VAN NORDEN MEADOW RESTORATION AND RECREATION PROJECT
Public Review Draft
Initial Study/Mitigated Negative Declaration

March 29, 2022

Prepared for:
South Yuba River Citizens League
313 Railroad Avenue, Suite 101
Nevada City, CA 95959

and

Nevada County Planning Department
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Acronyms / Abbreviations

AB	Assembly Bill
ACE	Areas of Conservation Emphasis
APE	Area of Potential Effect
ASC	Anthropological Studies Center
BAGEPA	Bald and Golden Eagle Protection Act
BDA	beaver dam analog
BMP	best management practice
B.P.	Before Present
CAL FIRE	California Department of Forestry and Fire Protection
Caltrans	California Department of Transportation
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CRPR	California Rare Plant Rank
CWA	Clean Water Act
CWPP	Community Wildfire Protection Plan
dB	decibels
dBA	A-weighted decibels
DBH	diameter breast height
DCH	designated critical habitat
DSA Plan	Donner Summit Association Draft Public Use, Trails and Recreation Facilities Plan
DSOD	California Department of Water Resources Division of Safety of Dams
DSPUD	Donner Summit Public Utilities District
DTSC	Department of Toxic Substances Control
DWR	California Department of Water Resources
EPA	U.S. Environmental Protection Agency
ESA	federal Endangered Species Act
FAC	facultative
FEMA	Federal Emergency Management Agency
FGC	California Fish and Game Code
FHSZ	Fire Hazard Severity Zones
FMMP	Farmland Mapping and Monitoring Program
FOR	forest land use code
FR-40	forest zone
FRA	federal responsibility area

General Plan	Nevada County General Plan
GIS	geographic information system
I-80	Interstate 80
IS/MND	Initial Study/Mitigated Negative Declaration
Ldn	day-night average noise level
LHMP	Local Hazard Mitigation Plan
LMP	Land Use Management Plan
LUST	leaking underground storage tank
MBTA	Migratory Bird Treaty Act
MCV	Manual of California Vegetation
MIS	management indicator species
MM	Mitigation Measure
MMRP	Mitigation Monitoring and Reporting Program
MRZ	mineral resource zone
msl	mean sea level
NAGPRA	Native American Graves Protection and Repatriation Act
NAHC	Native American Heritage Commission
NCIC	North Central Information Center
NEHRP	National Earthquake Hazards Reduction Program
NFIP	National Flood Insurance Program
NFS	National Forest System
NHPA	National Historic Preservation Act
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
NWI	National Wetlands Inventory
NWP	Nationwide Permit
NWSRS	National Wild and Scenic Rivers System
OBL	Obligate
OES	Office of Emergency Services
OPR	Office of Planning and Research
OSHA	Occupational Safety and Health Administration
OSSA	Open Space Subvention Act
PALS	post-assisted log structures
PBO	Programmatic Biological Opinion
PG&E	Pacific Gas & Electric Company
Porter-Cologne Act	Porter-Cologne Water Quality Control Act
PRC	Public Resources Code
quads	quadrangles
REC	recreation land use code
REC-SP	recreation zone
RWQCB	Regional Water Quality Control Boards

SAA	Streambed Alteration Agreement
SB	Senate Bill
SGMA	Sustainable Groundwater Management Act
SHMA	Seismic Hazard Mapping Act
SMARA	Surface Mining and Reclamation Act
SNFPA ROD	Sierra Nevada Forest Plan Amendment Record of Decision
SPCCP	Spill Prevention Control and Countermeasure Plan
SRA	State Responsibility Area
State	State of California
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
SYRCL	South Yuba River Citizens League
TCP	traditional cultural properties
TDLT	Truckee Donner Land Trust
TMDL	total maximum daily load
UAIC	United Auburn Indian Community
UC	University of California
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USDA	U.S. Department of Agriculture
USDOT	U.S. Department of Transportation
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WDR	waste discharge requirement
WEAT	Worker Environmental Awareness Training
WQC	Water Quality Certification

ENVIRONMENTAL CHECKLIST FORM

1. Project Title: Van Norden Meadow Restoration and Recreation Project

2. Lead Agency Name and Address:

Nevada County Planning Department
950 Maidu Avenue, Suite 170
Nevada City, California 95959

3. Contact Person and Phone Number:

Contact: Kyle Smith
Phone: (530) 470-2723

4. Project Location:

Soda Springs Road, 0.25 mile south of Interstate 80, Van Norden Meadow, Nevada and Placer Counties, California. See Section 2.1 of IS/MND for location specifics.

5. Project Sponsor's Name and Address:

South Yuba River Citizens League, Alecia Weisman

313 Railroad Ave Suite 101, Nevada City, CA 95959
(530) 265-5961 x 224

6/7. General Plan Designation and Zoning:

Nevada County Land Use/Zoning Designations:

Forest (FOR) and Recreation (REC) / Forest (FR-40) and REC-SP in Nevada County and both Forest (FR) and Water (W) in Placer County

8. Description of Project:

To restore meadow function of the headwaters of the South Yuba River within the Van Norden Meadow on Donner Summit. See IS/MND Chapter 2.0 for more details.

9. Surrounding Land Uses and Setting:

Surrounding land uses and setting to the Project site are generally designated as recreational and United States Forest Service Tahoe National Forest property.

10. Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement:

Army Corps of Engineers, California Department of Fish and Wildlife, State Water Resources Control Board, State Office of Historic Preservation, Nevada County, Placer County.

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, has consultation begun?

Yes, consultations began on February 9, 2022.

1 Introduction

Environmental Factors Potentially Affected:

The environmental factors checked below would be potentially affected by this Project, involving at least one impact that requires mitigation to reduce the impact from "Potentially Significant" to "Less than Significant" as indicated by the checklist on the following pages.

☐	Aesthetics	☐	Greenhouse Gas Emissions	☐	Public Services
☐	Agricultural and Forestry Resources	☒	Hazards and Hazardous Materials	☐	Recreation
☒	Air Quality	☒	Hydrology and Water Quality	☐	Transportation and Traffic
☒	Biological Resources	☐	Land Use and Planning	☐	Tribal Cultural Resources
☒	Cultural Resources	☐	Mineral Resources	☐	Utilities and Service Systems
☐	Energy	☐	Noise	☒	Wildfire
☒	Geology and Soils	☐	Population and Housing	☒	Mandatory Findings of Significance

Determination:

On the basis of this initial evaluation:

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

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

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

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

☐ I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.

