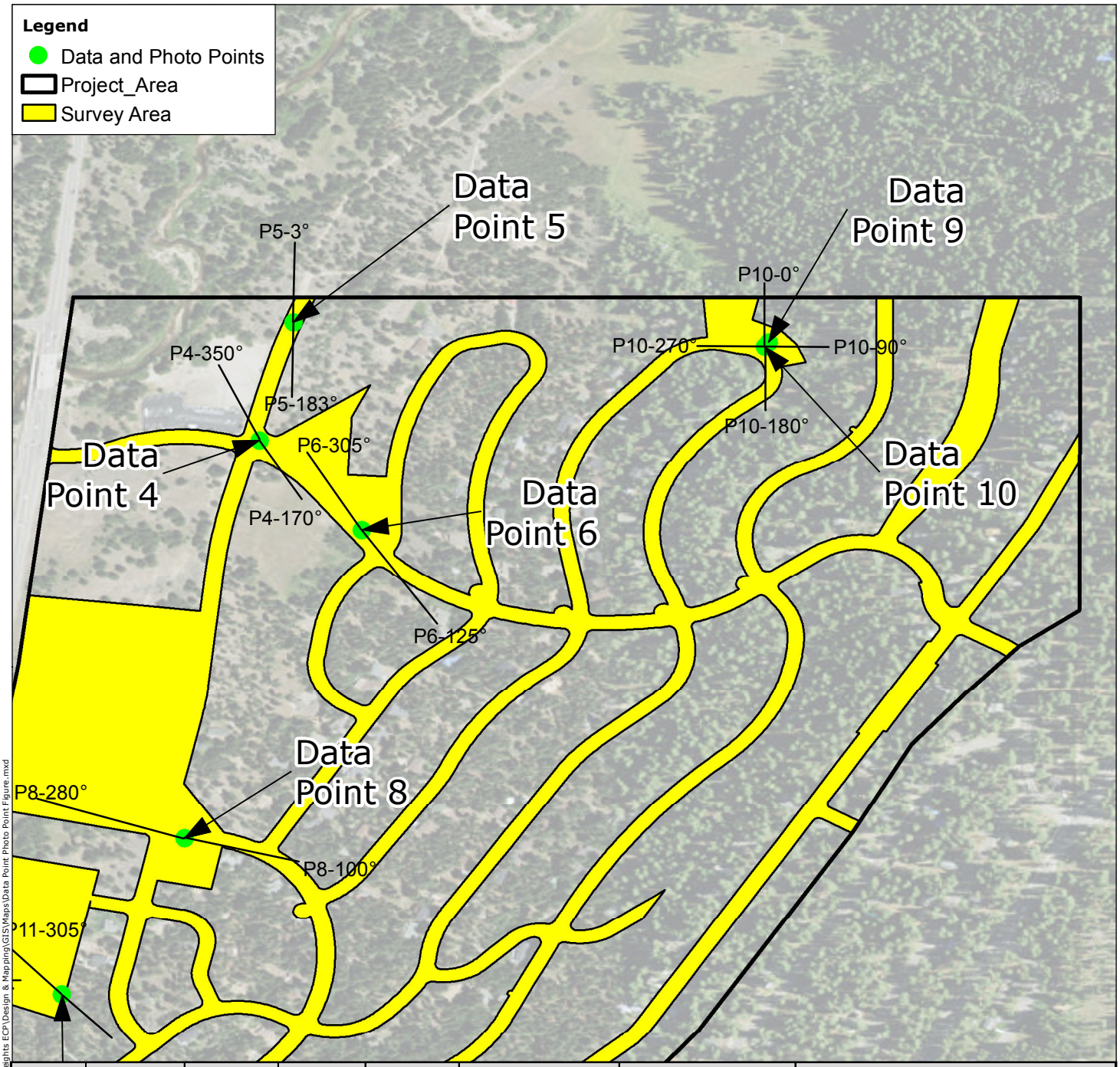
N

Credits: ESRI World Imagery basemap; other data sources

Date: 9/14/2016
Author: kkelso

Figure 4

Document Path: P:\Active Projects\El Dorado County DOT - A501\501.25.25 - EDC Country Club Heights ECP\Design & Mapping\GIS\Maps\NHD Map.mxd



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1	320° (P1-320°)	130° (P1-130°)			38.869203	-120.006481	Upland Data Point for Wetland 1 - PEM nonpersistent
3	0° (P3-0°)	90° (P3-90°)	270° (P3-270°)		38.868713	-120.006675	PEM non persistent Data Point
4	350° (P4-350°)	170° (P4-170°)			38.874472	-120.003164	Man Made Swale where Data Point was taken
5	3° (P5-3°)	183° (P5-183°)			38.875724	-120.002807	Man Made Swale where Data Point was taken
6	305° (P6-305°)	125° (P6-125°)			38.873512	-120.002076	Man Made Swale where Data Point was taken
8	280° (P8-280°)	100° (P8-100°)			38.870223	-120.003968	Man Made Swale where Data Point was taken
9	exact point (P9)				38.87551	-119.997744	Upland Data Point for Wetland 2 - PEM persistent
10	0° (P10-0°)	90° (P10-90°)	180° (P10-180°)	270° (P10-270°)	38.875466	-119.997785	Data Point for Wetland 2 - PEM persistent
11	125° (P11-125°)	305° (P11-305°)			38.868561	-120.00527	Intermittent Riverine Data Point
12	20° (P12-20°)	200° (P12-200°)			38.866351	-120.008101	Man Made Swale where Data Point was taken

Document Path: P:\Active Projects\El Dorado County DOT - A501\501.25.25 - EDC Country Club Heights ECP\Design & Mapping\GIS\Maps\Data Point Photo Point Figure.mxd

Country Club Heights Erosion Control Project

Data Point and Photo Point Map - northern portion of survey area

1 in. = 572 ft.

0 310 620 ft.

N

Credits: ESRI World Imagery basemap; other data sources

Date: 9/14/2016
Author: kkelso

Figure 5a

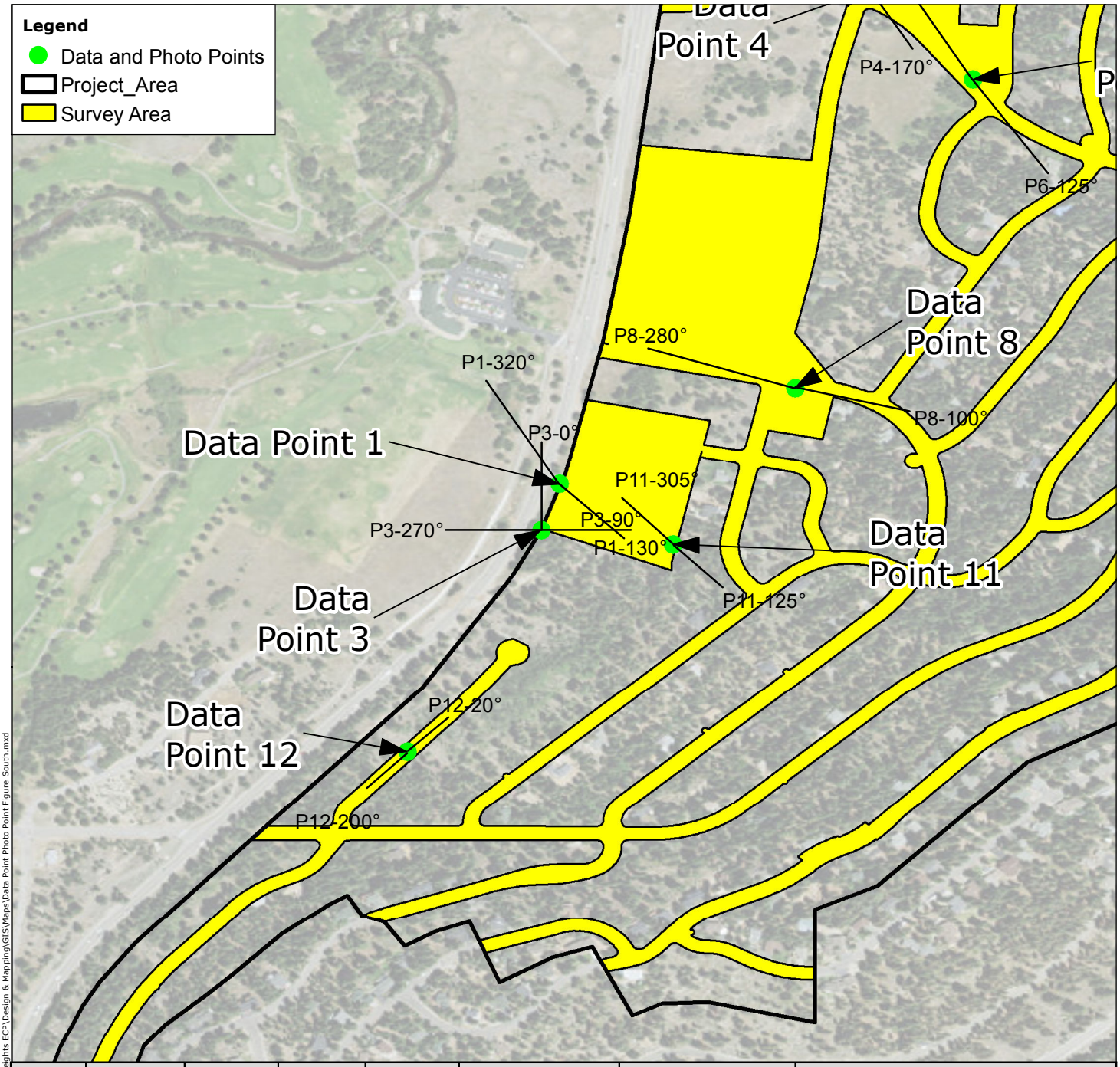


Photo Point	Direction from point (unique name)	Direction from point (unique name)	Direction from point (unique name)	Direction from point (unique name)	Latitude (decimal degrees)	Longitude (decimal degrees)	Relevance
1	320° (P1-320°)	130° (P1-130°)			38.869203	-120.006481	Upland Data Point for Wetland 1 - PEM nonpersistent
3	0° (P3-0°)	90° (P3-90°)	270° (P3-270°)		38.868713	-120.006675	PEM non persistent Data Point
4	350° (P4-350°)	170° (P4-170°)			38.874472	-120.003164	Man Made Swale where Data Point was taken
5	3° (P5-3°)	183° (P5-183°)			38.875724	-120.002807	Man Made Swale where Data Point was taken
6	305° (P6-305°)	125° (P6-125°)			38.873512	-120.002076	Man Made Swale where Data Point was taken
8	280° (P8-280°)	100° (P8-100°)			38.870223	-120.003968	Man Made Swale where Data Point was taken
9	exact point (P9)				38.87551	-119.997744	Upland Data Point for Wetland 2 - PEM persistent
10	0° (P10-0°)	90° (P10-90°)	180° (P10-180°)	270° (P10-270°)	38.875466	-119.997785	Data Point for Wetland 2 - PEM persistent
11	125° (P11-125°)	305° (P11-305°)			38.868561	-120.00527	Intermittent Riverine Data Point
12	20° (P12-20°)	200° (P12-200°)			38.866351	-120.008101	Man Made Swale where Data Point was taken

Document Path: P:\Active Projects\El Dorado County DOT - A501\501.25.25 - EDC Country Club Heights ECP\Design & Mapping\GIS\Maps\Data Point Photo Point Figure South.mxd

Country Club Heights Erosion Control Project

Data Point and Photo Point Map - southern portion of survey area

1 in. = 572 ft.

0 310 620 ft.

N

Credits: ESRI World Imagery basemap; other data sources

Date: 9/14/2016
Author: kkelso

Figure 5b

Appendix B

REPRESENTATIVE PHOTOGRAPHS

Photo 1: The location of upland Data Point 1 (P1-130°).

Photo 2: Data Point 3, Palustrine Emergent Nonpersistent Wetland (P3-0°).

Photo 3: Man-Made Swale along Boca Raton Drive.

Photo 4: Data Point 4 showing Man-Made Swale near corner of Boca Raton Drive and Elks Club Drive. Photo is taken facing north in downstream direction (P4-350°).

Photo 5: Data Point 5 facing upstream toward the south. The Man-Made Swale is located parallel to the dirt road, Boca Raton Drive (P5-183°).

Photo 6: Data Point 6, a man-made swale facing downstream. Man-made swale is adjacent to Elks Club Road (P6-305°).

Photo 7: Data Point 8 looking upstream of man-made swale along Meadow Vale Drive (P8-100°).

Photo 8: Data Point 9, soil from pit at upland.

Photo 9: Data Point 10, soil from Palustrine Emergent Persistent Wetland. Note visible redox features.

Photo 10: Data Point 10, view of Palustrine Emergent Persistent Wetland (P10-270°).

Photo 11: Data Point 11, upper portion of intermittent drainage facing upstream towards culvert off of Pebble Beach Drive (P11-125°). This drainage terminates into a man-made sediment basin.

Photo 12: Data Point 12, looking downstream at man-made swale which runs along dirt portion of Southern Pines Drive (P12-20°0).

Appendix C

OHWM DATA SHEETS

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Country Club Heights
Project Number: ASD1.25.25
Stream: Swale to Upper Truckee River
Investigator(s): Debra Lemke & Kelley Kelso

Date: 8/23/16 **Time:** 1:00 PM
Town: El Dorado County **State:** CA
Photo begin file#: 21 **Photo end file#:** 22

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details: Corner of Elks Club Dr. and Boca Raton Dr.

Projection: 38.874472 **Datum:** NAD 1983
Coordinates: -120.003164

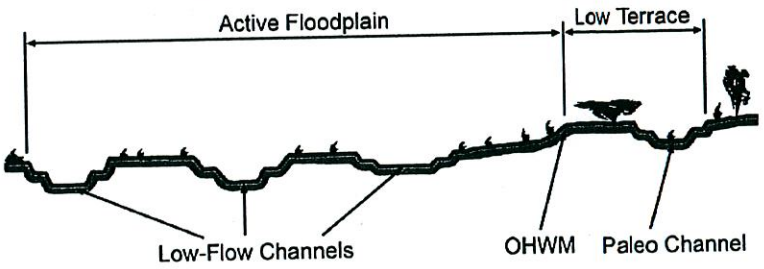
Potential anthropogenic influences on the channel system:
This swale was constructed to convey flows from Elks Club Drive to the Upper Truckee River. Elks Club Drive mimics the natural drainage direction mapped by NHD.

Brief site description:
Site is adjacent to a dirt road (Boca Raton Dr.) and paved road (Elks Club Dr.). A culvert conveys water into swale which discharges into Upper Truckee River. Swale is dry.

Checklist of resources (if available):

- ☑ Aerial photography
  Dates: 4/16/2015, earliest 12/1940
- ☑ Topographic maps
- ☑ Geologic maps
- ☑ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ Results of flood frequency analysis
  - ☐ Most recent shift-adjusted rating
  - ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

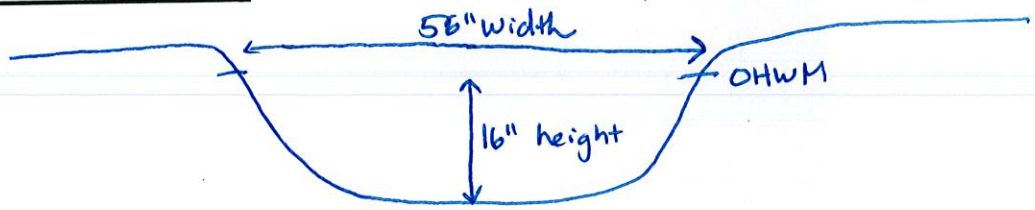


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

Project ID: A501.25.25 **Cross section ID:** **Date:** 8/23/16 **Time:** 1:00 PM

Cross section drawing:



OHWM

GPS point: CC11, Data Point 4

Indicators:

- ☐ Change in average sediment texture
- ☒ Change in vegetation species
- ☒ Change in vegetation cover
- ☒ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

350°N facing downstream, photo 21

170°S facing upstream, photo 22

Floodplain unit:

☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: CC11

Characteristics of the floodplain unit:

Average sediment texture: loam

Total veg cover: 20 % Tree: 10 % Shrub: — % Herb: 10 %

Community successional stage:

- ☐ NA
- ☒ Early (herbaceous & seedlings)
- ☒ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Country Club Heights
Project Number: A501.25.25
Stream: Swale to Upper Truckee River
Investigator(s): Debra Lemke + Kelley Kelso

Date: 8/23/16 **Time:** 1:15 PM
Town: El Dorado County **State:** CA
Photo begin file#: 23 **Photo end file#:** 24

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details: swale before 2 culverts draining to Upper Truckee River

Projection: 38.875724 **Datum:** NAD 1983
Coordinates: -120.002807

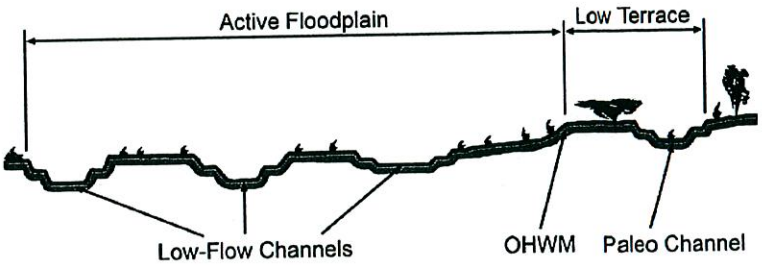
Potential anthropogenic influences on the channel system:
Dirt road adjacent to channel. Two culverts transport drainage water under dirt road and into continuation of drainage to the Upper Truckee River.

Brief site description:
End of Boca Raton Rd. (dirt road) where culverts convey water under road towards the Upper Truckee River

Checklist of resources (if available):

- ☑ Aerial photography
  Dates: 4/16/2015, earliest 12/1940
- ☑ Topographic maps
- ☑ Geologic maps
- ☑ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ Results of flood frequency analysis
  - ☐ Most recent shift-adjusted rating
  - ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

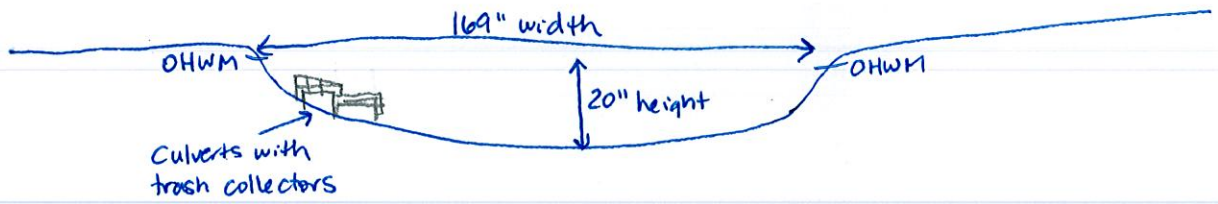


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

Project ID: ASDI.25.25 **Cross section ID:** **Date:** 8/23/16 **Time:** 1:15 PM

Cross section drawing:



OHWM

GPS point: Data Point 5, cc 15

Indicators:

- ☐ Change in average sediment texture
- ☒ Change in vegetation species
- ☒ Change in vegetation cover
- ☒ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

3° N facing downstream, photo 23

183° S facing upstream, photo 24

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: cc 15

Characteristics of the floodplain unit:

Average sediment texture: _____

Total veg cover: 30 % Tree: — % Shrub: — % Herb: 30 %

Community successional stage:

- ☐ NA
- ☒ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Country Club Heights
Project Number: A501.25.25
Stream: swale along Elks Club Road at Bel Aire Cir.
Investigator(s): Debra Lemke + Kelley Kelso

Date: 8/23/16
Town: El Dorado Co.
Photo begin file#: 25

Time: 1:33 PM
State: CA
Photo end file#: 26

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details: Vegetated swale parallel to Elks Club Road

Projection: 38.873512 **Datum:** NAD 1983
Coordinates: -120.002076

Potential anthropogenic influences on the channel system:
Elks Club Rd. on left when facing down stream, then curb + gutter, then vegetated drainage swale. Curb and gutter may reduce flow to swale.

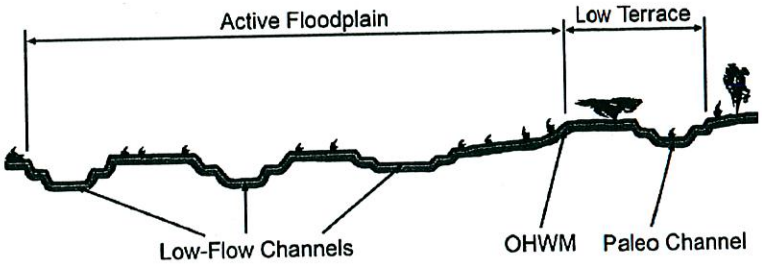
Brief site description: Drainage swale with willow, sedges, grasses, Juncus balticus, bull thistle, and weeds.

Checklist of resources (if available):

- ☑ Aerial photography
  Dates: 4/16/2015, earliest 12/1940
- ☑ Topographic maps
- ☑ Geologic maps
- ☑ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies

- ☐ Stream gage data
  Gage number:
  Period of record:
- ☐ History of recent effective discharges
- ☐ Results of flood frequency analysis
- ☐ Most recent shift-adjusted rating
- ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

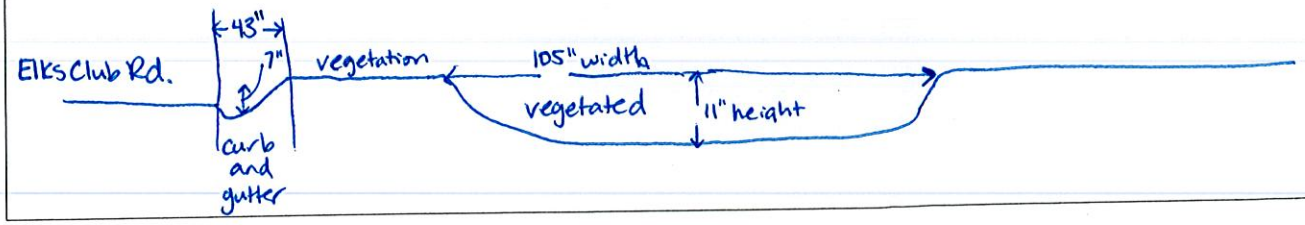


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☑ GPS
   - ☐ Other:

Project ID: A501.25.25 **Cross section ID:** **Date:** 8/23/16 **Time:** 1:33PM

Cross section drawing:



OHWM

GPS point: Data Point 16, CC17

Indicators:

- ☐ Change in average sediment texture
- ☒ Change in vegetation species
- ☒ Change in vegetation cover
- ☒ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

305° N facing downstream, photo 25
125° S facing upstream, photo 26

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: CC17

Characteristics of the floodplain unit:

Average sediment texture: _____
Total veg cover: 100 % Tree: ____ % Shrub: 50 % Herb: 50 %
Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☒ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Country Club Heights
Project Number: A501.25.25
Stream: Swale along Meadowvale Rd.
Investigator(s): Debra Lemke + Kelley Kelso

Date: 8/23/16 **Time:** 2:15 PM
Town: El Dorado Co. **State:** CA
Photo begin file#: 30 **Photo end file#:** 31

Y ☒ / N ☐ Do normal circumstances exist on the site?

Y ☐ / N ☒ Is the site significantly disturbed?

Location Details: Roadside swale on Meadowvale Rd.

Projection: 38.870223 **Datum:** NAD 83
Coordinates: -120.003968

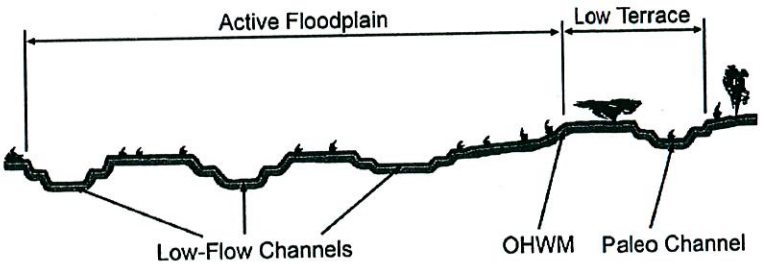
Potential anthropogenic influences on the channel system:
Road side swale constructed adjacent to Meadowvale Road.

Brief site description:
Vegetated swale constructed in an upland to convey runoff from Meadowvale Rd.

Checklist of resources (if available):

- ☑ Aerial photography
  Dates: 4/16/2015, earliest 12/1940
- ☑ Topographic maps
- ☑ Geologic maps
- ☑ Vegetation maps
- ☑ Soils maps
- ☐ Rainfall/precipitation maps
- ☐ Existing delineation(s) for site
- ☑ Global positioning system (GPS)
- ☐ Other studies
- ☐ Stream gage data
  Gage number:
  Period of record:
  - ☐ History of recent effective discharges
  - ☐ Results of flood frequency analysis
  - ☐ Most recent shift-adjusted rating
  - ☐ Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

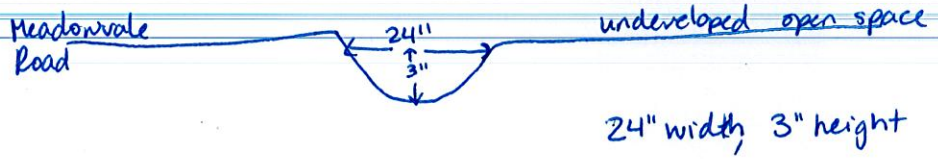


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - ☐ Mapping on aerial photograph
   - ☐ Digitized on computer
   - ☐ GPS
   - ☐ Other:

Project ID: ASD1.25.25 **Cross section ID:** **Date:** 8/23/16 **Time:** 2:15 PM

Cross section drawing:



24" width, 3" height

OHWM

GPS point: CC26, D.P. 8

Indicators:

- ☐ Change in average sediment texture
- ☒ Change in vegetation species
- ☒ Change in vegetation cover
- ☒ Break in bank slope
- ☐ Other: _____
- ☐ Other: _____

Comments:

facing upstream, photo 30
facing downstream, photo 31

Floodplain unit: ☒ Low-Flow Channel ☐ Active Floodplain ☐ Low Terrace

GPS point: CC 26

Characteristics of the floodplain unit:

Average sediment texture: loam
Total veg cover: 80 % Tree: ____ % Shrub: ____ % Herb: 80 %
Community successional stage:

- ☐ NA
- ☐ Early (herbaceous & seedlings)
- ☐ Mid (herbaceous, shrubs, saplings)
- ☐ Late (herbaceous, shrubs, mature trees)

Indicators:

- ☐ Mudcracks
- ☐ Ripples
- ☐ Drift and/or debris
- ☐ Presence of bed and bank
- ☐ Benches
- ☐ Soil development
- ☐ Surface relief
- ☐ Other: _____
- ☐ Other: _____
- ☐ Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Country Club Heights
Project Number: A501.25.25
Stream: Unnamed Drainage
Investigator(s): Debra Lemke + Kelley Kelso

Date: 8/24/16 **Time:** 9:24 AM
Town: El Dorado Co. **State:** CA
Photo begin file#: 38 **Photo end file#:** 39

Y [X] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [X] Is the site significantly disturbed?

Location Details: Drainage from veg swale from culvert on Pebble Beach Dr.

Projection: 38.868561 **Datum:** NAD 83
Coordinates: -120.00527

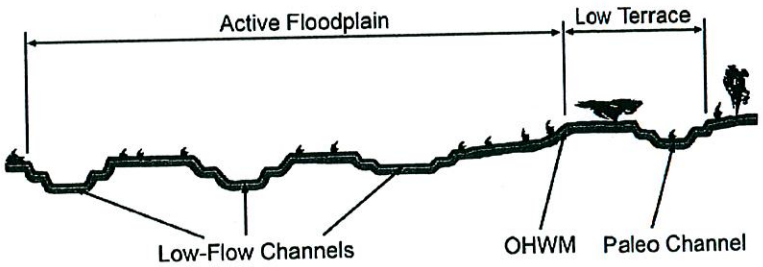
Potential anthropogenic influences on the channel system:
Nearby roads and housing complex. A foot trail crosses drainage. Drainage discharges into man made basin. In large storm event, basin would overflow into culvert system under Hwy 50.

Brief site description:
Dry drainage with grasses, sedges, Equisetum arvense, Juncus spp. Surrounding area Jeffrey pine. Drainage is mapped on NHD.

Checklist of resources (if available):

- [X] Aerial photography
  Dates: 4/16/2015, earliest 12/1940
- [ ] Topographic maps
- [ ] Geologic maps
- [ ] Vegetation maps
- [ ] Soils maps
- [ ] Rainfall/precipitation maps
- [ ] Existing delineation(s) for site
- [ ] Global positioning system (GPS)
- [ ] Other studies
- [ ] Stream gage data
  Gage number:
  Period of record:
  - [ ] History of recent effective discharges
  - [ ] Results of flood frequency analysis
  - [ ] Most recent shift-adjusted rating
  - [ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

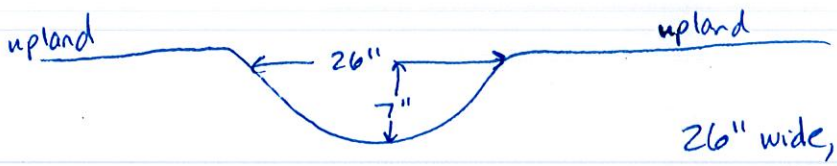


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - [ ] Mapping on aerial photograph
   - [ ] Digitized on computer
   - [X] GPS
   - [ ] Other:

Project ID: ASU25.25 **Cross section ID:** **Date:** 8/24/16 **Time:** 9:24 AM

Cross section drawing:



26" wide, 7" high

OHWM

GPS point: CC 35 data point 11

Indicators:

- [ ] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

305° N facing downstream, photo 38
125° S facing upstream, photo 39

Floodplain unit: [x] Low-Flow Channel [ ] Active Floodplain [ ] Low Terrace

GPS point: CC 35 Data Point 11

Characteristics of the floodplain unit:

Average sediment texture: sandy loam
Total veg cover: 90 % Tree: 10 % Shrub: ____ % Herb: 80 % 10% bare ground
Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [ ] Mid (herbaceous, shrubs, saplings)
- [x] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [ ] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Arid West Ephemeral and Intermittent Streams OHWM Datasheet

Project: Country Club Heights
Project Number: 501.25.25
Stream: roadside swale
Investigator(s): Debra Lemke + Kelley Kelso

Date: 8/24/16
Town: El Dorado Co.
Photo begin file#: 40

Time: 10:00 AM
State: CA
Photo end file#: 42

Y [X] / N [ ] Do normal circumstances exist on the site?

Y [ ] / N [X] Is the site significantly disturbed?

Location Details: vegetated swale adjacent to dirt portion of southern pines drive.

Projection: 38.866351 **Datum:** NAD 83
Coordinates: -120.008101

Potential anthropogenic influences on the channel system:
Man made dirt road parallels drainage. Rocks placed along both banks. Culvert at end of road conveys water under road and then surface flows toward Hwy. 50. Housing complex nearby.

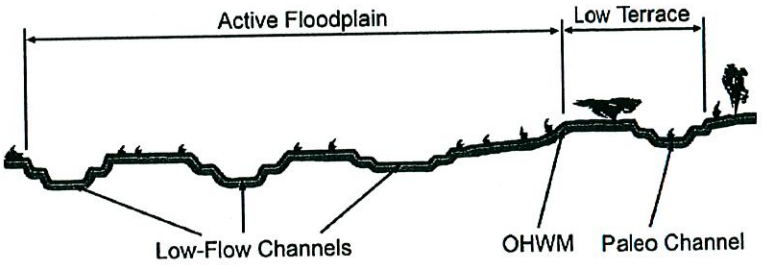
Brief site description:
Swale at corner of Thunderbird and Southern Pines Dr collects drainage from culvert with small amount of flow. Flow soaks into ground and swale is dry further down stream. Swale is vegetated with upland forest on both sides.

Checklist of resources (if available):

- [x] Aerial photography
  Dates: 4/16/15, earliest 12/1940
- [x] Topographic maps
- [x] Geologic maps
- [x] Vegetation maps
- [x] Soils maps
- [ ] Rainfall/precipitation maps
- [ ] Existing delineation(s) for site
- [x] Global positioning system (GPS)
- [ ] Other studies

- [ ] Stream gage data
  Gage number:
  Period of record:
- [ ] History of recent effective discharges
- [ ] Results of flood frequency analysis
- [ ] Most recent shift-adjusted rating
- [ ] Gage heights for 2-, 5-, 10-, and 25-year events and the most recent event exceeding a 5-year event

Hydrogeomorphic Floodplain Units

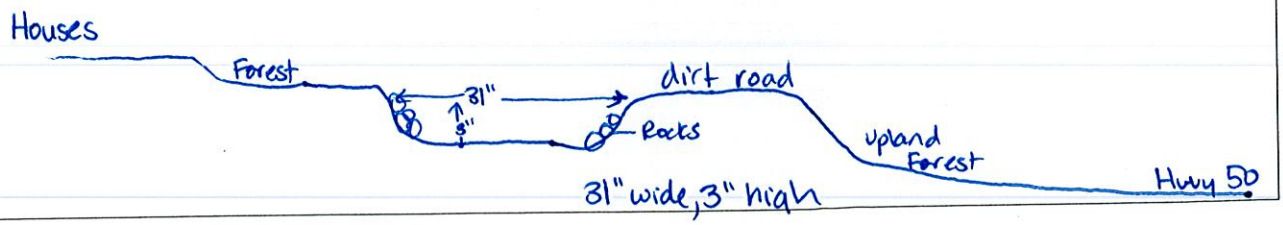


Procedure for identifying and characterizing the floodplain units to assist in identifying the OHWM:

1. Walk the channel and floodplain within the study area to get an impression of the geomorphology and vegetation present at the site.
2. Select a representative cross section across the channel. Draw the cross section and label the floodplain units.
3. Determine a point on the cross section that is characteristic of one of the hydrogeomorphic floodplain units.
   a) Record the floodplain unit and GPS position.
   b) Describe the sediment texture (using the Wentworth class size) and the vegetation characteristics of the floodplain unit.
   c) Identify any indicators present at the location.
4. Repeat for other points in different hydrogeomorphic floodplain units across the cross section.
5. Identify the OHWM and record the indicators. Record the OHWM position via:
   - [ ] Mapping on aerial photograph
   - [ ] Digitized on computer
   - [x] GPS
   - [ ] Other:

Project ID: 501.25.25 **Cross section ID:** **Date:** 8/24/16 **Time:** 10:00 AM

Cross section drawing:



OHWM

GPS point: CC 44, ~~# data point~~ 12

Indicators:

- [ ] Change in average sediment texture
- [x] Change in vegetation species
- [x] Change in vegetation cover
- [x] Break in bank slope
- [ ] Other: _____
- [ ] Other: _____

Comments:

20° N facing downstream, photo 42

200° S facing upstream, photo 41

Floodplain unit:

- [x] Low-Flow Channel
- [ ] Active Floodplain
- [ ] Low Terrace

GPS point: CC 44

Characteristics of the floodplain unit:

Average sediment texture: sand

Total veg cover: ____ % Tree: ____ % Shrub: 15 % Herb: 60 % Bare Ground 25%.

Community successional stage:

- [ ] NA
- [ ] Early (herbaceous & seedlings)
- [x] Mid (herbaceous, shrubs, saplings)
- [ ] Late (herbaceous, shrubs, mature trees)

Indicators:

- [ ] Mudcracks
- [ ] Ripples
- [ ] Drift and/or debris
- [ ] Presence of bed and bank
- [ ] Benches
- [ ] Soil development
- [ ] Surface relief
- [ ] Other: _____
- [ ] Other: _____
- [ ] Other: _____

Comments:

Culvert at Thunderbird and Southern Pines Dr — photo 40

Appendix D

Western Mountains, Valleys, and Coast Region, Wetland Determination Data Sheets

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Country Club Heights City/County: El Dorado County Sampling Date: 8-23-16

Applicant/Owner: El Dorado County State: CA Sampling Point: 1

Investigator(s): Debra Lemke and Kelley Kelso Section, Township, Range: S20, T12N R18E

Landform (hillslope, terrace, etc.): meadow Local relief (concave, convex, none): convex Slope (%): 2%

Subregion (LRR): D; MLRA 22A Lat: 38.868713 Long: -120.006675 Datum: WGS 84

Soil Map Unit Name: Celio loamy coarse sand, 0 to 5% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No x	**Is the Sampled Area within a Wetland?** Yes _____ No X
Hydric Soil Present?	Yes _____	No x	
Wetland Hydrology Present?	Yes _____	No x	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 m)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus contorta	10	Y	FAC
2.			
3.			
4.			
	10	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5 m)			
1. Purshia tridentata	2	Y	UPL
2.			
3.			
4.			
5.			
	2	= Total Cover	
Herb Stratum (Plot size: 1 m)			
1. Elymus glaucus	40	Y	FACU
2. unknown weed species	10	Y	UPL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	50	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____	= Total Cover	

% Bare Ground in Herb Stratum 50

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 25% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	1	x 3 =	3
FACU species	1	x 4 =	4
UPL species	2	x 5 =	10
Column Totals:	4 (A)		17 (B)

Prevalence Index = B/A = 4.25

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No X

Remarks:

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 4/3	100					gravelly sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

Wetland Hydrology Present? Yes ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Country Club Heights City/County: El Dorado County Sampling Date: 8-23-16

Applicant/Owner: El Dorado County State: CA Sampling Point: 3

Investigator(s): Debra Lemke and Kelley Kelso Section, Township, Range: S20, T12N R18E

Landform (hillslope, terrace, etc.): meadow Local relief (concave, convex, none): concave Slope (%): 2%

Subregion (LRR): D; MLRA 22A Lat: 38°52'07.21"N Long: 120°00'24.36"W Datum: WGS 84

Soil Map Unit Name: Celio loamy coarse sand, 0 to 5% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes x No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes x No _____	
Wetland Hydrology Present?	Yes x No _____	

Remarks: Photo 6.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 m)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus contorta	45	Y	FAC
2.			
3.			
4.			
	45 = Total Cover		
Sapling/Shrub Stratum (Plot size: 5 m)			
1. Salix lemmonii	20	Y	FACW
2. Ribes nevadense	5	Y	FAC
3. Amelanchier arborea	5	Y	NL-UPL
4.			
5.			
	30 = Total Cover		
Herb Stratum (Plot size: 1 m)			
1. Juncus spp.	4	N	FACW
2. Agrostis pallens	5	N	UPL
3. Arnica chamissonis	5	N	FACW
4. Carex spp.	86	Y	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 60% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: 3

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2								Organic Matter
2-6	7.5YR 2/2						loam	
6-12	7.5YR 4/2						sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- X Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes X **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- X Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- X Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- X Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): ____

Water Table Present? Yes ____ No X Depth (inches): ____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): ____

Wetland Hydrology Present? Yes X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Depression before culvert

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Country Club Heights City/County: El Dorado County Sampling Date: 8-23-16

Applicant/Owner: El Dorado County State: CA Sampling Point: 9

Investigator(s): Debra Lemke and Kelley Kelso Section, Township, Range: S21, T12N R18E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 25%

Subregion (LRR): D; MLRA 22A Lat: 38.87551 Long: -119.997744 Datum: WGS 84

Soil Map Unit Name: Ubaj sandy loam, 0-9% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No x	**Is the Sampled Area within a Wetland?** Yes _____ No x
Hydric Soil Present?	Yes _____	No x	
Wetland Hydrology Present?	Yes _____	No x	

Remarks:

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 m)	Absolute % Cover	Dominant Species?	Indicator Status
1. Pinus jeffreyi	15	Y	UPL
2. Abies concolor	10	Y	UPL
3. Populus tremuloides	5	Y	FACU
4.			
	30	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5 m)			
1. Ribes nevadense	5	Y	FAC
2. Amelanchier spp.	20	Y	UPL
3. Lonicera involucrata	10	Y	FAC
4.			
5.			
	35	= Total Cover	
Herb Stratum (Plot size: 1 m)			
1. Equisetum arvense	7	Y	FAC
2. Lupinus breweri	3	Y	UPL
3. Carex spp.	5	Y	FAC
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	15	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____	= Total Cover	

% Bare Ground in Herb Stratum 75 (covered in pine needle duff - not bare)

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 9 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 44% (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	4	x 3 =	12
FACU species	1	x 4 =	4
UPL species	4	x 5 =	20
Column Totals:	9 (A)		36 (B)

Prevalence Index = B/A = 4.0

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

___ 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No x

Remarks:

SOIL

Sampling Point: 9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-16	7.5YR 4/3	100					gravelly sandy loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ **No** X

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

Wetland Hydrology Present? Yes ____ **No** X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Country Club Heights City/County: El Dorado County Sampling Date: 8-23-16

Applicant/Owner: El Dorado County State: CA Sampling Point: 10

Investigator(s): Debra Lemke and Kelley Kelso Section, Township, Range: S21, T12N R18E

Landform (hillslope, terrace, etc.): hillslope Local relief (concave, convex, none): convex Slope (%): 25%

Subregion (LRR): D; MLRA 22A Lat: 38.875466 Long: -119.997785 Datum: WGS 84

Soil Map Unit Name: Ubaj sandy loam, 0-9% slopes NWI classification: none

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes X No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes X No _____	**Is the Sampled Area within a Wetland?** Yes X No _____
Hydric Soil Present?	Yes X No _____	
Wetland Hydrology Present?	Yes X No _____	

Remarks: A culvert with standing water drains water into the wetland.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: 10 m)	Absolute % Cover	Dominant Species?	Indicator Status
1. Abies concolor	10	N	UPL
2. Populus tremuloides	60	Y	FACU
3.			
4.			
	70	= Total Cover	
Sapling/Shrub Stratum (Plot size: 5 m)			
1.			
2.			
3.			
4.			
5.			
	0	= Total Cover	
Herb Stratum (Plot size: 1 m)			
1. Equisetum arvense	60	Y	FAC
2. Juncus spp.	30	Y	FACW
3. Agrostis pallens	2	N	UPL
4. Deschampsia elongata	2	N	FACW
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100	= Total Cover	
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____	= Total Cover	

% Bare Ground in Herb Stratum 0

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100% (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ 1 - Rapid Test for Hydrophytic Vegetation

X 2 - Dominance Test is >50%

___ 3 - Prevalence Index is ≤3.0[1]

___ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ 5 - Wetland Non-Vascular Plants[1]

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes X No _____

Remarks:

SOIL

Sampling Point: 10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-2							organic matter	
2-6	7.5YR 3/2	100%					clay loam	
6-10	7.5YR 5/1	40%	7.5YR 5/8	60%	RM	M	sandy silty clay	
10-18	7.5YR 4/1	50%	7.5YR 5/8	50%	RM	M	sandy silty clay	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- X Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) (**except MLRA 1**)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** X **No** _____

Remarks:

Photo 33

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- X Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) (**except MLRA 1, 2, 4A, and 4B**)
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) (**LRR A**)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) (**MLRA 1, 2, 4A, and 4B**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) (**LRR A**)
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes X No _____ Depth (inches): 6"

Water Table Present? Yes X No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes X No _____ Depth (inches): _____

Wetland Hydrology Present? **Yes** X **No** _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Standing water in low spots of wetland.

Culvert carrying water to the wetland.

Appendix E

PLANT LIST

Appendix E, Plant species found within the survey area.