Signature — 3-29-22 Date

Kyle Smith Printed Name — County of Nevada On Behalf of

1 Introduction

1.1 Project Introduction

Over the centuries, Van Norden Meadow, also known as Summit Valley or *Yayalu Itdeh* in Washoe, has been modified by human influences, including construction of the railroad, the Lincoln Highway, Van Norden Dam, and facilities for grazing. These modifications have altered the meadow hydrology which has degraded the channels within the meadow and caused erosion and incision to occur. Currently, the Van Norden Meadow Restoration and Recreation Project (proposed Project) would restore 485 acres of the Van Norden Meadow and meadow edge habitat and establish a non-motorized trail system that circumnavigates the meadow. The proposed Project is a collaboration between the U.S. Forest Service (USFS) Truckee Ranger District of the Tahoe National Forest, the South Yuba River Citizens League (SYRCL), and Nevada County. The proposed Project would be carried out primarily on USFS and Truckee Donner Land Trust (TDLT) lands in County right of ways within Nevada and Placer Counties.

1.2 Project Background

Van Norden Meadow has been substantially impacted by human activities such as logging, grazing, water storage, and recreation for centuries. Van Norden Meadow lies within a valley that has a rich history that includes use by Native Americans as a meeting area and a place of trade; it was also a part of the route through the Sierra Nevada for Native Americans, California-bound wagon trains, and the survivors of the Donner party. This valley was then used as a site for the first transcontinental railroad, highway, and telephone lines to cross over the Sierra Nevada into the foothills and coastal regions of western California. All of these early events added to the impacts and changes within Van Norden Meadow that are seen today.

The Van Norden Dam was built in the late 1800s, which turned Van Norden Meadow into a reservoir. Pacific Gas & Electric Company (PG&E) bought the property and enlarged the dam in 1916; however, once the dam started to degrade, PG&E determined it was not a feasible option to enlarge or repair the structure. It was placed under the jurisdiction of the California Department of Water Resources Division of Safety of Dams (DSOD). In 1976 the reservoir was lowered, reducing the footprint of the reservoir from 5,800 acre-feet to 175 acre-feet. Around 1,000 sheep grazed the meadow until the mid-1990s when the property was sold by PG&E. In 2012, the TDLT bought the land, which included approximately 3,000 acres, with the intent to transfer the land to the USFS. In 2017, TDLT retained 6.98 acres of the area that consisted of the dam and transferred the remainder of the land to the USFS (Nevada County Community Development 2018). During this time, the Van Norden Dam was determined to be a safety hazard by the DSOD (Ascent Environmental 2019). Further, TDLT, being the landowner of the dam property, did not hold water rights to impound water behind the dam; and the State Water Resources Control Board (SWRCB) Division of Water Rights notified TDLT that this diversion and storage of water was unauthorized. In 2019, TDLT reduced the reservoir footprint to under 5 acre-feet which allowed for an unrestricted flow of water.

1.3 Project Purpose and Need

The proposed Project would restore 485 acres of meadow and meadow edge habitat and establish a non-motorized trail system that circumnavigates the meadow. The proposed Project is located in both Placer and Nevada Counties on Donner Summit at the headwaters of the South Yuba River. The meadow is at the intersection of three headwater streams: Lytton Creek, Upper Castle Creek, and the Upper South Yuba River (which also support one of the largest meadows on the west side of the Sierra Nevada). The earliest this proposed Project may be implemented is May 2022.

The proposed Project's goal is to rehabilitate the meadow's hydrology and formalize recreation access, thereby restoring its ecosystem function and sustainability under future climatic conditions. Meadows are biodiversity and carbon sequestration hotspots, provide late season baseflows, improve water quality and quantity for downstream users, and provide recreational opportunities. Restoration of meadow hydrology, by reconnecting the stream channel to its natural floodplain, is the primary basis upon which other ecological values would be sustained, including restoring historic riparian wet meadow, aquatic habitat, and wetland function within the meadow system.

For over a century, grazing impacts, road construction, dam building, dam raising, dam lowering, and other developments in Van Norden Meadow and within the sub watershed have resulted in localized stream incision, wetland hydrophytic vegetation loss, hydrologic disconnection, partial conversion from wet to dry conditions, and encroachment of lodgepole pine (Balance Hydrologics 2014; Hutchinson and Weisman 2021). Degradation of a meadow's hydrologic function can be directly correlated with a decline in key ecosystem services, including water filtration (Woltemade 2000), flood attenuation (Loheide et al. 2009; Lowry et al. 2011), and headwater storage capacity (Lord et al. 2011), greenhouse gas emissions (Blankinship and Hart 2014), conifer encroachment, loss of bird and other wildlife populations (McKelvey et al. 1996, Campos et al. 2020), and resilience against invasive plant species (Hammersmark et al. 2009).

The meadow is a popular area in summer with users ranging from mountain bike enthusiasts, horseback riders, fishermen, school groups, and day hikers. In the winter months, the meadow serves as a recreation area with over 11 miles of groomed cross-country ski trails managed by Royal Gorge Cross-Country Resort. Existing summer trails around the meadow are user-created trails, county roads, and utility roads. Drainage across these routes creates flow impediments and sediment sources that can have water quality impacts on the meadow. There is approximately 4.5 miles of road and trail encircling Van Norden Meadow that intersect over two dozen snowmelt-fed seasonal and perennial streams. Currently, many of these user-created trails are damaging both ecological and cultural resources. The proposed Project creates an opportunity to formalize access to this popular area in conjunction with restoration of the meadow.

The proposed Project would provide the following benefits:

- Improvement of habitat for a range of mammals, amphibians and reptiles, native fish, macroinvertebrates, raptors, and other important bird species, including willow flycatcher

- Improvement of hydrologic benefits, such as reduced sedimentation and improved water quality, improved late season baseflow, elevated groundwater tables, expansion of wet meadow vegetation, and reduction of invasive plant species and encroaching conifers
- Replacement of user-created trails and access features with a designed system that protects water quality and meadow-related resources

1.4 Project Objectives

The proposed Project would restore high functioning headwater wetland habitat and improve hydrologic function while supporting year-round recreational activities in this high-elevation meadow. Providing wet habitat for high-elevation aquatic species and migratory birds, along with high quality forage for terrestrial wildlife, will become increasingly important to support wildlife adaptation in a changing climate with increasing periods of drought. Restoring incised stream channels will recover surface and groundwater hydrologic processes, including prolonging and expanding meadow surface inundation, dispersing flow to more than a single high-flow channel, delaying peak flows at the outlet, improving downstream water quality, and recharging groundwater to improve groundwater levels. The proposed actions would enhance the ecological and aesthetic values of the meadow, mitigate damage from dispersed use, and provide a managed trail system and amenities to support year-round access to the meadow while preventing further resource damage.

Climate predictions for the area show an increase in rain-on-snow events and increasing temperatures due to climate change (USFS 2021). The proposed Project would slow water movement, retaining it longer in the restored wetland system.

The proposed Project would achieve the following desired conditions for hydrology, ecology, and recreation:

Hydrology

- Sustained hydrologic connection that supports ecological function across distinct hydrogeomorphic wetland types within the 485-acre, high-elevation meadow
- Delayed spring recession period and increased groundwater levels to support aquatic and terrestrial wildlife species and wetland plant species, providing refuge as the climate changes
- Preventing erosion risks that would impact downstream water quality

Ecology

- Increased willow habitat for birds, like the willow flycatcher
- Increased beaver presence and activity contributing to long term wetland habitat resilience
- Increased carbon sequestration
- Decreased extent of reed canarygrass

- Decreased lodgepole pine encroachment
- An open lodgepole pine forest with a lush understory and functional riparian habitat along seasonal streams

Recreation

- A formalized network of trails that includes trailheads, parking areas, restroom facilities, interpretive panels, and viewing platforms that minimizes damage to resources
- Sustained groomed cross-country ski trails

1.5 CEQA Process

The California Environmental Quality Act (CEQA) is the State of California's (State) environmental law that requires proposed project proponents to disclose the significant impacts to the environment from proposed development projects. The intent of CEQA is to foster good planning and to inform agencies and the public about environmental issues during the planning process. Placer County concurred (see Appendix A) that Nevada County (County) is the Lead Agency, responsible for determining and preparing the appropriate level of CEQA documentation because the work outside of Federal Lands would occur primarily on Nevada County lands, triggering the need for Nevada County Management Plan approval. Work in Placer County outside of Federal lands would primarily be the use of County-maintained access roads, so no discretionary approval is anticipated. SYRCL is the proposed Project proponent and provided, in coordination with the USFS, environmental studies and documentation in support of the County's independent CEQA process.

The CEQA Guidelines (Section 21067) define the Lead Agency as "the public agency which has the principal responsibility for carrying out or approving a project which may have a significant effect upon the environment" (CCR 2018). Because the proposed Project is getting State funding from the California Department of Fish and State permitting is required for the proposed Project, it is considered a public agency discretionary action; therefore, the proposed Project is subject to compliance with CEQA. The lead agency must determine the appropriate level of CEQA documentation and is responsible for implementation of the CEQA compliance process.

This Initial Study/Mitigated Negative Declaration (IS/MND) will be circulated to the public and responsible or trustee agencies, such as the California Department of Fish and Wildlife (CDFW), the California Air Board, the Central Valley Regional Water Quality Board, and others for a 30-day public review period. Comments received during the 30-day review period will be considered by the County prior to the approval of the CEQA disclosure document, including the Mitigation Monitoring and Reporting Program (MMRP) and approval of the proposed Project.

Upon completion of the CEQA process, the proposed Project proponent, SYRCL, would oversee the project implementation and monitoring of restoration success, while the Lead Agency would be responsible for documentation of compliance with the commitments in the IS/MND and associated MMRP.

1.6 Scope of this Study

The IS/MND focuses on the environmental issues identified as possibly significant in the CEQA checklist and by CEQA guidelines. A complete description of the proposed Project is included in Section 2.0 of this document. Potential impacts to environmental resources from the proposed Project are analyzed in conjunction with proposed mitigation in Section 3.0.

1.6.1 POTENTIALLY SIGNIFICANT IMPACTS AND MITIGATION MEASURES

Under CEQA Guidelines section 15382, a significant effect on the environment is defined as a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the proposed Project including land, air, water, minerals, flora, fauna, ambient noise, objects of historic or aesthetic significance, and increased wildfire threat (CCR 2018). Based on the Chapter 3 analysis and the field surveys, the proposed Project has the potential to result in significant impacts on certain resources, but these potentially significant impacts would be reduced to a less-than-significant level with the implementation of mitigation identified in Chapter 3 of this IS/MND. The mitigation measures (MMs) presented in this IS/MND would form the basis of the MMRP, which is included in Chapter 4.

2 Project Description

2.1 Project Location

The proposed Project is located on USFS lands managed by the Truckee Ranger District of the Tahoe National Forest. The proposed Project area is located in Placer and Nevada counties on Donner Summit at the headwaters of the South Yuba River (Figure 1), and is within the *Soda Springs* and *Norden*, California, U.S. Geological Survey (USGS) 7.5-minute quadrangles (quads) at an elevation of approximately 6,775 feet (2,065 meters) above mean sea level (msl). Van Norden Meadow is one of the largest meadows on the west side of the Sierra Nevada and is located at the intersection of three headwater streams, Lytton Creek, Upper Castle Creek, and the Upper South Yuba.

2.2 Construction Activities

The proposed Project would restore 485 acres of meadow and meadow edge habitat, of which 335 acres are open meadow and 150 acres are dominated by conifer. There are four categories that the proposed Project would target: stream channel restoration, conifer treatment, road improvements, and recreation improvements. Table 2-1 lists the proposed actions associated with each category, along with the details outlined in Figure 2 and Figure 3.

Table 2-1. Summary of Proposed Actions and Estimated Acres and Miles

Proposed Action	Acres/Miles
Stream Channel Restoration	
Stream channel fill	1.75 miles
Stream channel partial fill and beaver dam analogs/post-assisted log structures	1.5 miles
Lytton fan restoration	0.25 mile
Reed canarygrass treatment	20 acres
Surface roughness features	0.1 acre
Dam degrade/borrow area	3.5 acres
Conifer Treatment	
Conifer removal	58.4 acres
Conifer thinning	56.2 acres
Aspen enhancement	0.5 acre
Road Improvements	
Van Norden Dam Road	1.8 miles
Pacific Gas & Electric access road	2.2 miles
Meadow bisect road	0.12 mile
Meadow bisect road decommissioning	0.1 mile

Proposed Action	Acres/Miles
Meadow bisect road re-route	0.09 mile
Meadow bisect bridge replacement	0.02 mile
Recreation Improvements	
Trail construction	4.65 miles
Trailheads and parking areas	3 acres
Rehabilitation of user-created trails	1.0 mile

Equipment used to implement the proposed Project would be chosen to minimize resource impacts. Equipment may include tractors, loaders, excavators, dump/haul trucks, and masticators. Follow-up revegetation would occur along access routes, in staging areas, reed canarygrass (*Phalaris arundinacea*) removal areas, tree removal areas, and within the dam degrade area using available sod mat, seeding, sedge plugs, and willow pole plantings. All disturbed staging areas would be mulched and seeded with native materials. Project Activities Level (PAL), which is a system that informs fire protection measures during construction, will be applied throughout the proposed Project duration.