Genus	Species	Common Name	WIS*
Pinus	*contorta*	lodgepole pine	FAC
Pinus	*jeffreyi*	Jeffrey pine	UPL
Abies	*concolor*	white fir	UPL
Populus	*tremuloides*	quaking aspen	FACU
Salix	*lemmonii*	Lemmon's willow	FACW
Ribes	*nevadense*	Sierra currant	FAC
Amelanchier	*arborea*	downy serviceberry	UPL
Lonicera	*involucrata*	twinberry honeysuckle	FAC
Purshia	*tridentata*	antelope bitterbrush	UPL
Equisetum	*arvense*	common horsetail	FAC
Juncus	spp.	unknown rush	FACW
Agrostis	*pallens*	bentgrass	UPL
Deschapsia	*elongata*	slender hairgrass	FACW
Lupinus	*breweri*	Brewer's lupine	UPL
Carex	spp.	unknown sedge	FAC
Elymus	*glaucus*	Blue wild rye	FACU
Arnica	*chamissonis*	Chamisso arnica	FACW

* Wetland Indicator Status (WIS):

OBL = occurs in aquatic resources > 99% of time
FACW = occurs in aquatic resources 67-99% of time
FAC = occurs in aquatic resources 34-66% of time
FACU = occurs in aquatic resources 1-33% of time
UPL = occurs in uplands > 99% of time
NI = indicator status not known in this region
~ = unsure as to FAC or FACU

Appendix F

CUSTOM NRCS SOILS REPORT

United States Department of Agriculture

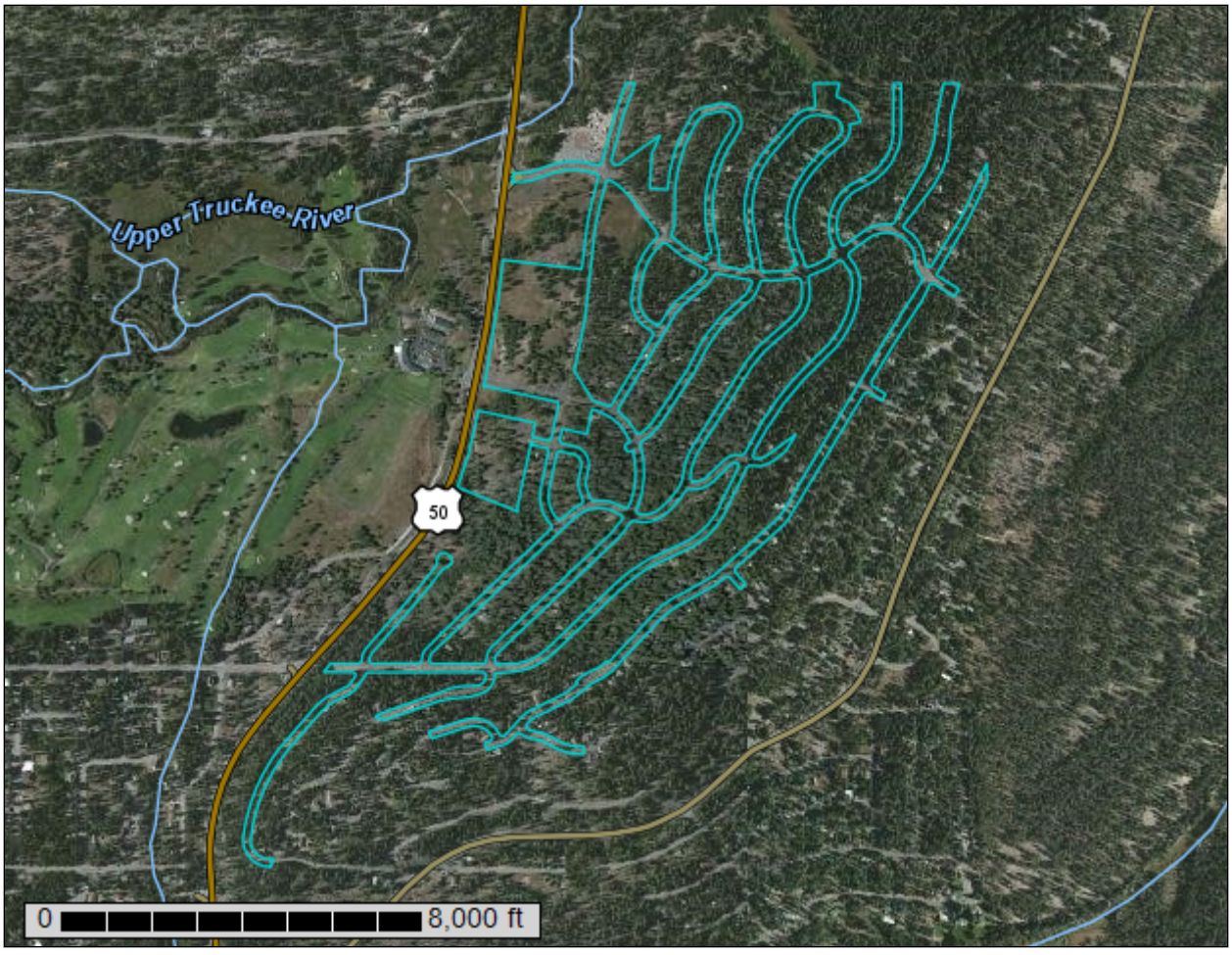
NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Tahoe Basin Area, California and Nevada

County Club Heights Erosion Control Project NRCS Soils Report



September 8, 2016

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (http://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil scientists classified and named the soils in the survey area, they compared the

individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

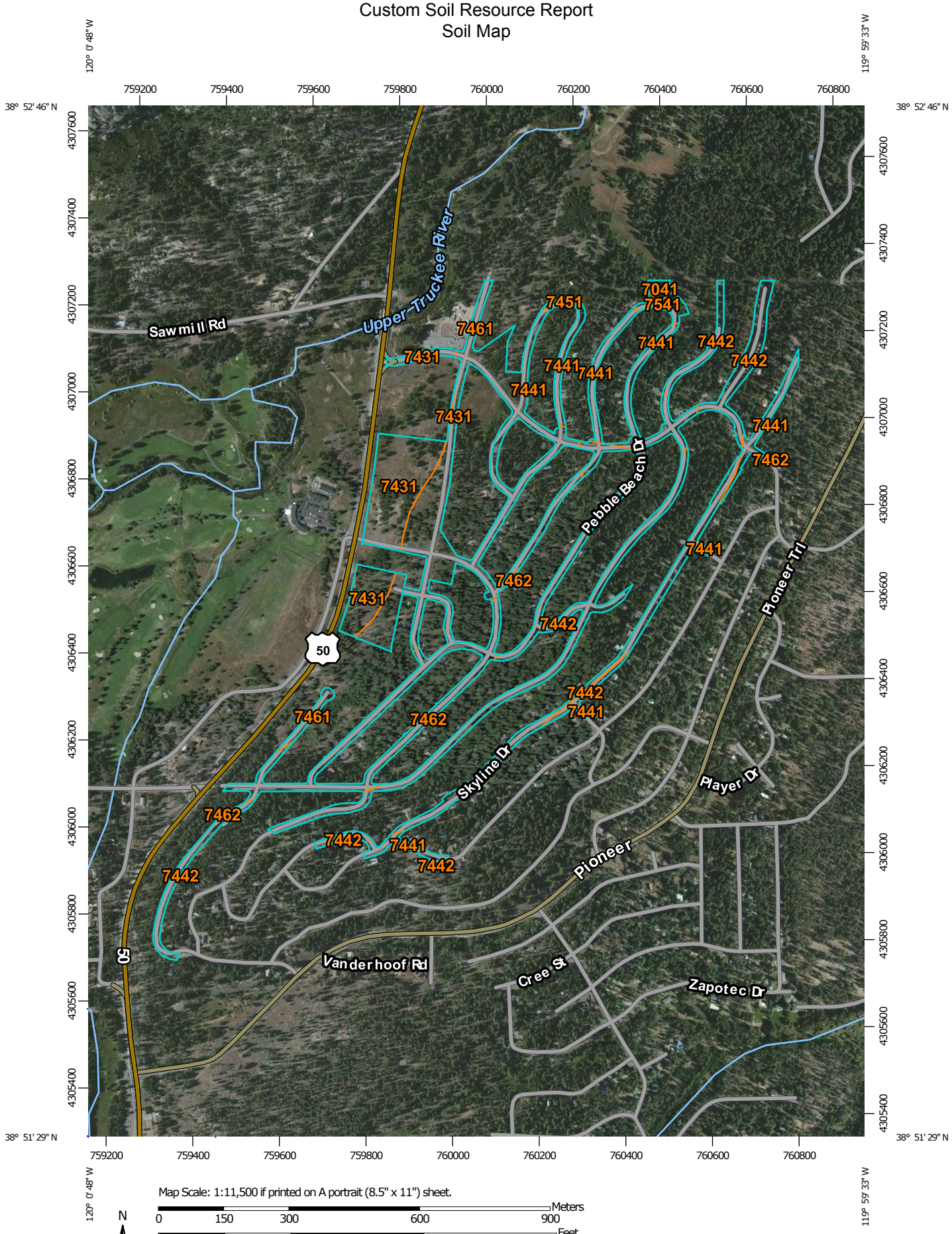
Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:11,500 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 150 300 600 900

Feet: 0 500 1000 2000 3000

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL: http://websoilsurvey.nrcs.usda.gov
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Tahoe Basin Area, California and Nevada
Survey Area Data: Version 10, Sep 18, 2014

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: May 12, 2010—Oct 30, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Tahoe Basin Area, California and Nevada (CA693)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
7041	Tahoe complex, 0 to 2 percent slopes	0.4	0.6%
7431	Celio loamy coarse sand, 0 to 5 percent slopes	11.2	16.6%
7441	Christopher loamy coarse sand, 0 to 9 percent slopes	8.1	12.0%
7442	Christopher loamy coarse sand, 9 to 30 percent slopes	20.4	30.2%
7451	Gefo gravelly loamy coarse sand, 2 to 9 percent slopes	0.3	0.5%
7461	Jabu coarse sandy loam, 0 to 9 percent slopes	19.2	28.5%
7462	Jabu coarse sandy loam, 9 to 30 percent slopes	6.9	10.2%
7541	Ubaj sandy loam, 0 to 9 percent slopes	1.0	1.4%
Totals for Area of Interest		**67.4**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified

by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Tahoe Basin Area, California and Nevada

7041—Tahoe complex, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 1sg4p
Elevation: 6,220 to 7,970 feet
Mean annual precipitation: 23 to 51 inches
Mean annual air temperature: 41 to 46 degrees F
Frost-free period: 20 to 60 days
Farmland classification: Not prime farmland

Map Unit Composition

Tahoe, silt loam, and similar soils: 55 percent
Tahoe, silt loam wet, and similar soils: 25 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tahoe, Silt Loam

Setting

Landform: Valley flats, flood plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Alluvium derived from granitic and volcanic rock

Typical profile

Oe - 0 to 3 inches: moderately decomposed plant material
A1 - 3 to 11 inches: mucky silt loam
A2 - 11 to 15 inches: mucky silt loam
A3 - 15 to 20 inches: gravelly coarse sand
A4 - 20 to 30 inches: mucky silt loam
Cg1 - 30 to 49 inches: loam
Cg2 - 49 to 59 inches: loamy sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.14 to 1.42 in/hr)
Depth to water table: About 0 to 12 inches
Frequency of flooding: Occasional
Frequency of ponding: Occasional
Available water storage in profile: High (about 9.2 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: C/D
Ecological site: Frigid E-C Meadow System (R022AX102CA)
Hydric soil rating: Yes

Description of Tahoe, Silt Loam Wet

Setting

Landform: Valley flats, flood plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Parent material: Alluvium derived from granitic and volcanic rock

Typical profile

A1 - 0 to 10 inches: mucky silt loam
A2 - 10 to 27 inches: loam
Cg1 - 27 to 32 inches: loamy fine sand
Cg2 - 32 to 46 inches: fine sand

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Very poorly drained
Runoff class: Very high
Capacity of the most limiting layer to transmit water (Ksat): Moderately high to very high (1.42 to 14.17 in/hr)
Depth to water table: About 0 to 10 inches
Frequency of flooding: Frequent
Frequency of ponding: Frequent
Available water storage in profile: Low (about 5.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 5w
Hydrologic Soil Group: A/D
Ecological site: Frigid E-C Meadow System (R022AX102CA)
Hydric soil rating: Yes

Minor Components

Marla

Percent of map unit: 10 percent
Landform: Valley flats, outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid E-C Meadow System (R022AX102CA)
Hydric soil rating: Yes

Watah

Percent of map unit: 5 percent
Landform: Valley flats, fens, flood plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: Frigid E-C Meadow System (R022AX102CA)
Hydric soil rating: Yes

Tahoe, gravelly

Percent of map unit: 5 percent
Landform: Valley flats, flood plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: Frigid E-C Meadow System (R022AX102CA)
Hydric soil rating: Yes

7431—Celio loamy coarse sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1sg31
Elevation: 6,220 to 6,480 feet
Mean annual precipitation: 25 to 47 inches
Mean annual air temperature: 41 to 45 degrees F
Frost-free period: 25 to 75 days
Farmland classification: Not prime farmland

Map Unit Composition

Celio and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Celio

Setting

Landform: Outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium and/or outwash

Typical profile

A1 - 0 to 8 inches: loamy coarse sand
A2 - 8 to 16 inches: gravelly loamy coarse sand
BA - 16 to 23 inches: gravelly loamy coarse sand
Bw - 23 to 45 inches: extremely gravelly coarse sand
2Bqm - 45 to 56 inches: material
2Bg - 56 to 80 inches: extremely gravelly coarse sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: 39 to 59 inches to duripan
Natural drainage class: Somewhat poorly drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)

Depth to water table: About 12 to 30 inches
Frequency of flooding: Rare
Frequency of ponding: Occasional
Available water storage in profile: Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A/D
Ecological site: Frigid Sandy Outwash Plain Gentle Slopes (F022AF001CA)
Hydric soil rating: No

Minor Components

Meeks, stony

Percent of map unit: 7 percent
Landform: Moraines
Landform position (two-dimensional): Backslope, summit, shoulder
Landform position (three-dimensional): Side slope
Down-slope shape: Convex
Across-slope shape: Linear
Ecological site: Frigid, Sandy, Moraines And Hill Slopes (F022AE007CA)
Hydric soil rating: No

Tahoe, gravelly

Percent of map unit: 5 percent
Landform: Valley flats, flood plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: Frigid C Channel System (R022AX107CA)
Hydric soil rating: Yes

Marla

Percent of map unit: 4 percent
Landform: Valley flats, outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Sandy, Moist, Outwash Fan (F022AX100CA)
Hydric soil rating: Yes

Watah

Percent of map unit: 4 percent
Landform: Valley flats, fens, flood plains
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Talf
Down-slope shape: Linear
Across-slope shape: Concave
Ecological site: Frigid E-C Meadow System (R022AX102CA)
Hydric soil rating: Yes

7441—Christopher loamy coarse sand, 0 to 9 percent slopes

Map Unit Setting

National map unit symbol: 1sg35
Elevation: 6,250 to 6,610 feet
Mean annual precipitation: 23 to 33 inches
Mean annual air temperature: 41 to 46 degrees F
Frost-free period: 40 to 90 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Christopher, loamy coarse sand, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Christopher, Loamy Coarse Sand

Setting

Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Outwash derived from granodiorite

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 8 inches: loamy coarse sand
Bw1 - 8 to 26 inches: loamy coarse sand
Bw2 - 26 to 42 inches: loamy coarse sand
Bw3 - 42 to 61 inches: loamy coarse sand

Properties and qualities

Slope: 0 to 9 percent
Percent of area covered with surface fragments: 0.0 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Ecological site: Frigid, Sandy, Or Loamy Outwash (F022AF002CA)

Hydric soil rating: No

Minor Components

Gefo, gravelly loamy coarse sand

Percent of map unit: 10 percent
Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Sandy, Or Loamy Outwash (F022AF002CA)
Hydric soil rating: No

Jabu

Percent of map unit: 5 percent
Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Sandy, Or Loamy Outwash (F022AF002CA)
Hydric soil rating: No

Oneidas

Percent of map unit: 3 percent
Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Loamy, Fragipan, Outwash (F022AF003CA)
Hydric soil rating: No

Marla

Percent of map unit: 2 percent
Landform: Valley flats, outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Sandy, Moist, Outwash Fan (F022AX100CA)
Hydric soil rating: Yes

7442—Christopher loamy coarse sand, 9 to 30 percent slopes

Map Unit Setting

National map unit symbol: 1sg36
Elevation: 6,230 to 6,540 feet
Mean annual precipitation: 23 to 31 inches
Mean annual air temperature: 41 to 46 degrees F

Frost-free period: 40 to 90 days
Farmland classification: Not prime farmland

Map Unit Composition

Christopher, loamy coarse sand, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Christopher, Loamy Coarse Sand

Setting

Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Outwash derived from granodiorite

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 8 inches: loamy coarse sand
Bw1 - 8 to 26 inches: loamy coarse sand
Bw2 - 26 to 42 inches: loamy coarse sand
Bw3 - 42 to 61 inches: loamy coarse sand

Properties and qualities

Slope: 9 to 30 percent
Percent of area covered with surface fragments: 0.0 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 6.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e
Hydrologic Soil Group: A
Ecological site: Frigid, Sandy, Or Loamy Outwash (F022AF002CA)
Hydric soil rating: No

Minor Components

Gefo, gravelly loamy coarse sand

Percent of map unit: 10 percent
Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Sandy, Or Loamy Outwash (F022AF002CA)
Hydric soil rating: No

Jabu

Percent of map unit: 5 percent
Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Sandy, Or Loamy Outwash (F022AF002CA)
Hydric soil rating: No

Oneidas

Percent of map unit: 3 percent
Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Loamy, Fragipan, Outwash (F022AF003CA)
Hydric soil rating: No

Marla

Percent of map unit: 2 percent
Landform: Valley flats, outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Sandy, Moist, Outwash Fan (F022AX100CA)
Hydric soil rating: Yes

7451—Gefo gravelly loamy coarse sand, 2 to 9 percent slopes

Map Unit Setting

National map unit symbol: 1sg3j
Elevation: 6,220 to 6,450 feet
Mean annual precipitation: 21 to 43 inches
Mean annual air temperature: 41 to 46 degrees F
Frost-free period: 40 to 90 days
Farmland classification: Not prime farmland

Map Unit Composition

Gefo, gravelly loamy coarse sand, and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Gefo, Gravelly Loamy Coarse Sand

Setting

Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope

Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Outwash derived from granodiorite

Typical profile

A - 0 to 15 inches: gravelly loamy coarse sand
C - 15 to 75 inches: gravelly coarse sand

Properties and qualities

Slope: 2 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Somewhat excessively drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 3.6 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Ecological site: Frigid, Sandy, Or Loamy Outwash (F022AF002CA)
Hydric soil rating: No

Minor Components

Christopher, loamy coarse sand

Percent of map unit: 10 percent
Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Sandy, Or Loamy Outwash (F022AF002CA)
Hydric soil rating: No

Jabu

Percent of map unit: 5 percent
Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Sandy, Or Loamy Outwash (F022AF002CA)
Hydric soil rating: No

Oneidas

Percent of map unit: 3 percent
Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear

Ecological site: Frigid, Loamy, Fragipan, Outwash (F022AF003CA)
Hydric soil rating: No

Marla

Percent of map unit: 2 percent
Landform: Valley flats, outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Sandy, Moist, Outwash Fan (F022AX100CA)
Hydric soil rating: Yes

7461—Jabu coarse sandy loam, 0 to 9 percent slopes

Map Unit Setting

National map unit symbol: 1sg41
Elevation: 6,230 to 6,810 feet
Mean annual precipitation: 23 to 35 inches
Mean annual air temperature: 41 to 46 degrees F
Frost-free period: 40 to 90 days
Farmland classification: Not prime farmland

Map Unit Composition

Jabu and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Jabu

Setting

Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Outwash derived from granodiorite

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 7 inches: coarse sandy loam
Bt1 - 7 to 21 inches: coarse sandy loam
Bt2 - 21 to 46 inches: gravelly coarse sandy loam
Bx - 46 to 67 inches: coarse sandy loam
C - 67 to 73 inches: stratified fine sandy loam to silty clay
Cd - 73 to 101 inches: coarse sandy loam

Properties and qualities

Slope: 0 to 9 percent
Depth to restrictive feature: 39 to 79 inches to fragipan; 59 to 79 inches to densic material

Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 in/hr)
Depth to water table: About 39 to 79 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: A
Ecological site: Frigid, Sandy, Or Loamy Outwash (F022AF002CA)
Hydric soil rating: No

Minor Components

Christopher, loamy coarse sand

Percent of map unit: 10 percent
Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Sandy, Or Loamy Outwash (F022AF002CA)
Hydric soil rating: No

Oneidas

Percent of map unit: 5 percent
Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Loamy, Fragipan, Outwash (F022AF003CA)
Hydric soil rating: No

Gefo, gravelly loamy coarse sand

Percent of map unit: 3 percent
Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Sandy, Or Loamy Outwash (F022AF002CA)
Hydric soil rating: No

Marla

Percent of map unit: 2 percent
Landform: Valley flats, outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Sandy, Moist, Outwash Fan (F022AX100CA)
Hydric soil rating: Yes

7462—Jabu coarse sandy loam, 9 to 30 percent slopes

Map Unit Setting

National map unit symbol: 1sg42
Elevation: 6,230 to 7,410 feet
Mean annual precipitation: 23 to 41 inches
Mean annual air temperature: 41 to 46 degrees F
Frost-free period: 40 to 90 days
Farmland classification: Not prime farmland

Map Unit Composition

Jabu and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Jabu

Setting

Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Outwash derived from granodiorite

Typical profile

Oi - 0 to 1 inches: slightly decomposed plant material
A - 1 to 7 inches: coarse sandy loam
Bt1 - 7 to 21 inches: coarse sandy loam
Bt2 - 21 to 46 inches: gravelly coarse sandy loam
Bx - 46 to 67 inches: coarse sandy loam
C - 67 to 73 inches: stratified fine sandy loam to silty clay
Cd - 73 to 101 inches: coarse sandy loam

Properties and qualities

Slope: 9 to 30 percent
Depth to restrictive feature: 39 to 79 inches to fragipan; 59 to 79 inches to densic material
Natural drainage class: Well drained
Runoff class: Low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 in/hr)
Depth to water table: About 39 to 79 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Low (about 5.4 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 6e

Hydrologic Soil Group: A
Ecological site: Frigid, Sandy, Or Loamy Outwash (F022AF002CA)
Hydric soil rating: No

Minor Components

Christopher, loamy coarse sand
Percent of map unit: 10 percent
Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Sandy, Or Loamy Outwash (F022AF002CA)
Hydric soil rating: No

Oneidas
Percent of map unit: 5 percent
Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Loamy, Fragipan, Outwash (F022AF003CA)
Hydric soil rating: No

Gefo, gravelly loamy coarse sand
Percent of map unit: 3 percent
Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Sandy, Or Loamy Outwash (F022AF002CA)
Hydric soil rating: No

Marla
Percent of map unit: 2 percent
Landform: Valley flats, outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Sandy, Moist, Outwash Fan (F022AX100CA)
Hydric soil rating: Yes

7541—Ubaj sandy loam, 0 to 9 percent slopes

Map Unit Setting
National map unit symbol: 1sg45
Elevation: 6,230 to 6,530 feet

Mean annual precipitation: 23 to 39 inches
Mean annual air temperature: 41 to 46 degrees F
Frost-free period: 40 to 90 days
Farmland classification: Farmland of statewide importance

Map Unit Composition

Ubaj and similar soils: 80 percent
Minor components: 20 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Ubaj

Setting

Landform: Lake terraces, outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium and/or colluvium derived from granodiorite over lacustrine deposits

Typical profile

Oi - 0 to 0 inches: slightly decomposed plant material
A - 0 to 7 inches: sandy loam
BA - 7 to 17 inches: sandy loam
Bt1 - 17 to 28 inches: sandy clay loam
2Bt2 - 28 to 42 inches: clay loam
2Bt3 - 42 to 49 inches: clay
2Cg - 49 to 120 inches: clay

Properties and qualities

Slope: 0 to 9 percent
Depth to restrictive feature: More than 80 inches
Natural drainage class: Moderately well drained
Runoff class: Medium
Capacity of the most limiting layer to transmit water (Ksat): Moderately low (0.01 to 0.14 in/hr)
Depth to water table: About 48 to 72 inches
Frequency of flooding: None
Frequency of ponding: None
Available water storage in profile: Moderate (about 8.5 inches)

Interpretive groups

Land capability classification (irrigated): None specified
Land capability classification (nonirrigated): 4e
Hydrologic Soil Group: B
Ecological site: Frigid, Sandy, Moist, Outwash Fan (F022AX100CA)
Hydric soil rating: No

Minor Components

Jabu

Percent of map unit: 5 percent
Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear

Across-slope shape: Linear
Ecological site: Frigid, Loamy, Fragipan, Outwash (F022AF003CA)
Hydric soil rating: No

Christopher, loamy coarse sand

Percent of map unit: 5 percent
Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Sandy, Or Loamy Outwash (F022AF002CA)
Hydric soil rating: No

Oneidas

Percent of map unit: 5 percent
Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Loamy, Fragipan, Outwash (F022AF003CA)
Hydric soil rating: No

Gefo, gravelly loamy coarse sand

Percent of map unit: 3 percent
Landform: Hillslopes on outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope, tread
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Sandy, Or Loamy Outwash (F022AF002CA)
Hydric soil rating: No

Marla

Percent of map unit: 2 percent
Landform: Valley flats, outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread, talf
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: Frigid, Sandy, Moist, Outwash Fan (F022AX100CA)
Hydric soil rating: Yes

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Appendix G

COMPACT DISC OF AQUATIC RESOURCE EXCEL SPREADSHEET, GIS METADATA, AND FINAL AQUATIC RESOURCES DELINEATION REPORT

Appendix H

AQUATIC RESOURCE DELINEATION MAPS

Feature Number	Feature Type	OHWM width (inches)	Area (Acres)
1 - Unnamed drainage	Intermittent Riverine	26	0.007
2 - Wetland 1 Hwy 50	PEM - Nonpersistent	NA	0.014
3 - Wetland 2 Cherry Hills Circle	PEM - Persistent	NA	0.573
4 - MMS Elks Club Drive	MMS	105	0.099
5 - MMS Boca Raton Drive	MMS	24, 56, 169	0.719
6 - MMS Southern Pines Drive	MMS	31	0.223

MMS = Man Made Swale

PEM = Palustrine Emergent Wetland

38.878989
-119.994138

Data Point 5
Data Point 4
Data Point 6
Data Point 8
Data Point 9
Data Point 10
Data Point 11

UPPER TRUCKEE RIVER
US HWY 50
BEL AIRE CIR
CHERRY HILLS CIR
GLEN EAGLES RD
ELKS CLUB DR
WAVERLEY DR
BOCA RATON DR
TAMOSHANTER DR
APPLE VALLEY DR
PEBBLE BEACH DR
THUNDERBIRD DR
SKYLINE DR
YQU ST
TIONONTATI ST
CRYSTAL AIR DR
PLAYER DR
GALLO RD
MEADOW VALE DR
COTO ST
OFLYING DR

1
3
4
5
5
5

38.864933
-120.006211

Legend

- Latitude and Longitude of corner of map
- Project Area
- Survey Area
- Data Point
- Man Made Swale
- Intermittent Riverine
- Palustrine Emergent
- Parcels

Project Name: Country Club Heights Erosion Control Project
Delineation Team: Kelley Kelso and Debra Lemke
Map Date: 10/4/16
Date of Revisions:
Photo points may be found in Appendix A, Figures 5a and 5b
These findings should be considered preliminary until the USACE makes a final approved jurisdictional determination in coordination with the US EPA.

Document Path: P:\Active Projects\El Dorado County DOT - A501\501.25.25 - EDC Country Club Heights ECP\Design & Mapping\GIS\Maps\Country Club Heights WOUS Finished map - N.mxd

County Country Club Heights Erosion Control Project - North

Waters of the United States Delineation

1 in. = 350 ft.

0 350 700 ft.

N

Credits: ESRI World Imagery; other data sources

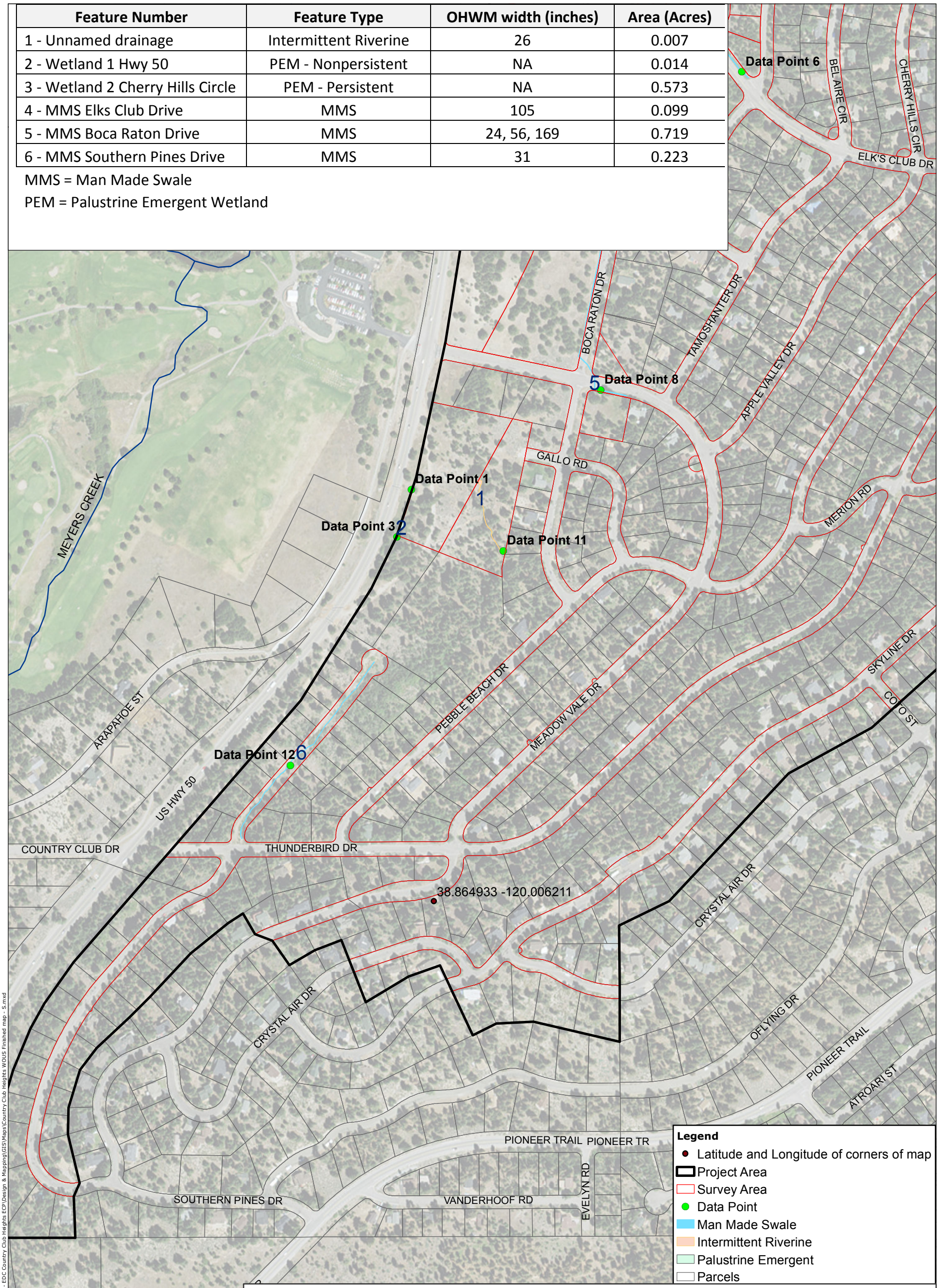
Date: 10/4/2016
Author: kkelso

Appendix H

Feature Number	Feature Type	OHWM width (inches)	Area (Acres)
1 - Unnamed drainage	Intermittent Riverine	26	0.007
2 - Wetland 1 Hwy 50	PEM - Nonpersistent	NA	0.014
3 - Wetland 2 Cherry Hills Circle	PEM - Persistent	NA	0.573
4 - MMS Elks Club Drive	MMS	105	0.099
5 - MMS Boca Raton Drive	MMS	24, 56, 169	0.719
6 - MMS Southern Pines Drive	MMS	31	0.223

MMS = Man Made Swale

PEM = Palustrine Emergent Wetland



Project Name: Country Club Heights Erosion Control Project
Delineation Team: Kelley Kelso and Debra Lemke
Map Date: 10/4/16
Date of Revisions:
Photo points may be found in Appendix A, Figures 5a and 5b

These findings should be considered preliminary until the USACE makes a final approved jurisdictional determination in coordination with the US EPA.

County Country Club Heights Erosion Control Project - South

Waters of the United States Delineation

1 in. = 350 ft.

0 350 700 ft.

N

Credits: ESRI World Imagery; other data sources

Date: 10/4/2016
Author: kkelso

Appendix H

Document Path: P:\Active Projects\El Dorado County DOT - A501\501.25.25 - EDC Country Club Heights ECP\Design & Mapping\GIS\Maps\Country Club Heights WOUS Finished map - S.mxd

Memo on potential surface water connection of Wetland 1, as referenced in the NCE – Final Aquatic Resources Delineation Report for the Country Club Heights Erosion Control Project

USACE SPK-2016-00783

D. Kikkert, P.E. – El Dorado County Transportation Division

This memo provides further clarification on "Wetland 1", identified in the County Club Heights Erosion Control Project Final Aquatic Resources Delineation Report (Report), as a potentially jurisdictional feature. The area in question is located east of Highway 50, south of Meadowvale Drive and was estimated to be 0.014 acres in size (See Figure A). In the Report, NCE noted that "it appears in high water years, the wetland would discharge into the culvert (crossing under U.S. Highway 50) and into the Upper Truckee River. NCE did not confirm the surface water connection due to private land holdings." On November 17, 2016 El Dorado County (County) staff completed a site visit to assess the potential surface water connection of Wetland 1 to the Upper Truckee River or Myers Creek. Based on observations from this visit and the review of existing Lidar data, the County has determined that there is no surface water connection between Wetland 1 and either the Upper Truckee River or Myers Creek. The determination is supported by the observations documented below.

On November 17, 2016 staff from the County completed a site visit to Wetland 1. During this visit, County staff investigated possible drainage flow paths from the outfall of the Highway 50 culvert identified above. The two identified options for a possible surface water connection are either (1) to the west, under the bike path boardwalk, or (2) to the north in a shallow swale between the bike path and Highway 50. With respect to possible flow path (1) there was no evidence of channelized (or concentrated) flow to the west of the Highway 50 culvert outfall, as the existing grade below the bike path boardwalk is higher than the low point in an existing shallow swale which slopes to the north (Photo Points 1 and 2). If flows were to become high enough to flow beneath the boardwalk, they would have to cross the existing meadow system and the driving range in the golf course in order to have a surface water connection to Meyers Creek. Both the meadow system and driving range are flat with little to no topographic variability (Photo Point 4). With respect to possible flow path (2), the shallow swale trends north north-east between the bike path and Highway 50. After approximately 400 feet the shallow swale flattens out and there is no evidence of channelized or concentrated flow from this point on (Photo Point 3). Note that in both cases the flow paths occur within the boundaries of NRCS defined soil class 7431 – Celio Loamy Coarse Sand (shown in Figure A and presented below).

In both scenarios the local topography and constructed golf course complex act as barriers to any surface water connection to Meyers Creek or the Upper Truckee River.

Photos

Photo Point 1:
At outlet of Highway 50 culvert looking west. Outlet with rock rip rap in foreground and bike path boardwalk in background.

Photo Point 2:
Standing near end of rock rip in previous photo looking north at shallow swale. Bike path boardwalk on left side of photo and Highway 50 on right side of photo.

Photo Point 3:
Approximately 400' north of rock rip rap where shallow swale flattens out. No evidence of concentrated flow from this point on. Bike path on left side of photo and Highway 50 on right side of photo.

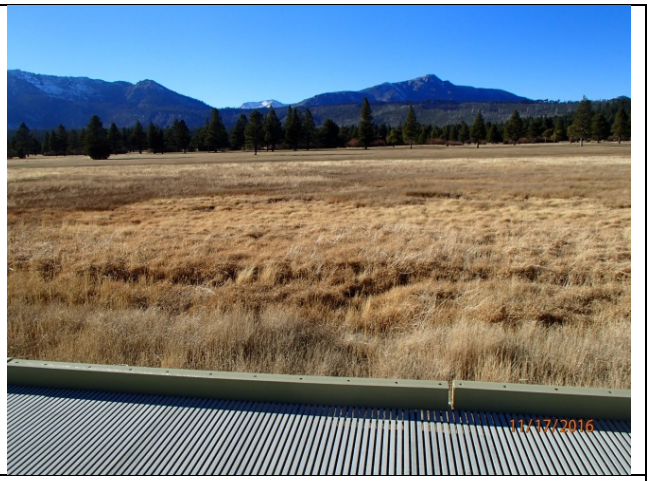


Photo Point 4:
Standing on bike path boardwalk shown in photo point 1, looking west. Meadow area in foreground and golf course (driving range and hole #1) in background.

Excerpt from NRCS Web Soil Survey
(http://websoilsurvey.sc.egov.usda.gov/App/WebSoilSurvey.aspx)

7431—Celio loamy coarse sand, 0 to 5 percent slopes

Map Unit Setting

National map unit symbol: 1sg31 *Elevation:* 6,220 to 6,480 feet *Mean annual precipitation:* 25 to 47 inches *Mean annual air temperature:* 41 to 45 degrees F *Frost-free period:* 25 to 75 days *Farmland classification:* Not prime farmland

Map Unit Composition

Celio and similar soils: 80 percent *Minor components:* 20 percent *Estimates are based on observations, descriptions, and transects of the mapunit.*

Description of Celio Setting

Landform: Outwash terraces
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Tread
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium and/or outwash

Typical profile

A1 - 0 to 8 inches: loamy coarse sand
A2 - 8 to 16 inches: gravelly loamy coarse sand
BA - 16 to 23 inches: gravelly loamy coarse sand
Bw - 23 to 45 inches: extremely gravelly coarse sand
2Bqm - 45 to 56 inches: material
2Bg - 56 to 80 inches: extremely gravelly coarse sand

Properties and qualities

Slope: 0 to 5 percent *Depth to restrictive feature:* 39 to 59 inches to duripan *Natural drainage class:* Somewhat poorly drained *Runoff class:* High *Capacity of the most limiting layer to transmit water (Ksat):* High (1.98 to 5.95 in/hr)
Depth to water table: About 12 to 30 inches *Frequency of flooding:* Rare *Frequency of ponding:* Occasional *Available water storage in profile:* Very low (about 1.7 inches)

Interpretive groups

Land capability classification (irrigated): None specified *Land capability classification (nonirrigated):* 6s *Hydrologic Soil Group:* A/D *Ecological site:* Frigid Sandy Outwash Plain Gentle Slopes (F022AF001CA) *Hydric soil rating:* No

Minor Components Meeks, stony

Percent of map unit: 7 percent *Landform:* Moraines *Landform position (two-dimensional):* Backslope, summit, shoulder *Landform position (three-dimensional):* Side slope *Down-slope shape:* Convex *Across-slope shape:* Linear *Ecological site:* Frigid, Sandy, Moraines And Hill Slopes (F022AE007CA) *Hydric soil rating:* No

Tahoe, gravelly

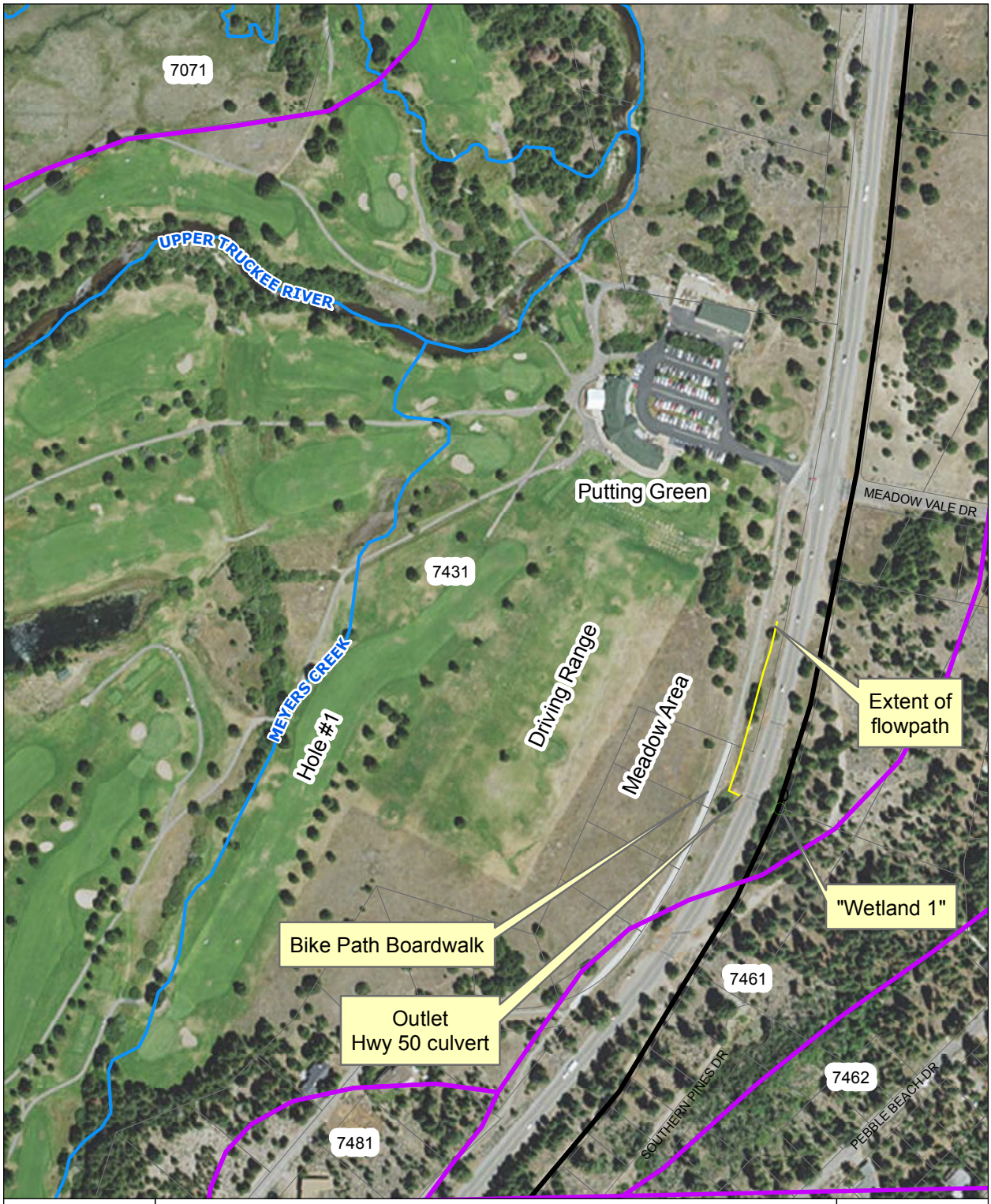
Percent of map unit: 5 percent *Landform:* Valley flats, flood plains *Landform position (two-dimensional):* Backslope *Landform position (three-dimensional):* Talf *Down-slope shape:* Linear *Across-slope shape:* Concave *Ecological site:* Frigid C Channel System (R022AX107CA) *Hydric soil rating:* Yes

Marla

Percent of map unit: 4 percent *Landform:* Valley flats, outwash terraces *Landform position (two-dimensional):* Backslope *Landform position (three-dimensional):* Tread, talf *Down-slope shape:* Linear *Across-slope shape:* Linear *Ecological site:* Frigid, Sandy, Moist, Outwash Fan (F022AX100CA) *Hydric soil rating:* Yes

Watah

Percent of map unit: 4 percent *Landform:* Valley flats, fens, flood plains *Landform position (two-dimensional):* Backslope *Landform position (three-dimensional):* Talf *Down-slope shape:* Linear *Across-slope shape:* Concave *Ecological site:* Frigid E-C Meadow System (R022AX102CA) *Hydric soil rating:* Yes



Legend

- Project Boundary
- Streams
- Soil Map Units
- Visible Flow Path
- Data Point 3

Country Club Heights ECP

Wetland Outlet

1:4,000

0 210 420 ft.

N

Credits: ESRI; El Dorado County; TRPA

Date: 11/21/2016

Author: dkikkert

Figure A

Appendix B

SUPPORTING MAPS

Legend

2016/2019 Project Boundary

Country Club Heights Erosion Control Project Phase III

2016/2019 Amended Project Location Map

N

1 in. = 10,000 ft.