Revegetation is expected to occur in up to 56 acres of the proposed Project. The planting palette used for the proposed Project site would incorporate both the Climate Smart Restoration Planting tool (Vernon 2020) as well as work completed on the lipid value of specific plants at Van Norden by University of Nevada, Reno, researchers. Additionally, revegetation efforts may include sedge (*Carex utriculata* and *Carex nebrascensis*) plugs and/or mats, and willow (*Salix lemmonii*) staking.

Figure 1. Project Location

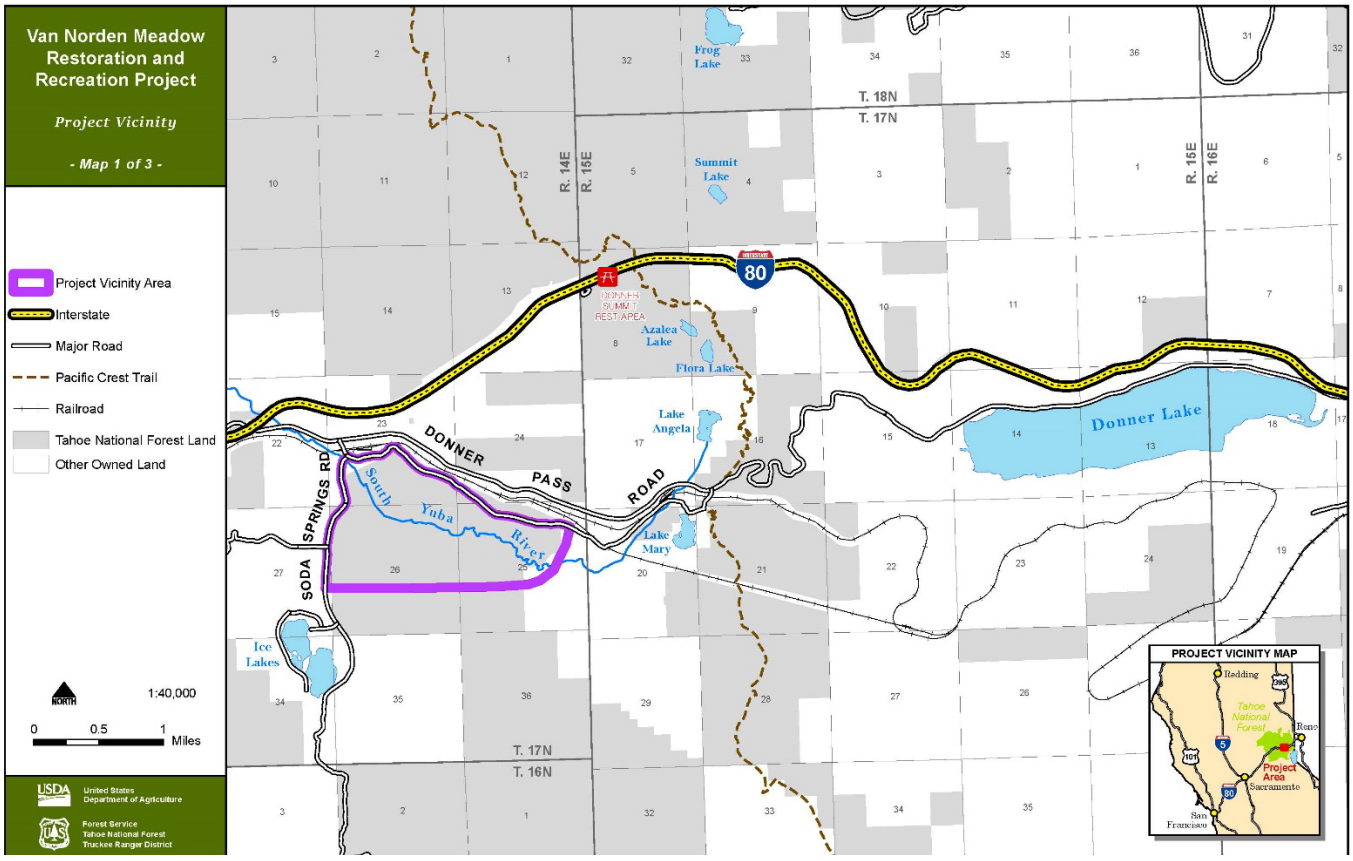


Figure 2. Proposed Restoration Activities

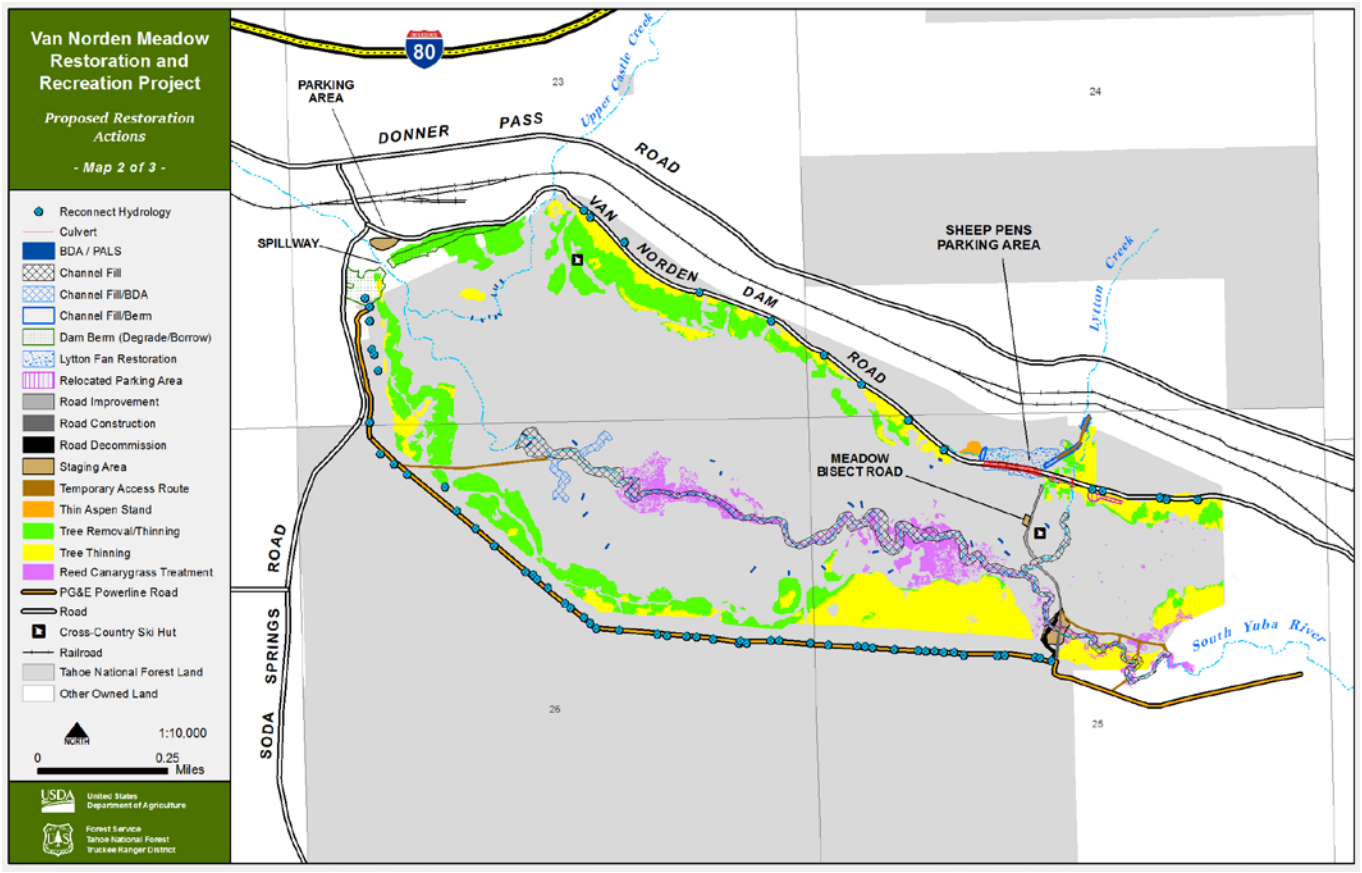
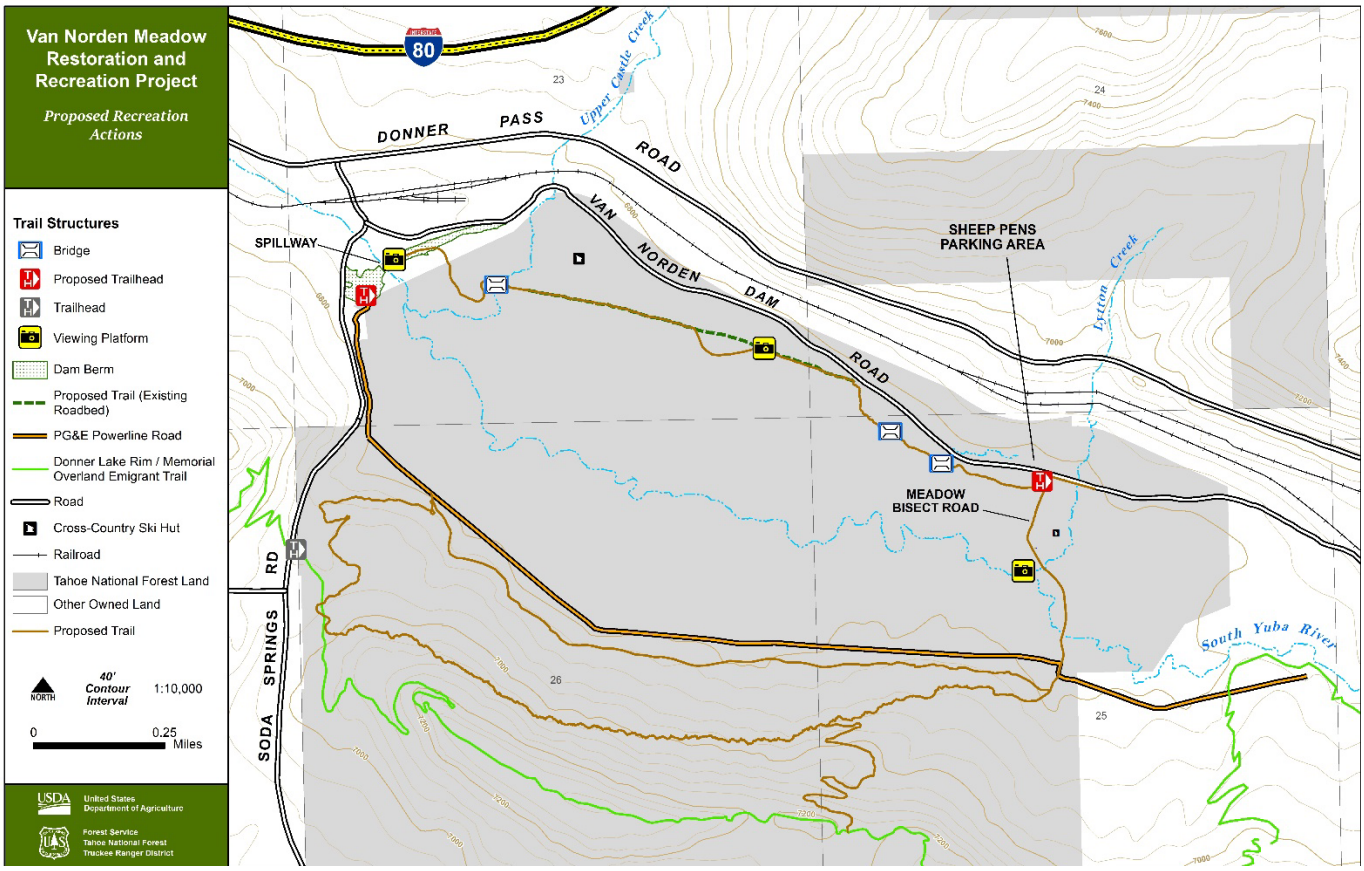


Figure 3. Proposed Recreation Activities



2.3 Construction Schedule

Construction is likely to last up to 3 years with approximately 4.5 month per construction season (Table 2-2), and the first season is scheduled for the summer (starting June 15) before wildfire season. Stream channel work would begin after July 1 to avoid instream work during the fish spawning season.

Table 2-2. Construction Schedule

Phase	Phase Description	Start (month/year)	Finish (month/year)
Phase 1	Channel work in the meadow, berm decommissioning, grading, bridge demolition, bridge install, road improvements on the meadow bisect road, tree removal, beaver dam analog (BDA) building, and revegetation (e.g., sedge mats, willow staking and seeding)	June 2022	October 2022
Phase 2	Tree removal, road improvements on the county road, Lytton upstream channel work, BDA improvements	June 2023	October 2023
Phase 3	Continued tree work, trail work, boardwalks, restrooms, parking lots	June 2024	October 2024

2.4 Project Methods

2.4.1 STREAM CHANNEL RESTORATION

The various components of stream channel restoration (Figure 2) would likely occur during a period of up to 4.5 months per construction season and scheduled for mid to late summer (after July 1) to avoid instream work during the fish spawning season, but before wildfire season (which is starting earlier and ending later each year) (CALFIRE 2021) compromises resources. The South Yuba River commonly has standing pools with no flowing water during the planned construction period; a dewatering plan would be developed based on these conditions. Upper Castle Creek has perennial water, but instream work would be limited to beaver dam analogs (BDAs) and post-assisted log structures (PALS). Dewatering of Upper Castle Creek would be planned accordingly. Lytton Creek channel work within the meadow downstream of the county road would be planned for the first construction season, and channel work upstream of the county road would be planned for the second construction season. Lytton Creek is anticipated to be dry during the construction periods, and no dewatering would be necessary.

Surveys for fish and other aquatic organisms would be conducted prior to diversion and subsequently removed from the area to be dewatered in accordance with a CDFW-approved dewatering plan. Any localized water rerouting would be minimized in both time and area to the greatest extent possible. Temporary diversion construction activities would minimize downstream turbidity according to the Stormwater Pollution Prevention Plan (SWPPP). A post-Project erosion control plan would be developed and implemented. Where necessary, downstream siltation structures and sump stations would be placed to control sediment and provide for clear discharge out of the project area during implementation.

2.4.1.1 Channel Fill

The proposed Project would fill stream channels along 2.38 miles of the South Yuba River, 0.37 mile of Lytton Creek, and 0.04 mile of Castle Creek to match floodplain elevations and allow for hydrologic connectivity with existing distributary channel network.

2.4.1.2 Partial Channel Fill and Beaver Dam Analog/Pole Assisted Log Structures

The proposed Project would partially fill or place BDAs/PALS along 0.82 mile of the South Yuba River, 0.23 mile of Lytton Creek, and 0.23 mile of Castle Creek to match floodplain elevations and allow for hydrologic connectivity with existing distributary channel network.

2.4.1.3 Lytton Fan Restoration

Lytton Creek has several small channels that are disconnected from the alluvial fan because of the parking area and areas adjacent to the Van Norden Dam Road. To reconnect the disconnected stream segments on the Lytton fan, actions would include plugging the channel high upstream with the addition of roughness features and grading in the Lytton West floodplain area north of the county road, degrading and reconstructing approximately 0.2 mile of the Van Norden Dam Road with installation of up to 50 culverts to allow for spreading of flow off the hillside, and degrading and relocating the existing parking area. The degraded areas would be blended with the natural topography, de-compacted to approximately 18 inches below surface with an excavator, mulched, and seeded or otherwise revegetated once proposed Project construction is completed. The existing parking lot would be relocated to a drier area east of Lytton Creek.

2.4.1.4 Reed Canarygrass Treatment

Treatment of reed canarygrass would be a multi-year, adaptive management effort that would include the following treatment prescriptions:

- Reed canarygrass seed heads would be clipped, bagged, and disposed of 1 year in advance of stream restoration and in the years following stream restoration to reduce future seed availably.
- During the stream restoration, the top 3 inches of soil would be mechanically scraped to remove shoots and roots of reed canarygrass within the inset floodplain. Material would be placed in the bottom of to-be-filled stream segments and buried by additional fill.
- Scraped areas would be revegetated using available sod mat, seeding, sedge plugs, and willow pole plantings.
- Select areas would be tarped using thick black or clear plastic soon after snowmelt and left in place for one growing season. Tarped areas would be revegetated using available sod mat, seeding, sedge plugs, and willow pole plantings.

2.4.1.5 Surface Roughness Features

Surface roughness features would be added to slow water flow and reduce potential for erosion. Surface roughness would be created on top of channel fill and stripped areas by planting vegetation, installing salvaged meadow vegetative and harvested sod mats, embedding harvested logs, and installing select rocky material. Embedded logs are intended to redirect flow to limit potential for channelization in newly placed channel fill. Harvested sod and revegetation are intended to slow water flow and to anchor soil via rooting.

2.4.1.6 Dam Degrade/Borrow Area

Approximately 3.5 acres of the existing dam berm would be removed and brought to less than 3 feet above meadow grade. A gently sloping grade would be retained to the highest point to allow for integrity and trail construction. Dam material would be sorted, mixed with chips from tree removal efforts, and used in the project as fill material. Any unusable material would be removed from the site as waste.

2.4.2 CONIFER TREATMENT

Up to 120 acres of conifers (primarily lodgepole and some white fir) would be removed or thinned to restore the meadow surface, aspen, and the surrounding forest (Figure 2). Within the proposed Project area, conifers would be removed using hand or mechanized equipment including, but not limited to, feller bunchers, skidders, chippers, masticators, end or long lining, tracked and rubber-tired machinery, and other typical aerial or ground-based logging machinery. The majority of material generated from conifer removal will be incorporated into fill material for stream restoration activities or kept on-site via chipping and mastication. The remaining material will be disposed of via grapple piling for burning, decking for public fuelwood cutting, sold as commercial fuel wood, and/or biomass removal. Conifers would be completely severed below the lowest live branch to a maximum height of 8 inches above the surface. The area would be allowed to revegetate naturally.

Within the Conifer encroachment zone, all conifers would be removed except in the area of the Royal Gorge cross-country ski trail where the following prescription would be applied:

- Conifers along the ski trails would be thinned, rather than removed, to retain desirable shade for cross-country ski user groups. Adjacent to the cross-country ski trail alignment and to 25 feet from the trail, conifers would be thinned to an average spacing of 10 feet as measured to the bole of the tree. Spacing should be variable and range from 5–15 feet to promote a natural aesthetic. The edge would be feathered away from the ski trail so that conifer density is reduced further away from the trail.

- In thinned areas adjacent to the Royal Gorge cross-country ski trail, retain the healthiest, most vigorous lodgepole pine. Retained pines should be vigorously growing and have healthy full crowns with high live crown ratios (>40 percent) which are not chlorotic or fading. Retain pines which are free of pests, pathogens, and defects.