0 5,000 10,000 ft.

FIGURE 1

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2016/2019	501.36.25	sbryan	9/9/2019	-	drios

Document Path: P:\Active Projects\El Dorado County - A501\501.36.25 - CC Heights Phase III\GIS\AGP\CC Heights Ph III - sbryan02.aprx

On March 6, 2017, a USACE Jurisdictional Determination was issued for the 2016 survey area. The USACE file name and number is: Sacramento District, County Club Heights Erosion Control Project, SPK-2016-00783. The federally jurisdictional feature for the 2016 survey area is: Wetland 2, which is 0.573 acres in size.

Legend

- 2016 Survey Area
- 2016/2019 Project Boundary
- Parcels

NCE

Country Club Heights Erosion Control Project Phase III

2016 Project Survey Area

N

1 in. = 700 ft.

0 700 ft.

FIGURE 2A

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2016; TRPA Parcel Data	501.36.25	sbryan	9/9/2019	-	drios

Document Path: P:\Active Projects\El Dorado County - A501\501.36.25 - CC Heights Phase III\GIS\AGP\CC Heights Ph III - sbryan02.aprx

Legend

2019 Survey Area

NCE

Country Club Heights Erosion Control Project Phase III

2019 Project Survey Area

N

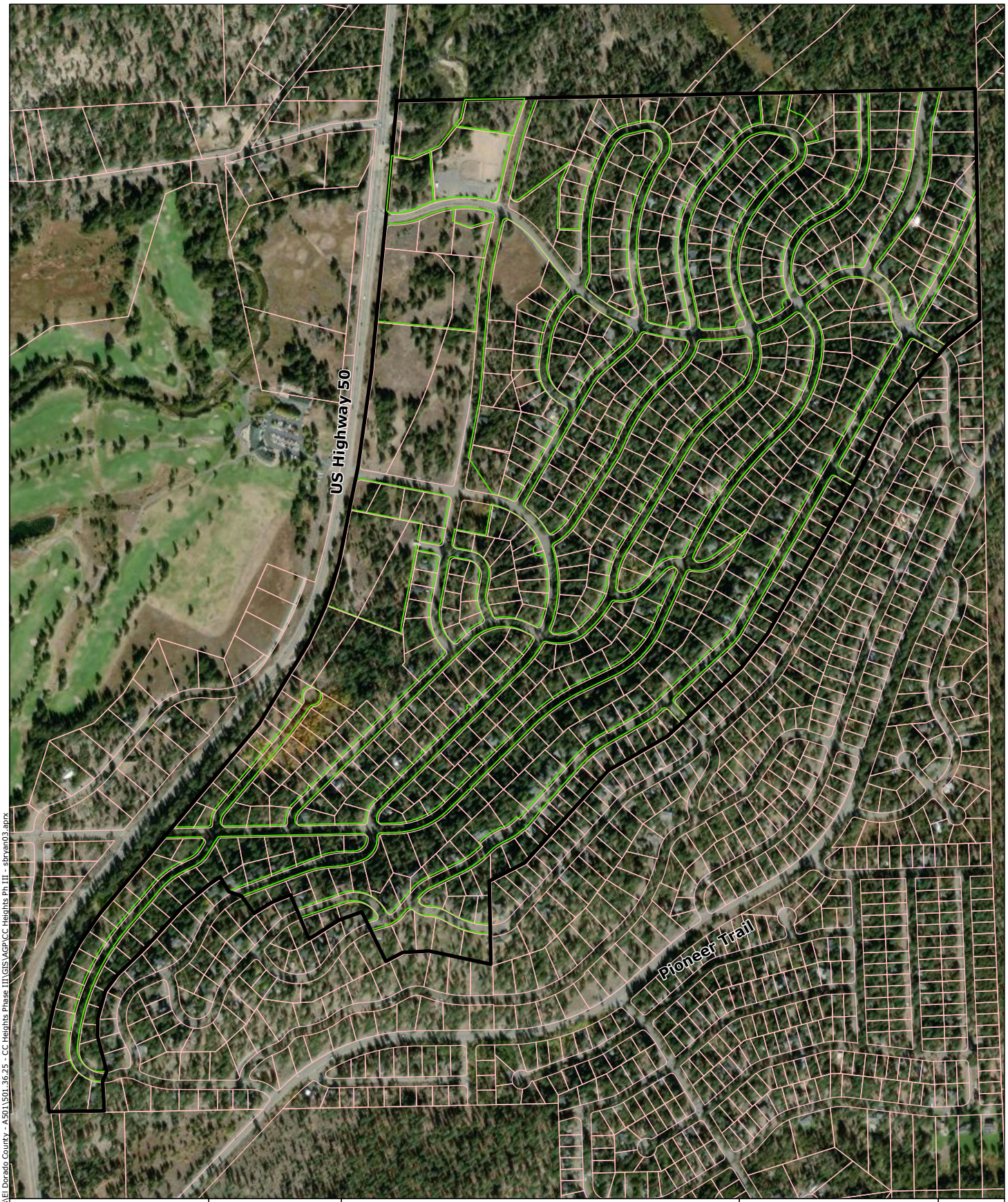
1 in. = 150 ft.

0 150 ft.

FIGURE 2B

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2019	501.36.25	sbryan	9/9/2019	-	drios

Document Path: P:\Active Projects\El Dorado County - A501\501.36.25 - CC Heights Phase III\GIS\AGP\CC Heights Ph III - sbryan02.aprx



Legend

- 2016/2019 Amended Survey Area
- 2016/2019 Project Boundary
- Parcels

NCE

Country Club Heights Erosion Control Project Phase III

2016/2019 Amended Project Survey Area

N

1 in. = 700 ft.

0 700 ft.

FIGURE 2C

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2016/2019; TRPA Parcel Data	501.36.25	sbryan	9/9/2019	9/10/2019	drios

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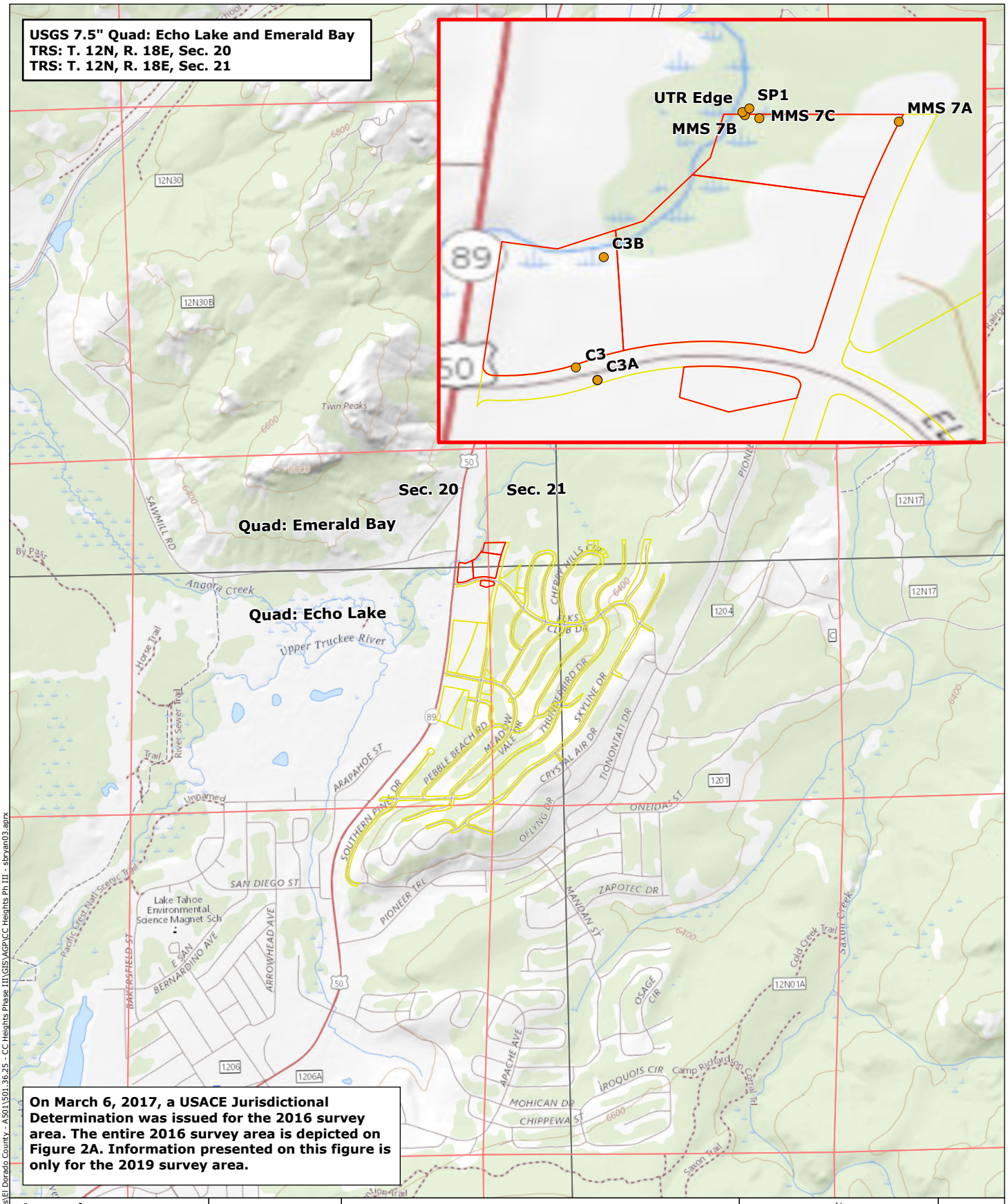


On March 6, 2017, a USACE Jurisdictional Determination was issued for the 2016 survey area. The entire 2016 survey area is depicted on Figure 2A. Information presented on this figure is only for the 2019 survey area.

Legend

- 2016 Survey Area
- 2019 Survey Area
- California Sections
- California Quadrangles
- 2019 Data Points

NCE

Country Club Heights Erosion Control Project Phase III

2019 Topographic Quadrangle Map

N

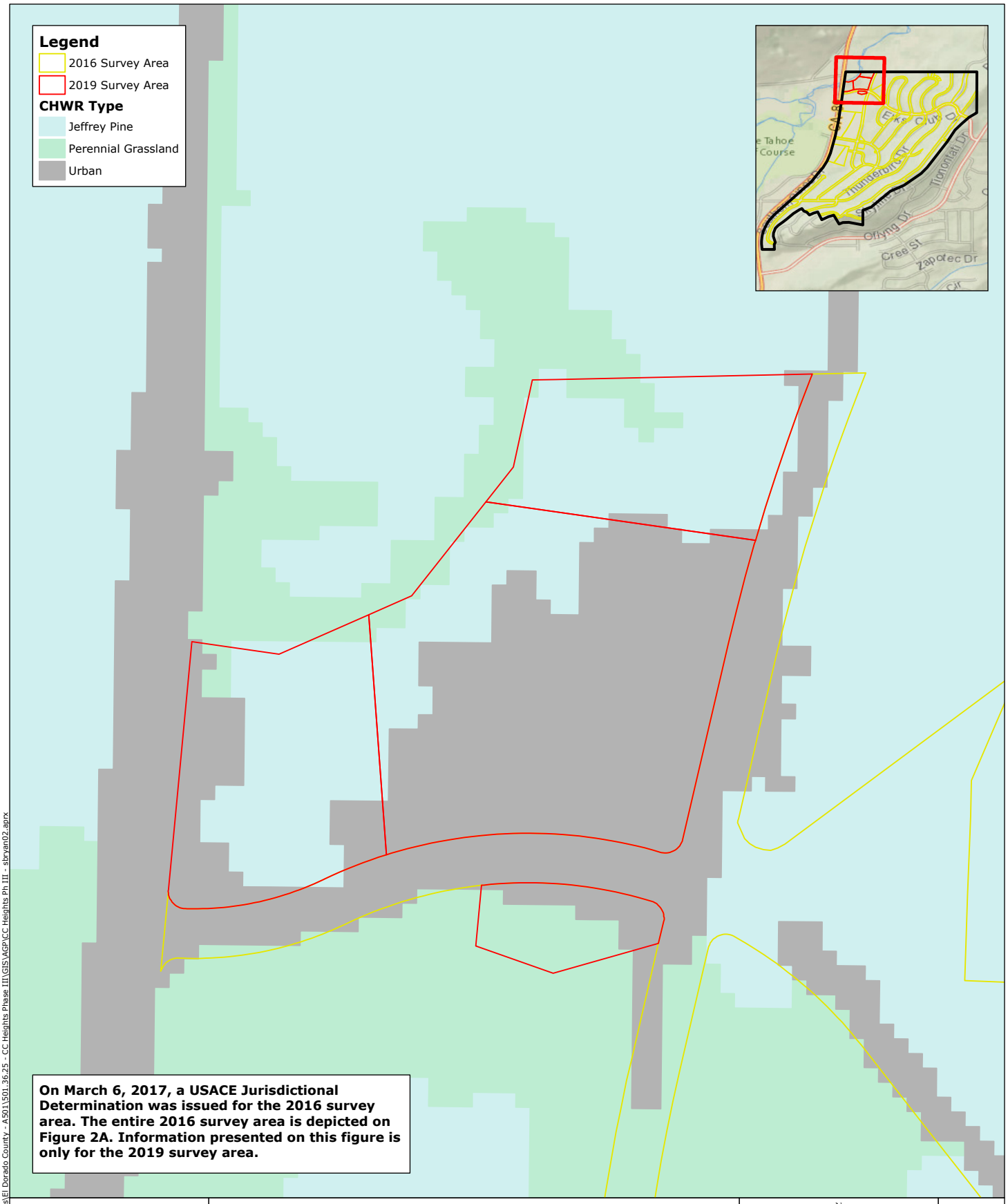
1 in. = 2,000 ft.

0 2,000 ft.

FIGURE 3

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
USGS Topographic Map; NCE 2016/2019; California Quadrangles and Sections	501.36.25	sbryan	9/9/2019	-	drios

Document Path: P:\Active Projects\El Dorado County - A501\501.36.25 - CC Heights Phase III\GIS\AGP\CC Heights Ph III - sbryan03.aprx



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NCE

Country Club Heights Erosion Control Project Phase III

2019 CWHR Type (Vegetation Communities)

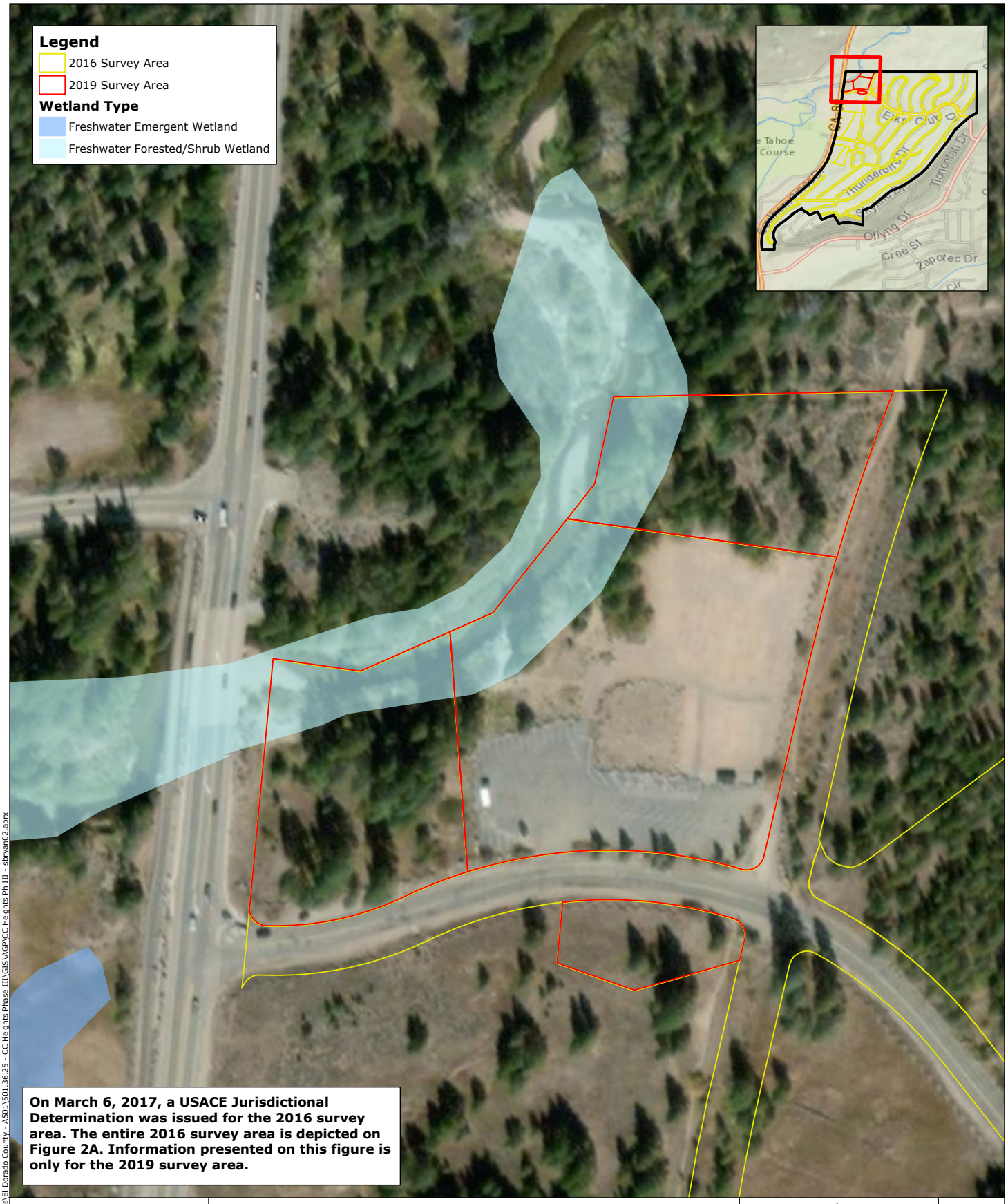
N

1 in. = 150 ft.

0 150 ft.

FIGURE 4

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2016/2019; California Wildlife Habitat Relationships Dataset	501.36.25	sbryan	9/9/2019	-	drios



Document Path: P:\Active Projects\El Dorado County - A501\501.36.25 - CC Heights Phase III\GIS\AGP\CC Heights Ph III - sbryan02.aprx

NCE

Country Club Heights Erosion Control Project Phase III

2019 National Wetlands Inventory (NWI)

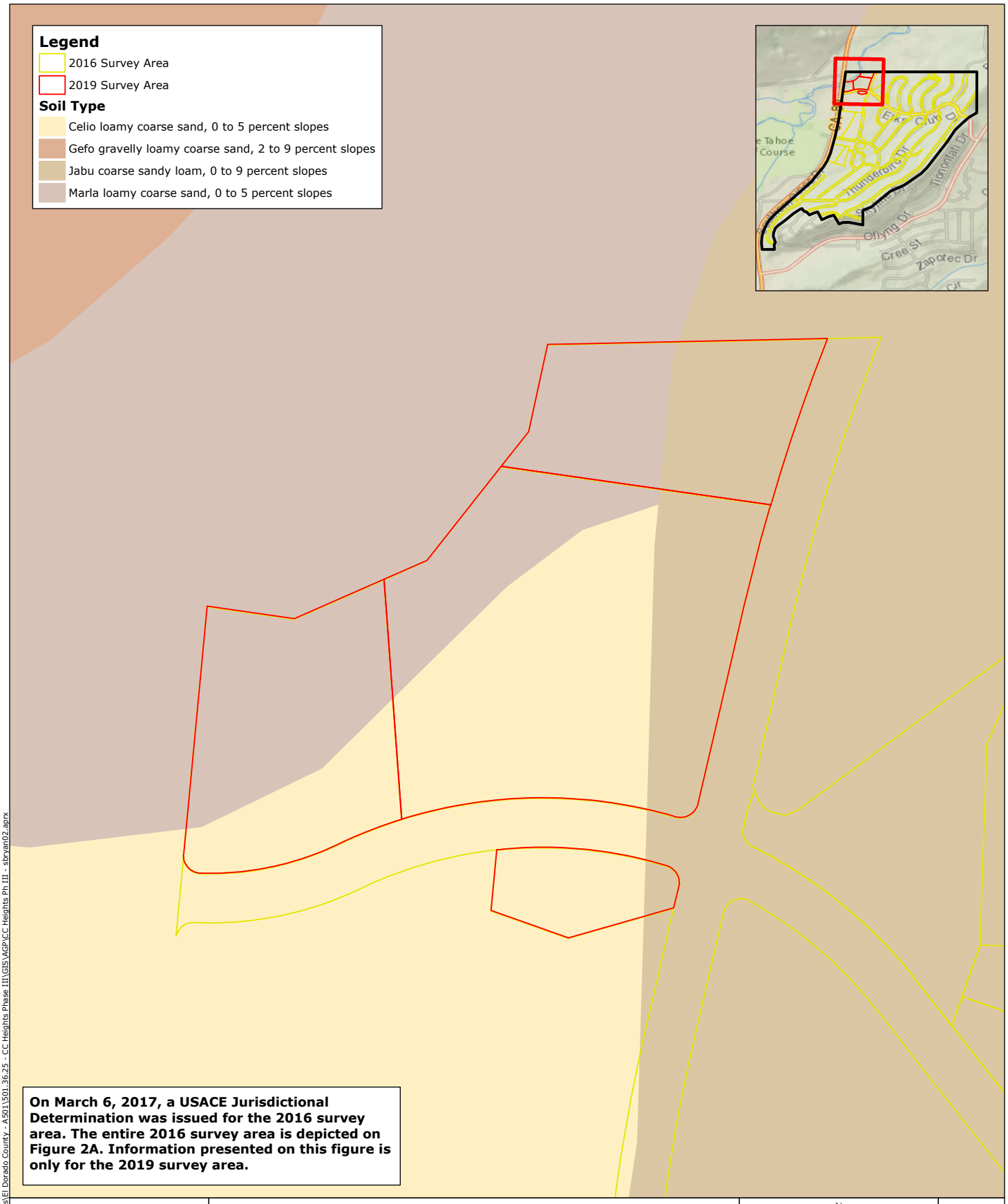
N

1 in. = 150 ft.

0 150 ft.

FIGURE 5

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2016/2019; NWI	501.36.25	sbryan	9/9/2019	-	drios



Document Path: P:\Active Projects\El Dorado County - A501\501.36.25 - CC Heights Phase III\GIS\AGP\CC Heights Ph III - sbryan02.aprx

NCE

Country Club Heights Erosion Control Project Phase III

2019 NRCS Soils Map

N

1 in. = 150 ft.

0 150 ft.

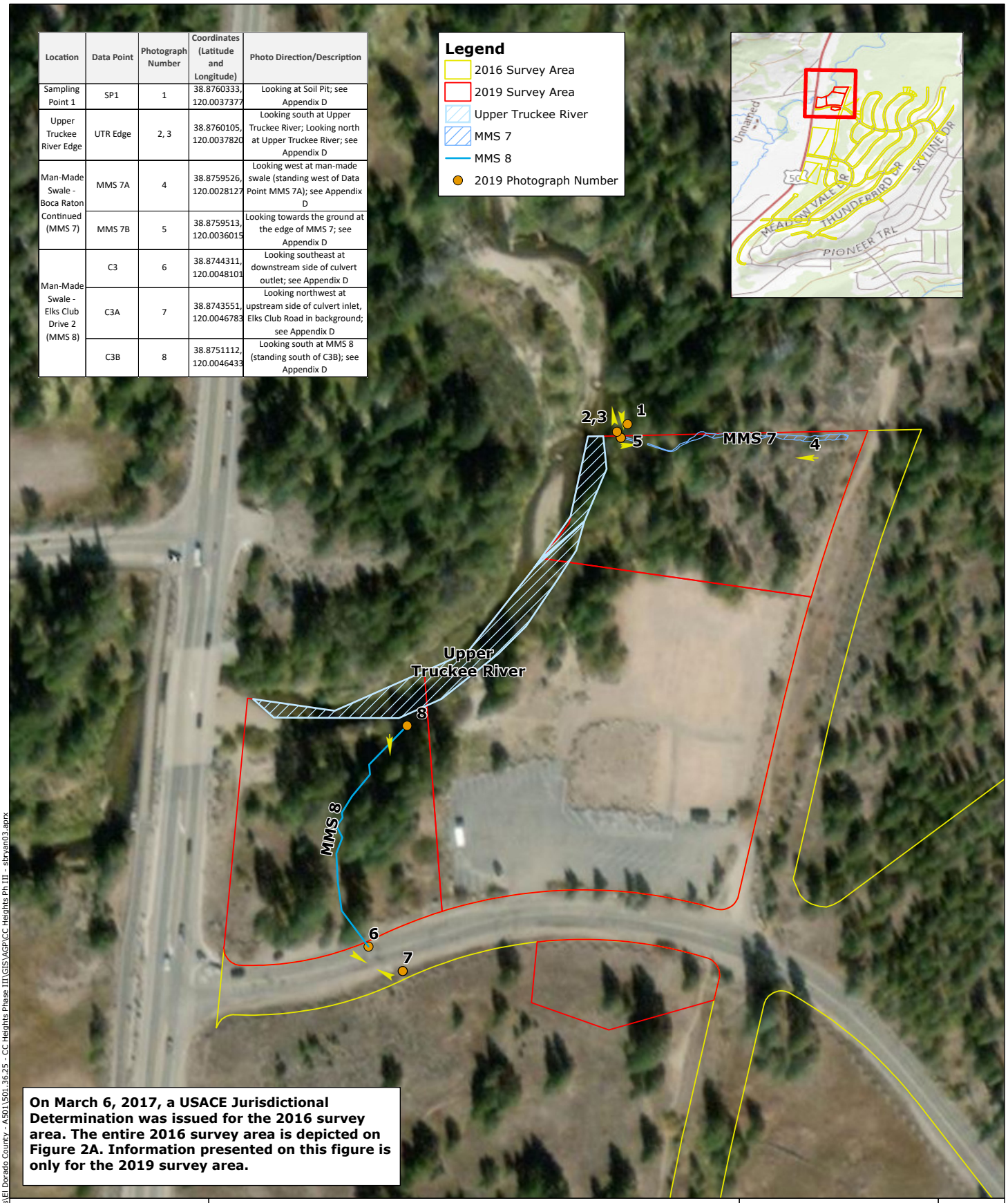
FIGURE 6

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2016/2019; NRCS Soils	501.36.25	sbryan	9/9/2019	-	drios

Location	Data Point	Photograph Number	Coordinates (Latitude and Longitude)	Photo Direction/Description
Sampling Point 1	SP1	1	38.8760333, 120.0037377	Looking at Soil Pit; see Appendix D
Upper Truckee River Edge	UTR Edge	2, 3	38.8760105, 120.0037820	Looking south at Upper Truckee River; Looking north at Upper Truckee River; see Appendix D
Man-Made Swale - Boca Raton Continued (MMS 7)	MMS 7A	4	38.8759526, 120.0028127	Looking west at man-made swale (standing west of Data Point MMS 7A); see Appendix D
	MMS 7B	5	38.8759513, 120.0036015	Looking towards the ground at the edge of MMS 7; see Appendix D
Man-Made Swale - Elks Club Drive 2 (MMS 8)	C3	6	38.8744311, 120.0048101	Looking southeast at downstream side of culvert outlet; see Appendix D
	C3A	7	38.8743551, 120.0046783	Looking northwest at upstream side of culvert inlet, Elks Club Road in background; see Appendix D
	C3B	8	38.8751112, 120.0046433	Looking south at MMS 8 (standing south of C3B); see Appendix D

Legend

- 2016 Survey Area
- 2019 Survey Area
- Upper Truckee River
- MMS 7
- MMS 8
- 2019 Photograph Number



On March 6, 2017, a USACE Jurisdictional Determination was issued for the 2016 survey area. The entire 2016 survey area is depicted on Figure 2A. Information presented on this figure is only for the 2019 survey area.

NCE

Country Club Heights Erosion Control Project Phase III

2019 Ground Level Photograph Locations and Directions

N

1 in. = 150 ft.

0 150 ft.

FIGURE 7

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; NCE 2019	501.36.25	sbryan	9/9/2019	9/10/2019	drios

Document Path: P:\Active Projects\El Dorado County - A501\501.36.25 - CC Heights Phase III\GIS\AGP\CC Heights Ph III - sbryan03.aprx

Appendix C

PLANT LIST

Plant Species Identified Within the Project Area July 2019

Scientific Name	Common Name	Native: Y, N	Wetland Indicator Status*
Achillea millefolium	Yarrow	Y	FACU
Acmispon americanus var. *americanus*	Spanish lotus	Y	FACU
Agrostis gigantea	Creeping bentgrass	N	FAC
Agrostis idahoensis	Idaho bentgrass	Y	FACW
Agrostis pallens	Leafy bent grass	Y	UPL
Alnus incana	Alder	Y	FACW
Aquilegia formosa	Columbine	Y	FAC
Artemesia douglasiana	California mugwort	Y	FACW
Artemesia tridentata	Sagebrush	Y	NL
Bromus carinatus	California bromegrass	Y	NL – this species was identified north of the survey area (due to field maps using inaccurate Tahoe Regional Planning Agency (TRPA) parcel data) at Sampling Point 1.
Bromus tectorum	Cheatgrass	N	NL
Carex sp.	Sedge	Y	OBL, FACW, FAC, FACU, and UPL (assumed due to unknown species)
Convolvulus arvensis	Field bindweed	N	NL
Cynosurus echinatus	Dogtail grass	N	NL
Dactylis glomerata	Orchard grass	N	FACU
Collomia grandiflora	Grand collomia	Y	NL
Delphinium nuttallianum	Nuttall's larkspur	Y	FAC
Elymus elymoides	Squirrel tail grass	Y	FACU
Elymus glaucus	Blue wildrye	Y	FAC
Elymus repens	Quack grass	N	FAC
Epilobium minutum	Minute willowherb	Y	FACU
Eriogonum umbellatum	Many flowered buckwheat	Y	NL
Eurybia integrifolia	Thickstem aster	Y	NL
Grindelia squarrosa	Curlycup gumweed	N	FACU
Heracleum maximum	Common cowparsnip	Y	FAC
Juncus sp.	Rush	Y	OBL, FACW, FAC, and FACU (due to unknown species)
Lactuca serriola	Prickly lettuce	N	FACU
Linium lewisii	Lewis' flax	Y	NL
Lomatium multifidum	Fernleaf biscuitroot	Y	NL

Scientific Name	Common Name	Native: Y, N	Wetland Indicator Status*
Lonicera conjugialis	Purpleflower honeysuckle	Y	FAC
Lupinus polyphyllus	Meadow lupine	Y	FAC
Madia glomerate	Mountain tarweed	Y	FACU
Melilotus officinalis	Yellow sweetclover	Y	FACU
Mentha canadensis	Wild mint	Y	NL
Navarretia propinqua	Navarretia	Y	NL
Phleum pretense	Common timothy	N	FAC
Pinus contorta ssp. murrayana	Lodgepole pine	Y	FAC
Pinus jeffreyi	Jeffrey pine	Y	NL
Poa bulbosa	Bulbous blue grass	N	FACU
Potentilla recta	Sulpher cinquefoil	N	NL
Purshia tridentata	Antelope bush	Y	NL
Rosa woodsii	Woods' rose	Y	FACU
Rumex obtusifolius	Bitter dock	N	FAC
Salix lasiolepis	Arroyo willow	Y	FACW
Scirpus microcarpus	Mountain bog bulrush	Y	OBL
Sidalcea oregana	Oregon checker mallow	N	FACW
Stipa nelsonii	Mountain needle grass	Y	NL
Solidago elongata	West coast Canada goldenrod	Y	FACU
Solidago velutina	Threenerve goldenrod	Y	NL – this species was identified north of the survey area (due to field maps using inaccurate TRPA parcel data) at Sampling Point 1.
Symphyotrichum ascendens	Western aster	Y	FACU
Tragopogon dubius	Goat's beard	N	NL
Trifolium longipes	Long stalked clover	N	FAC
Verbascum thapsus	Wooly mullein	N	FACU
Wyethia mollis	Mule ears	Y	NL

* Wetland Indicator Status (WIS):

OBL	=	Obligate Wetland; occurs in aquatic resources > 99% of time
FACW	=	Facultative Wetland; occurs in aquatic resources 67-99% of time
FAC	=	Facultative; occurs in aquatic resources 34-66% of time
FACU	=	Facultative Upland; occurs in aquatic resources 1-33% of time
UPL	=	Obligate Upland; occurs in uplands > 99% of time
NL	=	Not Listed

Appendix D

Representative Photographs

Photo 1: At Sampling Point 1 (SP 1), looking at the soil pit 1.

Photo 2: At data point UTR Edge, looking south at Upper Truckee River

Photo 3: At data point UTR Edge, looking north at Upper Truckee River

Photo 4: Standing west of data point MMS 7A, looking west at Man-Made Swale Boca Raton Continued (MMS 7)

Photo 5: At data point MMS7B, looking at ground at termination of MMS 7.

Photo 6: At data point C3, looking southeast at culvert outlet

Photo 7: At data point C3A, looking northwest at culvert inlet

Photo 8: Standing south of data point C3B, looking south at Man-Made Swale – Elks Club Drive 2 (MMS 8).

Appendix E

DELINEATION DATASHEETS

WETLAND DETERMINATION DATA FORM – Western Mountains, Valleys, and Coast Region

Project/Site: Country Club Heights III City/County: El Dorado Sampling Date: 8-6-19

Applicant/Owner: El Dorado County State: CA Sampling Point: 1

Investigator(s): Debra Lemke & Sarah Bryan Section, Township, Range: S 20-21; T 12N; R 18E

Landform (hillslope, terrace, etc.): flat to slight slope Local relief (concave, convex, none): none Slope (%): 0-2

Subregion (LRR): D; MLRA22A Lat: 38.8760333 Long: -120.0037377 Datum: StatePlane CA

Soil Map Unit Name: Marla loamy coarse sand, 0 to 5 percent slopes NWI classification: NONE

Are climatic / hydrologic conditions on the site typical for this time of year? Yes X No ____ (If no, explain in Remarks.) With additional/increased rain

Are Vegetation ____, Soil ____, or Hydrology ____ significantly disturbed? NO Are "Normal Circumstances" present? Yes X No ____

Are Vegetation ____, Soil ____, or Hydrology ____ naturally problematic? NO (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ____	No X	Is the Sampled Area within a Wetland? Yes ____ No X
Hydric Soil Present?	Yes ____	No X	
Wetland Hydrology Present?	Yes ____	No X	

Remarks:
Sample point is @ 10 feet Above the river. There is no likelihood of flooded banks to support wetlands due to elevation difference

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: ____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	____ = Total Cover		
Sapling/Shrub Stratum (Plot size: ____)			
1.			
2.			
3.			
4.			
5.			
	____ = Total Cover		
Herb Stratum (Plot size: 1M)			
1. Bromus carinatus	90	Yes	NL
2. Solidago velutina	10	NO	NL
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: ____)			
1.			
2.			
	____ = Total Cover		

% Bare Ground in Herb Stratum ____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 0 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 0 (A/B)

Prevalence Index worksheet:

Total % Cover of:		Multiply by:	
OBL species	0	x 1 =	0
FACW species	0	x 2 =	0
FAC species	0	x 3 =	0
FACU species	0	x 4 =	0
UPL species	0	x 5 =	0
Column Totals:	0 (A)		0 (B)

Prevalence Index = B/A = 0

Hydrophytic Vegetation Indicators:

__ 1 - Rapid Test for Hydrophytic Vegetation

__ 2 - Dominance Test is >50%

__ 3 - Prevalence Index is ≤3.0[1]

__ 4 - Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

__ 5 - Wetland Non-Vascular Plants[1]

__ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ____ No X

Remarks:
Bromus in A CA Brome grass that is native. Solidago is Threenerve goldenrod which is native. Photo 10 is of the vegetation, looking southwest

SOIL

Sampling Point: 1

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-2	N/A	100	N/A	N/A	N/A	N/A	Vegetation	organic veg. mat
2-18	10YR 2/1	100	-	-	-	-	clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1) **(except MLRA 1)**
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)

Indicators for Problematic Hydric Soils[3]:

- ___ 2 cm Muck (A10)
- ___ Red Parent Material (TF2)
- ___ Very Shallow Dark Surface (TF12)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ____ No X

Remarks: soil is dry. There are no indicators of hydric soils. photo 9 is of the soil pit.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1)
- ___ Sediment Deposits (B2)
- ___ Drift Deposits (B3)
- ___ Algal Mat or Crust (B4)
- ___ Iron Deposits (B5)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Sparsely Vegetated Concave Surface (B8)
- ___ Water-Stained Leaves (B9) **(except MLRA 1, 2, 4A, and 4B)**
- ___ Salt Crust (B11)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Stunted or Stressed Plants (D1) **(LRR A)**
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water-Stained Leaves (B9) **(MLRA 1, 2, 4A, and 4B)**
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Geomorphic Position (D2)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)
- ___ Raised Ant Mounds (D6) **(LRR A)**
- ___ Frost-Heave Hummocks (D7)

Field Observations:

Surface Water Present? Yes ____ No X Depth (inches): _____

Water Table Present? Yes ____ No X Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ____ No X Depth (inches): _____

Wetland Hydrology Present? Yes ____ No X

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Appendix E

WILDLIFE BASELINE REPORT

Collaboration. Commitment. Confidence.℠

COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT
Phase III
CIP No. 95191
EIP #01.01.01.0021
WILDLIFE BASELINE REPORT

Prepared For:
County of El Dorado
Community Development Agency
Transportation Division
924B Emerald Bay Road
South Lake Tahoe, CA 96150

Prepared By:
NCE
155 Hwy 50, Suite 204
Stateline, NV 89449

NCE Project Number:
501.36.25

Date:
August 20, 2019

Mack Casterman
Staff Scientist

Dave Rios
Associate Scientist

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Figure 2 Vegetation Community Map
Figure 3 Final Wildlife Base Map

1.0 INTRODUCTION

The purpose of this document is to conduct an initial baseline assessment for wildlife resources that satisfies the U.S. Fish and Wildlife Service (USFWS), Tahoe Regional Planning Agency (TRPA), United States Forest Service Lake Tahoe Basin Management Unit (USFS LTBMU), and the California Department of Fish and Wildlife (CDFW) requirements to determine potential for wildlife special status species to occur within the boundaries of the Country Club Heights Erosion Control Project (Project). Furthermore, the Wildlife Baseline Report will provide the Project proponent with relevant resources as they pertain to special status wildlife species and habitat within the Project area, and guide the decision-making process during Project design. This report summarizes the literature review and research findings, and survey data, for the special status species in the Lake Tahoe Basin within and adjacent to the Project area. For the purposes of this Report, the term special status species encompasses those species designated as federally threatened or endangered by the USFWS; those designated as state endangered, threatened, or rare by the State of California; those designated as sensitive by the USFS LTBMU; and TRPA special interest species.

Phase I and II of this project addressed existing source control issues, hydrologic design issues, and treatment opportunities affecting water quality within the greater Project area. The Phase III project will focus on impacts to water quality at the northwestern end of the Project and opportunities to enhance recreation and access opportunities in that area.

A Biological Assessment (BA) is being prepared for Phase III of this project that will evaluate potential project impacts to federally listed species.

2.0 BACKGROUND

In 1997, TRPA developed a Basin-wide Environmental Improvement Program (EIP) that defined various projects which, once implemented, would assist in attaining and maintaining TRPA Environmental Threshold Carrying Capacities (ETCC) as well as meet other federal and state environmental goals. TRPA has established thresholds for air quality, water quality, soil conservation, vegetation, noise, scenic resources, recreation, fisheries, and wildlife to address public health and safety of residents and visitors as well as the scenic, recreation, education, scientific, and natural values of the Lake Tahoe Basin. The Country Club Heights Erosion Control Project (Country Club Heights ECP) is defined in the TRPA EIP as Project #01.01.01.0021. The Country Club Heights ECP boundary encompasses County rights of way and parcels owned by the California Tahoe Conservancy (CTC), USFS-LTBMU, El Dorado County (County), and private individuals.

The Project area is characterized by predominantly urban development intermixed with fragmented Jeffrey pine forest. This area produces concentrated stormwater runoff that flows from County rights of way to pervious, naturally vegetated land and ultimately the Upper Truckee River. Because the Project area is connected to Lake Tahoe through Meyers Creek and the Upper Truckee River, there is potential for fine sediments produced in the residential area to deposit directly into Lake Tahoe. Current sediment sources within Project area include residential use and vehicular traffic; road sand/cinder accumulation from local and collector roadways; and eroding cut slopes, drainages, and roadside ditches throughout the Project area.

Project improvements during Phases I and II included infiltrating and/or treating of stormwater from County rights of way, stabilizing eroding cut slopes with vegetation and/or rock protection, stabilizing existing drainages with rock and/or bio-engineering techniques (where feasible), and disconnecting existing storm drain conveyance systems from directly discharging into the Upper Truckee River. Sediment trapping devices and infiltration basins (on publicly owned parcels) were used to capture stormwater and road abrasives and treat pollutants to reduce the overall stormwater volume discharging to the Upper Truckee River.

Phase III of the Project will provide for three threshold areas: improve water quality of stormwater runoff, soil conservation to address previously impacted areas, and enhance recreation opportunities for the area. The proposed improvements to Waverly Drive and the Lower Elks Club area will: 1) provide additional treatment of storm water runoff utilizing publicly owned lands, 2) remove hard coverage to restore previously developed areas within the project area, 3) reconfigure and reconstruct the existing parking lot on the old Elks Lodge property reducing impervious coverage and installing best management practices (BMPs) and 4) construct permanent facilities for Americans With Disabilities Act (ADA) access to the Upper Truckee River and the future Greenway shared-use trail.

The overall goal of the Project is to design and implement erosion control and water quality improvement measures that will reduce the discharge of sediment and pollutants to Lake Tahoe from County administered rights of way in the Country Club Heights ECP. Furthermore, it will assist the County in achieving goals associated with the EIP. The County will perform this Project in general agreement with the guidelines of the CTC Grants Program (CTC 2004), including the Preferred Design Approach.

2.1 Project Location

The Project area is located in eastern El Dorado County, California between Highway 50 and Pioneer Trail in the community of Meyers (**Figure 1**). The Project is located in Sections 20, 21, 28, and 29 in Township 12 North and Range 18 East of the Mt. Diablo Meridian which may be found on the following U.S. Geological Survey 7.5 minute quadrangle maps: Echo Lake, Freel Peak, and South Lake Tahoe in El Dorado County, California. It is within a TRPA Priority Two Watershed (Upper Truckee River).

The Project area is primarily a residential neighborhood with gradual increase in elevation from west to east. The Project area covers approximately 269 acres; however, the survey area is approximately 73 acres.

Two plan area statements (PAS) present general land use zoning information for the Project area. PAS are considered land use and zoning guidance documents for both the TRPA and the County. The majority of the Project area is included within PAS 120 Tahoe Paradise Meadowvale, while a small portion of the northwest section of the Project Area is part of PAS 119, Country Club Meadow (TRPA 2002a & 2002b). Land use in the majority of the Project area is primarily characterized as single family residential. The area is 30 percent built out with 15 percent of the land covered and 25 percent disturbed. Additional planning considerations mentioned in the PAS documents note "steep and high cutbanks now protected by gunnite may start to erode within the next 20 years (TRPA 2002a)" in PAS 120 Tahoe Paradise Meadowvale, and that "most of the homes and other developed facilities are located within stream environment (TRPA 2002b)" of PAS 119, Country Club Meadows.

3.0 RECORDS AND INFORMATION SEARCHES

A literature and database review was conducted to identify existing wildlife information within and adjacent to the Project area. This review assisted with the determinations contained in this document. These lists were originally consulted to inform the Phase I project and were updated/revisited to support the Phase III project. All of the references utilized for this report are listed in Section 9.0. The most relevant searches, reviews, and requests are listed below.