- Establish equipment exclusion zones: some conifers would remain where mechanized equipment is not permitted. These would be thinned using hand tools.

Forest thinning would focus on removing smaller conifers (i.e., less than 24 inches diameter breast height [DBH]); however, conifers greater than 24 inches may be cut if they are infected with pests or pathogens, have weak chlorotic crowns, or are fading/dying. Tree removal would follow a "thin from below" strategy which progressively removes the smallest diameter trees until desired conditions are met. Tree selection may deviate to encourage spatial heterogeneity or where larger trees are unhealthy, infected with pests or pathogens, have weak chlorotic crowns, and/or are dying. Slash from limbs and boles would be removed to the extent possible.

- All conifers less than 12 inches diameter breast height (DBH) would be thinned to a 25-foot spacing.
- Within 10 feet of the dripline of healthy, vigorous, large-diameter (i.e., greater than 24 inches DBH) trees, all trees that are less than 24 inches DBH would be removed.
- Within 50−75 feet of riparian vegetation including but not limited to, cottonwood, aspen, willows, alder, thin all conifers less than 30 inches DBH.
- Remove trees up to 30 inches DBH which are significantly infected by pests or pathogens, have weak or chlorotic crowns and/ or are in imminent threat of mortality.
  - Trees which are removed for forest health reasons should be removed if they have a spreadable pest or pathogen such as mountain pine beetle or dwarf mistletoe or will experience imminent mortality (i.e., survival of less than 5 years) if left in the stand.
- Retain denser clumps of trees around wildlife habitat areas where mechanized equipment is not permitted.
- Within wildlife habitat areas, thin trees less than 10 inches DBH by hand; do not remove larger material where it cannot be removed from the unit.
- Within 50 feet of the roads and private property, trees would be limbed to 6 feet or half the height of the tree, whichever is less.
- Within 50 feet of roads and property boundaries, limb all trees up to 6 feet or no more than half the height of the tree, whichever is less.
- Work may be accomplished using hand or mechanized equipment including but not limited to feller bunchers, skidders, chippers, masticators, tracked and rubber-tired machinery, and other typical logging machinery.
  - Conifers cut by hand within the wildlife habitat enhancement areas should be removed from the stand, chipped within the stand, or piled to be burned at a later date.

- Tree stumps greater than 14 inches in diameter would be treated with a borax compound to prevent the Heterobasidion root disease from infecting cut stumps.
- Conifers that are to be removed would be completely severed below the lowest live branch to a maximum height of 8 inches above the surface.

2.4.2.1 Conifer Regeneration Abatement

Within the meadow area, raising the groundwater levels may promote some lodgepole mortality over time, assisting in managing future encroachment. However, a long-term management strategy is warranted to address future conifer encroachment as it is likely to recur in dryer areas of the meadow where/if the groundwater does not rebound. An adaptive management approach to future conifer encroachment is warranted due to this uncertainty. Abatement of conifer seedlings would be addressed through a combination of hand removal, lop and scatter, or broadcast burning.

2.4.3 ROAD IMPROVEMENTS AND STAGING AREAS

All access routes and staging areas would be blended with the natural topography and de-compacted to approximately 18 inches below surface with an excavator, mulched, and seeded or otherwise revegetated once construction is completed. The designated temporary access routes and staging areas would be designed to minimize effects to resources in the area (e.g., plants, wildlife). MMs such as designed access routes that retain existing vegetation and that limit equipment movement into sensitive areas would be the primary means of reducing impact. In areas where more impact may be required to attain stated goals, steps to reduce compaction and restore complementary topography would be employed along with active revegetation. Other methods employed to minimize and mitigate effects to resources on these routes and staging areas would be detailed in permitting and erosion control plans required in association with the proposed Project. Repair, maintenance, re-alignment, or decommissioning of existing routes and trails is needed to reduce future resource damage.

Decommissioning and realignment activities are designed to promote natural recovery of the road surface by restoring the natural hydrologic function of the soil and reducing runoff and erosion.

2.4.3.1 Van Norden Dam Road and Pacific Gas & Electric Road Improvements

The proposed Project would construct low-water crossings, install culverts, create drivable dips, out-slope the road, and replace bridges at drainages where sediment movement or erosion is present along Van Norden Dam Road and the Pacific Gas & Electric (PG&E) access road to improve hydrologic connectivity and reduce sediment delivery from the roads.

2.4.3.2 Meadow Bisect Road Improvement

The proposed Project would entail the construction of low-water crossings or install culverts at drainages and add fill along approximately 0.12 mile of road to improve hydrologic connectivity and reduce sediment delivery from the road. The proposed Project would decommission approximately 0.27 mile of road within the meadow and replace it with a 120-foot bridge to allow for hydrologic connectivity. Finally, the

proposed project would realign and construct 0.09 miles of road to retain connectivity with the PG&E access road and the trails system.

2.4.3.3 Temporary Access Routes and Staging Areas

Access routes and staging areas for construction equipment were designated to reduce the distance equipment would need to travel and reduce impacts to resources. In wetter sites, designated routes and crossings would adhere to best management practices (BMPs), management requirements (MRs), and the SWPPP to minimize soil and drainage disturbance, the potential for erosion, and enhance restoration success. Equipment would access the proposed Project area on the designated access routes illustrated on Figure 2. Designated temporary access routes would cover approximately 2 acres. Equipment staging would be in the parking area at the west end of the meadow and at the current Sheep Pens Parking Area; smaller staging areas would be established within the meadow for the South Yuba bridge replacement on the Meadow bisect road.

2.4.4 RECREATION IMPROVEMENTS

The proposed recreation improvements (Figure 3) would be designed to meet the Forest Service Trail Accessibility Guidelines, help ensure that all new or altered trails connect directly to a trailhead, comply with federal and Forest Service access, and adhere to BMPs, MRs, and the SWPPP to minimize soil and drainage disturbance, the potential for erosion, and enhance restoration success.

2.4.4.1 Trail Construction

A trail network would be constructed to circumnavigate Van Norden Meadow. New trail construction would connect portions of existing user-created trails where the alignment does not impact meadow-related resources. User-created trails not adopted into the formalized system would be restored using native materials such as pine needles, rocks, and woody debris.