Agency/Entity	Date	Information Received
USFWS	8/26/2019	• Federally Protected Species List for threatened, endangered, candidate, de-listed, and special concern species (USFWS 2019)
USFS – LTBMU	9/26/2016	• Biological information/direction as it pertains to the Project (USDA 2016) • LTBMU Sensitive Species List
USDA	8/10/2016	• CALVEG GIS layers (USDA 2009)
TRPA	8/25/2019	• TRPA Threshold Evaluation (TRPA 2011) • TRPA Code of Ordinances (TRPA 2015) • TRPA Special interest Species location data (TRPA 2019)
California Department of Fish & Wildlife (CDFW)	8/20/2019	• California Wildlife Habitat Relationship (CWHR) (CDFW 2019) • California Natural Diversity Database (CNDDB) (CNDDB 2019) • State & Federally Listed Endangered & Threatened Animals of California (CDFW 2019)

4.0 RECONNAISSANCE-LEVEL SURVEY

This section includes a summary of information collected during the reconnaissance-level surveys. A reconnaissance-level survey was conducted for presence of species, habitat, and range by NCE biologists on August 10, 2016 to assess the Phase I project area. On August 2, 2019, a second survey was completed to assess the presence of special status species within the Phase III project area made up of the land between Boca Raton Drive, Elk's Club Drive and the Upper Truckee River. The focus of these investigations was to evaluate the habitat and determine the likelihood that special status wildlife species or their associated habitats would occur within or be impacted by the Project. Surveyed area included County rights of way and public lots where improvements are proposed (**Figure 1**).

Both avian point counts and walking transect surveys were conducted in or near specified parcels and/or sensitive habitat areas. Birds observed during these surveys were found to be consistent with species associated in the Lake Tahoe urban setting and include: Steller's jay, pygmy nuthatch, red-breasted nuthatch, dark-eyed junco, fox sparrow, American robin, mourning dove, mountain chickadee, northern flicker, Brewer's blackbird, brown-headed cowbird, white-headed woodpecker, brown creeper, and common raven.

Habitat type and condition were assessed using the CWHR sampling method. CWHR is a habitat modeling program developed by the California Department of Fish and Wildlife (CDFW) that supports habitat classifications described in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988). The CWHR model is used to predict regularly occurring wildlife within a particular habitat type using physical elements, stand structure, and seral stage constraints. The mapped CWHR types Jeffrey pine, perennial grassland, and urban occur within the Project area while aspen, lacustrine, lodgepole pine, montane chaparral, sierra mixed conifer, and wet meadow occur within 0.5 miles of the Project area **(Figure 2)**. Jeffrey pine density within the project area is characterized as moderate with patches of open cover; size class is best characterized as 4 (small trees/11-24" diameter at breast height (DBH)) with areas of class 5 (medium-large trees/>24" DBH) along the Project peripheries. Habitat type, size, and density were field verified and found to be consistent with the modeled attributes; however, this area is predominantly residential and does not reflect characteristics or wildlife relationships associated with these habitats. Common disturbances include altered and non-native landscapes, litter, domestic pets, humans, and vehicular traffic. A summary of habitat classifications that exist within the Project boundary are shown at the end of this section; unless otherwise noted, habitat information is taken from *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988).

Notable potential wildlife habitat including undeveloped County lots with moderate to high plant cover and diversity, in addition to snags, were found to exist in the Project area. However, the likelihood of occupancy by special status species is low as these areas are highly disturbed and possess near prolific human and vehicular traffic. As with all construction occurring during the avian breeding season (May-August), pre-construction breeding bird surveys should be conducted in areas where improvements are proposed as there is potential to negatively impact active nests, eggs, or breeding birds protected by the Migratory Bird Treaty Act. These surveys should be conducted at a maximum of one week prior to implementation. No other significant wildlife features were found within the survey area. However, these findings do not preclude wildlife habitat from existing in areas found outside the Project boundary.

Jeffrey Pine (JPN)
Jeffrey pine occurs in a variety of physical settings throughout its extensive range (occurring at elevations from 500 to 9,500 feet). It is commonly found on soils developed from granite and lava flows but can also develop as a type on ultramafic soils (Walker 1954). Jeffrey pine is not restricted by aspect or slope. It usually forms pure stands but may be associated with sugar pine, lodgepole pine, white fir, red fir, incense-cedar, and black cottonwood. Shrubs common to the Jeffrey pine type on the western slope of the Sierra Nevada include huckleberry oak, manzanita, and mountain misery. East of the Sierra-Cascade crest, the dominant shrub layer species include squaw currant, snowbush, and greenleaf manzanita at higher elevations, and antelope bitterbrush, rabbitbrush, and sagebrush at lower elevations. The value of the Jeffrey pine forest type as a habitat for wildlife is due in large part to the food value of the Jeffrey pine seeds. Pine seeds are included in the diet of more wildlife species than any other genus except oak (Light 1973). The bark and foliage also serve as important food sources for squirrels and mule deer. Jeffrey pine provides vital nesting cover for several species such as nuthatch species, brown creeper, woodpecker species, and northern flying squirrel.

Perennial Grasslands (PGS)
Perennial grassland habitat typically occurs on ridges and south-facing slopes, alternating with forest and scrub in the valleys and on north-facing slopes. Perennial grassland habitats are most often found on the mollisol soil type. Perennial grassland habitats are dominated by perennial grass species such as California oatgrass, pacific hairgrass, and sweet vernal grass. Perennial grassland provides optimum habitat for many species, including common garter snake, western terrestrial garter snake, northern harrier, barn swallow, savannah sparrow, Botta's pocket gopher, western harvest mouse, California vole, and long-tailed vole. In addition, perennial grassland often serves as feeding habitat for turkey vulture, red-tailed hawk, American kestrel, peregrine falcon, western bluebird, fringe-tailed bat, big brown bat, striped skunk, coyote, black-tailed jackrabbit, brush rabbit, and black-tailed deer.

Urban
The urban habitat occurs throughout California and Nevada, and is a result of modifying vegetation, and introducing new species. Urban climate varies in temperature and wind velocity from the surrounding landscape, and can offer heat islands, wind velocities breaks, and wind funnels caused by tall buildings and man-made features. Three urban categories relevant to wildlife are distinguished: downtown, urban residential, and suburbia. The heavily-developed downtown is usually at the center, followed by concentric zones of urban residential and suburbs. There is a progression outward of decreasing development and increasing vegetative cover. Species richness and diversity is extremely low in the inner cover. Rock dove, house sparrow, and starling comprise over 90 percent of all avian density and biomass. The urban residential zone is characterized by a denser and more varied mosaic of vegetation shade trees, lawns, hedges and planted gardens; approximately 40 percent of the land's surface is covered by impervious material. This region is characterized by a variety of bird species including western scrub jay, northern mockingbird, and house finch. Associates in the urban residential areas include the raccoon, opossum, striped skunk. Suburban areas offer landscaped gardens and lawns and relatively large tracts of adjacent natural vegetation. Wildlife diversity increases while species density decreases in suburban areas.

5.0 SPECIAL STATUS SPECIES

This section discusses the special status species that have the potential to occur in the Project area. There are no known occurrences of special status species within a 0.5 mile buffer around the Project boundary (CNDDB 2019, USFWS 2016, TRPA 2019 (**Figure 3**). No signs, evidence, or suitable habitat were found for special status species during surveys. Furthermore, habitat within the survey area is small, fragmented, and presently highly impacted by human use and disturbance.

All species protected under the TRPA, USFWS, USFS – LTBMU, and the CDFW were evaluated for the Project area using CWHR, CNDDB, additional background research, and on-site investigations (**Table 1**). No historical or documented observations for special status species were found within the Project area. Refer to **Table 1** for a detailed account of historical occurrences, disturbance zones (northern goshawk), modeled habitat (willow flycatcher, goshawk, deer fawning), and habitat associations for species with suitable habitat within 0.5 miles of the project area.

In summary, suitable habitat does exist within 0.5 miles of the Project area for bald eagle, bank swallow, willow flycatcher, northern goshawk, osprey, California spotted owl, waterfowl, Sierra Nevada mountain beaver, American badger, Sierra Nevada yellow-legged frog, Sierra Nevada snowshoe hare, fisher (West Coast distinct population segment), Sierra Nevada red fox, and mule deer. Of these, bald eagle, bank swallow, northern goshawk, osprey, waterfowl, and mule deer have a moderate likelihood of occurring within the Project boundary as they are not uncommon species to observe in this vicinity. It is unlikely that they would use the Project area for reproduction as suitable nesting or denning habitat does not exist there.

There is a low potential for willow flycatcher to occur within the Project area. Although suitable habitat does exist within 0.5 miles of the Project area boundary, habitat requirements for cover, breeding, and foraging are lacking within the Project area. This species may pass through but is not expected to establish a nesting site within the boundaries of the Project area.

The remaining species with suitable habitat are not expected to occur as they have very isolated populations, specific habitat requirements, and/or are sensitive to human disturbances. The list of excluded species includes California spotted owl, Sierra Nevada mountain beaver, American badger, Sierra Nevada snowshoe hare, fisher, Sierra Nevada red fox, and Sierra Nevada yellow-legged frog.

6.0 TRPA THRESHOLD STANDARDS

W-1: Threshold Standards for TRPA Special Interest Species

No TRPA special interest species were identified within the Country Club Heights ECP. It is not likely Project activities will impact this species as suitable nesting habitat is not present within the Project area. A more detailed discussion of these zones can be found in Section 6.0 and **Table 1**. Therefore, the Country Club Heights ECP Phase III does not have the potential to impact wildlife threshold standards for TRPA special interest species for the following reasons:

- No TRPA disturbance zones are present within the Project boundary.
- Suitable meadow and fawning habitat that could sustain the reproductive and cover needs for mule deer is not present within the Project area.
- No improvements are proposed along the Lake Tahoe shoreline.
- TRPA approved temporary BMPs will be utilized during construction to minimize any disturbance due to Project construction.

W-2: Habitats of Special Significance

Stream Environment Zones (SEZs) are present along the Upper Truckee River where it passes through the northwestern edge of the Project area. TRPA approved temporary BMPs will be utilized during construction to minimize any disturbance due to Project construction.

F-1: Lake Habitat

No improvements are proposed within lake habitat; therefore, no further analysis is necessary.

F-2: Stream Habitat

No stream modification is proposed; therefore, no further analysis is necessary.

F-3: In-Stream Flow

No in-stream flow modification is proposed; therefore, no further analysis is necessary.

F-4: Lahontan Cutthroat Trout

The Country Club Heights ECP does not contain known Lahontan cutthroat trout populations (TRPA 2016); therefore, no further analysis is necessary. A discussion of Lahontan cutthroat trout can be found in **Table 1**.

7.0 SUMMARY

The Project area represents the typical urban environment found within the Lake Tahoe Basin. The Project area is primarily a residential neighborhood surrounded by natural habitat. The land surrounding the Project area is primarily state land and consists of forested open space that provides habitat for a variety of common wildlife species. The proposed Project is not expected to negatively affect special status species identified in this Report as improvements are proposed in existing disturbed areas. Additionally, habitat found within the Project area is marginal and would not support the reproductive requirements of special status species.

Background research found no detections of special status species within a 0.5-mile radius of the Project area. Field investigations found the habitat within the Project area unsuitable for willow flycatcher or Northern goshawk to breed. Northern goshawk and willow flycatcher, as well as bald eagle, bank swallow, osprey, waterfowl, and mule deer could pass through or occasionally forage within Project area, but existing disturbances and lack of suitable habitat make it unlikely they would nest or den within the Project or be negatively impacted by localized construction activities.

TRPA approved BMPs will be in place and maintained for the duration of construction to ensure impacts are minimized and/or eliminated, per anticipated permit requirements.

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APPENDIX A

Tables

Table 1. Special Status Wildlife Species Considered for the Country Club Heights ECP.								
Common Name ***Scientific Name***	**Federal Status+**	**State Status+**		**Local Status+**	**Occur within 0.5 miles of Project Area**	**Suitable Habitat within 0.5 miles of Project Area**	**Potential for Occurrence**	**Habitat Association (only discussed for species with a suitable habitat)**
		CESA	**CDFW**					
Amphibians								
Northern leopard frog[1] *Lithobates pipiens*			SSC		No	No	**Not expected to occur.** This species is presumed extirpated from the Tahoe Basin (Schlesinger and Romsos 2000). Suitable habitat is not present in the Project area.	
Sierra Nevada yellow-legged frog[2] *Rana sierrae*	FE FSS	ST	WL		No	Yes	**Not expected to occur**. USFS designated suitable habitat exists within the project area, however, due to the ongoing level of disturbance from recreation within the project boundaries, SNYLF is not expected to occur.	Typical habitat includes lakes, ponds, marshes, meadows, and streams at high elevations – typically ranging from about 4,500 to 12,000 feet. Sierra Nevada yellow-legged frogs are highly aquatic. They are rarely found more than 3.3 feet from water. Waters that do not freeze to the bottom and which do not dry up are required for breeding.
Yosemite toad[3] *Anaxyrus canorus*	FT		SSC		No	No	**Not expected to occur.** Outside of the known range.	
Birds								
American peregrine falcon *Falco peregrines anatum*	DL (8/99)	SD	FP	TRPA	No	No	**Not expected to occur. No Potential to Impact TRPA Threshold Standard.** Suitable habitat does not exist in the Project area and this species is not known to occur in the Project area.	

[1] Formerly *Rana pipiens*

[2] Formerly mountain yellow-legged frog, *Rana muscosa*

[3] Formerly *Bufo canorus*

Table 1. Special Status Wildlife Species Considered for the Country Club Heights ECP.								
Common Name ***Scientific Name***	**Federal Status+**	**State Status+**		**Local Status+**	**Occur within 0.5 miles of Project Area**	**Suitable Habitat within 0.5 miles of Project Area**	**Potential for Occurrence**	**Habitat Association (only discussed for species with a suitable habitat)**
		CESA	**CDFW**					
Bald eagle *Haliaeetus leucocephalus*	DL (8/07) FSS	SE	FP	TRPA	No	Yes	**Moderate. No Potential to Impact TRPA Threshold Standard**. Suitable habitat does not exist within the Project boundary, but does along the Truckee River, which is within 0.5 miles from the Project. This species could pass through the Project area, but suitable breeding habitat is not present in the Project survey area.	Bald eagles have an expansive range with breeding areas in Northern California, wintering mostly in the Klamath Basin, and a few favored inland areas of Southern California. Locally, they are yearlong residents and migrants in the Tahoe Basin. Bald eagles use shorelines along large bodies of water and river courses for both nesting and wintering. Snags, broken-topped trees, or rocks near water are required for foraging and nesting. Most nests are located in large trees with open branches within 1 mile of a water body. In Lake Tahoe, known nesting sites include Emerald Bay and Marlette Lake. Wintering sites are located in Taylor, Tallac, Pope, and Upper Truckee Marshes (Romsos 2000)
Bank Swallow *Riparia riparia*		ST			No	Yes	**Moderate.** Suitable habitat is marginal in perennial grassland habitat within the Project area, however additional habitat is found within 0.5 miles of the Project. This species could pass through the Project area, but suitable breeding habitat is not present in the Project survey area.	This species prefers riparian, lacustrine, and coastal areas with vertical banks, bluffs, and cliffs with fine-textured or sandy soils. It is also known to flock with other swallows over many open habitats during migration. Most of the current breeding population in California occurs along banks of the Sacramento and Feather rivers with others occurring along the central coast northeastern California. Locally, this species occurs as a migrant (CWHR 2016).

Table 1. Special Status Wildlife Species Considered for the Country Club Heights ECP.								
Common Name ***Scientific Name***	**Federal Status[+]**	**State Status[+]**		**Local Status[+]**	**Occur within 0.5 miles of Project Area**	**Suitable Habitat within 0.5 miles of Project Area**	**Potential for Occurrence**	**Habitat Association (only discussed for species with a suitable habitat)**
		CESA	**CDFW**					
California spotted owl *Strix occidentalis occidentalis*	FSS		SSC		No	Yes	**Not expected to occur.** Suitable habitat does not exist in the Project area and only marginal habitat exists within 0.5 miles.	California spotted owl are found in Northwest California, the foothills and mid-elevation ranges of the Sierra Nevada, and localized pockets of Southern California. Locally, they are yearlong residents. They can occur in several forest types, but generally choose to breed in forested regions with high canopy cover. Because these owls are cavity dwellers, their reproductive habitat requires snags and decadent trees. Mature forests exhibit optimal habitat because they have complex forest structure, variation in tree size and age, large amounts of course woody debris, and scattered clearings that provide foraging opportunities.
Golden eagle *Aquila chrysaetos*			FP	TRPA	No	No	**Not expected to occur. No Potential to Impact TRPA Threshold Standard.** The Project area is impacted by human use and suitable habitat is lacking.	
Great gray owl *Strix nebulosa*	FSS	SE			No	No	**Not expected to occur.** Undisturbed mature red fir forests or wet meadows used for roosting and foraging are not present.	

Table 1. Special Status Wildlife Species Considered for the Country Club Heights ECP.								
Common Name ***Scientific Name***	**Federal Status+**	**State Status+**		**Local Status+**	**Occur within 0.5 miles of Project Area**	**Suitable Habitat within 0.5 miles of Project Area**	**Potential for Occurrence**	**Habitat Association (only discussed for species with a suitable habitat)**
		CESA	**CDFW**					
Northern goshawk *Accipiter gentilis*	FSS		SSC	TRPA	Yes	Yes	**Moderate. No Potential to Impact TRPA Threshold Standard.** There is a TRPA Northern Goshawk Disturbance Zone within 1 mile of the Project. No improvements are proposed outside of the Project boundary and the TRPA Disturbance Zone does not overlap with the Project boundary. This species could pass through the Project area, but suitable breeding habitat is not present in the Project survey area.	Northern goshawk are distributed throughout California in middle to higher elevation forested areas, particularly in the North Coast Ranges through Sierra Nevada, Klamath, Cascade, and Warner Mountains (Zeiner et al. 1990). Locally, they can be yearlong residents and seasonal migrants. Goshawks usually nest on north-facing slopes near water and require mature conifer or aspen forests with large diameter trees, dense canopy cover, and an open under story interspersed with meadows or shrub patches. Open areas provide foraging opportunities, while logs, snags, and broken-top trees are used as "plucking posts" to de-feather prey. Nests are usually located within the largest tree in the stand, next to the bole of the tree, in the lower third of the canopy.
Osprey *Pandion haliaetus*			WL	TRPA	Yes	Yes	**Moderate. No Potential to Impact TRPA Threshold Standard.** Osprey could pass through the Project area as there several undocumented observations, but suitable breeding and foraging habitat is not present in the Project area.	Osprey are yearlong residents. Osprey diets are almost entirely fish; therefore, its range has a close association with open, calm, and clear waters for feeding. Platform nets are built atop large snags, living trees, and human structures. Tall, open trees called “pilot trees” are required nearby for landing approaches and flight practice for fledglings.

Table 1. Special Status Wildlife Species Considered for the Country Club Heights ECP.								
Common Name ***Scientific Name***	**Federal Status+**	**State Status+**		**Local Status+**	**Occur within 0.5 miles of Project Area**	**Suitable Habitat within 0.5 miles of Project Area**	**Potential for Occurrence**	**Habitat Association (only discussed for species with a suitable habitat)**
		CESA	**CDFW**					
Waterfowl (collectively)				TRPA	Yes	Yes	**Moderate. No Potential to Impact TRPA Threshold Standard.** Designated Wildlife Habitat for Waterfowl is not located within the Project area. Waterfowl most likely will frequent the nearby Upper Truckee River, but existing disturbances and lack of suitable habitat make it unlikely they would nest in the Project area.	Mallards and other waterfowl are found throughout California in wetlands and waters such as lakes, creeks, drainages, marshes, and wet meadows. Locally, some species such as mallards are common, yearlong residents. While breeding, they need shallow-water areas with nest sites nearby. Usually nests in fairly dry sites in tall, dense herbaceous vegetation or low shrubbery within 100 m of water, rarely up to 8 km (Bellrose 1976).
Willow flycatcher *Empidonax traillii*	FSS	SE			No	Yes	**Low.** Willow flycatcher has very distinct habitat requirements that dictate meadow size, vegetation type, height, and access to water. There is modeled habitat within 1 mile of the Project, but no suitable habitat was identified within the Project area.	Willow flycatchers are rare to locally uncommon, summer residents in the Sierra Nevada and Cascade Range. In the Sierra Nevada, suitable habitat typically consists of broad, flat meadows that support riparian deciduous shrubs (particularly willows) and retain soil moisture throughout the nesting season (May-July). Three critical habitat components are sufficient meadow size, access to water, and presence of willows. Suitable nesting habitat must have willows (at least 2m high with foliage density of 50-70%) with low, exposed branches present (Sanders and Flett 1989). Generally, willow flycatchers inhabit meadows larger than 8 hectares (at 2000-8000 ft. in elevation) and do not typically utilize willow clumps along steep terrain, or narrow bands bordered by conifer forests.
Mammals								

Table 1. Special Status Wildlife Species Considered for the Country Club Heights ECP.								
Common Name ***Scientific Name***	**Federal Status+**	**State Status+**		**Local Status+**	**Occur within 0.5 miles of Project Area**	**Suitable Habitat within 0.5 miles of Project Area**	**Potential for Occurrence**	**Habitat Association (only discussed for species with a suitable habitat)**
		CESA	**CDFW**					
American badger *Taxidea taxus*			SSC		No	Yes	**Not expected to occur.** Habitat requirements for cover, breeding, and foraging are lacking within the Project survey area but are within 0.5 miles. It is not expected this species would pass through the Project area as appropriate habitat requirements are not found there.	Uncommon, permanent resident found throughout most of the state, except in the northern North Coast area (Grinnell et al. 1937). Most abundant in drier open stages of most shrub, forest, and herbaceous habitats, with friable soils. Suitable habitat for badgers is characterized by herbaceous, shrub, and open stages of most habitats with dry, friable soils (Zeiner et al. 1990).
American marten *Martes caurina*	FSS				No	No	**Not expected to occur.** Suitable habitat is not present in the project area.	
California wolverine *Gulo gulo luteus*	FSS	ST	FP		No	No	**Not expected to occur.** Suitable alpine habitat is not present in the Project area. There are very few documented occurrences in the region.	
Fisher (West Coast Distinct Population Segment) *Pekania pennanti*	Proposed Threatened	SCT	SSC		No	Yes	**Not expected to occur.** Appropriate habitat for denning and foraging is not present within the Project area; however marginal resting habitat is located within 0.5 miles of the Project.	Fisher are rare residents in the Lake Tahoe Basin. They prefer woody debris, vegetated understory, and continuous, dense canopy cover is essential for foraging and cover. Fisher also favor riparian areas as rest sites. Dens are made in cavities of large conifers; both snags and live trees are used. Rarely enter areas of low canopy cover, or patches of large clearings.
Fringed myotis *Myotis thysanodes*	FSS				No	No	**Not expected to occur.** Appropriate roosting habitat is not present within the Project area.	

Table 1. Special Status Wildlife Species Considered for the Country Club Heights ECP.								
Common Name ***Scientific Name***	**Federal Status+**	**State Status+**		**Local Status+**	**Occur within 0.5 miles of Project Area**	**Suitable Habitat within 0.5 miles of Project Area**	**Potential for Occurrence**	**Habitat Association (only discussed for species with a suitable habitat)**
		CESA	**CDFW**					
Mule deer *Odocoileus hemionus*				TRPA	Yes	Yes	**Moderate. No Potential to Impact TRPA Threshold Standard.** Suitable habitat is located outside the Project area. Habitat in the Project area is not suitable for fawning due to existing disturbance levels.	Mule deer have a widespread distribution throughout most of California (CDFW 2014). Locally, they are common to abundant migrants. Shrubs provide food, cover, and thermoregulation, making them essential habitat criteria. Openings interspersed through dense thickets and abundant edges are preferred. Deer require 3 quarts of water/day/100 lb. (Zeiner et al. 1990), so access to water and mineral licks are also critical features to suitable habitat.
Pallid bat *Antrozous pallidus*	FSS		SSC		No	No	**Not expected to occur.** They are not known to occur in the Project area. This species is vulnerable to disturbance, so it is not likely they would roost within the highly impacted Project area. Roosting sites (rocky outcrops, cliffs, and crevices with access to open habitats for foraging) are sensitive to disturbance.	
Sierra Nevada mountain beaver[4] *Aplodontia rufa californica*			SSC		No	Yes	**Not expected to occur.** Habitat requirements for cover, breeding, and foraging are lacking within the Project area but are within 0.5 miles. It is not expected this species would pass through the Project area as appropriate stream requirements are not found there.	Found throughout the Cascade, Klamath, and Sierra Nevada Ranges. Distribution often is scattered; populations local and uncommon in the Sierra Nevada and other interior areas. Occur in dense riparian-deciduous and open, brushy stages of most forest types. Typical habitat in the Sierra Nevada is montane riparian with a dense understory near water. Deep, friable soils are required for burrowing, along with a cool, moist microclimate (Zeiner et al. 1990).

[4] Formerly mountain beaver, *Aplodontia rufa*

Table 1. Special Status Wildlife Species Considered for the Country Club Heights ECP.								
Common Name ***Scientific Name***	**Federal Status[+]**	**State Status[+]**		**Local Status[+]**	**Occur within 0.5 miles of Project Area**	**Suitable Habitat within 0.5 miles of Project Area**	**Potential for Occurrence**	**Habitat Association (only discussed for species with a suitable habitat)**
		CESA	**CDFW**					
Sierra Nevada red fox *Vulpes vulpes necator*		ST			No	Yes	**Not expected to occur.** Habitat requirements for cover, breeding, and foraging are lacking within the Project survey area but are within 0.5 miles. Presumed extirpated from the Tahoe Basin (Schlesinger and Romsos 2000).	Sierra Nevada red fox are found in the Cascades and from Lassen to Tulare County (CDFW 2014). Their local population size has high imperilment, but numbers are suspected to be increasing (Manley and Schlesinger 2000). Although most habitats found in the Lake Tahoe Basin are suitable for Sierra Nevada red fox, they are very rare in this region. Habitats they are found in include wet meadows, sub-alpine conifers, lodgepole pine, red fir, aspen, montane chaparral, riparian, mixed conifer, and Jeffrey pine. Open areas for hunting and covered areas for den sites are required, making habitat edges ideal.
Sierra Nevada snowshoe hare *Lepus americanus tahoensis*			SSC		No	Yes	**Moderate**. This species could use the Project area for foraging, but the small, exposed nature of the survey area does not meet breeding habitat requirements.	The Sierra Nevada snowshoe hare is a medium-sized, cinnamon-brown rabbit characterized by short ears, large hind feet, and a short tail. Snowshoe hares are secretive and typically observed when flushed. This species is most active during the night or early morning. Snowshoe hares in general have populations that tend to fluctuate dramatically; however, the *tahoensis* subspecies that occupies fragmented habitat may not show dramatic population fluctuations (Zeiner et al. 1990, CDFW 2014).

Table 1. Special Status Wildlife Species Considered for the Country Club Heights ECP.								
Common Name ***Scientific Name***	**Federal Status[+]**	**State Status[+]**		**Local Status[+]**	**Occur within 0.5 miles of Project Area**	**Suitable Habitat within 0.5 miles of Project Area**	**Potential for Occurrence**	**Habitat Association (only discussed for species with a suitable habitat)**
		CESA	**CDFW**					
Townsend's big ear bat *Corynorhinus townsendii*	FSS	SCT	SSC		No	No	**Not expected to occur.** There are few occurrences of this species in the Tahoe Basin, and they are not known to occur in the Project area. This species is vulnerable to disturbance, so it is not likely they would roost within the highly impacted Project area. Because roosting sites (undisturbed caves or cave surrogates) are the most important limiting resource for Townsend's big ear bat (Zeiner et al. 1990), their occurrence in the Project area is unlikely.	
Fish								
Lahontan cutthroat trout *Oncorhynchus clarkii henshawi*	FT			TRPA	No	No	**Not expected to occur.** The USFS LCT Reintroduction Project removes non-native trout from the main stem of the Upper Truckee River (below Meiss Meadows, the outlet tributary of Round Lake, and the inlet and outlet of Dardanelles Lake). This project also removes and returns LCT from the lower reaches of the Upper Truckee River to the upper portion of the river so as prevent hybridization with rainbow trout (USDA 2012). LCT is not expected to occur in the portion of the Upper Truckee River that passes within 0.5 miles of the Project.	
Lahontan Lake tui chub *Gila bicolor pectinifer*	FSS		SSC		No	No	**Not expected to occur.** Suitable habitat does not exist within or adjacent to the Project area.	

Table 1. Special Status Wildlife Species Considered for the Country Club Heights ECP.

Common Name *Scientific Name*	Federal Status+	State Status+		Local Status+	Occur within 0.5 miles of Project Area	Suitable Habitat within 0.5 miles of Project Area	Potential for Occurrence	Habitat Association (only discussed for species with a suitable habitat)
		CESA	CDFW					
Insects								
Western bumble bee *Bombus occidentalis*	FSS	SCE			No	Yes	**Moderate**. This species could use the Project area for foraging and nesting. Most recent CNDDB occurrence data for species in South Lake Tahoe is from 1985.	Nests underground in cavities or random burrows left by rodents and other animals. The species is a generalist forager that does not depend on any one flower type.
Mollusks								
Great Basin rams-horn *Helisoma newberryi*	FSS				No	No	**Not expected to occur.** Suitable habitat does not exist within or adjacent to the Project area.	

Special Status Codes

USFWS
FE = Federally Endangered under the ESA
FT = Federally Threatened under the ESA
FC = Federal Candidate under the ESA
DL = Federally De-listed

USFS-LTBMU
FSS = LTBMU Sensitive Species

State (CESA)
SCT = State Candidate Threatened
SCE = State Candidate Endangered
SE = State Endangered under CESA
ST = State Threatened under CESA
SD = State Delisted

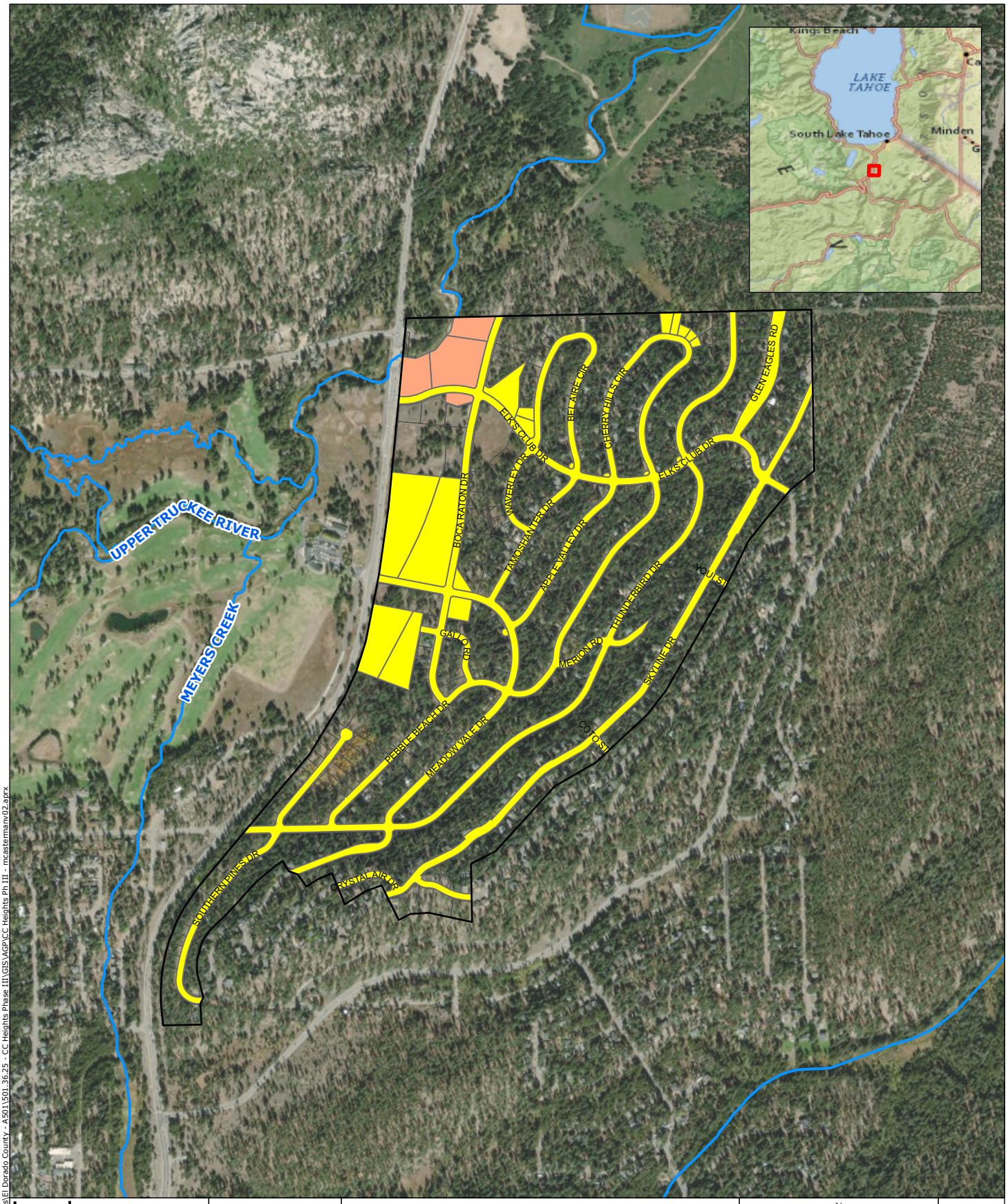
CDFW
SSC = Species of Special Concern
FP = Federally Protected
WL = Watch List

Local
TRPA = TRPA Special Interest Species

Sources: CDFW 2016, CNDDB 2016, TRPA 2011, TRPA 2016, USFWS 2016, USFS 2019

APPENDIX B

Figures



Legend

- Project Boundary
- 2019 Survey Area
- 2016 Survey Area
- Parcels

NCE

Country Club Heights Erosion Control Project, Phase III

Project Area Map

N

1 in. = 1,000 ft.

0 500 1,000 ft.

FIGURE 1

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap, TRPA	501.36.25	mcasterman	8/20/2019	-	drios

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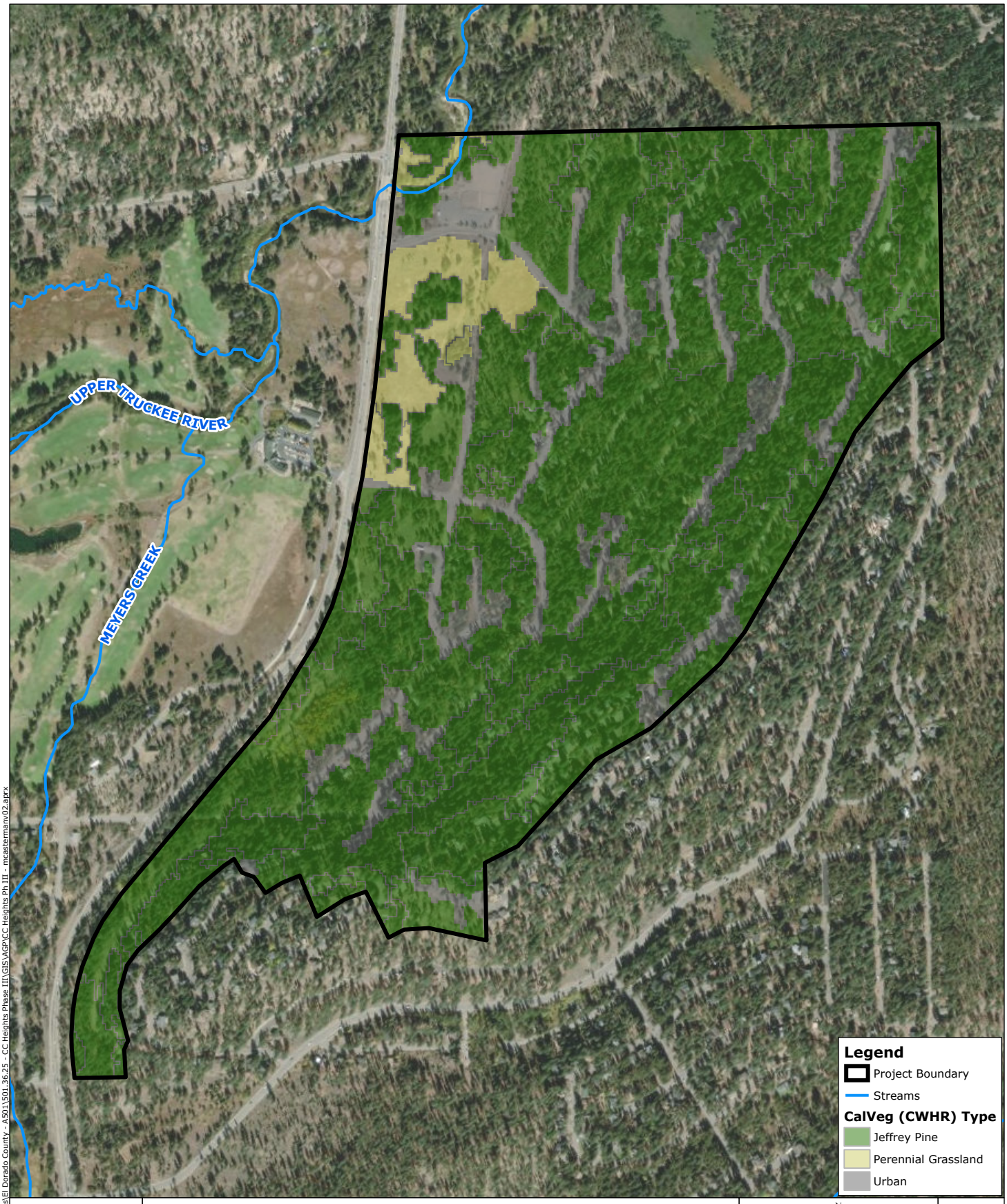

NCE

Country Club Heights
Erosion Control Project, Phase III

Vegetation Community Map

N

1 in. = 750 ft.

0 250 500 750 ft.

FIGURE 2

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap, CDFW	501.36.25	mcasterman	8/19/2019	-	drios

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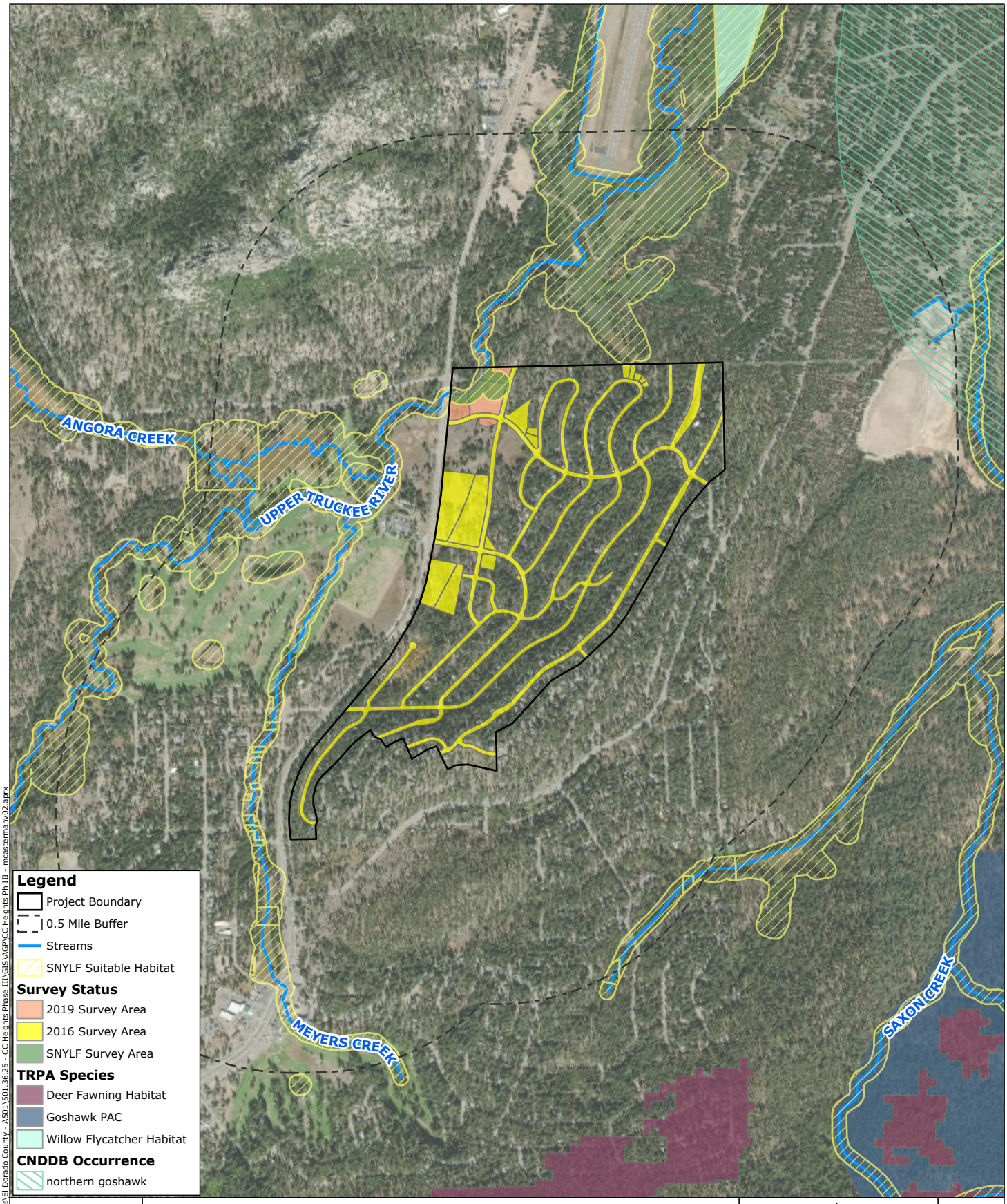

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NCE

Country Club Heights Erosion Control Project

Wildlife Basemap

N

1 in. = 1,500 ft.

0 750 1,500 ft.

FIGURE 3

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap, CNDDB, TRPA, USFS	501.36.25	mcasterman	8/20/2019	-	drios

Appendix F

SNYLF Site Assessment

County Club Heights Erosion Control Project
Phase III
CIP No. 95191
Sierra Nevada Yellow-Legged Frog Site Assessment

Date: 8/2/19 Project Number: 501.36.25

From: Mack Casterman
Subject: Results of Sierra Nevada yellow-legged frog site assessment

This letter report presents the methods and results of the Sierra Nevada yellow-legged frog site assessment and visual encounter survey for the Country Club Heights Erosion Control Project, Phase III (Project) in El Dorado County, California. This survey is required in order to support the Biological Assessment and related environmental documentation for the project. In order to comply with Section 7 of the Federal Endangered Species Act, the United States Forest Service Lake Tahoe Basin Management Unit, as the Federal lead agency, may consult with the United States Fish and Wildlife Service with regard to potential impacts to Sierra Nevada yellow-legged frog (SNYLF), a federally listed species.

The U.S. Fish and Wildlife Service (USFWS) has designated critical habitat for Sierra Nevada yellow-legged frog (*Rana sierrae*), which was listed in 2014 as threatened under the federal Endangered Species Act. Although the Project is outside of the USFWS's known range (**Figure 1**) and the SNYLF's critical habitat as shown on the Federal Register, Volume 81, Number 166, dated Friday, August 26, 2016, page 59099 (**Attachment A**), the Nevada Fish and Wildlife Office has requested projects within the Lake Tahoe basin and its tributaries to survey for SNYLF.

The Project area is located in eastern El Dorado County, in the Lake Tahoe Basin, near the community of Meyers (**Figure 2**). The Project is in the south section of the Lake Tahoe basin with portions of Sections 20 and 21, Township 12 North, Range 18 East, Mount Diablo Meridian. The Country Club Heights Erosion Control Project, Phase III encompasses approximately 57 acres of County of El Dorado right of way as well as County, California Tahoe Conservancy, United States Forest Service and privately-owned residential parcels. Built infrastructure within the Project area includes paved County roads, unpaved access roads, the paved parking lot for the old "Elks Club Lodge" property, and existing storm drain systems including sediment basins, check dams, and channels. The section of the project area that contains SNYLF suitable habitat is limited to a portion of the north-west corner of the project area where the Upper Truckee River flows along the boundary of the project. This section of river is adjacent to a parking lot and previously developed area and is heavily used by the public as a river access point and for other forms of recreation. Within the project area, the southern bank of the river is armored with riprap. This stabilization measure was constructed to prevent erosion following a damaging flood event in 1997 that resulted in bank erosion and underground utilities being exposed.

Lake Tahoe, NV
P.O. Box 1760
Zephyr Cove, NV 89448
(775) 588-2505

Methodology
The visual encounter survey (VES) was conducted by NCE scientist Mack Casterman on August 2, 2019. The survey occurred between 9:30 am and 11:30 am. The weather was clear with a temperature of 75°F and calm to light winds. Survey equipment consisted of a dip net, binoculars, and wader-boots. The survey included the Upper Truckee River where it flows through the project area as well as a 100-foot buffer upland from the water's edge (**Figure 2**). The survey followed visual encounter survey (VES) protocol[1] to determine occupancy (Fellers and Freel 1995). The VES involved first scanning with binoculars the banks, rocks and other potential amphibian habitat and then slowly walking upstream visually searching the banks, rocks, logs, and the river bottom for frogs or signs of their presence such as eggs or tadpoles. A dip net was waved over grass and vegetation to flush any frogs that may be present. In general, the surveyor spent approximately 15 minutes per 100 meters walked. The time of day and seasonality was consistent with protocol timing.

Results
No signs or detections of SNYLF were made during the VES. No other amphibians or signs of amphibians were detected during the VES. Pictures of amphibian habitat and existing site conditions can be found in **Attachment B**, Photographs 1, 2, and 3.

Based on the results of the survey, the disturbed and recreational nature of the section of the Upper Truckee River within the project area, and the location of the Project, which is outside of the known range and critical habitat for this species, it is unlikely that SNYLF use this area for foraging, breeding or any portion of their life history.

Should you have any questions, please do not hesitate to contact me.

Sincerely,

Mack Casterman
Staff Scientist

Dave Rios
Associate Scientist

NCE

Appendix A: Figures
Attachment A: Federal Register - Critical Habitat Map
Attachment B: Photos of Amphibian Habitat and Existing Conditions

[1] Fellers, G.M., and K.L Freel. 1995. A standardized protocol for surveying aquatic amphibians. Technical Report NPS/WRUC/NRTR-95-001. National Biological Service, Cooperative Park Studies Unit, University of California, Davis, CA. v+123p.

Appendix A

FIGURES

Lake Tahoe, NV
P.O. Box 1760
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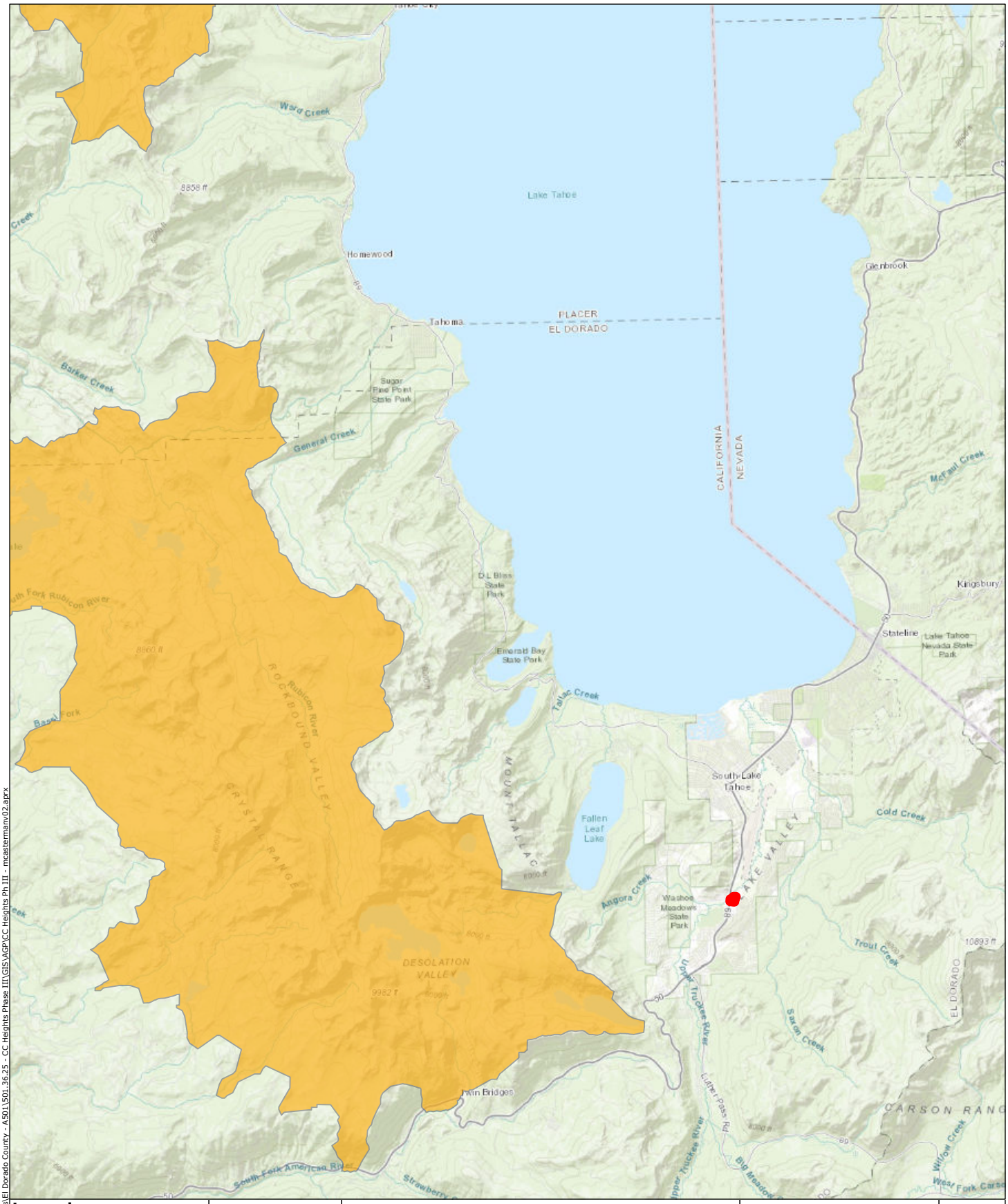
(775) 588-2505



Legend

- Project Area
- SNYLF Known Range

NCE

Country Club Heights
Erosion Control Project, Phase III
Sierra Nevada Yellow-Legged Frog
Known Range

N

1 in. = 16,000 ft.

0 8,000 16,000 ft.

FIGURE 1

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap, TRPA	501.36.25	mcasterman	9/5/2019	-	drios

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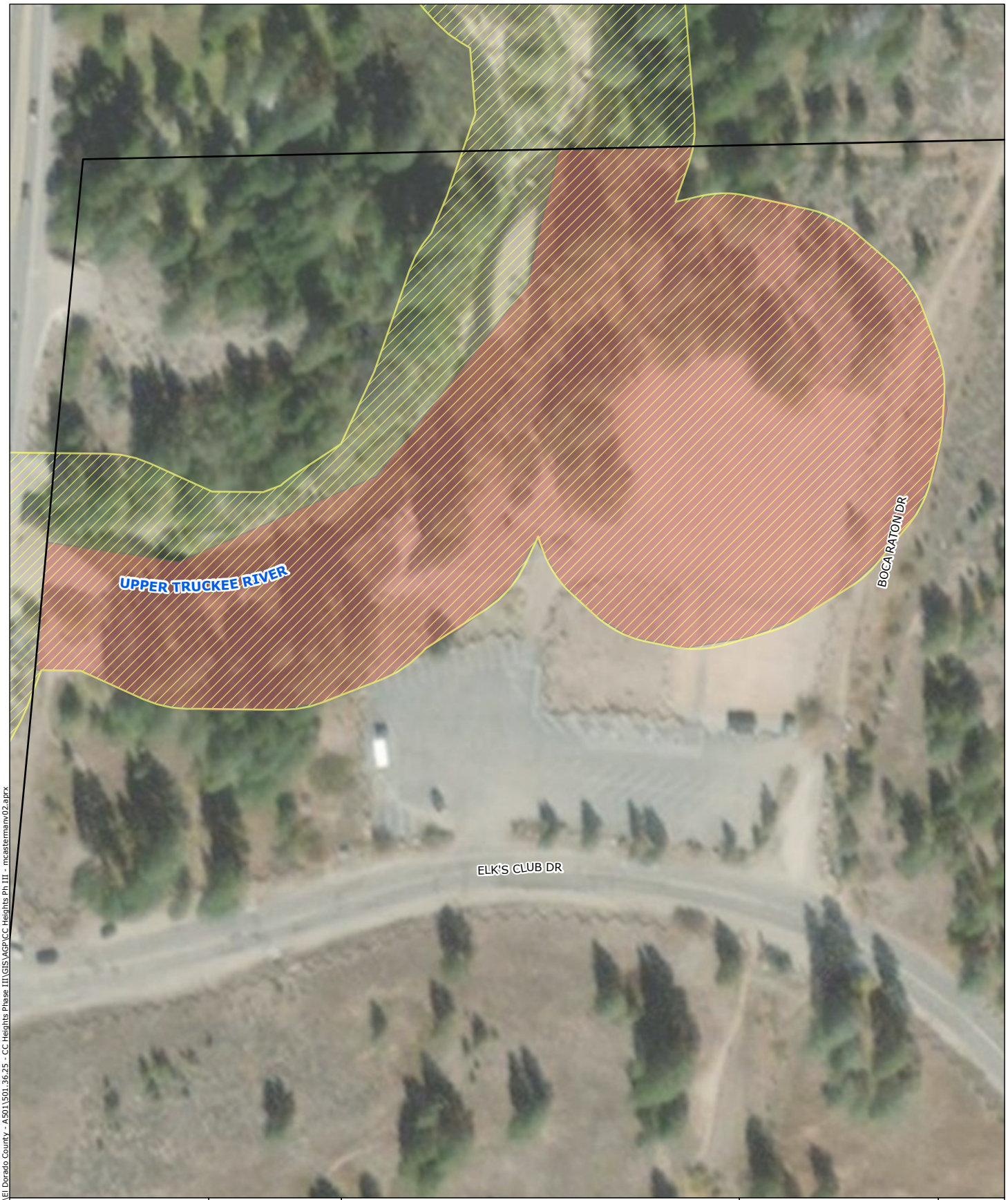

Legend

- Project Boundary
- SNYLF Suitable Habitat
- SNYLF Survey Area

NCE

Country Club Heights
Erosion Control Project, Phase III

SNYLF Survey Area

N

1 in. = 100 ft.

0 50 100 ft.

FIGURE 2

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap, USFS	501.36.25	mcasterman	8/20/2019	-	drios

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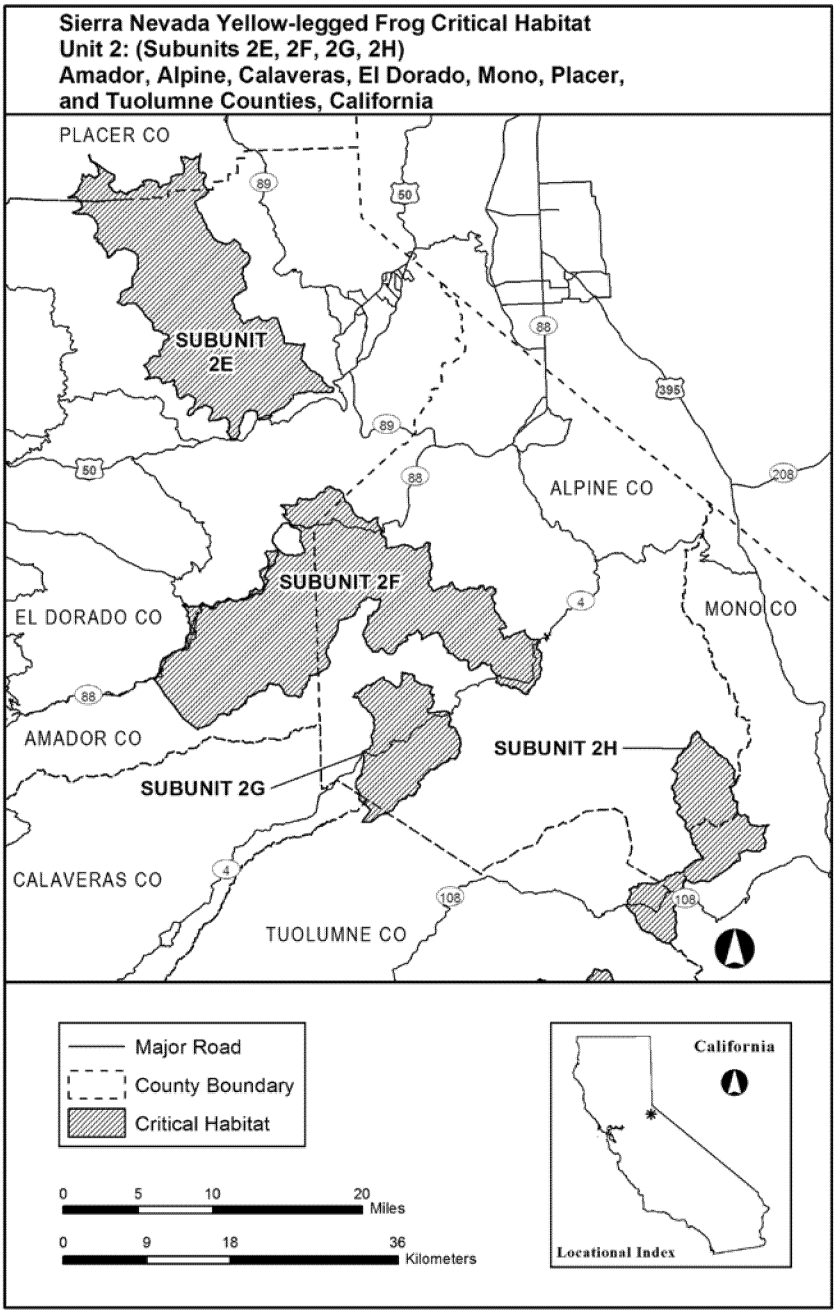
Attachment A

Federal Register – Critical Habitat Map



(9) Unit 2 (Subunits 2I, 2J, 2K, 2L, 2M, 2N), Tuolumne and Mono Counties, California. Map follows:

Attachment B

Representative Pictures of Amphibian Habitat and Existing Conditions

Photograph 1: Northern end of survey area looking upstream

Photograph 2: Western end of survey area looking downstream

Photograph 3: Central Project Area

Appendix G

Invasive Plant Risk Assessment

INVASIVE PLANT RISK ASSESSMENT

COUNTRY CLUB HEIGHTS ECP
PHASE III
CIP NO. 95191
EIP PROJECT #01.01.01.0021

LAKE TAHOE BASIN MANAGEMENT UNIT
USDA FOREST SERVICE

Prepared by: _____Mack Casterman, NCE, Staff Scientist_____ Date: ___8/19/2019___

Approved by: _____ Date: _____

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1 INTRODUCTION

In 2003, the United States Forest Service (USFS) identified invasive species as one of four critical threats to the nation's ecosystems (Bosworth 2003). Invasive plants pose a significant threat to ecological function due to their ability to displace native species, alter nutrient and fire cycles, decrease the availability of forage for wildlife, and degrade soil structure (Bossard et al. 2000). Infestations can also reduce the recreational or aesthetic value of native habitats.

Forest management activities can contribute to the introduction and spread of invasive plants by creating suitable environmental conditions for establishment and by acting as vectors for spread. The following risk assessment has been prepared to evaluate the risk associated with invasive plant introduction and spread as a result of the Country Club Heights Erosion Control Phase III project.

1.1 ANALYSIS FRAMEWORK: PERTINENT LAWS, POLICIES, AND DIRECTION

A comprehensive summary of principal statutes governing the management of invasive plants on the National Forest System is available in Forest Service Manual 2900. A brief summary of the pertinent laws, policies, and direction is provided below.

1.1.1 *Federal Laws and Executive Orders*

Executive Order 13112 (1999)—directs federal agencies to prevent the introduction of invasive species; detect and respond rapidly to control such species; and to minimize the economic, ecological, and human health impacts from invasive species on public lands.

1.1.2 *Forest Service Policies and Direction*

Forest Service Manual 2080 (USDA Forest Service 1995)—Was replaced by FSM 2900 in 2011. FSM 2080 revised USFS national policy on noxious weed management to emphasize integrated weed management, which includes prevention and control measures, cooperation, and information collection and reporting.

Forest Service Manual 2900 (USDA Forest Service 2011)—directs the Forest Service to manage invasive species with an emphasis on integrated pest management and collaboration with stakeholders, to prioritize prevention and early detection and rapid response actions, and ensure that all Forest Service management activities are designed to minimize or eliminate the possibility of establishment or spread of invasive species on the NFS or to adjacent areas.

Forest Service Manual 2070 (USDA Forest Service 2008)—provides guidelines for the use of native material on National Forest System lands. It restricts the use of persistent, non-native, non-invasive plant materials and prohibits the use noxious weeds for revegetation, rehabilitation and restoration projects. It also requires that all revegetation projects be reviewed by a trained or certified plant material specialist for consistency with national, regional, and forest policies for the use of native plant materials.

USFS National Strategy and Implementation Plan for Invasive Species Management (USDA Forest Service 2004a)—identifies for all Forest Service programs the most significant strategic actions for addressing invasive species. It emphasizes prevention, early detection and rapid response, prioritization in control and management, and restoration or rehabilitation of degraded areas.

Region 5 Noxious Weed Management Strategy (USDA Forest Service 2000)—guides regional Forest Service goals and objectives for invasive plant management, emphasizing actions necessary to: promote the overall management of noxious weeds; to prevent the spread of weeds; control existing stands of weed infestations; promote the integration of weed issues into all forest service activities.

1.1.3 *Forest Plan Direction*

Sierra Nevada Forest Plan Amendment (USDA Forest Service 2004b)—Establishes goals, standards, and guidelines for invasive plant (noxious weed) management for the Sierra Nevada forests. It emphasizes prevention and integrated weed management. It establishes the following invasive plant management prioritization: 1) prevent the introduction of new invaders; 2) conduct early treatment of new infestations; 3) contain and control established infestations. It also requires forests to conduct an invasive plant risk assessment to determine risks for weed spread (high, moderate, or low) associated with different types of proposed management activities and develop mitigation measures for high and moderate risk activities with reference to the weed prevention practices in the Regional Noxious Weed Management Strategy.

LTBMU Land Management Plan (USDA Forest Service 2016)—details strategies for Invasive Species Management (Aquatic and Terrestrial) and identifies standards and guidelines (S&Gs) that set mandatory limits and constraints on invasive species management activities.

2 PROJECT DESCRIPTION

2.1 PROPOSED ACTIVITIES

Project improvements during Phases I and II included infiltrating and/or treating of stormwater from County rights of way, stabilizing eroding cut slopes with vegetation and/or rock protection, stabilizing existing drainages with rock and/or bio-engineering techniques (where feasible), and disconnecting existing storm drain conveyance systems from directly discharging into the Upper Truckee River. Sediment trapping devices and infiltration basins (on publicly owned parcels) were used to capture stormwater and road abrasives and treat pollutants to reduce the overall stormwater volume discharging to the Upper Truckee River.

Phase III of the Project will provide for three threshold areas: improve water quality of stormwater runoff, soil conservation to address previously impacted areas, and enhance recreation opportunities for the area. The proposed improvements to Waverly Drive and the Lower Elks Club area will: 1) provide additional treatment of storm water runoff utilizing publicly owned lands, 2) remove hard coverage to restore previously developed areas within the project area, 3) reconfigure and reconstruct the existing parking lot on the old Elks Lodge property reducing impervious coverage and installing best management practices (BMPs) and 4) construct permanent facilities for Americans With Disabilities Act (ADA) access to the Upper Truckee River and the future Greenway shared-use trail.

The overall goal of the Project is to design and implement erosion control and water quality improvement measures that will reduce the discharge of sediment and pollutants to Lake Tahoe from County administered rights of way in the Country Club Heights ECP. Furthermore, it will assist the County in achieving goals associated with the EIP. The County will perform this Project in general agreement with the guidelines of the CTC Grants Program (CTC 2004), including the Preferred Design Approach.

2.2 LOCATION AND EXTENT

The project area is located in the County of El Dorado, California. The Project is located in Sections 20, 21, 28, and 29 in Township 12 North and Range 18 East of the Mt. Diablo Meridian which may be found on the following U.S. Geological Survey 7.5 minute quadrangle maps: Echo Lake, Freel Peak, and South Lake Tahoe in El Dorado County, California. It is within a TRPA Priority Two Watershed (Upper Truckee River).

The Country Club Heights ECP is located between Highway 50 and Pioneer Trail (**Appendix B**, **Figure 1**). The project area is primarily a residential neighborhood with gradual elevation change from west to east. The project area covers approximately 269 acres; however, the survey area is approximately 73 acres.

Two plan area statements (PAS) present general land use zoning information for the project area. PAS are considered land use and zoning guidance documents for both the TRPA and the County of El Dorado. The majority of the project area is included within PAS 120 Tahoe Paradise Meadowvale, while a small portion of the northwest section of the project Area is part of PAS 119, Country Club Meadow (TRPA 2002a & 2002b). Land use in the majority of the project area is primarily characterized as single family residential. The area is 30 percent built out with 15 percent of the land covered and 25 percent disturbed. Additional planning considerations mentioned in the PAS documents note "steep and high cutbanks now protected by gunnite may start to erode within the next 20 years (TRPA 2002a)" in PAS 120 Tahoe Paradise Meadowvale, and that "most of the homes and other developed facilities are located within stream environment (TRPA 2002b)" of PAS 119, Country Club Meadows.

3 NON-PROJECT DEPENDENT FACTORS

3.1 INVENTORY

3.1.1 *Surveys and existing data*

A literature and database review was conducted to identify documented noxious weed species within and adjacent to the project area. All of the references utilized for this Assessment are listed in Section 6.0. The most relevant searches, reviews, and requests are listed below.

Table 1. Database and Literature Review Summary

Agency/Entity	Date	Information Received
USDA	Accessed 10/3/2016	• SNFPA Table 3.6a: Invasive non-native plant species occurrence by Sierra Nevada National Forest (USDA 2004b)
CDFA	Accessed 10/3/2019	• Noxious Weed Species List (CDFA 2019)
LTBWCG	Accessed 10/3/2016	• Priority Invasive Weeds of the Lake Tahoe Basin (LTBWCG 2011)

NCE completed two invasive weed surveys to identify the presence of noxious weeds on USFS and non-USFS land within the project area. The phase I project area was surveyed on August 22, 2016. On August

2, 2019, a second survey was completed to assess the presence of invasive species within the phase III project area made up of the land between Boca Raton Drive, Elk's Club Drive and the Upper Truckee River. The focus of these surveys was to document all noxious weeds occurring within County rights of way and areas immediately adjacent to the rights of way, as well as parcels of interest (**Appendix C**, **Figure 2**). NCE conducted a walking transect survey of the extended project area to identify invasive plants to the extent necessary to determine listing status. Infestations were mapped in the field using a handheld electronic tablet and ESRI ArcGIS Collector (used to collect photographs, spatial, and attribute information).

3.1.2 *Assessment summary*

During field surveys, it was determined that the phenology of vegetation on site was appropriate for identification of invasive plants. It was therefore concluded that the timing was appropriate for presence/absence surveys of the invasive plant species assessed in this evaluation. The surveys, in conjunction with the review of existing data of known infestations, is sufficient to complete this IPRA.

3.2 KNOWN INVASIVE PLANTS IN ANALYSIS AREA

The results of the field surveys found five (5) invasive plant species in the project area: cheat grass (*Bromus tectorum),* bull thistle (*Cirsium vulgare*), poison hemlock (*Conium maculatum*), field bindweed (*Convolvulus arvensis*), *and* yellow toadflax (*Linaria vulgaris*). USFS 2008 invasive plant data supplied by the USFS documents an additional species in the project area: oxeye daisy (*Leucanthemum vulgare*). All six (6) species and their locations are shown on **Figure 2**.

Table 2. Invasive plant species within the project area [botany analysis area].

Species	Common Name	CDFA rating[1]	Cal-IPC rating[2]	Number of sites within:	
				Project area (FS)	Botany analysis area (FS + Non-FS)
Bromus tectorum	cheat grass	C	High	0	4
Cirsium vulgare	bull thistle	n/a	Moderate	3	13
Conium maculatum	poison hemlock	n/a	Moderate	0	3
Convolvulus arvensis	field bindweed	C	n/a	0	1
Leucanthemum vulgare	oxeye daisy	n/a	Moderate	1	1
Linaria vulgaris	yellow toadflax	n/a	Moderate	0	1
TOTAL				**4**	**19**

[1] CDFA ratings - A-listed weeds: eradication or containment is required at the state or county level; B-listed weeds: eradication or containment is at the discretion of the County Agricultural Commissioner; C-listed weeds: eradication or containment required only when found in a nursery or at the discretion of the County Agricultural Commissioner. (California Department of Food and Agriculture 2009)

[2] Cal-IPC ratings- High: attributes conducive to moderate to high rates of dispersal and establishment; usually widely distributed among and within ecosystems. Moderate: impacts substantial and apparent, but not severe; attributes conducive to moderate to high rates of dispersal; distribution may range from limited to widespread. Limited : ecological impacts are minor or information is insufficient to justify a higher rating, although they may cause significant problems in specific regions or habitats; attributes result in low to moderate rates of invasion; distribution generally limited, but may be locally persistent and problematic. (California Invasive Plant Council 2010)

3.2.1 Cheat grass *(Bromus tectorum)*

3.2.1.1 Species description and summary of management options

Cheat grass is a winter annual in the grass family (*Poaceae*), bearing many finely hairy, drooping, yellowish-green, bristly spikelets in a loose, much-branched, terminal cluster. It forms small tufts 8 to 24

inches tall, and has a fine, fibrous root system. Stems are erect and slender; leaf blades are flat and pubescent. At maturity, the foliage and seed heads often become reddish; after maturity the fine herbage is characterized by a light tan reflectance. Cheat grass reproduces by seed that germinates in the fall, over-winters as a seedling, then flowers in the spring. Seeds have the potential to remain viable in the seed bank for 2 to 5 years. Cheat grass commonly grows on roadsides, open areas, and eroded sites, and is most commonly found on coarse textured soils that are low in nitrogen. Mulch and litter promote germination and establishment of seedlings. Cheat grass was found along road shoulders and vacant lots throughout the botany analysis area.

Cheat grass is a "C" ranked species on the CDFA list meaning that it is widespread in California. It has a high rating on the Cal-IPC list, which implies that "attributes conducive to moderate to high rates of dispersal and establishment; usually widely distributed among and within ecosystems (Cal-IPC 2010)." Cheat grass is a low priority on the LTBMU list, which suggests it is a lower priority species managed on LTBMU but not always treated. It is not ranked on the LTBWCG top priority weed list. Within the LTBMU, the primary focus for this species is to prevent further spread where possible through management practices including a combination of chemical control, cultural control, seeding perennial grasses, and proper land management (USFS 2010).

3.2.1.2 Infestations in the Project Area

There are four (4) infestations of cheat grass in the project area for a total of 0.02 acres (1000 square feet) of infested area; no infestations occur on FS parcels. This occurrence was found by NCE biologists and subsequently was not assigned USFS occurrence numbers. Two of the infestations are located approximately 0.25 miles southwest of FS parcel APN 033-291-06. The other two (2) infestations are both located approximately 0.37 miles southwest of FS parcel APN 033-291-06.

3.2.1.3 Management Actions

Management outside of project areas focuses on avoidance and prevention. When this species intersects proposed project activities, it is mapped and managed (avoided or treated); recommended management will be project and site-specific.

Manual: Preferred treatment method for small infestations. Pull plants prior to seed set. Plants without flowers can be left on site. Plants with flowers should be bagged and disposed properly. Repeat as new plants appear. May not be feasible for large infestations.

Mechanical: Disk/till live plants in spring (prior to seed set). Repeat as new plants appear. Revegetate with native species. Do not mow; mowed plants can still produce seed. May not be feasible for large infestations.

Cultural (small infestations only): Flaming in late spring-early summer may be considered in consultation with the Forest Botanist and Forest Fuels Officer (requires an approved burn plan). Not feasible for large infestations.

Manage to avoid spread (large infestations): Use a combinations of the following techniques: 1) flag and completely avoid infestations; 2) lay down barriers over infestations during staging and construction; 3) work in infested areas first, then wash equipment before moving to uninfested areas; and/or 4) use manual or mechanical techniques (above) in staging or construction areas.

Chemical: Chemical treatment of cheat grass is not approved.

3.2.2 Bull Thistle *(Cirsium vulgare)*

3.2.2.1 Species description and summary of management options

Bull thistle is a conspicuous biennial plant that can grow to a height of 6 feet. It has large, pinnately divided, spiny leaves that extend down the stem. It produces spiny, purple flower heads about 2 inches wide starting in June and continuing until first snowfall or frost. Bull thistle produces large numbers of seeds that are transported by wind to disturbed areas where new plants can be established. This species is somewhat aggressive and is now widely distributed throughout the west up to 7,546 feet in elevation.

Bull thistle is not a ranked species on the CDFA list. It has a moderate rating on the Cal-IPC list, which implies that its "impacts are substantial and apparent, but not severe; attributes conducive to moderate to high rates of dispersal; distribution may range from limited to widespread (Cal-IPC 2010)." Bull thistle is a low priority on the LTBMU list, which suggests it is a lower priority species managed on LTBMU but not always treated. Lastly, it is a class two weed on the Lake Tahoe Basin Weed Coordination Group list which indicates that this species is known to be found in the Lake Tahoe Basin and the group is "currently working to manage these species and eradicate isolated infestations to prevent further spread (LTBWCG 2016)." Within the LTBMU, the primary focus for this species is to eradicate smaller, isolated infestations while exerting the best control feasible over large infestations through containment, prevention and other integrated pest management measures (USFS 2010).

3.2.2.2 Infestations in the Project Area

There are 13 infestations of bull thistle in the project area for a total of 0.0003 acres (13 square feet) of infested area. Infestation areas have an average size of one (1) square foot. One infestation (occurrence 243a) occurs on FS parcel APN 033-291-09; two additional infestations occur on FS parcel APN 033-291-06 however these occurrences were found by NCE biologists and subsequently were not assigned USFS occurrence numbers. Ten infestations occur on non-FS land, all of which were found by NCE biologists and not assigned USFS occurrence numbers. Three of these are within 0.09 miles (approximately 500 feet) of FS parcel APN 033-291-06, one is 30 feet west of FS parcel APN 033-291-09, one is 0.47 miles southwest of FS parcel APN 033-291-06, three are 0.37 miles south of FS parcel APN 033-291-09, one is 0.53 miles south of FS parcel APN 033-291-06, and one is 0.57 miles south of FS parcel APN 033-291-06.

3.2.2.3 Management Actions

Bull thistles are tap-rooted biennial and can be controlled manually, if enough root is removed and no seed is produced. Manual removal is the preferred method for bull thistle treatment; chemical treatment of known bull thistle infestations is not approved. In the rosette or bolt stage: dig out getting as much of the root as possible and either bag it up or lay it on a rock or log where the roots will not be in contact with the ground. In the bud or flower stage: clip all buds and flowers, bag, and dispose properly. Pull or dig roots out and lay to dry out or bag. Leave as much of the plant behind to minimize landfill space (i.e. stems and leaves) (LTBMU 2016b).

3.2.3 Poison hemlock *(Conium maculatum)*

3.2.3.1 Species description and summary of management options

Poison hemlock is biennial native to Europe which commonly grows to 6 or 8 feet tall. It occurs on disturbed soils, commonly along pastures and croplands. Poison hemlock can tolerate poorly drained soils and frequents stream and roadside ditches. Leaves are shiny green, finely pinnately divided three or four times and leaflets are segmented and 1/8 to ¼ inch long. Stems are erect, stout and purple-spotted with distinct ridges and extensively branched.

Poison hemlock is not a ranked species on the CDFA list. It has a moderate rating on the Cal-IPC list, which implies that it's "impacts are substantial and apparent, but not severe; attributes conducive to moderate to high rates of dispersal; distribution may range from limited to widespread (Cal-IPC 2010)." Poison hemlock is a low priority on the LTBMU list, which suggests it is a lower priority species managed on LTBMU but not always treated. It is not listed on the Lake Tahoe Basin Weed Coordination Group list.

3.2.3.2 Infestations in the Project Area

There are three infestations of poison hemlock found by NCE biologists, none of which occur on FS land: one is 0.37 miles south of FS parcel APN 033-291-09, one is 0.53 miles south of FS parcel APN 033-291-06, and one is 0.3 miles south of FS parcel APN 033-291-09. Infestation areas have an average size of 1 square foot, for a total infestation of 3 square feet.

3.2.3.3 Management Actions

These plants can be controlled by repeated manual treatment and are currently known only from small infestations, so the preferred treatment is manual. Poison hemlock is poisonous and can cause an allergic reaction; wear gloves during treatment.

Manual: Hand pull, dig, or cut plants. Bag flowers, buds, and seeds and dispose properly; remaining plant material can be left onsite to decompose.

3.2.4 Field bindweed *(Convolvulus arvensis)*

3.2.4.1 Species description and summary of management options

Field bindweed is a rhizomatous herb native to Eurasia. It is known to grow between 2 and 6 feet tall. It is most often found near roads on disturbed soils. Leaves are hairless and obovate with a notched base and are between 0.4 to 4 inches long. Flowers are trumpet shaped, white to pink in color and are between 0.9 to 1.4 inches broad.

Field bindweed is a "C" ranked species on the CDFA list meaning that it is widespread in California. It is not listed on the Cal-IPC list. Field bindweed is a low priority on the LTBMU list, which suggests it is a lower priority species managed on LTBMU but not always treated. It is not ranked on the LTBWCG top priority weed list. Within the LTBMU, the primary focus for this species is to prevent further spread where possible through management practices including a combination of manual, mechanical and thermal methods, and proper land management (USFS 2010).

3.2.4.2 Infestations in the Project Area

There is one infestation of field bindweed that was found by NCE biologists. The infestation does not occur on FS land and is approximately 0.28 miles southwest of FS parcel APN 033-291-09, one is 0.53 miles south of FS parcel APN 033-291-06, and one is 0.3 miles south of FS parcel APN 033-291-06. The infestation area is approximately 60 square feet in area.

3.2.4.3 Management Actions

These plants can be controlled by repeated manual or mechanical treatment and are currently known only from small infestations, so the preferred treatment is manual.

Manual: Hand pull, dig, or cut plants. Bag flowers, buds, and seeds and dispose properly; remaining plant material can be left onsite to decompose.

3.2.5 Yellow toadflax *(Linaria vulgaris)*

3.2.5.1 Species description and summary of management options

Yellow toadflax, also called butter-and-eggs, is an herbaceous perennial that is native to Eurasia and was introduced as an ornamental in the late 1600s (USDA 2008). It is commonly mistaken for non-invasive snapdragon due to the shape of the flowers. It grows to a height of 0.5 to 2.5 feet, has pale green leaves, bright yellow flowers from May to August, and produces seed from July to October. Yellow toadflax has a taproot up to 3 feet deep, and has long, horizontal roots which can develop adventitious buds, forming independent plants and crowding out native species (Carpenter and Murray 1998). It is commonly found in disturbed open sites, fields, roadsides, and cultivated yards.

Yellow toadflax is not a ranked species on the CDFA list. It has a moderate rating on the Cal-IPC list, which implies that it's "impacts are substantial and apparent, but not severe; attributes conducive to moderate to high rates of dispersal; distribution may range from limited to widespread (Cal-IPC 2010)." Yellow toadflax is a high priority on the LTBMU list, which suggests it is actively treated on LTBMU with the goal of eradication. Lastly, it is a class two weed on the LTBWCG list which indicates that this species is known to be found in the Lake Tahoe Basin and the group is "currently working to manage these species and eradicate isolated infestations to prevent further spread (LTBWCG 2016)."

3.2.5.2 Infestations in the Project Area

There is one infestation of yellow toadflax that was documented by NCE biologists, which is not located on FS land. This infestation is located 0.53 miles south of FS parcel APN 033-291-09 and encompasses 0.003 acres (130 square feet) of land.

3.2.5.3 Management Actions

There are very few effective treatment methods for yellow toadflax; both manual and chemical control methods yield erratic results. Clipping, mowing, and prescribed burning alone are not recommended as they can stimulate regrowth.

Manual (small infestations only): Dig, bag, and dispose of properly. Remove lateral roots completely; they can tear and underground portions can survive to grow new plants. Revisit infestation several times per season. Schedule 5-10 years of follow-up treatment. Revegetation with natives is highly recommended.

Chemical: Chlorsulfuron is preferred. Secondary preference is for glyphosate as an early summer application (plants ~3").

Cultural (small infestations only): Flaming is a tertiary consideration for small infestations but is not feasible for large infestations. Conduct in early summer. Requires consultation with the Forest Botanist and Forest Fuels Officer (requires an approved burn plan).

3.2.6 Oxeye Daisy *(Leucanthemum vulgare)*

3.2.6.1 Species description and summary of management options

Oxeye daisy is a rhizomatous perennial forb. The thin stems grow 7 to 11 inches tall and produce one or more flowers with leaves that are generally pinnately lobed or divided. The flowers are about 2 inches across, with 15 to 30 pure white rays surrounding a yellow central disc. This species was originally introduced as an ornamental and has become a common weed. It is commonly confused with Shasta

daisy, a native plant in the Tahoe Basin. The oxeye daisy reproduces vegetatively and by seed. Seeds drop to the ground and are dispersed by human or animal traffic and machinery. It forms dense populations and competes aggressively with native plants.

Oxeye daisy is not a ranked species on the CDFA list. It has a moderate rating on the Cal-IPC list, which implies that it's "impacts are substantial and apparent, but not severe; attributes conducive to moderate to high rates of dispersal; distribution may range from limited to widespread (Cal-IPC 2010)." Oxeye daisy is a low priority on the LTBMU list, but is still actively treated on LTBMU. Lastly, it is a class two weed on the LTBWCG list which indicates that this species is known to be found in the Lake Tahoe Basin and the group is "currently working to manage these species and eradicate isolated infestations to prevent further spread (LTBWCG 2016)." Within the LTBMU, the primary focus for this species is to prevent further spread where possible through management practices including a combination of chemical control, cultural control, seeding perennial grasses, and proper land management (USFS 2010)

3.2.6.2 Infestations in the Project Area

There is one infestation of oxeye daisy (occurrence 243b) that occurred on FS parcel APN 033-291-09. It contained 1.5 square feet of infestation and was treated in 2008 by the USFS.

3.2.6.3 Management Actions

Manual treatment is preferred for this small infestation. Hand pull, bag and dispose properly. Manual control is most effective when done before oxeye daisy flowers and seed is dispersed (LTBMU 2016).

3.2.7 *Assessment summary*

Weediness is most common along roadside areas, disturbed areas due to parking and/or human use, and residential landscaping.

3.3 Habitat Vulnerability

The project area is characterized by predominantly urban development intermixed with fragmented Jeffrey Pine forest and perennial grasslands. This area produces concentrated storm water runoff that flows from County rights of way to pervious, naturally vegetated land, and ultimately the Upper Truckee River. Current sediment sources within project area include residential and vehicular traffic, road sand/cinder accumulation from both arterial and collector roadways, and eroding cut slopes and roadside ditches throughout the project area. Existing evidence of erosion is seen on road shoulders, unimproved parking areas, and stream banks. No fires, cultivation, or grazing practices are in the recent history of this area.

3.3.1 *Assessment summary*

Overall habitat vulnerability is considered medium because: a) invasive plants were identified in the project area; B) there are established roads, foot and animal traffic, and large areas of cultivated landscape and/or turf in the area; and c) spread can be limited by proper treatment and eradication (if applicable) both pre and post construction.

3.4 Non-Project Dependent Vectors

Residential roads and informal trails exist in the project area. The analysis area is predominantly single-family residential with a lower degree of conservation and public land. Traffic and visitor use is moderate as the area borders a well-used open space comprised of informal trails. Livestock is not grazed in this area, but wildlife could pass through the neighborhood to gain access to natural surrounding area.

3.4.1 *Assessment summary*

Non-project vectors are considered medium because although these vectors are found in the area, such activities are not heavy on parcels considered for improvement.

4 PROJECT-DEPENDENT FACTORS

4.1 HABITAT ALTERATION EXPECTED AS A RESULT OF THE PROJECT

Proposed project activities will include ground disturbance, particularly near roadsides and in other disturbed areas. Revegetation of disturbed areas with native species will limit the potential for invasive plant species to re-colonize in the project area. No fuels reductions or fire use are proposed.

4.2 INCREASED VECTORS AS A RESULT OF PROJECT IMPLEMENTATION

Proposed project activities will improve stormwater facilities and erosion control measures. Furthermore, infestations will be removed prior to construction, and vegetation will be restored after construction activities are completed; therefore, vectors that can be expected as a result of the project are not likely to increase invasive plant establishment in the area.

Although there will be a short-term increase in traffic due to construction activities during implementation, this project is not expected to increase traffic or visitor use in the area. Sub-surface water quality systems require ongoing monitoring and could require utilities relocations during construction. Construction equipment will be used throughout implementation but will adhere to mitigation measures to minimize impacts in the area. Grazing is not a component of the project. The project does include the use of mulches, compost, wood chips, soil, and road base. All materials imported to the site are required to be weed free as stated in the project specifications.

4.3 MANAGEMENT MEASURES

4.3.1 *Standard management measures for invasive plants*

The following measures are designed to minimize risk of new weed introductions, minimize the spread of weeds within units, and minimize the spread of weeds between units. These measures are consistent with Forest Service policy and manual direction and the LTBMU Land and Resource Management Plan as amended by the SNFPA.

1. **Inventory—**
   - ***a)*** *As part of site-specific planning, project areas and adjacent areas (particularly access roads) will be inventoried for invasive plants.*
   - ***b)*** *Any additional infestation discovered prior to or during project implementation should be flagged and avoided, then reported to the Forest Botanist or their designated appointee for prioritization and assessment for treatment.*
2. ***Equipment Cleaning—***
   - *a) All equipment and vehicles (Forest Service and contracted) used for project implementation must be free of invasive plant material before moving into the project area. Equipment will be considered clean when visual inspection does not reveal soil, seeds, plant material, or other such debris. Cleaning shall occur at a vehicle washing station or steam-cleaning facility before the equipment and vehicles enter the project area.*

b) *When working in known invasive plant infestations or designated weed units, equipment shall be cleaned before moving to other National Forest Service system lands. These areas will be identified on project maps.*

3. ***Staging areas—*** *Do not stage equipment, materials, or crews in invasive plant-infested areas.*
4. ***Control Areas—****Where feasible, invasive plant infestations will be designated as Control Areas—areas where equipment traffic and soil-disturbing project activities would be excluded. If Control Areas are designated, they will be identified on project maps and delineated in the field with flagging.*
5. ***Project-related disturbance—****Minimize the amount of ground and vegetation disturbance in staging and construction areas. Where feasible, reestablish vegetation on disturbed bare ground to reduce invasive species establishment; revegetation is especially important in staging areas.*
6. ***Early Detection****— Any additional infestation discovered prior to or during project implementation should be reported to the Forest Botanist or their designated appointee for prioritization and assessment for treatment.*
7. ***Post Project Monitoring–*** *After the project is completed the Forest Botanist should be notified so that (as funding allows) the project area can be monitored for invasive plants subsequent to project implementation.*
8. ***Gravel, fill, and other materials—*** *All gravel, fill, or other materials are required to be weed-free. Use onsite sand, gravel, rock, or organic matter when possible. Otherwise, obtain weed-free materials from sources that have been certified as weed-free. If an LTBMU inspector is not available to inspect material source, then the project proponent will provide a weed-free certificate for its material source.*
9. ***Mulch and topsoil—*** *Use weed-free mulches and topsoil. Salvage topsoil from project area for use in onsite revegetation, unless contaminated with invasive species. Do not use material (or soil) from areas contaminated by cheatgrass.*
10. ***Livestock—*** *If supplemental fodder (e.g., hay, silage) is required for livestock, including horses and other pack animals, it will be certified weed-free.*
11. ***Revegetation—***
    a) *Seed and plant mixes must be approved the Forest Botanist or their designated appointee who has knowledge of local flora.*
    b) *Invasive species will not be intentionally used in revegetation. Seed lots will be tested for weed seed and test results will be provided to Forest Botanist or their designated appointee.*
    c) *Persistent non-natives, such as such as timothy (**Phleum pretense**), orchardgrass (**Dactylis glomerata**), ryegrass (**Lolium** spp.), or crested wheatgrass (**Agropyron cristatum**) will not be used in revegetation.*
    d) *Seed and plant material will be from native, high-elevation sources as much as possible. Plant and seed material should be collected from as close to the project area as possible, from within the same watershed, and at a similar elevation whenever possible.*

4.3.2 *Project-specific management measures*

Table 3. Management Measures

Species	Common Name	USFS Occurrence	Management Action
Bromus tectorum (4 non-USFS locations)	cheat grass	n/a	Manual removal of infestation
Cirsium vulgare	bull thistle	243a	Manual removal of infestation

Species	Common Name	USFS Occurrence	Management Action
Cirsium vulgare (12 non-USFS locations)	bull thistle	n/a	Manual removal of infestation
Conium maculatum (3 non-USFS locations)	poison hemlock	n/a	Manual removal of infestation
Convolvulus arvensis (1 non-USFS location)	Field bindweed	n/a	Manual removal of infestation
Leucanthemum vulgare (1 non-USFS location)	oxeye daisy	277	This historic occurrence was treated in 2008 and not observed during the field visit. If observed at time of Project implementation, then manual removal of infestation
Linaria vulgaris (1 non-USFS location)	yellow toadflax	n/a	Manual removal; follow-up treatments for 5-10 years; revegetation with natives

4.3.3 *Assessment summary*

The populations of invasive plants, located within the County rights of way and parcels of interest within the project area where improvements are installed, will be removed prior to or during project construction or at any time when ground disturbing activities are taking place. By removing infestation prior to construction and revegetating the areas with native species after construction, the risk of spreading invasive plants as a result of the project will be minimized.

5 ANTICIPATED WEED RESPONSE TO PROPOSED ACTION

There is a Moderate overall risk of invasive plant establishment as a result of the project. This determination is based on the following:

1. A total of 6 noxious weed species and 22 infested locations were identified in the project area. The surveys were conducted during an appropriate identification period in August 2016, and August 2019.
2. There are established roads in the project area, foot and animal traffic, and large areas of cultivated landscape and/or turf.
3. The majority of construction activity will take place in previously disturbed areas.
4. Construction will result in a short-term increase in traffic in the area.

A mitigation plan will be adopted as a part of the proposed action (Section 4.3). The mitigation plan should decrease habitat vulnerability to or below pre-construction levels. The mitigation plan includes elements to address noxious weeds before, during, and after construction

Table 3. Summary of Risk Factors

	Factor	Risk	Assessment summary
NON-PROJECT DEPENDENT FACTORS	Inventory	N/A	Adequate
	Known invasive plants	Moderate	There is 1 known infestation of high management priority species present in the project area
	Habitat vulnerability	Moderate	Moderate level of historic and recent disturbance. Variable plant cover.
	Non-project	Moderate	Infestations are present along existing road shoulders

	dependent vectors		and vacant lots. Overall, moderate level of non-project vectors.
PROJECT-DEPENDENT FACTORS	Habitat alteration expected as a result of project	Moderate	Moderate ground disturbance due to drainage improvements and associated construction activities
	Increased vectors as a result of project implementation	Moderate	Construction of drainage and erosion control improvements, soil disturbance
	Management measures	Greatly reduced risk	Standard management measures implemented
ANTICIPATED WEED RESPONSE		**Moderate**	Low risk of new introduction; moderate risk of spread as a result of the project.

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REQUIRED APPEDICES

APPENDIX A. Invasive Species of Management Concern on the Lake Tahoe Basin Management Unit

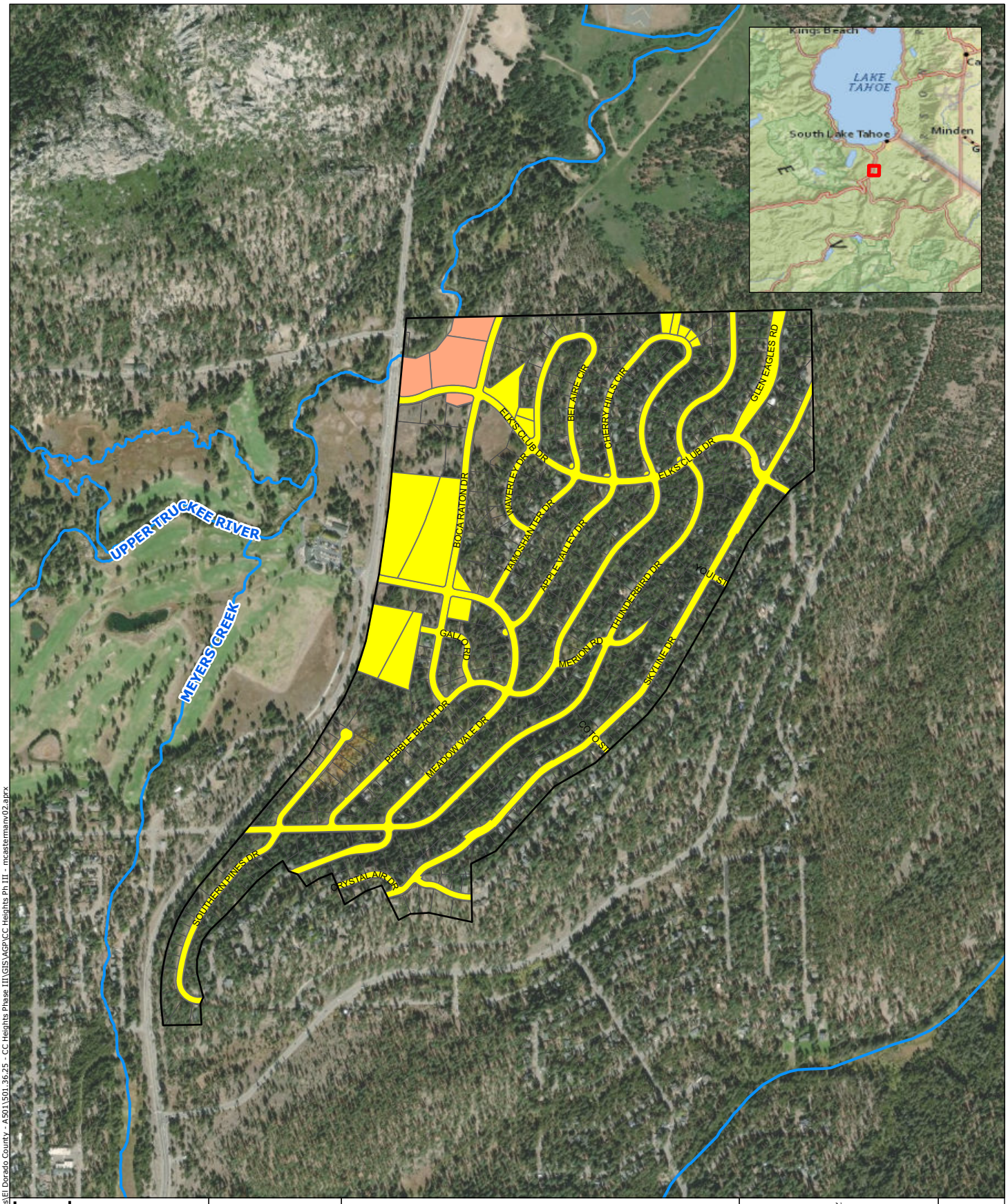
USDA FOREST SERVICE
LAKE TAHOE BASIN MANAGEMENT UNIT

MANAGEMENT REQUIREMENTS FOR INVASIVE PLANTS OF MANAGEMENT CONCERN

Scientific Name	Common Name	2015 LTBMU Priority	Known on LTBMU?	Map	Treat
Species actively reported, mapped and treated on LTBMU					
Acroptilon repens	Russian knapweed	Medium	Yes	X	X
Carduus nutans	musk thistle	High	Yes	X	X
Centaurea diffusa	diffuse knapweed	High	Yes	X	X
Centaurea maculosa	spotted knapweed	High	Yes	X	X
Centaurea solstitialis	yellow starthistle	Medium	Yes	X	X
Centaurea virgata ssp. squarrosa	squarrose knapweed	High	Yes	X	X
Chondrilla juncea	rush skeletonweed	High	Yes	X	X
Cirsium arvense	Canada thistle	High	Yes	X	X
Conium maculatum	poison hemlock	Low	Yes	X	X
Cytisus scoparius	Scotch broom	Medium	Yes	X	X
Hypericum perforatum	St. Johnswort; Klamathweed	Medium	Yes	X	O
Isatis tinctoria	Dyer's woad	High	Yes	X	X
Lepidium appelianum	globe-podded hoary cress; hairy whitetop	Medium	Yes	X	X
Lepidium draba	heart-podded hoary cress; whitetop	Medium	Yes	X	X
Lepidium latifolium	tall whitetop; perennial pepperweed	High	Yes	X	X
Leucanthemum vulgare	oxeye daisy	Low	Yes	X	O
Linaria genistifolia spp. dalmatica	Dalmatian toadflax	High	Yes	X	X
Linaria vulgaris	yellow toadflax; butter & eggs	High	Yes	X	X
Onorpordum acanthium ssp. acanthium	Scotch thistle	High	Yes	X	X
Potentilla recta	sulfur cinquefoil	Medium	Yes	X	X
Rubus armeniacus	Himalaya blackberry	Medium	Yes	X	X
Lower priority species managed on LTBMU but not always treated These are not actively reported, mapped or treated unless they occur within a project area.					
Cirsium vulgare	bull thistle	Low	Yes	O	O
Bromus tectorum	cheat grass	Low	Yes	O	O
Myriophyllum spicatum	Eurasian watermilfoil	N/A	Yes	O	O
Species Not Currently Known on LTBMU **If any of the following species are found, immediately notify the Forest Botanist.** Collect detailed geospatial (GIS) and infestation information					
Ailanthus altissima	tree of heaven	Medium	No	X	X
Centaurea calcitrapa	purple starthistle; red starthistle	Low	No	X	X
Dittrichia graveolens	stinkwort	Low	No	X	X
Dipsacus fullonum	teasel; Fuller's teasel	Low	Yes	X	X
Elymus caput-medusae	medusahead	High	No	X	X
Elymus repense	quackgrass	N/A	No	X	X
Hydrilla verticillata	hydrilla; waterthyme	N/A	No	X	X
Lythrum salicaria	purple loosestrife	High	No	X	X
Potamogeton crispus	curlyleaf pondweed	N/A	No	X	X
Tamarix chinensis, T. ramosissima, & T. parvifolia	tamarisk; saltcedar	High	No	X	X

X=Required**, O**=Required in project areas and sensitive habitats
LTBMU: High—Species that have a large ecological impact or invasive potential; species that are easily controlled. Medium—Species that have a moderate ecological impact or invasive potential; species that may be difficult to control. Low—Species that have a low ecological impact or invasive potential; species that require substantial effort to control. N/A—species not evaluated.

APPENDIX B. Project Overview Map



Legend

- Project Boundary
- 2019 Survey Area
- 2016 Survey Area
- Parcels

NCE

Country Club Heights Erosion Control Project, Phase III

Project Area Map

N

1 in. = 1,000 ft.

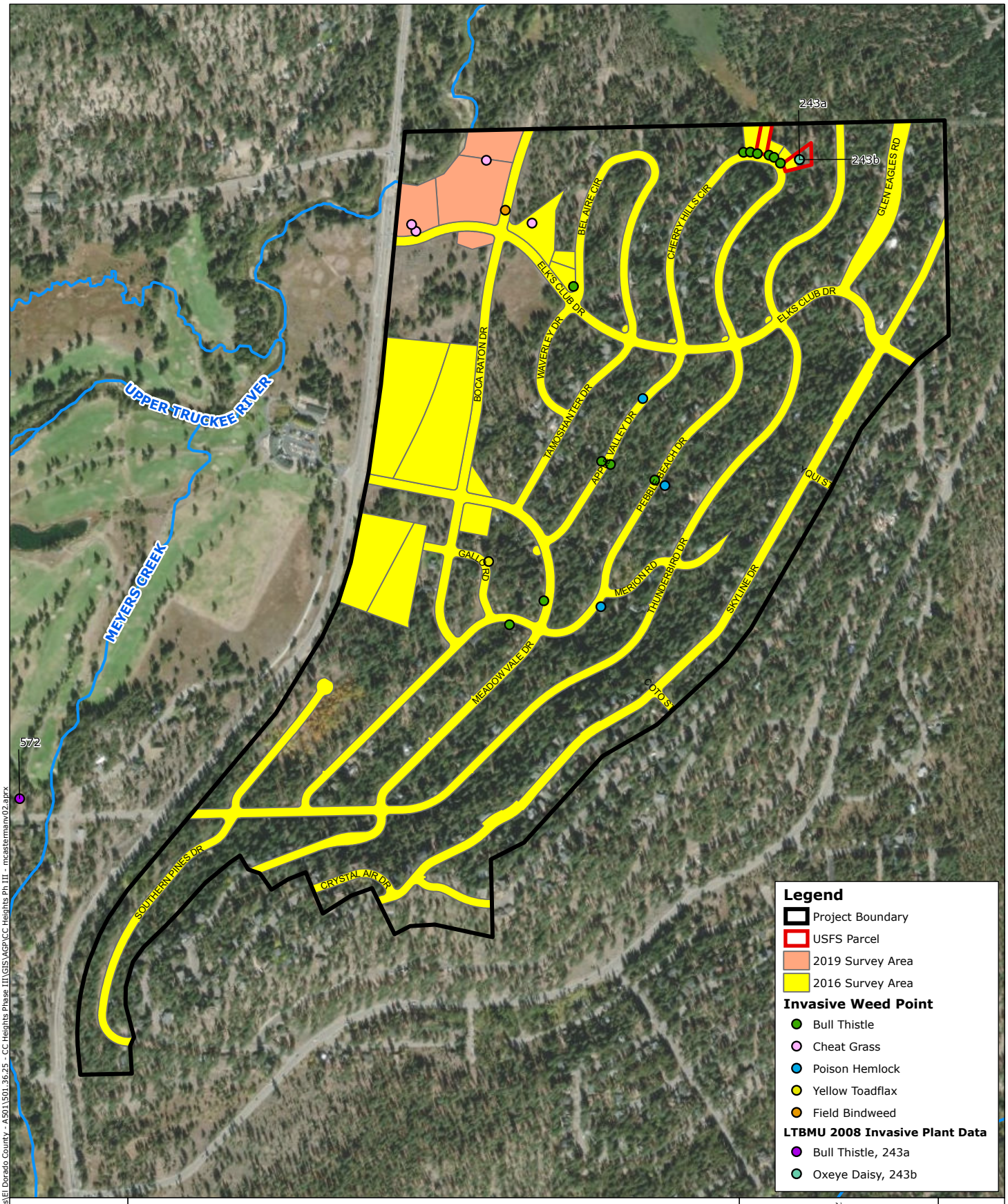
0 500 1,000 ft.

FIGURE 1

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap, TRPA	501.36.25	mcasterman	8/20/2019	-	drios

Document Path: P:\Active Projects\El Dorado County - A501\501.36.25 - CC Heights Phase III\GIS\AGP\CC Heights Ph III - mcastermanv02.aprx

APPENDIX C: Invasive Plant Infestation Locations



NCE

Country Club Heights
Erosion Control Project, Phase III
Invasive Plant Survey Map

N

1 in. = 750 ft.

0 250 500 750 ft.

FIGURE 2

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap, USFS LTBMU	501.36.25	mcasterman	8/19/2019	-	drios

Document Path: P:\Active Projects\El Dorado County - A501\501.36.25 - CC Heights Phase III\GIS\AGP\CC Heights Ph III - mcasterman02.aprx

Appendix H

Botanical Baseline Report

Collaboration. Commitment. Confidence.℠

COUNTRY CLUB HEIGHTS EROSION CONTROL PROJECT
Phase III
CIP No. 95191
EIP PROJECT #01.01.01.0021
BOTANICAL BASELINE REPORT

Prepared For:
County of El Dorado
Community Development Agency
Transportation Division
924B Emerald Bay Road
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NCE Project Number:
501.36.25

Date:
August 20, 2019

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1.0 INTRODUCTION

The purpose of this document is to conduct an initial baseline assessment for botanical resources that satisfies the U.S. Fish and Wildlife Service (USFWS), Tahoe Regional Planning Agency (TRPA), California Department of Fish and Wildlife (CDFW), United States Forest Service Lake Tahoe Basin Management Unit (USFS LTBMU), and the California Native Plant Society (CNPS) requirements to determine potential for botanical special status species to occur within the boundaries of the Country Club Heights Erosion Control Project Phase III (Project). Furthermore, the Botanical Baseline Assessment will provide the Project proponent with relevant resources as they pertain to special status plant species and communities within the Project area, as well as guide the decision-making process during Project design. This assessment summarizes the literature review and research findings, and survey data, for the special status species in the Lake Tahoe Basin within and adjacent to the Project area. For the purposes of this Assessment, the term special status species encompasses those designated as federally threatened and endangered species by the USFWS; those designated as state endangered, threatened, or rare by the State of California; those designated as sensitive by the USFS LTBMU; and TRPA special interest species.

Phase I and II of this Project addressed existing source control issues, hydrologic design issues, and treatment opportunities affecting water quality within the greater Project area. The Phase III Project will focus on impacts to water quality at the northwestern end of the Project and opportunities to enhance recreation and access opportunities in that area.

A Biological Assessment (BA) is being prepared for this Project that will evaluate potential Project impacts to federally listed species.

2.0 BACKGROUND

In 1997, TRPA developed a Basin-wide Environmental Improvement Program (EIP) that defined various projects which, once implemented, would assist in attaining and maintaining TRPA Environmental Threshold Carrying Capacities (ETCC) as well as meet other federal and state environmental goals. TRPA has established thresholds for air quality, water quality, soil conservation, vegetation, noise, scenic resources, recreation, fisheries, and wildlife to address public health and safety of residents and visitors as well as the scenic, recreation, education, scientific, and natural values of the Lake Tahoe Basin. The Country Club Heights Erosion Control Project (Country Club Heights ECP) is defined in the TRPA EIP as Project #01.01.01.0021. The Country Club Heights ECP Phase III boundary encompasses County rights of way and parcels owned by the California Tahoe Conservancy (CTC), USFS-LTBMU, El Dorado County (County), and private individuals.

The Project area is characterized by predominantly urban development intermixed with fragmented Jeffrey pine forest. This area produces concentrated stormwater runoff that flows from County rights of way to pervious naturally vegetated land and ultimately the Upper Truckee River. Because the Project area is connected to Lake Tahoe through Meyers Creek and the Upper Truckee River, there is potential for fine sediments produced in the residential area to deposit into Lake Tahoe. Current sediment sources within Project area include residential use and vehicular traffic; road sand/cinder accumulation from local and collector roadways; and eroding cut slopes, drainages, and roadside ditches throughout the Project area.

Project improvements during Phases I and II included infiltrating and/or treating of stormwater from County rights of way, stabilizing eroding cut slopes with vegetation and/or rock protection, stabilizing existing drainages with rock and/or bio-engineering techniques (where feasible), and disconnecting existing storm drain conveyance systems from directly discharging into the Upper Truckee River. Sediment trapping devices and infiltration basins (on publicly owned parcels) were used to capture stormwater and road abrasives and treat pollutants to reduce the overall stormwater volume discharging to the Upper Truckee River.

Phase III of the Project will provide for three threshold areas: improve water quality of stormwater runoff, soil conservation to address previously impacted areas, and enhance recreation opportunities for the area. The proposed improvements to Waverly Drive and the Lower Elks Club area will: 1) provide additional treatment of storm water runoff utilizing publicly owned lands, 2) remove hard coverage to restore previously developed areas within the project area, 3) reconfigure and reconstruct the existing parking lot on the old Elks Lodge property reducing impervious coverage and installing best management practices (BMPs) and 4) construct permanent facilities for Americans With Disabilities Act (ADA) access to the Upper Truckee River and the future Greenway shared-use trail.

The overall goal of the Project is to design and implement erosion control and water quality improvement measures that will reduce the discharge of sediment and pollutants to Lake Tahoe from County administered rights of way in the Country Club Heights ECP. Furthermore, it will assist the County in achieving goals associated with the EIP. The County will perform this Project in general agreement with the guidelines of the CTC Grants Program (CTC 2004), including the Preferred Design Approach.

2.1 Project Location

The Project area is located in eastern El Dorado County, California between Highway 50 and Pioneer Trail in the community of Meyers (**Figure 1**). The Project is located in Sections 20, 21, 28, and 29 in Township 12 North and Range 18 East of the Mt. Diablo Meridian which may be found on the following U.S. Geological Survey 7.5 minute quadrangle maps: Echo Lake, Freel Peak, and South Lake Tahoe in El Dorado County, California. It is within a TRPA Priority Two Watershed (Upper Truckee River).

The Project area is primarily a residential neighborhood with gradual increase in elevation from west to east. The Project area covers approximately 269 acres; however, the survey area is approximately 73 acres.

Two plan area statements (PAS) present general land use zoning information for the Project area. PAS are considered land use and zoning guidance documents for both the TRPA and the County. The majority of the Project area is included within PAS 120 Tahoe Paradise Meadowvale, while a small portion of the northwest section of the Project Area is part of PAS 119, Country Club Meadow (TRPA 2002a & 2002b). Land use in the majority of the Project area is primarily characterized as single family residential. The area is 30 percent built out with 15 percent of the land covered and 25 percent disturbed. Additional planning considerations mentioned in the PAS documents note "steep and high cutbanks now protected by gunnite may start to erode within the next 20 years (TRPA 2002a)" in PAS 120 Tahoe Paradise Meadowvale, and that "most of the homes and other developed facilities are located within stream environment (TRPA 2002b)" of PAS 119, Country Club Meadows.

3.0 RECORDS AND INFORMATION SEARCHES

A literature and database review was conducted to identify existing botanical information within and adjacent to the Project area. This review assisted with the determinations contained in this document. These lists were originally consulted to inform the Phase I project and were updated/revisited to support the Phase III project. All of the references utilized for this report are listed in Section 9.0. The most relevant searches, reviews, and requests are listed below.

Agency/Entity	Date	Information Received
USFWS	8/26/2019	• Federally Protected Species List for threatened, endangered, candidate, de-listed, and special concern species (USFWS 2019)
USDA	8/19/2019	• CALVEG GIS layers (USDA 2009a)
USFS – LTBMU	9/26/2016	• LTBMU Sensitive Species List
California Department of Fish and Wildlife (CDFW)	8/19/2019	• California Natural Diversity Database (CNDDB 2019) • State of California Endangered, Threatened, and Rare Plants of California List (CDFW 2019)
California Native Plant Society (CNPS)	8/26/2019	• Inventory of Rare and Endangered Plants of California (CNPS 2019)
TRPA	8/19/2019	• TRPA Threshold Evaluation Report (TRPA 2011) • TRPA Code of Ordinances (TRPA 2015) • TRPA Special Interest Species Data (TRPA 2019)

4.0 RECONNAISSANCE-LEVEL SURVEYS

This section includes a summary of information collected during the reconnaissance-level surveys. A survey was conducted by NCE biologists on August 22, 2016 to assess the Phase I project area. On August 2, 2019, a second survey was completed to assess the presence of special status species within the Phase III project area made up of the land between Boca Raton Drive, Elk's Club Drive and the Upper Truckee River. The methods used for the NCE botanical surveys were similar to the CNPS methodology. These methods include conducting walking transect surveys across the extended Project area to identify plant communities and habitat types that may support special status species. In addition, the survey focused on plant identification to a level that allowed for the determination of rarity and listing status. During field surveys, the phenology of vegetation on site was appropriate for identification of special status species. Therefore, the timing was appropriate for presence/absence surveys of the special status plant species assessed during the evaluation. County rights of way, areas immediately adjacent to the rights of way that displayed habitat potential and indicated lots in **Figure 1** were surveyed. During the surveys, vegetation communities within the Project area were recorded (**Figure 2**). No special status plant species were found during field surveys. Additionally, no historical observations or detections of special status species were found within 0.5 miles of the Project boundary (Project vicinity) during background information research (**Figure 3**). A list of plant species observed during the August 2, 2019 survey can be found in **Table 2** in **Appendix A**.

The mapped Classification and Assessment with Landsat of Visible Ecological Groupings (CALVEG) Alliances were found to be consistent with the Project location, density, and size; however, this area is predominantly residential and does not reflect characteristics associated with these vegetation alliances in most locations in the Project area. Common disturbances include altered and non-native landscapes, litter, domestic pets, humans, and vehicular traffic.

5.0 ASSESSMENT OF HABITAT TYPES

Vegetation types were initially identified with the CALVEG GIS data (USDA 2009a) and then verified based on the NCE reconnaissance field survey. Vegetation types found in and/or adjacent to the Project area are typical of those found in the Lake Tahoe Basin. The Project area is composed mainly of Jeffrey pine forest that is fragmented by urban land classification and pockets of perennial grasslands (**Figure 2**). Unless otherwise noted, the descriptions below are taken from the USFS North Sierran Ecological Province Vegetation Descriptions (USDA 2008). It should be noted that vegetation community data presented **Figure 2** are intended for planning purposes at a scale of 1:24,000; therefore, although this figure is a useful tool to determine the general location and types of vegetation communities found within the Project area, data cannot be interpreted on a parcel basis at this scale.

Jeffrey Pine Alliance (CALVEG Code JP)
The Jeffrey pine alliance can be found in eastside northern Sierra Nevada habitats up to an elevation of about 7,300 feet. This alliance grows in xeric micro-environments on granitic outcrops or on glaciated soils such as tills and outwash deposits. It is prominent in the Sierra Valley and Carson Range Subsections on the east side of the range. This forest is tall and open and is dominated by Jeffrey pine (*Pinus jeffreyi*) with a sparse understory of chaparral or sagebrush shrubs and young trees. The understory may include white fir (*Abies concolor*), greenleaf manzanita (*Arctostaphylos patula*), mountain whitethorn (*Ceanothus cordulatus*), wax currant (*Ribes cereum*), and mountain sagebrush (*Artemisia tridentata* ssp. *vaseyana*). Lodgepole pine (*Pinus contorta* ssp. *murrayana*) can be found in areas that collect more moisture (Holland 1986). This alliance is mapped throughout the Project area.

Perennial Grasslands (CALVEG Code HM)
Perennial grasslands have been mapped sparsely in fourteen subsections of the Sierran zone at elevations between 2000 – 9400 ft (610 – 2867 m). This type is a form of dry to moist grassland in which it is difficult to determine species composition without detailed onsite surveys. Some of these areas are currently being used for livestock pasture and are a mix of perennial and annual grasses and legumes that vary according to management practices. Perennial bunchgrasses introduced from Eurasia such as desert, tall, and intermediate wheatgrasses (*Agropyron desertorum, Elytrigia pontica, Elytrigia intermedia*), in addition to tall fescue (*Festuca arundinacea*), clover (*Trifolium* spp.), needlegrass (*Achnatherum* spp.), squirreltail (*Elymus elymoides*), rock cress (*Arabis* spp.), monardella (*Monardella* spp.), buckwheat (*Eriogonum* spp.), cheatgrass (*Bromus tectorum*) and others generally found in northern California may be included in the mixture. Mules-ears (*Wyethia mollis*) are a typical associate towards the east. This Alliance is often associated with moist openings in Red Fir (*Abies magnifica*) forests.

Urban or Developed (CALVEG Code UB)
The urban or developed category applies to landscapes that are dominated by urban structures, residential units, or other developed land use elements such as highways or city parks. Areas mapped as urban or developed exist throughout the Project area but are primarily located along the roads and southern commercial corridor. Furthermore, the entire Project area can be described as a mix of forested vegetation within urban development.

6.0 SPECIAL STATUS SPECIES

This Assessment considers the potential effects of the proposed Project on species protected under the USFWS, State of California, USFS – LTBMU, and TRPA that may occur in or adjacent to the Project area. These species are presented in **Table 1**, which includes the name, regulatory status, habitat requirements, identification period, potential for occurrence in the Project area, and survey results. This analysis was based on the literature and database reviews and the field surveys.

USFS modeled habitat data is present within the project area and is included on **Figure 3**. There are eight recorded USFS modeled habitats within the Project vicinity: *Arabis rectissima* var. simulans, *Peltigera hydrothyria*, *Lewisia kelloggii*, *Botrychium* spp., *Epilobium howelii*, *Bruchia bolanderi*, *Meesia blandowii and Helodium blandowii.* These species were not observed on surveyed parcels and their probability for occurrence ranges from unlikely to potential. Please refer to **Figure 3** for a visual reference and **Table 1** for more details. It is not likely the Project will have a negative effect on special status species with similar modeled habitat as this area has been impacted by urbanization and disturbance.

No special status plant species were observed during the reconnaissance level surveys.

7.0 SUMMARY

The Project area represents a typical residential environment found within the Lake Tahoe Basin. The Project area covers approximately 269 acres while the survey area was approximately 73 acres. Dominant vegetation is primarily Jeffrey pine with a heavy urban influence. The Upper Truckee River and its associated SEZ run along the Project's north-western boundary.

No special status species were encountered in the Project area during the botanical field surveys and no recorded occurrences of special status plant species occurrences were found during database research.

To mitigate for potential temporary impacts due to construction, TRPA approved BMPs will be in place and maintained for the duration of construction to ensure impacts are minimized and/or eliminated. No special conditions outside of TRPA approved vegetation protection BMPs are recommended at this time.

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APPENDIX A

Tables

Table 1. Special Status Species List and Habitat.							
Species	**Regulatory Status**				**Habitat Requirements**	**Identification Period**	**Potential for Occurrence in the Project Area and Results of Survey**
	Federal	**State**	**TRPA**	**CNPS**			
Arabis rigidissima* var. *demota Galena Creek rockcress	FSS		SI	1B.2	Broad-leaved upland forests, upper montane coniferous forests on rocky substrates. Known in CA from only two occurrences near Martis Peak and in NV from eleven occurrences in the Carson Range. Elevation range 7,398 to 8,398 feet.	August	**Unlikely.** Outside of elevation range and site lacks suitable habitat.
***Arabis tiehmii* (*Boechera tiehmii*)** Tiehm's rockcress	FSS			1B.3	Alpine boulder and rock fields (granitic). Elevation range 9,700 to 11,778 feet.	July to August	**Unlikely.** Outside of elevation range and site lacks suitable habitat.
Astragalus austiniae Austin's astragalus				1B.3	Alpine boulder and rock field, subalpine coniferous forest. Elevation range 8,005 to 9727 feet.	July to September	**Unlikely.** Outside of elevation range. Not encountered during surveys.
Boechera tularensis Tulare rockcress				1B.3	Perennial herb that prefers rocky slopes, subalpine coniferous forest, and upper montane coniferous forest. Elevation range is from 6,000 to 11,000 feet.	June to July	**Potential.** May occur. Not encountered.
Bolandra californica Sierra bolandra				4.3	Perennial herb that prefers mesic, rocky soils in lower to upper montane coniferous forests at elevations from 3,200 – 8,000 feet.	June to July	**Potential.** May occur. Not encountered.
Botrychium ascendens Upswept moonwort	FSS			2B.3	Wet or moist soils in lower montane coniferous forests, such as along the edges of lakes and streams. Elevation range 4,950 to 6,039 feet.	Fertile early July to early September	**Potential.** May occur as USFS modeled habitat exists within Project area. Not encountered.
Botrychium crenulatum Scalloped moonwort	FSS			2B.2	Lower montane coniferous forests, meadows and seeps, marshes and swamps. Elevation range 4,950 to 10,800 feet.	Fronds mature June to September	**Potential.** May occur. Not encountered.

Table 1. Special Status Species List and Habitat.							
Species	**Regulatory Status**				**Habitat Requirements**	**Identification Period**	**Potential for Occurrence in the Project Area and Results of Survey**
	Federal	**State**	**TRPA**	**CNPS**			
Botrychium lineare Slender moonwort	FSS			1B.1	Meadows and seeps, subalpine coniferous forest, upper montane coniferous forest (often in disturbed areas). Elevation 8,398 to 8,530 feet.		**Unlikely**. Outside of elevation range. USFS modeled habitat exists for *Botrychium* species in general within the Project area. Not encountered.
Botrychium lunaria Common moonwort	FSS			2B.3	Meadoes and seeps, subalpine coniferous forest, upper montane coniferous forest. Elevation 6,496 to 11,154 feet.	August	**Potential.** USFS modeled habitat exists for *Botrychium* species in general within the Project area. Not encountered.
Botrychium minganense Mingan moonwort	FSS			2B.2	Wet or moist soils in lower montane coniferous forests, such as along the edges of lakes and streams. Elevation range 4,950 to 6,039 feet.	Fronds mature June to September	**Potential.** May occur. Not encountered.
Botrychium montanum Western goblin	FSS			2B.1	Lower montane coniferous forest, meadows and seeps, upper montane coniferous forest. Elevation 4,806 to 7,152 feet.	July to September	**Potential.** USFS modeled habitat exists for *Botrychium* species in general within the Project area. Not encountered.
Brasenia schreberi Watershield				2B.3	Perennial rhizomatous herb that prefers marshes and swamps or freshwater. Elevation range 100 to 7,200 feet.	June to September	**Potential.** May occur. Not encountered.
Bruchia bolanderi Bolander's bruchia	FSS			4.2	Meadows in mixed conifer and subalpine communities, streams and wet meadows, from 5,577 to 9,186 feet.	Moss	**Potential.** May occur as USFS modeled habitat exists within Project area. Not encountered.
Carex davyi Davy's sedge				1B.3	Perennial herb that prefers subalpine and upper montane coniferous forests between 5,000 to 10,500 feet.	May to August	**Unlikely.** Site lacks suitable habitat. Not encountered.

Table 1. Special Status Species List and Habitat.							
Species	**Regulatory Status**				**Habitat Requirements**	**Identification Period**	**Potential for Occurrence in the Project Area and Results of Survey**
	Federal	**State**	**TRPA**	**CNPS**			
Carex limosa Mud sedge				2B.2	Perennial rhizomatous herb that prefers bogs, fens, meadows, seeps, marshes, swamps, and both lower and upper montane coniferous forests. Elevation range is between 3,900 and 8,900 feet.	June to August	**Potential.** May occur as CNDDB records exist within five miles of Project area; it was not encountered during surveys.
Carex tahoensis Tahoe sedge				4.3	Perennial rhizomatous herb that prefers alpine boulder and rock fields and subalpine coniferous forests. Elevation range is between 9,300 and 12,500 feet.	July to August	**Unlikely.** Site lacks suitable habitat, outside of elevation range. Not encountered.
Chaenactis douglasii* var. *alpina Alpine dusty maidens				2B.3	Open, subalpine to alpine gravel and crevices; granitic substrate. Elevation range is between 7,749 and 11,007 feet.	July to September	**Unlikely.** Site lacks suitable habitat, outside of elevation range. Not encountered.
Clarkia virgate Sierra clarkia				4.3	Annual herb that prefers Cismontane woodland and lower montane coniferous forest. Elevation range is between 1,300 and 5,300 feet.	May-August	**Unlikely.** Site lacks suitable habitat, outside of elevation range. Not encountered.
Cryptantha crymophila Subalpine cryptantha				1B.3	Subalpine coniferous forest. On dry talus of volcanic formation. Elevation range is between 8,792 and 10,810 feet.	July to August	**Unlikely.** Site lacks suitable habitat, outside of elevation range. Not encountered.
Draba asterophora* var. *asterophora Tahoe draba	FSS		SI	1B.2	Alpine boulder and rock fields in crevices, and open talus slopes of decomposed granite in subalpine coniferous forests. Elevation range 8,325 to 11,670 feet.	July to September	**Unlikely.** Outside of elevation range. Not encountered.
Draba asterophora* var. *macrocarpa Cup Lake draba	FSS		SI	1B.1	Alpine boulder and rock fields in shade of granitic rocks in subalpine coniferous forest. Elevation range 8,202 to 9,235 feet.	July to August	**Unlikely.** Outside of elevation range and site lacks suitable habitat. Not encountered.

Table 1. Special Status Species List and Habitat.							
Species	**Regulatory Status**				**Habitat Requirements**	**Identification Period**	**Potential for Occurrence in the Project Area and Results of Survey**
	Federal	**State**	**TRPA**	**CNPS**			
Epilobium howellii Subalpine fireweed	FSS			4.3	Meadows and seeps in upper montane coniferous forests. Elevation range 6,600 to 8,910 feet.	July to August	**Potential.** Modeled habitat occurs within Project area, but project area is outside of elevation range and site lacks suitable habitat. Not encountered during surveys.
Epilobium oregonum Oregon fireweed				1B.2	Perennial herb that prefers mesic habitat including bogs and fens, but also lower and upper montane coniferous forests. Elevation is between 1,650 and 7,300 feet.	June to September	**Unlikely.** Site lacks undisturbed suitable habitat. Not encountered.
Epilobium palustre Marsh willowherb				2B.3	Perennial rhizomatous herb that prefers mesic habitat including bogs, fens, meadows, and seeps.	July to August	**Unlikely.** Site lacks undisturbed suitable habitat. Not encountered.
Erigeron gracile Slender cottongrass				4.3	Perennial rhizomatous herb that prefers acidic soils in bogs and fens, meadows and seeps, and upper montane coniferous forests. Elevation range 4,200 to 9,500 feet.	May to September	**Unlikely.** Site lacks undisturbed suitable habitat. Not encountered.
Erigeron miser Starved daisy	FSS			1B.3	Upper montane coniferous forest in rocky areas. Elevation range 6,036 to 8,595 feet.	June to October	**Unlikely.** Site lacks undisturbed suitable habitat. Not encountered.
Eriogonum luteolum* var. *saltuarium Jack's wild buckwheat				1B.2	Upper montane coniferous forest, great basin scrub on sandy, granitic substrates. Elevation range between 5,577 and 7,874 feet.	July to September	**Unlikely.** Site lacks suitable habitat. Not encountered.
Eriogonum umbellatum* var. *terreyanum	FSS			1B.2	Meadows and seeps, upper montane coniferous forest on volcanic and rocky soils. Elevation 6,085 to 8,595 feet.	July to September	**Unlikely.** Site lacks suitable habitat. Not encountered

Table 1. Special Status Species List and Habitat.							
Species	**Regulatory Status**				**Habitat Requirements**	**Identification Period**	**Potential for Occurrence in the Project Area and Results of Survey**
	Federal	**State**	**TRPA**	**CNPS**			
Glyceria grandis American manna grass				2B.3	Perennial rhizomatous herb that prefers bogs, fens, meadows, seeps, marshes, and swamps along stream banks, or lake margins. Elevation range is from 50 to 6,500 feet.	June to August	**Potential.** May occur. Not encountered.
Helodium blandowii Blandow's bog-moss	FSS			2B.3	Bogs and fens that are not too rich in iron. Elevation range 6,562 to 8,859 feet.	Moss	**Unlikely.** Site lacks suitable habitat. Not encountered.
Hulsea brevifolia Short-leaved hulsea	FSS			1B.2	Lower montane coniferous forest, upper montane coniferous forest on granitic or volcanic soils with gravelly or sandy texture. Elevation 4,921 to 10,498 feet.	May to August	**Unlikely.** Site lacks undisturbed suitable habitat. Not encountered.
Lewisia kelloggii* ssp. *hutchisonii Hutchison's lewisia	FSS			3.2	Ridge tops or flat open spaces with widely spaced trees and sandy granitic to erosive volcanic soil. Elevation range 5,000 to 7,000 feet.	June to July	**Potential.** May occur as it has USFS modeled habitat within Project area; however, it was not encountered.
Lewisia kelloggii* ssp. *kelloggii Kellogg's lewisia	FSS			3.2	Ridge tops or flat open spaces with widely spaced trees and sandy granitic to erosive volcanic soil. Elevation range 5,000 to 7,000 feet.	June to July	**Potential.** May occur as it has USFS modeled habitat within Project area; however, it was not encountered.
Lewisia longipetala Long-petaled lewisia	FSS		SI	1B.3	Alpine boulder and rock fields in subalpine coniferous forests. Elevation range 8,325 to 9,740 feet.	June to August	**Unlikely.** Outside of elevation range. Not encountered.
Meesia triquetra Three-ranked hump-moss	FSS			4.2	Bogs and fens, meadows and seeps in montane coniferous forests. Elevation range 4,290 to 8,250 feet.	Moss	**Unlikely.** Site lacks suitable habitat. Not encountered.
Meesia uliginosa Broad-nerved hump-moss	FSS			2B.2	Bogs and fens, meadows and seeps in montane coniferous forests. Elevation range 4,290 to 8,250 feet.	Moss	**Unlikely.** Site lacks suitable habitat. Not encountered.

Table 1. Special Status Species List and Habitat.							
Species	**Regulatory Status**				**Habitat Requirements**	**Identification Period**	**Potential for Occurrence in the Project Area and Results of Survey**
	Federal	**State**	**TRPA**	**CNPS**			
Peltigera hydrothyria Veined water lichen	FSS				Mixed coniferous forests, bogs, fens, wet meadows, seeps, and clear, cold streams. Elevation range 4,000 to 8,000 feet.	Lichen	**Potential.** May occur as it has USFS modeled habitat within Project area; however, it was not encountered.
Peltigera gowardii western waterfan lichen				4.2	This foliose lichen (aquatic) is found in cold water creeks with little or no sediment or disturbance in riparian forests. Elevation range is from 3,490 to 8,595 feet.	n/a	**Potential.** May occur. Not encountered.
Polystichum lonchitis northern holly fern				3	This perennial rhizomatous herb prefers granitic or carbonate soils in subalpine coniferous forest and upper montane coniferous forests. Elevation range 5,900 to 8,530 feet.	June to September	**Unlikely.** Site lacks suitable habitat. Not encountered.
Potamogeton robbinsii *Robbins' pondweed*				2B.3	This perennial rhizomatous herb prefers marshes and swamps (deep water, lakes). Elevation range 5,000 to 8,530 feet.	July to August	**Unlikely.** Site lacks suitable habitat. Not encountered.
Rorippa subumbellata Tahoe yellow cress	FSS		SI	1B.1/ SE	Shoreline supporting decomposed granitic soils; known only from the shoreline of Lake Tahoe. Elevation range 6,210 to 6,230 feet.	Blooms May to September	**Unlikely.** Outside of elevation range and site lacks suitable habitat. Not encountered.
Schoenoplectus subterminalis Water bulrush				2B.3	Perennial rhizomatous herb that prefers bogs, fens, marshes and swamps, especially along montane lake margins. Elevation range from 2,400 to 7,300 feet.	June to August	**Unlikely.** Site lacks suitable habitat. Not encountered.
Scutellaria galericulata Marsh skullcap				2B.2	Perennial rhizomatous herb that prefers lower montane coniferous forests, meadows, seeps, marshes, and swamps. Elevation range from 0 to 6,800 feet.	June to September	**Unlikely.** Site lacks suitable habitat. Not encountered.

Table 1. Special Status Species List and Habitat.							
Species	**Regulatory Status**				**Habitat Requirements**	**Identification Period**	**Potential for Occurrence in the Project Area and Results of Survey**
	Federal	**State**	**TRPA**	**CNPS**			
Stuckenia filiformis Slender-leaved pondweed				2B.2	Perennial rhizomatous herb that prefers marshes, swamps, and a variety of shallow freshwater habitats. Elevation range from 980 to 7,000 feet.	May to July	**Potential.** May occur. Not encountered.
Tonestus eximius Tahoe tonestus				4.3	Perennial rhizomatous herb that prefers subalpine coniferous forests (granitic). Elevation range from 8,200 to 10,820 feet.	July to August	**Unlikely.** Outside of elevation range and site lacks suitable habitat. Not encountered.
Utricularia ochroleuca Cream-flowered bladderwort				2B.2	Perennial stoloniferous herb that can be found in meadows, seeps, marshes, swamps, and lake margins. Elevation range from 4,700 to 4,730 feet.	June to July	**Unlikely.** Site lacks suitable habitat. Not encountered.

USFWS Federally Listed Species (Federal):
FE = Federally Endangered
FT = Federally Threatened
FD = Federally Delisted
PT = Proposed Threatened
FCE = Federally Endangered Candidate
FPD = Proposed for Delisting

California State Listed Species (CA):
SE = State Endangered
ST = State Threatened
SR = State Rare
SC = State Candidate

Tahoe Regional Planning Agency (TRPA):
SI = TRPA Special Interest Species

USFS – LTBMU:
FSS = LTBMU Sensitive Species

California Native Plant Society (CNPS) List Categories:
1 = Rare in California and elsewhere
2 = Rare in California, but not elsewhere
A = Presumed extirpated or extinct
B = Rare, threatened, or endangered
3 = Plants about which we need more information
4 = Plants of limited distribution

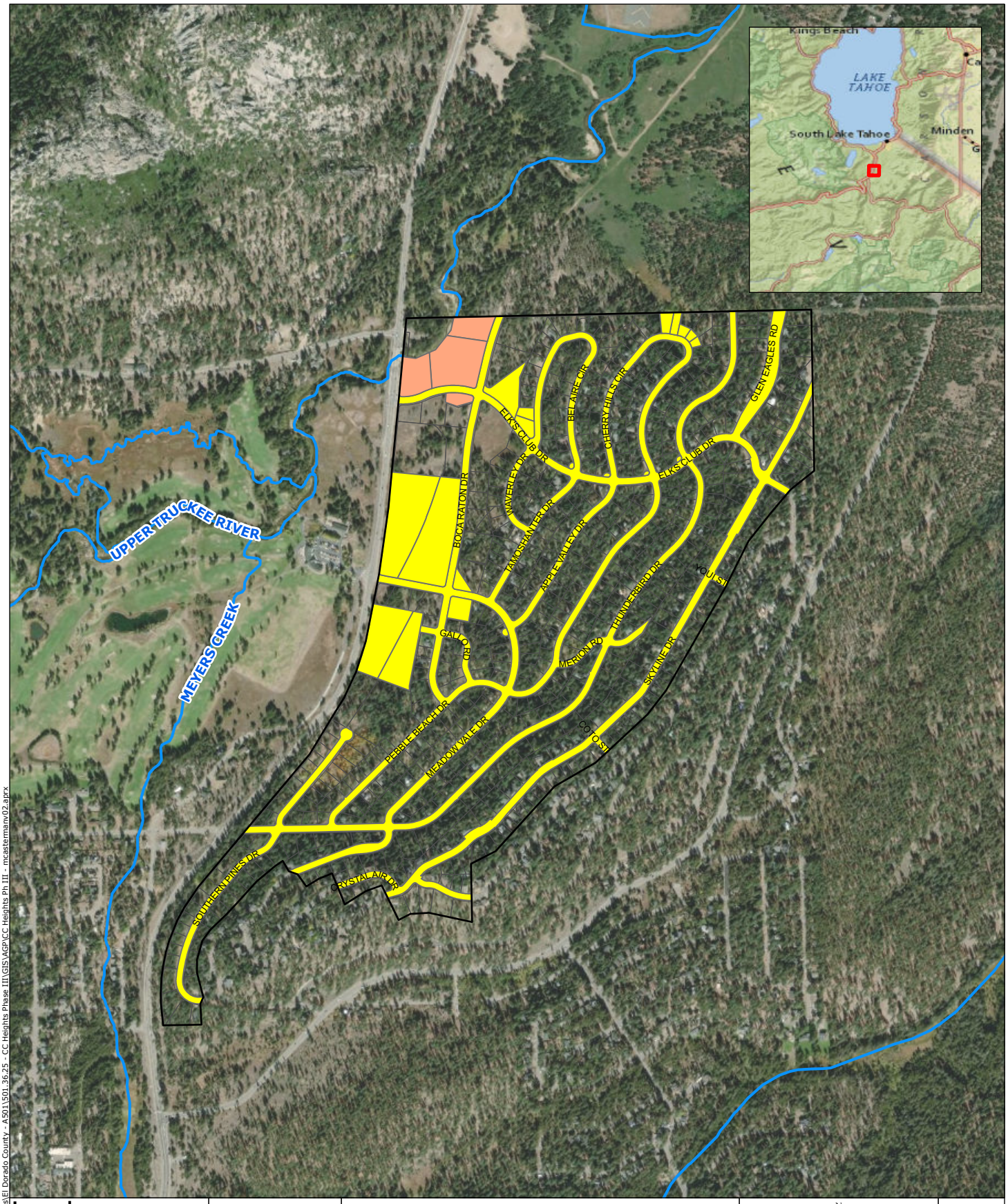
CNPS Threat Code Extensions:
.1 = Seriously endangered in California (Over 80% of occurrences threatened)
.2 = Fairly endangered in California (20-80% occurrences threatened)
.3 = Not very endangered in California (<20% of occurrences threatened)

Table 2. Plant Species Identified Within Phase 3 Project Area, July 2019		
Scientific Name	**Common Name**	**Native: Y, N**
Achillea millefolium	Yarrow	Y
Acmispon americanus var. *americanus*	Spanish lotus	Y
Agrostis gigantea	Creeping bentgrass	N
Agrostis idahoensis	Idaho bentgrass	Y
Agrostis pallens	Leafy bent grass	Y
Alnus incana	Alder	Y
Aquilegia formosa	Columbine	Y
Artemesia douglasiana	California mugwort	Y
Artemesia tridentata	Sagebrush	Y
Bromus tectorum	Cheatgrass	N
Bromus carinatus	California bromegrass	Y
Carex sp.	Sedge	Y
Convolvulus arvensis	Field bindweed	N
Cynosurus echinatus	Dogtail grass	N
Dactylis glomerata	Orchard grass	N
Collomia grandiflora	Grand collomia	Y
Delphinium nuttallianum	Nuttall's larkspur	Y
Elymus elymoides	Squirrel tail grass	Y
Elymus glaucus	Blue wildrye	Y
Elymus repens	Quack grass	N
Epilobium minutum	Minute willowherb	Y
Eriogonum umbellatum	Many flowered buckwheat	Y
Eurybia integrifolia	Thickstem aster	Y
Grindelia squarrosa	Curlycup gumweed	N
Heracleum maximum	Common cowparsnip	Y
Juncus sp.	Rush	Y
Lactuca serriola	Prickly lettuce	N
Linium lewisii	Lewis' flax	Y
Lomatium multifidum	Fernleaf biscuitroot	Y
Lonicera conjugialis	Purpleflower honeysuckle	Y
Lupinus polyphyllus	Meadow lupine	Y
Madia glomerate	Mountain tarweed	Y
Melilotus officinalis	Yellow sweetclover	Y
Mentha canadensis	Wild mint	Y
Navarretia propinqua	Navarretia	Y
Phleum pretense	Common timothy	N
Pinus contorta ssp. murrayana	Lodgepole pine	Y
Pinus jeffreyi	Jeffrey pine	Y
Poa bulbosa	Bulbous blue grass	N
Potentilla recta	Sulpher cinquefoil	N

Table 2. Plant Species Identified Within Phase 3 Project Area, July 2019		
Scientific Name	**Common Name**	**Native: Y, N**
Purshia tridentata	Antelope bush	Y
Rosa woodsii	Woods' rose	Y
Rumex obtusifolius	Bitter dock	N
Salix lasiolepis	Arroyo willow	Y
Scirpus microcarpus	Mountain bog bulrush	Y
Sidalcea oregana	Oregon checker mallow	N
Stipa nelsonii	Mountain needle grass	Y
Solidago elongata	West coast Canada goldenrod	Y
Symphyotrichum ascendens	Western aster	Y
Tragopogon dubius	Goat's beard	N
Trifolium longipes	Long stalked clover	N
Verbascum thapsus	Wooly mullein	N
Wyethia mollis	Mule ears	Y

APPENDIX B

Figures



Legend

- Project Boundary
- 2019 Survey Area
- 2016 Survey Area
- Parcels

NCE

Country Club Heights Erosion Control Project, Phase III

Project Area Map

N

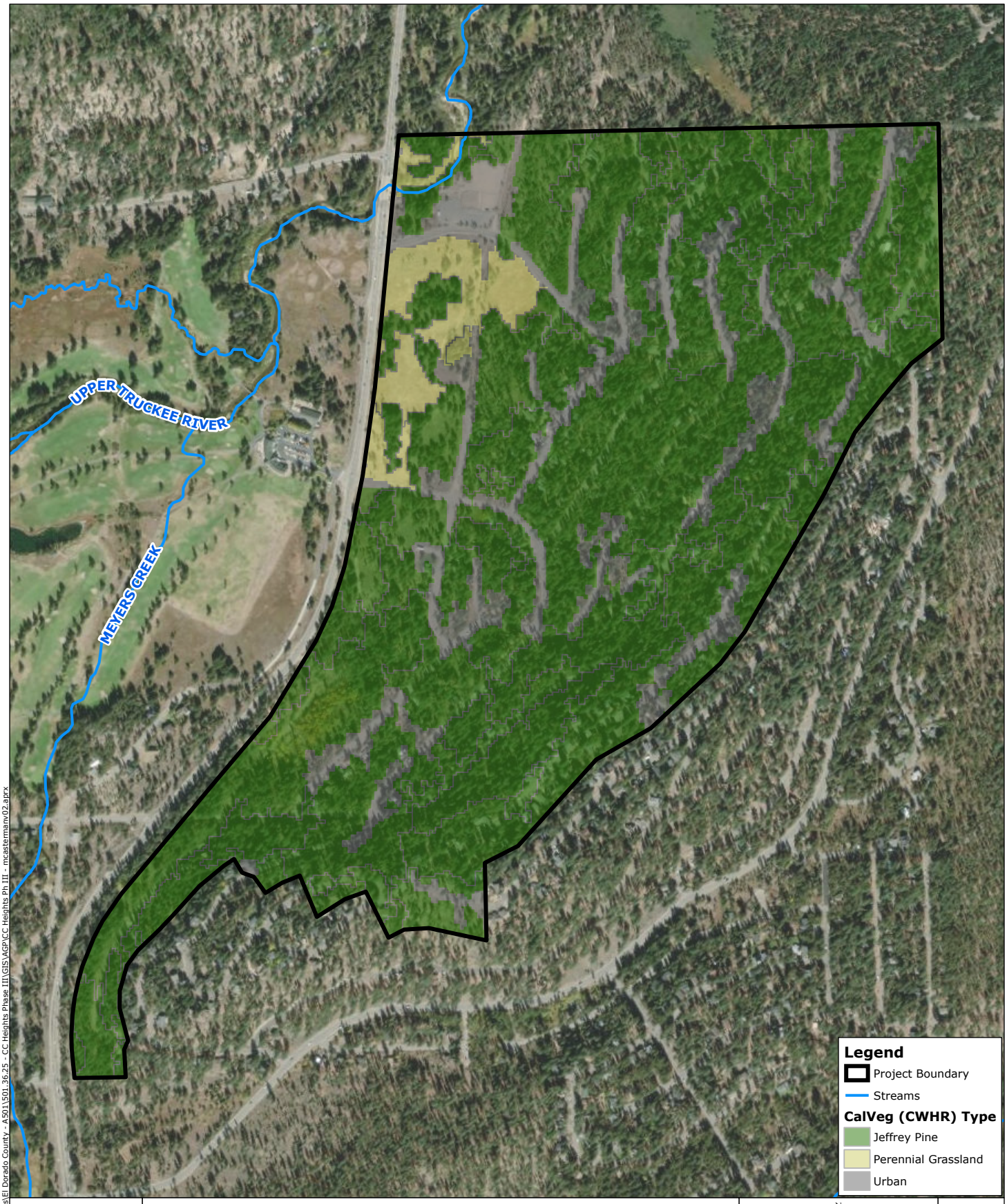
1 in. = 1,000 ft.

0 500 1,000 ft.

FIGURE 1

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap, TRPA	501.36.25	mcasterman	8/20/2019	-	drios

Document Path: P:\Active Projects\El Dorado County - A501\501.36.25 - CC Heights Phase III\GIS\AGP\CC Heights Ph III - mcastermanv02.aprx



NCE

Country Club Heights
Erosion Control Project, Phase III

Vegetation Community Map

N

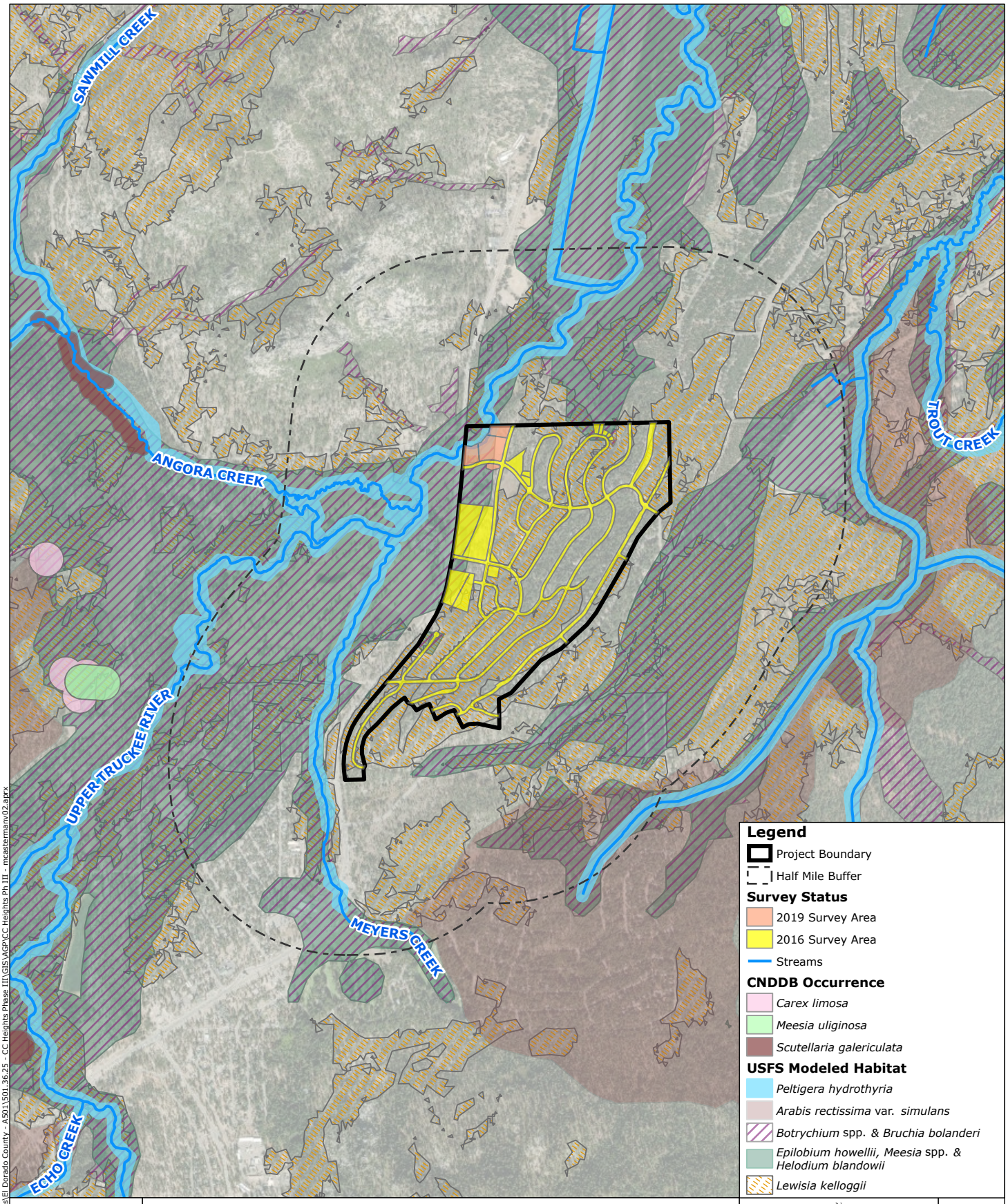
1 in. = 750 ft.

0 250 500 750 ft.

FIGURE 2

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap, CDFW	501.36.25	mcasterman	8/19/2019	-	drios

Document Path: P:\Active Projects\El Dorado County - A501\501.36.25 - CC Heights Phase III\GIS\AGP\CC Heights Ph III - mcastermanv02.aprx



Country Club Heights Erosion Control Project

Vegetation Base Map

N

1 in. = 2,000 ft.

0 1,000 2,000 ft.

FIGURE 3

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap, CNDDB, USFS	501.36.25	mcasterman	8/20/2019	-	drios

Document Path: P:\Active Projects\El Dorado County - A501\501.36.25 - CC Heights Phase III\GIS\AGP\CC Heights Ph III - mcasterman\v02.aprx

Appendix I

HERITAGE RESOURCES INVENTORY REPORT

Collaboration. Commitment. Confidence.℠

Phase III Addendum to:
HERITAGE RESOURCE INVENTORY REPORT
County Club Heights Erosion Control Project, El Dorado County, California

USFS Heritage Project #R2020051900001

Prepared For:
County of El Dorado
Department of Transportation
Community Development Agency
924B Emerald Bay Road
South Lake Tahoe, CA 96150

Submitted To:
USDA Forest Service
Lake Tahoe Basin
Management Unit
35 College Drive
South Lake Tahoe, CA
96150-4500

Prepared By:
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December 2019

501.36.25

Molly Laitinen
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ADMINISTRATIVE SUMMARY

The County of El Dorado (County) proposes to plan, design, and implement Phase III of the County Club Heights Erosion Control Project (Project) to improve water quality, restore an impacted stream environment zone, and achieve recreation and natural resource objectives. The Project is located within the northwest corner of the Country Club Heights-Erosion Control Project in El Dorado County, California. The survey area within the Project area consists primarily of California Tahoe Conservancy owned parcels and one County parcel.

Urban development in the County Club Heights residential area has resulted in concentrated urban stormwater flows from the County's Department of Transportation rights-of-way. Stormwater currently flows from roadways to adjacent roadside ditches, depressions, and indirectly to surface waters that discharge to Lake Tahoe with little infiltration or treatment. This indirect connectivity between the County roads and Lake Tahoe can result in the delivery of fine sediment to the lake. Proposed Project improvements will complement existing Best Management Practices within the watershed and these improvements will have a positive impact on water quality and directly align with the goals and objectives of this Project.

A heritage resource inventory was conducted in 2016 on behalf of Phases I and II of the present Project (Hall and Rios 2016). Given its immediate relevance to the present Project, this report titled "Heritage Resource Inventory Report, Country Club Heights Erosion Control Project, El Dorado County, California" is incorporated by reference. The present Phase III report is viewed as an addendum to the earlier 2016 report.

The proposed Project requires compliance with Public Resource Code Section 21083.2 and 21084.1 of the California Environmental Quality Act (CEQA) and Section 29 of the Tahoe Regional Planning Agency Code of Ordinances. In addition, because federal funding has been received for this Project from the U.S. Forest Service (USFS), compliance with Section 106 of the National Historic Preservation Act is required. This report describes a heritage resource inventory of approximately 6.4 acres conducted by NCE as the initial step in that process. All work was designed to comply with current federal (USFS), state, and local requirements. This information will be used during preparation of future environmental documents in compliance with the National Environmental Policy Act, CEQA, and other state, regional, and local regulations.

Work conducted as part of the Project consisted of an archival review and an intensive surface inspection of the Area of Potential Effect (APE). Given the absence of standing structures within the survey area, an architectural inventory was determined unnecessary for the Project. The age of nearby (outside the APE) buildings and structures was not determined, none of those structures were formally recorded, and architectural resources are not considered further herein. The present report addresses only archaeological resources that date to the prehistoric and historic periods.

The records search results conducted through the North Central Information Center and USFS indicated that no sites have been previously recorded within the APE. No prehistoric or historic cultural resources were identified within or adjacent to the APE as a result of the present heritage resource inventory. In the absence of such resources, there was no need to assess resource eligibility for listing in the California Register of Historical Resources or the National

Register of Historic Places. It is recommended that a finding of "*no historic properties are present*," as that phrase is viewed within the context of compliance with the Advisory Council on Historic Preservation regulations (36 Code of Federal Regulations part 800).

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1.0 PROJECT DESCRIPTION

1.1 PROJECT BACKGROUND

The County of El Dorado (County) proposes to plan, design, and implement Phase III of the County Club Heights Erosion Control Project (Project) to improve water quality, restore an impacted stream environment zone (SEZ), and achieve recreation and natural resource objectives within the northwest corner of the Country Club Heights-Erosion Control Project (CCH-ECP) in El Dorado County, California.

Country Club Heights is an existing residential development south of the City of South Lake Tahoe and is bounded by Highway 50 to the west, Southern Pines Drive, Crystal Air Drive, and Skyline Drive to the south, Crystal Air Drive and Elks Club Drive to the east, and the subdivision boundaries to the north. In 2017, the County approved a Mitigated Negative Declaration for Phases I and II of the CCH-ECP (Notice of Determination 6/19/2017, SCH Number 2017022004 [County of El Dorado 2017]). Phases I and II of the Project addressed existing source control and hydrologic design issues. **Figure 1** (figures provided in **Appendix A**) depicts the Project area, known as the Area of Potential Effect (APE), surveyed for Phases I and II in 2016 and the current 2019 APE surveyed for Phase III of the CCH-ECP.

This Project constitutes Phase III of the CCH-ECP, which is shown in more detail in **Figure 2**. The proposed Project lies entirely within the northwestern end of the CCH-ECP limits. Phase III will focus on reducing water quality impacts, enhancing recreation and access opportunities in the area, and SEZ restoration. The County conducted a feasibility study for the Project (County of El Dorado 2019).

A heritage resource inventory was conducted in 2016 on behalf of Phases I and II of the present Project (Hall and Rios 2016). Given its immediate relevance to the present Project, this report titled “Heritage Resource Inventory Report, Country Club Heights Erosion Control Project, El Dorado County, California” is incorporated by reference. The present Phase III report is viewed as an addendum to the earlier 2016 report.

1.1.1 Surrounding Land Uses

The Project is primarily contained in an area formerly known as the Elks Club site. The location is currently used for recreational access to the Upper Truckee River and the existing trail system; commercial access by campers and vehicles to a seasonal weekend flea market held during summer months; and by large-turning-radius commercial vehicles to check loads. The California Tahoe Conservancy (CTC) plans to install a continuous shared use path, commonly referred to as the Greenway, which will originate in the City of South Lake Tahoe and end in the community of Meyers (TRPA and TMPO 2016). The APE is bound by the Upper Truckee River, Highway 50/Highway 89, and the Country Club Heights residential area.

1.1.2 Project Objectives, Purpose, and Need

The objectives of the proposed Project are to improve water quality at the northwestern end of the CCH-ECP and enhance recreation and access opportunities at the site. Specifically, the Project would:

- Reduce fine and coarse sediment, stormwater runoff volume, and peak flows;

- Stabilize eroding cut slopes, roadside ditches, and capture road abrasives utilizing source control Best Management Practices;
- Remove excess pavement and restore the APE to surrounding land capability, including SEZ restoration;
- Increase opportunities for the infiltration of stormwater runoff.
- Provide a pathway link to the larger Greenway trail system, supporting Tahoe Regional Planning Agency's (TRPA) Active Transportation Plan;
- Enhance recreational opportunities within the Basin; and
- Blend hardscape improvements into the scenic environment to the maximum extent practicable.

As part of the overall CCH-ECP, the Project is identified in the El Dorado County Stormwater Resource Plan, the Environmental Improvement Program projects as a recreation project (EIP #612), a watershed management project (EIP #948 and 01.02.01.002) and as a water quality project (EIP# 01.01.01.0021). The Project would also be consistent with goals stated in the Linking Tahoe: Active Transportation Plan by enhancing recreational opportunities within the basin (County of El Dorado 2019).

The draft design of proposed improvements as of October 2019 are represented in **Figure 3**.

1.2 PROJECT LOCATION

The APE comprises approximately 6.4 acres within the Country Club Heights Unit 1 subdivision and encompasses County rights-of-way as well as CTC and privately-owned parcels. The Project abuts the Truckee River in the northwest portion of the Project boundary.

The Project is bound to the south by Elks Club Drive, Highway 50/Highway 89 to the west, and the Upper Truckee River to the west-northwest, and Boca Raton Drive to the east.

1.2.1 Legal Description

The APE is located in Sections 20 and 21 of Township 12 North, Range 18 East of the Mount Diablo Baseline and Meridian.

1.2.2 Map Reference

U.S. Geological Survey (USGS) 7.5-minute quadrangle maps for which the APE intersects includes Emerald Bay (1992) and Echo Lake (1992).

1.3 INVENTORY PURPOSE AND SCOPE

The proposed Project requires compliance with Public Resource Code (PRC) Section 21083.2 and 21084.1 of the California Environmental Quality Act (CEQA) and Section 29 of the TRPA Code of Ordinances. In addition, because federal funding has been received for this Project from the U.S. Forest Service (USFS), compliance with Section 106 of the National Historic Preservation Act (NHPA) is required. This report describes a heritage resource inventory of approximately 6.4 acres conducted by NCE as the initial step in that process. All work was designed to comply with current federal (USFS), state, and local requirements. Those requirements state that the goals of an intensive heritage resource inventory (maximum 15 m transect interval) are to:

- Establish a Phase III APE;
- Identify prehistoric, ethnographic, and/or historic period heritage resources in the APE;

- Evaluate identified resources as to their eligibility to the National Register of Historic Places (National Register) and the California Register of Historical Resources (California Register);
- Provide management recommendations for those properties considered eligible to the National Register and California Register

1.4 AREA OF POTENTIAL EFFECT DEFINITION

The County established a 6.4-acre APE for the proposed Phase III improvements that was surveyed (see **Figure 2**). The improvements will follow existing paths/trails wherever possible and within existing non-native fill soils to minimize disturbance to vegetation, cultural resources, and impacts to current land use. Most of the surface in the APE has been previously disturbed and is considered to have little potential to affect historic properties upon implementation.

The proposed Project includes the following:

- Reconfigure and reduce the size of the existing parking lot (including shoulder).
- Grade a depressional runoff collection area within the parking lot restoration area.
- Construct a bathroom.
- Expand existing SEZ area through restoration efforts that will include the removal of concrete and non-native material.
- Construct a basin with rock slope protection at existing overflow channel connection.
- Construct ADA compliant decomposed granite (DG) pathways for improved access to Upper Truckee River area, with culvert to convey existing storm runoff under the DG pathway to Upper Truckee River.
- Construct a 10-foot wide paved trail with two-foot shoulders within an existing, unimproved trail area.
- Install fencing to protect basin area and encourage SEZ restoration.
- Install signage.
- Install two, 18-inch culverts to provide an in/out connection to the basin/SEZ enhancement area.
- Complete revegetation/restoration of parking lot/concrete removal areas.

2.0 LITERATURE REVIEW

Initial archival research was conducted through the North Central Information Center (NCIC) and at the USFS Lake Tahoe Basin Management Unit office. The center provided information regarding nearby resources listed on the National Register of Historic Places, the California Register of Historical Resources, the California Inventory of Historic Resources, and the list of California Historical Landmarks. The center also provided information regarding previous heritage resource inventories and sites within a quarter mile of the proposed APE. This search area is referred to as the archival study area. Various historic maps (e.g., General Land Office [GLO] plat maps, county and state maps), and historic aerial imagery were also examined. Recent NCIC search results (File Number ELD-19-82) and USFS search results are located in **Appendix B**.

2.1 PREVIOUS INVENTORIES

Archival research indicates that 22 inventories have been conducted within the archival study area. A majority of the inventories were conducted more than 10 years ago. Two of the previous inventories are located in part within the APE. **Table 1** provides the previous inventories that have been conducted within 0.25 miles of the APE.

Table 1. Inventories within 0.25 Miles of the APE.

Report Number	Title	Author	Year	Source
NCIC Rpt 002856	First Addendum Historic Property Survey Report for Three Bridges within the Lake Tahoe Basin on State Route 50: El Dorado Co., CA.	--	1991	NCIC
NCIC Rpt 007213/ R1990051900009	Cultural Reconnaissance Report For Re-Location of CA-ELD-24 & CA-ELD-25. (CRR #05-19-244) (FS Report R1990051900009)	Davis, Herschel	1990	NCIC/ USFS
NCIC Rpt 007216/ R1993051900003	Lake Tahoe Basin Management Unit Heritage Resource Report ------URBAN FRINGE MANAGEMENTPROJECT------- (California Portion)	--	1995	NCIC/ USFS
NCIC Rpt 007222	A Determination of Eligibility and Effect on Cultural Resources Within the Angora Creek and Washoe Meadows Wildlife Habitat Enhancement Project.	--	1995	NCIC
NCIC Rpt 007578	Lands Department Urban Lot Management Project	--	--	NCIC
NCIC Rpt 009388	Heritage Resource Inventory South Tahoe Public Utilities District A-Line Export Pipeline Relocation Project	Consulting Archaeologist	1994	NCIC
NCIC Rpt 009411/ R1995051900024	South Tahoe Public Utility District A-Line Pipeline Relocation Extension Project	Harland Bartholomew & Associates	1995	NCIC/ USFS
NCIC Rpt 009413	Negative Archaeological Survey Report For The Proposed Erosion Control Project Along State Route 50 in El Dorado County	Caltrans	1999	NCIC
NCIC Rpt 009426	Lake Country Estates Land Exchange (FS Report 05-19-162)	Forest Archaeologist	1983	NCIC
NCIC Rpt 009429	Upper Truckee River Reclamation Project Upper Reach, Planning and Design Heritage Resource Study Phase 1 (FS Report TB-2004-007)	Lindstrom, Susan G.	2003	NCIC
NCIC Rpt 009865	Sawmill Phase 2 Bike Bath and Erosion Control Project	--	2008	NCIC
NCIC Rpt 009881	Historic Property Survey Report for: US 50 Meyers Road and Incline Road	Caltrans	2008	NCIC

Table 1. Inventories within 0.25 Miles of the APE.

Report Number	Title	Author	Year	Source
NCIC Rpt 010724a	HISTORIC PROPERTY SURVEY REPORT	El Dorado County DOT	2010	NCIC
NCIC Rpt 010724b	HERITAGE RESOURCE INVENTORY REPORT SAWMILL PHASE 2 BIKE PATH AND EROSION CONTROL PROJECT EIP PROJECTS #706 AND #10034 JN 95165	Zeier & Associates; Caltrans	2010	NCIC
NCIC Rpt 010724c	Results of an Extended Phase I Inventory at CA-ELD-24, CA-ELD-532, and CA-ELD-534 Conducted on behalf of The Sawmill Phase 2 Bike Path and Erosion Control Project, El Dorado County, California. Project Federal Identification Number: CML 5925 (063)	Zeier & Associates	2010	NCIC
NCIC Rpt 010724d	FINDING OF NO ADVERSE EFFECT WITH STANDARD CONDITIONS/ESA ACTION PLAN FOR THE SAWMILL BIKEPATH PROJECT EL DORADO COUNTY, CALIFORNIA	Caltrans	2010	NCIC
NCIC Rpt 011096	Results of an Extended Phase I Inventory at CA-Eld-24, CA-Eld-532, and CA-Eld-534, Conducted on Behalf of The Sawmill Phase 2 Bike Path and Erosion Control Project, El Dorado County California	Zeier & Associates	2010	NCIC
NCIC Rpt 012188	South Tahoe Public Utility District Water Meter Installations Project Cultural Resource Inventory	Lindstrom, Susan G.	2016	NCIC
R1986051900016	Cultural Resources Inventory of Washoe Meadows State Park and Lake Valley State Recreation Area	Nesbitt, Paul E., et al.	1989	USFS
R1995051900003	Urban Lot Management Project Heritage Resource Report	Dexter, Sean D.	1995	USFS
R1998051900009	Urban Lots Treatment Projects Cultural Resources Report 1998-99	Weichman, Michael	1998	USFS
R2006051900047	South Shore Hazardous Fuels Reduction Project	--	2006	USFS
--	Heritage Resource Inventory Report, Country Club Heights Erosion Control Project, El Dorado County, California	Hall, Jeremy and Dave Rios	2016	NCE

2.2 PREVIOUSLY RECORDED RESOURCES

Archival research indicates that 12 cultural resources have previously been recorded within the archival study area. No prehistoric or historic resources were recorded within the present APE. **Table 2** provides the previously recorded sites that have been identified within 0.25 miles of the APE.

The NCIC records search did not identify any sites or districts within the archival study area on the California Inventory of Historical Resources, the Office of Historic Preservation (OHP) Archaeological Determinations of Eligibility, or the OHP Historic Properties Directory.

Table 2. Previously Recorded Sites within 0.25 Miles of the APE.

Primary Site #	Other Site #	Age	Description	Last Recorded	Eligibility Status	APE Proximity	Source
--	05190000915	Prehistoric	Bedrock milling features	1998	Unevaluated	Outside	USFS
--	05190001155	Historic	Celio Sawmill Road	2013	Eligible	Outside	USFS
--	05199901273	Historic	Trash scatter	2008	Unevaluated	Outside	USFS
--	05199901275	Historic	Road segment	2008	Not Eligible	Outside	USFS
--	05199901277	Historic	Bedrock milling feature	2008	Unevaluated	Outside	USFS

Table 2. Previously Recorded Sites within 0.25 Miles of the APE.

Primary Site #	Other Site #	Age	Description	Last Recorded	Eligibility Status	APE Proximity	Source
--	05199901281	Historic	Trash scatter	2008	Not Eligible	Outside	USFS
P-09-000112	05199900222/ CA-ELD-000024/H	Prehistoric	Cathedral Rock Site	2002	Unknown	Outside	NCIC/ USFS
P-09-003394	--	Historic	Foundation	2005	Unknown	Outside	NCIC
P-09-003530	05199900258/ CA-ELD-002290	Prehistoric	Lithic scatter and bedrock milling	1990	Unknown	Outside	NCIC/ USFS
P-09-003805	05190000481/ CA-ELD-003076H	Historic	Lake Valley Utility Line	2015	Unevaluated as a whole	Outside	NCIC/ USFS
P-09-003898	05190001042	Historic	Old State Highway 89	2015	Unevaluated as a whole	Outside	NCIC
P-09-003857	--	Historic	Maintenance Shed	1985	Unknown	Outside	NCIC

2.3 OTHER HISTORIC REFERENCES CONSULTED

Historic maps and aerial imagery reviewed as part of the present inventory are listed below. Aerial imagery from 1969 show a building located centrally within the APE (Google Earth 2019). Imagery indicates that the building was demolished between 2007 and 2009 leaving a vacant dirt lot.

- A General Land Office (GLO) survey plat map (dated 1866) on file at the North Central Information Center for Township 12 North, Range 18 East.
- A 1879 map of Lake Tahoe and Vicinity on file at the Keck Earth Sciences and Mining Research Information Center, University of Nevada, Reno.
- A 1896 USGS 15 minute Pyramid Peak quadrangle map (reprinted 1932) on file at the Keck Earth Sciences and Mining Research Information Center, University of Nevada, Reno.
- A 1955 version of the Echo Lake 7.5 minute USGS quadrangle map available from the USGS National Map Viewer website.
- Aerial imagery from 1940,1969, 1987, 1992, 1998, 2004, 2005, 2007, and 2009 from Google Earth (2019).

3.0 NATIVE AMERICAN CONSULTATION

In accordance with Assembly Bill 52 (AB-52) as identified in the PRC Section 21080.3.1(b)(2) of CEQA and Section 106 of NHPA, Native American tribes (tribes) identified by the Native American Heritage Commission (NAHC), must be invited to consult on projects.

Native American correspondence was initiated by NCE with a letter and attached maps representing a preliminary APE to the NAHC on August 23, 2019. The letter requested a search of their Sacred Lands File (SLF) and a contact list for regional tribes that may have knowledge of cultural or tribal resources in the vicinity of the APE. A response was received from the NAHC on September 19, 2019, which identified the tribal representative as Darrell Cruz of the Washoe Tribe of Nevada and California (Washoe Tribe). SLF results within the APE were negative. An inquiry letter was mailed on County letterhead to the Washoe Tribe on October 3, 2019 that contained attached maps representing a preliminary APE.

Dan Kikkert, Project Engineer at the County, spoke with Darrel Cruz of the Washoe Tribe on October 15, 2019 regarding the inquiry letter. Mr. Cruz had received the letter and had a few questions regarding the project. Mr. Kikkert and Mr. Cruz discussed the APE limits and extent of the proposed improvements in detail. Mr. Cruz referenced a bedrock milling site (05190000915) was near the APE and he wanted to complete a site visit to confirm the site's location was outside of the APE. Mr. Kikkert and Mr. Cruz arranged to meet in the field on Thursday, October 17, 2019 to discuss the project and confirm the bedrock milling site location.

Mr. Kikkert, Mr. Cruz, and Molly Laitinen, NCE Cultural Resources Specialist, met on the Elks Lodge Property on October 17, 2019. They completed a field survey and confirmed that there are no known (mapped) cultural resources within the APE. Further discussions were conducted regarding the proposed project elements and the finalized APE extent (**Appendix A**). Mr. Cruz requested the County include language in our Special Provisions on what process should be followed if a cultural resource is located during construction activities. Mr. Cruz confirmed that if we used the requested language a site monitor would not be needed during construction.

On October 18, 2019, Ms. Laitinen sent Mr. Cruz a copy of the addendum for his review. Mr. Cruz responded on October 21, 2019 indicating he would review the report and respond with any comments. Mr. Kikkert followed up with Mr. Cruz on October 23, 2019 and included the specific inadvertent discovery language in his email for Mr. Cruz. On October 23, 2019, Mr. Cruz stated that the addendum captured previous discussions about inadvertent discoveries and to inform him if anything changes.

The NAHC letter and response, and the Washoe inquiry letter and response are provided in **Appendix C**.

4.0 ENVIRONMENTAL BACKGROUND

Refer to “Heritage Resource Inventory Report, Country Club Heights Erosion Control Project, El Dorado County, California” (Hall and Rios 2016) for the complete environmental background discussion of this Project. The environmental setting has not changed since the previous inventory; therefore, no additional information is presented here.

5.0 HISTORICAL OVERVIEW

Refer to “Heritage Resource Inventory Report, Country Club Heights Erosion Control Project, El Dorado County, California” (Hall and Rios 2016) for the complete historical overview of this Project. The historical setting has not changed since the previous inventory; therefore, no additional information is presented here.

6.0 INVENTORY METHODS

Refer to "Heritage Resource Inventory Report, Country Club Heights Erosion Control Project, El Dorado County, California" (Hall and Rios 2016) for the complete inventory methods used for this Project. No changes to the inventory expectations and methodology discussion are necessary as part of this addendum report.

A detailed photo log for the Project is located in **Appendix D**.

6.1 DATES OF FIELD EXAMINATION AND PROJECT PERSONNEL

A heritage resource survey was conducted over a two-day period by Ms. Laitinen. A portion of the Project was surveyed on August 2, 2019 and the survey was completed on August 8, 2019. Ms. Laitinen prepared the present technical addendum report.

Ms. Laitinen meets the Secretary of Interior's (SOI) Standards for Archaeology and Historic Preservation (36 CFR Part 61). She has four years of experience in historic preservation, archaeological investigation, and cultural resource evaluation as part of State, Federal, and professional standards in compliance with Section 106 of the NHPA and PRC Section 21083.2 of the CEQA.

Charles Zeier, NCE Principal Investigator, assisted with report preparation. Mr. Zeier has over 40 years of experience in historic preservation, archaeological and architectural surveys and evaluations, cultural resource management, Section 106 of the NHPA, and NEPA. Mr. Zeier meets the SOI Standards for Archaeology and Historic Preservation and is a Registered Professional Archaeologist.

This report has been reviewed by Jeremy Hall, NCE Senior Cultural Resources Specialist, who meets SOI Standards for Archaeology and Historic Preservation (36 CFR Part 61) and is a Registered Professional Archaeologist. He has over 15 years of experience in historic preservation, archaeological investigation, and cultural resource evaluation as part of State, Federal, and professional standards in compliance with Section 106 of the NHPA and PRC Section 21083.2 of the CEQA.

7.0 INVENTORY RESULTS

Approximately 6.4-acres were surveyed during the Phase III inventory. Surface examination indicated that various forms of modern disturbance are present throughout most of the survey area (e.g., roadway grading, drainage ditches, and a dirt access road for underground utilities).

According to archival research, no previously recorded sites or isolates are within or adjacent to the APE. In addition, the present intensive inventory did not result in the identification of new prehistoric or historic resources.

The building shown in 1969 aerial imagery (Google Earth 2019) was demolished between 2007 and 2009 leaving a slightly raised vacant dirt lot. No substantial remains of a building structure were observed during the intensive survey. No informative artifact assemblage associated with the building was located within the area.

Modern roadway and dumped debris was present along either side of residential streets and within the inventoried area. Items noted included hard and soft plastics, bottle glass, Styrofoam containers, and broken concrete. All such items are considered modern (less than 50 years in age) and none were recorded.

8.0 ELIGIBILITY RECOMMENDATIONS

No previously identified, National Register-eligible or California Register-eligible cultural resources were identified within the APE. Further, neither prehistoric nor historic period heritage resources were identified within the present APE as a result of the current inventory effort. In the absence of such resources, there is no need to assess National, State, or local eligibility.

Debris observed in the field that is less than 50 years in age was noted at various locations throughout the APE. None of those items are of an exceptional nature and, therefore, a consideration of their National, State, or local eligibility is not required at this time.

9.0 SUMMARY & RECOMMENDATIONS

The County proposes to implement the Project that will improve water quality, restore an impacted SEZ, and achieve recreation and natural resource objectives within the northwest corner of the CCH-ECP in El Dorado County, California. An APE was defined for the proposed Project which includes a recreational area giving access to the Upper Truckee River. Archival research indicated no heritage resources were present within the APE. Approximately 6.4 acres were surveyed. Every reasonable effort was made to identify any surface expression of cultural resources in the present APE.

The present inventory resulted in the following:

- No prehistoric or historic period heritage resources were identified within the Phase III APE.
- Recent (less than 50 years in age) debris was observed but not recorded.

It is recommended that the proposed Project will not affect historic properties based on the following considerations:

- No previously recorded or newly recorded resources will be impacted by the proposed Project;
- Extensive surface disturbance has occurred in the area over time;
- Project related disturbance will, for the most part, be limited to disturbed areas;
- The potential for subsurface deposits is limited to floodplain areas that have, over time, been modified by normal stream dynamics. Any resources present in these deposits would be of a secondary nature, lacking contextual integrity or association.

Therefore, planned Phase III improvements will not impact properties listed on or eligible to the National Register or California Register, historic resources that meet criteria outlined in Section 5024.1 of the California PRC or Chapter 67.6 of the TRPA Code of Ordinances, or properties currently managed as eligible. It is recommended that “no historic properties are present,” as that phrase is viewed within the context of compliance with Advisory Council on Historic Preservation regulations (36 CFR part 800).

In the event that cultural resources are discovered during project implementation, project personnel shall halt all activities in the immediate area and notify the Project Engineer, the Washoe Tribe, and a qualified archaeologist to determine the appropriate course of action. Archaeological resources are not to be moved or taken from the project site and work should not resume until authorized. Should human remains be encountered while engaged in construction activities, work must cease in the immediate area and the contractor must immediately report the finding to the County Coroner, Washoe Tribe, California OHP, USFS, and other designated officials. The California OHP office will consult with the tribe on disposition of the remains and any associated artifacts.

NCE prepared this report for use by the County as the intended beneficiary of this work. Interpretations, conclusions, and recommendations contained within the report are based in part on information presented in other reports that are cited in the text and listed in the references. This report is subject to limitations and qualifications inherent to the referenced documents.

REFERENCES CITED

County of El Dorado
2017 CEQA Initial Study/Proposed Mitigation Negative Declaration, Country Club Heights Erosion Control Project EIP Project # 01.01.01.0021, JN 95191. County of El Dorado, Transportation Division, Tahoe Engineering Group, South Lake Tahoe, CA.
2019 Country Club Heights Erosion Control Project, Phase III, CIP No. 95191, Feasibility Report, EIP Project # 01.01.01.0021. County of El Dorado, Department of Transportation, Tahoe Engineering Group, South Lake Tahoe, CA.

Google Earth
2019 V 7.3.2.5776. South Lake Tahoe, CA. 38°52'29.73" N 120°00'13.68" W, Eye alt 8,085 feet. U.S. Geological Survey 1940, 1969, 1987, 1992, 1998; Landsat/Copernicus 1987, 1992, 1998, 2004, 2005, 2007, 2009; Maxar Technologies 2004, 2007; USDA Farm Service Agency 2005, 2009; and Google 2018. Electronic document, http://www.earth.google.com, accessed 8/23./2019.

Hall, Jeremy
2015a Heritage Resource Inventory Report for the Meyers Erosion Control Project – Expanded Area, El Dorado County, California. Prepared for USDA Forest Service, Lake Tahoe Basin Management Unit on behalf of El Dorado County Department of Transportation, Community Development Agency, Department of Transportation, South Lake Tahoe, CA.
2015b Archaeological Site Record Update for P-09-003898, Segment 9. On file with El Dorado County Department of Transportation, South Lake Tahoe, CA.

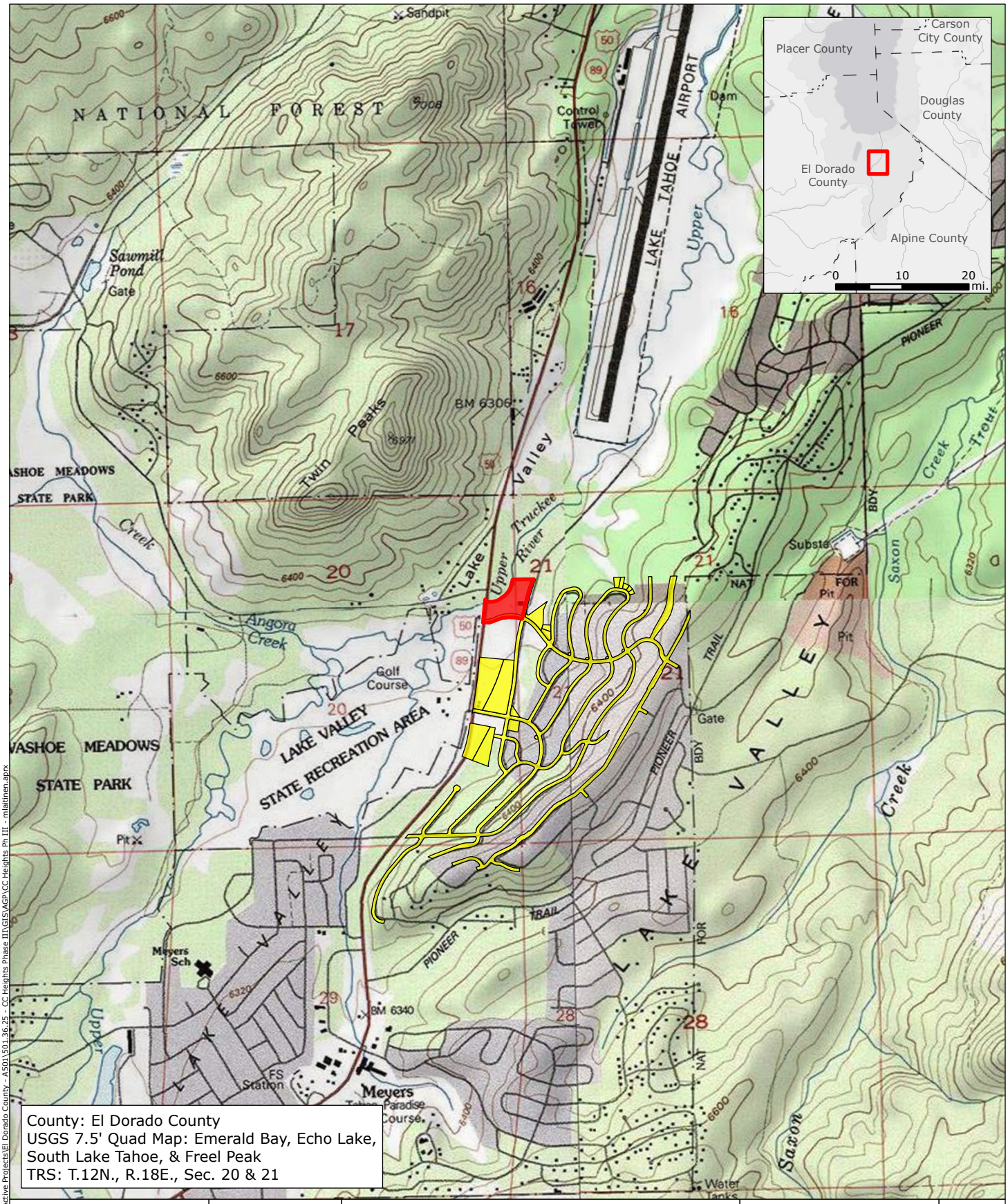
Hall, Jeremy and Dave Rios
2016 Heritage Resource Inventory Report, Country Club Heights Erosion Control Project, El Dorado County, California. Prepared for El Dorado County Department of Transportation.

Tahoe Regional Planning Agency (TRPA) and Tahoe Metropolitan Planning Organization (TMPO)
2016 *Linking Tahoe: Active Transportation Plan.* On file with Tahoe Regional Planning Agency, South Lake Tahoe, CA.

Zeier, Charles
2012 Meyers Erosion Control Project, EIP Project #191, El Dorado County, California (JN 95179). Prepared for Forest Service, Lake Tahoe Basin Management Unit (FS Report R2012051900004), South Lake Tahoe, CA.

Appendix A

REPORT FIGURES



County: El Dorado County
USGS 7.5' Quad Map: Emerald Bay, Echo Lake, South Lake Tahoe, & Freel Peak
TRS: T.12N., R.18E., Sec. 20 & 21

Legend
- 2019 APE
- 2016 APE

NCE

Country Club Heights Phase III Project

Project Area Location Map

N

1:24,000

0 1,000 2,000 ft.

FIGURE 1

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
ESRI USA Topo Maps	501.36.25	mlaitinen	8/23/2019	10/7/2019	jhall

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Legend

- 2019 APE
- 2016 APE

NCE

Country Club Heights Phase III Project

Project Area Detail Map

N

1 in. = 200 ft.

0 100 200 ft.

FIGURE 2

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Hybrid Maps	501.36.25	mlaitinen	8/23/2019	10/7/2019	jhall

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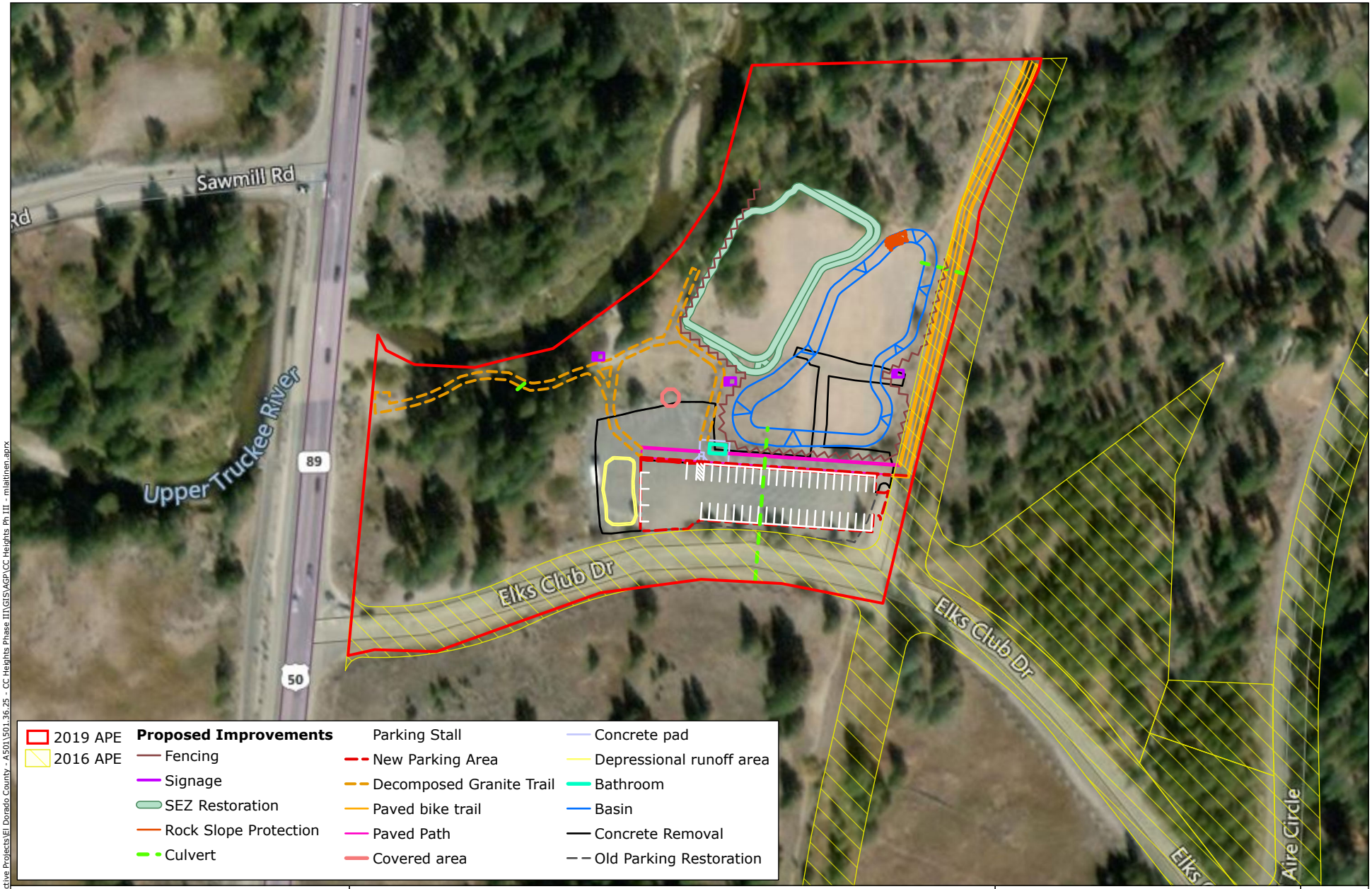

NCE

Country Club Heights Phase III Project

Proposed Improvements Design Map

N

1 in. = 150 ft.

0 50 100 150 ft.

FIGURE 3

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Basemap; El Dorado County 2019	501.36.25	sanderson/mlaitinen	9/16/2019	10/7/2019	jhall

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Appendix B

RECORDS SEARCH RESULTS (REDACTED FOR PUBLIC DISTRIBUTION)

Appendix C

NATIVE AMERICAN CORRESPONDENCE

Date:	August 23, 2019
To:	California Native American Heritage Commission
From:	NCE
Subject:	Country Club Heights Phase 3 Project, El Dorado County

Ms. Cynthia Gomez, Executive Secretary
California Native American Heritage Commission
1550 Harbor Boulevard, Suite 100
West Sacramento, California 95691

Dear Ms. Gomez:

The County of El Dorado proposes to plan, design, and implement a project that will improve water quality, restore an impacted stream environment zone, and achieve natural resource objectives within the within the northwest corner of the Country Club Heights Erosion Control Project area located in El Dorado County, California. The Phase 3 project is bounded by Waverly Drive, Elks Club Drive between Waverly and Highway 50, and surrounding publicly owned parcels including the old Elks Club Lodge property and parking lot currently owned by the California Tahoe Conservancy (CTC).

As part of the overall CCH-ECP, the Phase 3 project is identified in the El Dorado County Stormwater Resource Plan, the Environmental Improvement Program projects as a recreation project (EIP #612), a watershed management project (EIP #948 and 01.02.01.002) and as a water quality project (EIP# 01.01.01.0021). The Phase 3 project would also be consistent with goals stated in the *Linking Tahoe: Active Transportation Plan* by enhancing recreational opportunities within the basin. The former Elks Club site is used for recreational access to the Upper Truckee River and the existing trail system, commercial access by campers and vehicles to a seasonal weekend flea market held during summer months, and by large-turning-radius commercial vehicles to check loads.

The objectives of the proposed Phase 3 project are to improve water quality at the northwestern end of the CCH-ECP and enhance recreation and access opportunities at the site. Specifically, the Phase 3 project would reduce fine and coarse sediment, stormwater runoff volume, and peak flows, stabilize eroding cut slopes, roadside ditches, and capture road abrasives utilizing source control Best Management Practices, remove excess pavement and restore the project area to surrounding land capability, increase opportunities for the infiltration of stormwater runoff, provide a pathway link supporting TRPA's Active Transportation Plan, enhance recreational opportunities within the Tahoe Basin, and blend hardscape improvements into the scenic environment to the maximum extent practicable.

Two alternatives are being considered to achieve the project objectives. Both alternatives plan to reconfigure and reduce the size of the existing parking lot, remove existing concrete, install basin, channel, and rock slope protection, install a SEZ restoration area, construct a bathroom, reconfigure the existing trail alignment including a culvert to direct flows to Upper Truckee River, and install fencing and signage. The primary differences between the two alignments include the size and design of the parking lot configuration and the basin size. Alternative 1 includes additional shoulder improvements along Boca Raton Drive and installation of a culvert across Elks Club Drive and another across Boca Raton Drive.

NCE has been retained to conduct technical studies, including a cultural resources assessment of the project area in support of California Environmental Quality Act (CEQA) environmental documents. A records search request using a quarter mile buffer has been submitted to the North Central Information Center (NCIC) to gather information pertaining to previous cultural resource inventories and previously recorded archaeological and/or architectural resources within and adjacent to the project area. After receipt of the records search results and in consultation with the client, a field visit will be conducted to perform a pedestrian survey and photo document the project area. The results of the cultural resources assessment will be drafted in a cultural resources inventory report in support of the CEQA and NEPA environmental documents.

The approximate 6.1-acre project area is located within Sections 20 and 21, Township 12 North, Range 18 East, Mount Diablo Meridian. Two maps are enclosed for your review. Figure 1 is an overview map of the project area at a 1:24,000 scale with a USGS 7.5' quadrangle background (Kings Beach). Figure 2 provides more detail of the project area using an aerial basemap.

Please provide a Native American contact list for the portion of Placer County in the vicinity of the project area. We also request that you conduct a search of your Sacred Lands database for any places of concern that may be located within or adjacent to the proposed project area.

If you have any questions, please feel free to contact me via email at mlaitinen@ncenet.com or by telephone (775-588-2505). I appreciate your assistance and look forward to hearing from you soon.

Sincerely,

Molly Laitinen

Molly Laitinen
NCE | Cultural Resources Specialist
PO Box 1760
Zephyr Cove, NV 89448
(775) 588-2505
mlaitinen@ncenet.com

Enclosed: Tribal Consultation List Request Form; Figure 1 – Overview Map; Figure 2 – Detail Map

Local Government Tribal Consultation List Request

Native American Heritage Commission
1550 Harbor Blvd, Suite 100
West Sacramento, CA 95691
916-373-3710
916-373-5471 – Fax
nahc@nahc.ca.gov

Type of List Requested

☑ **CEQA Tribal Consultation List (AB 52)** – ***Per Public Resources Code § 21080.3.1, subs. (b), (d), (e) and 21080.3.2***

☑ **General Plan (SB 18)** - ***Per Government Code § 65352.3.***

Local Action Type:

___ General Plan ___ General Plan Element ___ General Plan Amendment

___ Specific Plan ___ Specific Plan Amendment ☑ Pre-planning Outreach Activity

Required Information

Project Title: Country Club Heights Phase 3 Project

Local Government/Lead Agency: El Dorado County

Contact Person: Molly Laitinen, Cultural Resources Specialist, NCE

Street Address: P.O. Box 1760

City: Zephyr Cove, NV **Zip:** 89448

Phone: 775-588-2505 **Fax:**

Email: mlaitinen@ncenet.com

Specific Area Subject to Proposed Action

County: El Dorado **City/Community:** Meyers, South Lake Tahoe

Project Description:

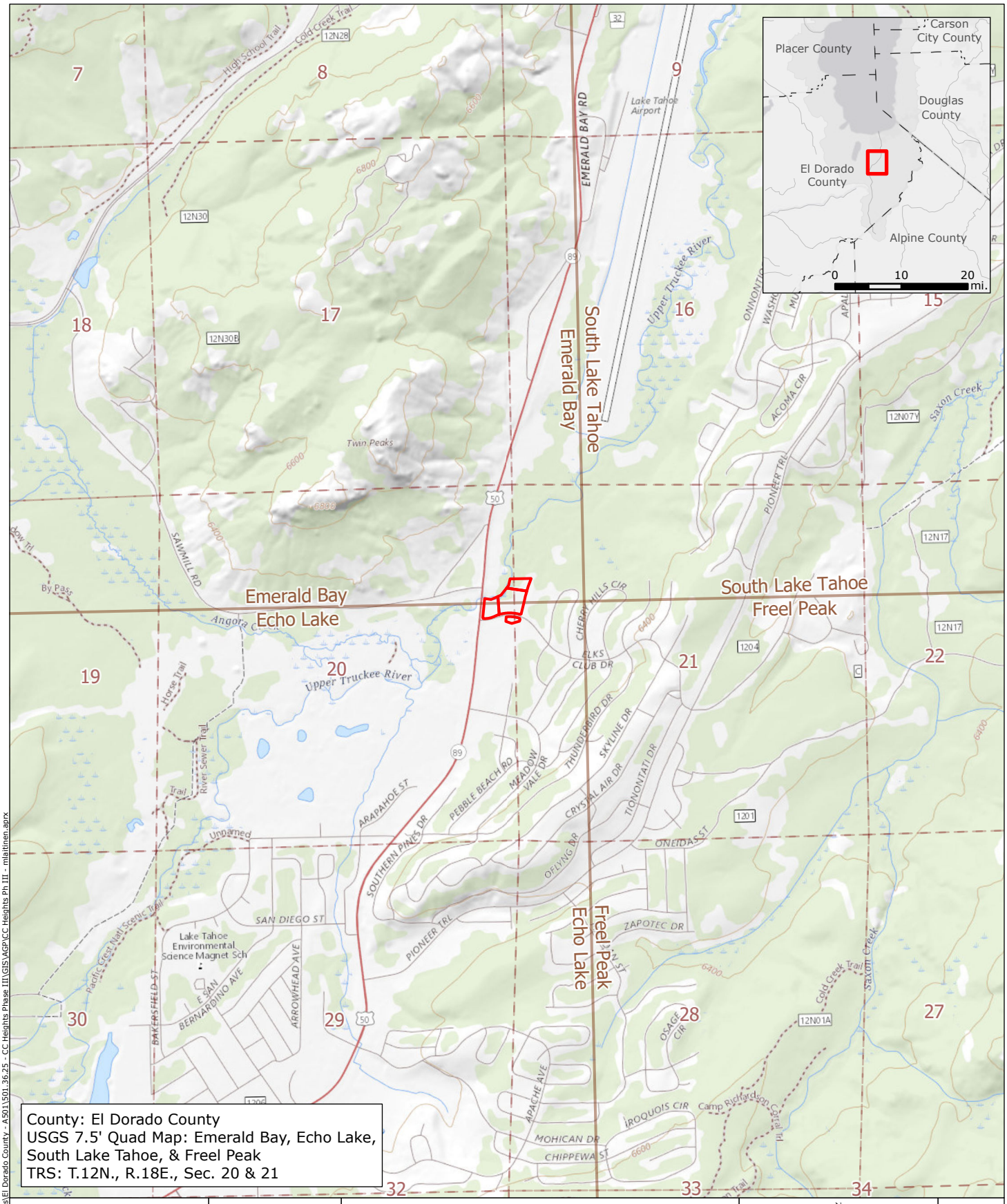
See attached letter.

Additional Request

☑ **Sacred Lands File Search** - ***Required Information:***

USGS Quadrangle Name(s): Emerald Bay and Echo Lake 7.5'

Township: 12.N **Range:** 18.E **Section(s):** 20 and 21



County: El Dorado County
USGS 7.5' Quad Map: Emerald Bay, Echo Lake, South Lake Tahoe, & Freel Peak
TRS: T.12N., R.18E., Sec. 20 & 21

Legend
Project Boundary

NCE

Country Club Heights Phase 3 Project

Project Area Location Map

N
1:24,000
0 1,000 2,000 ft.

FIGURE 1

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
ESRI USA Topo Maps	501.36.25	mlaitinen	8/23/2019	-	-

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Legend

Project Boundary

NCE

Country Club Heights Phase 3 Project

Project Area Detail Map

N

1 in. = 200 ft.

0 100 200 ft.

FIGURE 2

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Hybrid Maps	501.36.25	mlaitinen	8/23/2019	-	-

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NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691 Phone: (916) 373-3710
Email: nahc@nahc.ca.gov
Website: http://www.nahc.ca.gov

September 19, 2019

Molly Laitinen
NCE

VIA Email to: mlaitinen@ncenet.com

RE: Native American Consultation, Pursuant to Senate Bill 18 (SB18), Government Codes §65352.3 and §65352.4, as well as Assembly Bill 52 (AB52), Public Resources Codes §21080.1, §21080.3.1 and §21080.3.2, Country Club Heights Phase 3 Project, El Dorado County.

Dear Ms. Laitinen:

Attached is a consultation list of tribes with traditional lands or cultural places located within the boundaries of the above referenced counties or projects.

Government Codes §65352.3 and §65352.4 require local governments to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to cultural places when creating or amending General Plans, Specific Plans and Community Plans.

Public Resources Codes §21080.3.1 and §21080.3.2 requires public agencies to consult with California Native American tribes identified by the Native American Heritage Commission (NAHC) for the purpose of avoiding, protecting, and/or mitigating impacts to tribal cultural resources as defined, for California Environmental Quality Act (CEQA) projects.

The law does not preclude local governments and agencies from initiating consultation with the tribes that are culturally and traditionally affiliated within your jurisdiction. The NAHC believes that this is the best practice to ensure that tribes are consulted commensurate with the intent of the law.

Best practice for the AB52 process and in accordance with Public Resources Code §21080.3.1(d), is to do the following:

> Within 14 days of determining that an application for a project is complete or a decision by a public agency to undertake a project, the lead agency shall provide formal notification to the designated contact of, or a tribal representative of, traditionally and culturally affiliated California Native American tribes that have requested notice, which shall be accomplished by means of at least one written notification that includes a brief description of the proposed project and its location, the lead agency contact information, and a notification that the California Native American tribe has 30 days to request consultation pursuant to this section.

The NAHC also recommends, but does not require that lead agencies include in their notification letters, information regarding any cultural resources assessment that has been completed on the area of potential affect (APE), such as:

1. The results of any record search that may have been conducted at an Information Center of the California Historical Resources Information System (CHRIS), including, but not limited to:

   - A listing of any and all known cultural resources have already been recorded on or adjacent to the APE, such as known archaeological sites;

   - Copies of any and all cultural resource records and study reports that may have been provided by the Information Center as part of the records search response;

   - Whether the records search indicates a low, moderate or high probability that unrecorded cultural resources are located in the APE; and

   - If a survey is recommended by the Information Center to determine whether previously unrecorded cultural resources are present.

2. The results of any archaeological inventory survey that was conducted, including:

   - Any report that may contain site forms, site significance, and suggested mitigation measures.

     All information regarding site locations, Native American human remains, and associated funerary objects should be in a separate confidential addendum, and not be made available for public disclosure in accordance with Government Code Section 6254.10.

3. The result of the Sacred Lands File (SFL) check conducted through the Native American Heritage Commission was negative.

4. Any ethnographic studies conducted for any area including all or part of the potential APE; and

5. Any geotechnical reports regarding all or part of the potential APE.

Lead agencies should be aware that records maintained by the NAHC and CHRIS is not exhaustive, and a negative response to these searches does not preclude the existence of a tribal cultural resource. A tribe may be the only source of information regarding the existence of a tribal cultural resource.

This information will aid tribes in determining whether to request formal consultation. In the event, that they do, having the information beforehand well help to facilitate the consultation process.

If you receive notification of change of addresses and phone numbers from tribes, please notify the NAHC. With your assistance we can assure that our consultation list remains current.

If you have any questions, please contact me at my email address: katy.sanchez@nahc.ca.gov .

Sincerely,

Katy Sanchez

KATY SANCHEZ
Associate Environmental Planner

Attachment

Native American Heritage Commission
Tribal Consultation List
09/20/2019

Washoe Tribe of Nevada and California
Darrel Cruz. Cult Res Dept. THPO
919 Highway 395 North Washoe
Gardnerville , NV 89410
Darrel.Cruz@washoetribe.us
(775) 265-8600 x10714

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 produced.
Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety C ode, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code.
This list is applicable only for consultation with Native American tribes under Government Code Sections 65352.3, 65362.4 et seq. and Public Resources Code Sections 21080.3.1 for the proposed: Country Club Heights Phase 3 Project, El Dorado County.

EL DORADO COUNTY
DEPARTMENT OF TRANSPORTATION
http://www.edcgov.us/DOT/

PLACERVILLE OFFICES:
MAIN OFFICE:
2850 Fairlane Court, Placerville, CA 95667
(530) 621-5900 / (530) 626-0387 Fax

CONSTRUCTION & MAINTENANCE:
2441 Headington Road, Placerville, CA 95667
(530) 642-4909 / (530) 642-0508 Fax

LAKE TAHOE OFFICES:
ENGINEERING:
924 B Emerald Bay Road, South Lake Tahoe, CA 96150
(530) 573-7900 / (530) 541-7049 Fax

MAINTENANCE:
1121 Shakori Drive, South Lake Tahoe, CA 96150
(530) 573-3180 / (530) 577-8402 Fax

October 2, 2019

Darrel Cruz
Cultural Resources Department, THPO
Washoe Tribe of Nevada and California
919 Highway 395 South
Gardnerville, NV 89410

Dear Mr. Cruz:

Re: Invitation to Provide Consultation for the Country Club Heights Erosion Control Project Phase III, South Lake Tahoe, El Dorado County

The County of El Dorado proposes to plan, design, and implement a project that will improve water quality, restore an impacted stream environment zone, and achieve natural resource objectives within the within the northwest corner of the Country Club Heights Erosion Control Project (CCH-ECP) area located in El Dorado County, California. The Phase III project is bounded by Waverly Drive, Elks Club Drive between Waverly and Highway 50, and surrounding publicly owned parcels including the old Elks Club Lodge property and parking lot currently owned by the California Tahoe Conservancy (CTC). The approximate 6.4-acre project area is located within Sections 20 and 21, Township 12 North, Range 18 East, Mount Diablo Meridian. Two maps are enclosed for your review. Figure 1 is a location map of the project area at a 1:24,000 scale with a USGS 7.5' quadrangle background (Emerald Bay and Echo Lake). Figure 2 provides more detail of the project area using an aerial basemap.

As part of the overall CCH-ECP, the Phase III project is identified in the El Dorado County Stormwater Resource Plan, the Environmental Improvement Program projects as a recreation project (EIP #612), a watershed management project (EIP #948 and 01.02.01.002) and as a water quality project (EIP# 01.01.01.0021). The Phase III project would also be consistent with goals stated in the *Linking Tahoe: Active Transportation Plan* by enhancing recreational opportunities within the basin. The former Elks Club site is used for recreational access to the Upper Truckee River and the existing trail system, commercial access by campers and vehicles to a seasonal weekend flea market held during summer months, and by large-turning-radius commercial vehicles to check loads.

The objectives of the proposed Phase III project are to improve water quality at the northwestern end of the CCH-ECP boundary and enhance recreation and access opportunities at the site. Specifically, the Phase III project would: reduce fine and coarse sediment, stormwater runoff volume, and peak flows; stabilize eroding cut slopes, roadside ditches, and capture road abrasives utilizing source control Best Management Practices; remove excess pavement, restore the project area to surrounding land capability, and increase opportunities for the infiltration of stormwater runoff; provide a pathway link supporting Truckee Regional Planning Agency's Active Transportation Plan, enhance recreational opportunities within the Tahoe Basin, and blend hardscape improvements into the scenic environment to the maximum extent practicable.

The proposed project improvements include reconfiguring and reducing the size of the existing parking lot (including shoulders), grading a depressional runoff collection area within the parking lot restoration area, constructing a bathroom, expanding the existing SEZ area through restoration efforts that will include the removal of concrete and non-native material, constructing a basin with rock slope protection at the existing overflow channel connection, constructing an ADA compliant decomposed granite (DG) pathways for improved access to Upper Truckee River area with a culvert to convey existing storm runoff under the DG pathway to Upper Truckee River, constructing a 10 foot wide paved trail with 2 foot shoulders within an existing, unimproved trail area, installing fencing to protect basin area and encourage SEZ restoration, installing signage, installing two 18-inch culverts to provide an in/out connection for stormwater runoff to the basin/SEZ enhancement area, and completing revegetation/restoration of parking lot/concrete removal areas.

NCE has been retained to conduct technical studies, including a cultural resources assessment of the project area in support of California Environmental Quality Act (CEQA) and Section 106 of the National Historic Preservation Act (NHPA). NCE archaeologist, Molly Laitinen, is a consultant representing El Dorado County and is seeking any information you may have regarding tribal cultural resources (as defined under Public Resources Code [PRC] § 21074) within the project area. This information is needed so that all concerns may be incorporated into the planning phase of the project. All information provided to the consultant archaeologist will remain confidential and exempt from public disclosure pursuant to PRC §5097.9 and §5097.993.

The Native American Heritage Commission Sacred Lands File results were negative. A records search request using a quarter mile buffer was submitted to the North Central Information Center and to the U.S. Forest Service to gather information pertaining to previous cultural resource inventories and previously recorded archaeological and/or architectural resources within and adjacent to the project area. Results from the archival records search indicated that no previously recorded prehistoric or historic archaeological resources are located within the project area. A pedestrian survey was conducted within the project area and resulted in no newly recorded prehistoric or historic cultural resources. The results of the cultural resources assessment will be drafted in a cultural resources inventory addendum report in support of environmental documents.

Please consider this letter and preliminary project information as the initiation of Section 106 consultation pursuant to the NHPA and formal notification of a proposed undertaking as required under CEQA, specifically PRC 21080.3.1 and Chapter 532 Statutes of 2014 (i.e., AB 52). Please respond within 30 days of receipt of this letter, pursuant to PRC 21080.3.1(d) if you would like to consult on this project. Please provide a designated lead contact person if you have not provided that information to us already.

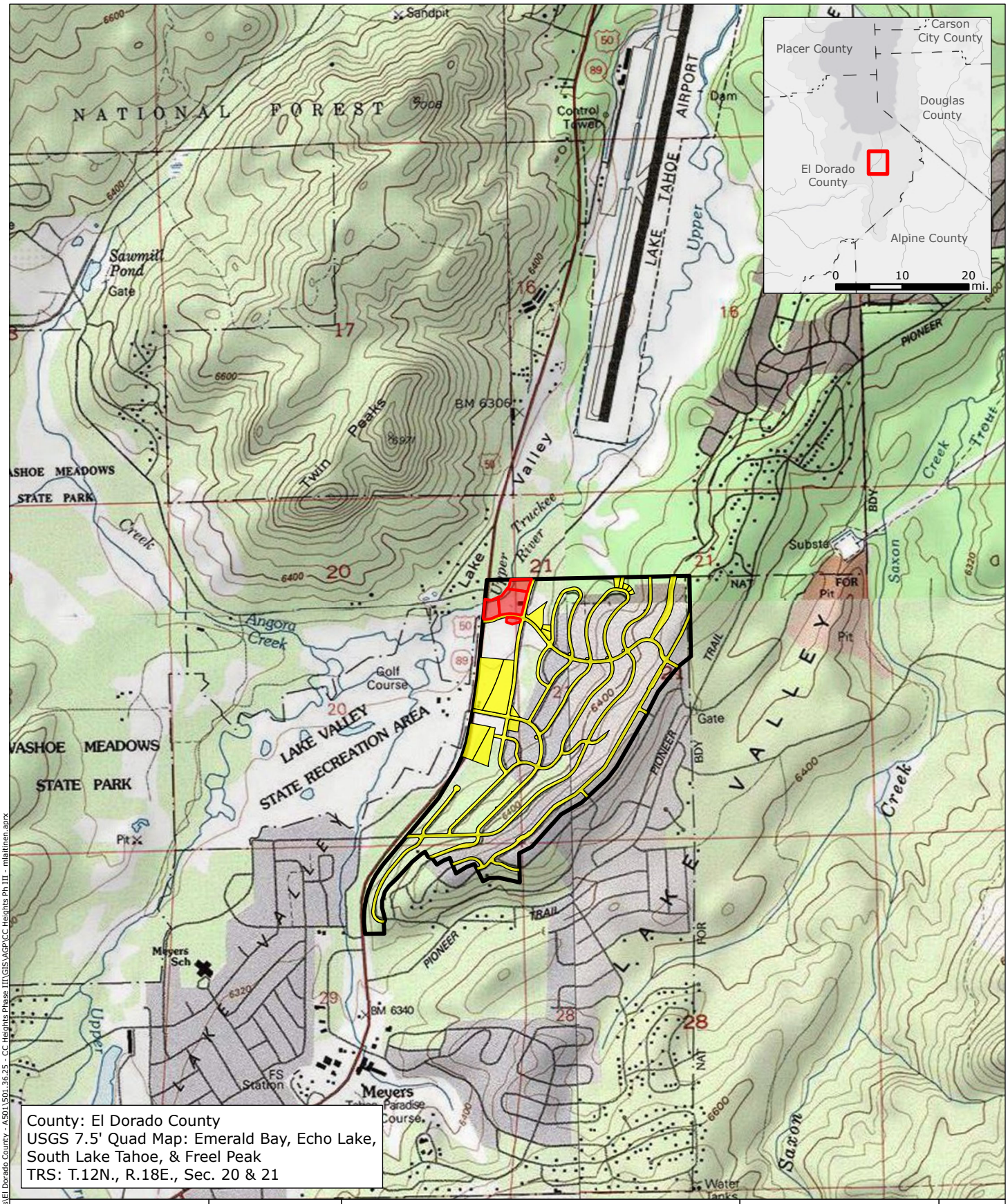
If you have any questions, please feel free to contact Ms. Laitinen by mail at P.O. Box 1760 Zephyr Cove, NV 89448, via email at mlaitinen@ncenet.com, or by telephone at 775-588-2505. We appreciate your assistance and look forward to hearing from you soon.

Sincerely,

Daniel Kikkert, P.E.
Senior Civil Engineer

County of El Dorado
Department of Transportation – Tahoe Engineering
924 B Emerald Bay Road
So. Lake Tahoe, CA 96150
(530) 573-7914 / FAX (530) 541-7049
dan.kikkert@edcgov.us

Enclosed: Figure 1 – Location Map; Figure 2 – Detail Map



County: El Dorado County
USGS 7.5' Quad Map: Emerald Bay, Echo Lake, South Lake Tahoe, & Freel Peak
TRS: T.12N., R.18E., Sec. 20 & 21

Legend
- Project Boundary
- 2019 Survey Area
- 2016 Survey Area

NCE

Country Club Heights Phase III Project

Project Area Location Map

N

1:24,000

0 1,000 2,000 ft.

FIGURE 1

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
ESRI USA Topo Maps	501.36.25	mlaitinen	8/23/2019	9/18/2019	jhall

Document Path: P:\Active Projects\El Dorado County - A501\501.36.25 - CC Heights Phase III\GIS\AGP\CC Heights Ph III - mlaitinen.aprx

Legend

- Project Boundary
- 2019 Survey Area
- 2016 Survey Area

NCE

Country Club Heights Phase III Project

Project Area Detail Map

N

1 in. = 200 ft.

0 100 200 ft.

FIGURE 2

SOURCE	JOB NUMBER	DRAWN	DATE	REVISED	APPROVED
Bing Aerial Hybrid Maps	501.36.25	mlaitinen	8/23/2019	9/18/2019	jhall

Document Path: P:\Active Projects\El Dorado County - A501\501.36.25 - CC Heights Phase III\GIS\AGP\CC Heights Ph III - mlaitinen.aprx

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City, State, ZIP+4® Gardnerville NV 89410

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(Country Club Heights Phase III)
919 Highway 395 South
Gardnerville NV 89410

9590 9402 5124 9092 7115 82

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Tracking History ∧

October 4, 2019, 11:38 am
Delivered, Left with Individual
GARDNERVILLE, NV 89410

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GARDNERVILLE, NV 89410

October 4, 2019, 8:55 am
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October 3, 2019, 9:26 pm
Arrived at USPS Regional Facility
RENO NV DISTRIBUTION CENTER

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FAQs

From:	Dan Kikkert
To:	Dave Rios; Molly Laitinen
Subject:	Fwd: Country Club Heights Phase III HRIR Addendum
Date:	Wednesday, October 23, 2019 4:16:58 PM
Attachments:	image001.jpg

Hi Dave,

Below is the response from Darrel. Please let me know if this is sufficient or if I should request a letter.

Thanks,
Dan

Daniel Kikkert, P.E.
Senior Civil Engineer

County of El Dorado
Department of Transportation - Tahoe Engineering
924 B Emerald Bay Road
South Lake Tahoe, CA 96150
(530) 573-7914 / FAX (530) 541-7049
dan.kikkert@edcgov.us

---------- Forwarded message ---------
From: **Darrel Cruz** <Darrel.Cruz@washoetribe.us>
Date: Wed, Oct 23, 2019 at 4:10 PM
Subject: RE: Country Club Heights Phase III HRIR Addendum
To: Dan Kikkert <dan.kikkert@edcgov.us>

Sorry Dan,

I hit send before finishing. Yes, you have captured our discussions about inadvertent discoveries. If asnying changes please keep me informed.

Darrel

Darrel Cruz, Director

Tribal Historic Preservation Office/

Cultural Resources Office

919 Highway 395

Gardnerville, NV. 89410

P. (775) 265-8600

C. (775) 546-3421

darrel.cruz@washoetribe.us

From: Dan Kikkert [mailto:dan.kikkert@edcgov.us]
Sent: Wednesday, October 23, 2019 3:13 PM
To: Darrel Cruz <Darrel.Cruz@washoetribe.us>
Subject: Re: Country Club Heights Phase III HRIR Addendum

Hi Darrel,

I wanted to see if you had any questions or comments on the report that Molly (from NCE) sent out last week. As we discussed in the field, we will be including language in our contract documents regarding any discovery that occurs during the work. The language I'd propose using is as follows:

> *In the event that cultural resources are discovered during Project implementation, Project personnel shall halt all activities in the immediate area and notify a qualified archaeologist and the Washoe Tribe to determine the appropriate course of action.*

We'll continue to update you on the project as we work through the design process as well as coordination on any language placed on information signs as a part of the project.

Thanks,
Dan

Daniel Kikkert, P.E.

Senior Civil Engineer

County of El Dorado

Department of Transportation - Tahoe Engineering

924 B Emerald Bay Road

South Lake Tahoe, CA 96150

(530) 573-7914 / FAX (530) 541-7049

dan.kikkert@edcgov.us

On Mon, Oct 21, 2019 at 8:40 AM Darrel Cruz <Darrel.Cruz@washoetribe.us> wrote:

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> Thank you sending the requested information. I'll take a look at the material and get back to you if there is anything I need to convey to you
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> ***Darrel***
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> Tribal Historic Preservation Office/
>
> Cultural Resources Office
>
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> Gardnerville, NV. 89410
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> P. (775) 265-8600
>
> C. (775) 546-3421
>
> darrel.cruz@washoetribe.us
>
> ---
>
> **From:** Molly Laitinen [mailto:MLaitinen@ncenet.com]
> **Sent:** Friday, October 18, 2019 5:05 PM
> **To:** Darrel Cruz <Darrel.Cruz@washoetribe.us>
> **Cc:** Dave Rios <DRios@ncenet.com>; Jeremy Hall <JHall@ncenet.com>; Dan Kikkert <dan.kikkert@edcgov.us>
> **Subject:** Country Club Heights Phase III HRIR Addendum

Hi Darrel,

Below is a sharefile link for the draft Country Club Heights Phase III HRIR Addendum for your review. Please let us know if you have any questions or comments. The site record for the bedrock milling feature we relocated in the field is 05190000915, and the site form can be found on page 160.

https://nce.sharefile.com/d-s85a44df014640e7a

Thank you,

Molly Laitinen

Cultural Resources Specialist

p (775) 588-2505 **c** (408) 823-4570
f (775) 588-2607 **e** mlaitinen@ncenet.com

NCE

P.O. Box 1760, Zephyr Cove, NV 89448

www.ncenet.com

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Molly Laitinen

Cultural Resources Specialist

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Appendix D

PHOTO LOG

CULTURAL RESOURCES PHOTOGRAPH RECORD

Project Name: Country Club Heights Erosion Control Project, Phase III Addendum
Project Number: 501.36.25

Date	Frame Number	Site/Iso Number	Feature Number	Description	View
8/2/2019	IMG_5831.JPG	-	-	Project overview from southeast corner of parking lot	N
8/2/2019	IMG_5832.JPG	-	-	Project overview from southeast corner of parking lot	NW
8/2/2019	IMG_5833.JPG	-	-	Project overview from southeast corner of parking lot	NW
8/2/2019	IMG_5834.JPG	-	-	Project overview from northeast corner of APE	S
8/2/2019	IMG_5835.JPG	-	-	Project overview from northeast corner of APE	W
8/2/2019	IMG_5836.JPG	-	-	Modern ditch drainage feature	W
8/2/2019	IMG_5837.JPG	-	-	Modern ditch at north end of APE	E
8/2/2019	IMG_5848.JPG	-	-	Project overview from northernmost northwest corner of APE along Upper Truckee River	SW
8/8/2019	IMG_5928.JPG	-	-	Project overview from south end of APE	N
8/8/2019	IMG_5929.JPG	-	-	Modern culvert at south end of APE	S
8/8/2019	IMG_5930.JPG	-	-	Modern ditch at south end of APE	N
8/8/2019	IMG_5931.JPG	-	-	Project overview from southwest corner of APE	E
8/8/2019	IMG_5932.JPG	-	-	Project overview from southwest corner of APE	N
8/8/2019	IMG_5933.JPG	-	-	Project overview from southernmost northwest corner of APE	S
8/8/2019	IMG_5934.JPG	-	-	Project overview from southernmost northwest corner of APE	E
8/8/2019	IMG_5935.JPG	-	-	Project overview from west boundary of APE along Upper Truckee River	NE
8/8/2019	IMG_5936.JPG	-	-	Project overview from southwest corner of parking lot	NE
8/8/2019	IMG_5938.JPG	-	-	Project overview of raised building site central to parking lot	SW
8/8/2019	IMG_5939.JPG	-	-	Project overview of raised building site central to parking lot	SE
8/8/2019	IMG_5948.JPG	-	-	Project overview of raised building site central to parking lot	NW
8/8/2019	IMG_5949.JPG	-	-	Project overview from southwest corner of gravel flea market stall area	N
8/8/2019	IMG_5950.JPG	-	-	Project overview from north boundary of gravel flea market stall area	S
8/8/2019	IMG_5952.JPG	-	-	Project overview northernmost section of APE	N

IMG_5831.JPG

IMG_5832.JPG

IMG_5833.JPG

IMG_5834.JPG

IMG_5835.JPG

IMG_5836.JPG

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IMG_5950.JPG

IMG_5952.JPG