The formalized trail network would include two trailhead access points: one near the old dam and the other near the Sheep Pen area (Figure 3). Trail users would be able to walk, bike, or ride horses along the north and east sides of the meadow and have three options to experience the south side of the meadow. They could choose a longer loop that builds in elevation to the ridge along the south side of the meadow that connects to a proposed section of the Donner Lake Rim Trail/Memorial Overland Emigrant Trail; a mid-slope, red fir forest option with filtered views of the meadow; or a shorter, lower gradient route that follows the PG&E powerline access road. Providing sustainable trail access to the ridge would reward visitors with an expansive view of the meadow and surrounding mountains.

Where necessary, user-created trails would be improved to address existing issues associated with drainage and other resource damage. This would include construction of low-water crossings, short sections of boardwalks, and bridges.

All trail bridges would be constructed to meet the Trail Management Objectives developed for each trail, and bridges would be constructed using the *Standard Specifications for Construction of Trails and Trail Bridges on Forest Service Projects* and built to meet snow load standards (USFS 2014).

2.4.4.2 Viewing Platforms and Interpretive Signage

Viewing platforms with interpretive signage would be incorporated into the trail design to enhance birding and wildlife viewing opportunities that are accessible to a diverse array of recreationists. These platforms would be wood and metal construction and would include a place to sit. The platforms would create a more immersive experience for trail users who would access platforms from the trail and would also encourage users to stop, rest, and experience the meadow and surrounding landscape. Viewing platforms would be placed at three locations within the meadow, including the old dam berm, within the conifer encroachment area on the north side of the meadow, and on the south side of the meadow bisect road (Figure 3).

2.4.4.3 Fencing

Fencing that is aesthetically integrated with Van Norden Meadow (e.g., buck and rail) may be utilized where necessary to delineate parking limits and serve as a design element to interpret conservation of resources and sustainable recreation access. Fences would be constructed using natural materials such as lodgepole pine poles harvested onsite, cedar split rails, or other wood poles and constructed to withstand heavy snow loads.

2.4.4.4 Trailheads and Parking Areas

Two trailheads and parking areas would be constructed to accommodate public access on the west and north sides of the meadow. Parking lot construction would include spaces for at least 20 vehicles, include a trailer turn-around, trailhead signage, and restroom facilities. At the first trailhead, the parking area would be located adjacent to the PG&E substation where the current dam berm and spillway exists (Figure 3). The existing berm would be decommissioned, and the material would be used as a fill source for meadow restoration. The second trailhead and parking area would be constructed on the north side of the meadow near the old sheep pins area (Figure 3). This area is currently used as a parking area, but its current location disrupts Lytton Creek's hydrologic flows. Relocating the existing parking lot 0.1 mile to the east along the Van Norden Dam Road would reactivate the alluvial fan and meet the meadow restoration goals described above.

2.4.4.5 Cross-Country Ski Trails

The proposed Project provides for the establishment of cross-country ski trail reroutes that may be needed where groomed trails are impacted by rain-on-snow events that are expected to increase. Reroutes would be authorized through the USFS Special Use Authorization process. Reroutes would be placed where sufficient snow depth exists and where grooming operations can resume without causing resource damage.

2.5 Operation

The proposed Project would require no ongoing operation following the proposed Project completion; however, restoration success monitoring would occur. As such, adaptive management and/or corrective

actions would be taken as necessary in accordance with permit requirements and to achieve the restoration goals.

2.6 Permits and Other Agency Approvals

Compliance with the following regulations would likely be required for construction of the proposed Project:

- California Fish and Game Code Section 1602
- Clean Water Act Section 401 Water Quality Certification
- Clean Water Act Section 402 General Construction Stormwater Permit
- Clean Water Act Section 404 Nationwide 27 Permit
- National Historic Preservation Act Section 106 Concurrence
- Nevada County Grading Permit
- Placer County Grading Permit

3 Impact Analysis

This IS/MND uses the following terms to describe the level of significance of adverse impacts. These terms are defined as follows.

- **No Impact**: An impact that would result in no adverse changes to the environment.
- **Less-than-Significant Impact:** An impact that is potentially adverse but does not exceed the thresholds of significance as identified in the impact discussions. Less-than-significant impacts do not require mitigation.
- **Less than Significant with Mitigation:** An environmental effect that may cause a substantial adverse change in the environment without mitigation, but which is reduced to a level that is less than significant with mitigation identified in the Initial Study.
- **Potentially Significant Impact**: An environmental effect that may cause a substantial adverse change in the environment; either additional information is needed regarding the extent of the impact to make the significance determination, or the impact would or could cause a substantial adverse change in the environment. A finding of a potentially significant impact would result in the determination to prepare an Environmental Impact Report.

3.1 Aesthetics

3.1.1 REGULATORY SETTING

3.1.1.1 Federal

Wild and Scenic Rivers Act

The National Wild and Scenic Rivers System (NWSRS) was created by the Wild and Scenic Rivers Act of 1968, as amended (Public Law 90-542; 16 U.S. Code [USC] 1271 et seq.) to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations (NWSRS 2021). The Act is notable for safeguarding the special character of these rivers, while also recognizing the potential for their appropriate use and development. Rivers are classified as wild, scenic, or recreational. Recreation, agricultural practices, residential development, and other uses may continue. Protection of the river is provided through voluntary stewardship by landowners and river users and through regulation and programs of federal, state, local, or tribal governments (NWSRS 2021). An approximate 20-mile stretch of the South Yuba River from Lang Crossing at Bowman Lake Road to its confluence with Kentucky Creek below Bridgeport is designated as a California Wild and Scenic River (Public Resources Code [PRC] Section 5093). However, this segment of river is greater than 16 miles from the proposed Project area.

3.1.1.2 State

California Scenic Highway Program

The State of California Department of Transportation (Caltrans) administers State scenic route designations per the California Scenic Highway Program. The goal of this program is to preserve and protect scenic highway corridors from changes that would affect the aesthetic value of the land adjacent to highways. A highway may be designated “scenic” depending on how much of the natural landscape travelers can see, the scenic quality of the landscape, and the extent to which development intrudes on travelers’ enjoyment of the view. State scenic route designations in the proposed Project vicinity include (Caltrans 2021):

- State Route 20 from Skillman Flat Campground to0.5 mile east of Lowell Hill Road is an officially designated State Scenic Highway;
- Interstate 80 from Emigrant Gap east to the California/Nevada state line is an eligible State Scenic Highway, not officially designated.

The section of State Route 20 that is a State Scenic Highway is approximately 17 miles west from the proposed Project area. The section of Interstate 80 (I-80) designated as an eligible State Scenic Highway runs west to east approximately 0.5 mile north of the proposed Project area in Nevada County and is used as the main access to reach the proposed Project (Figure 1).

3.1.1.3 Local

Nevada County General Plan

The following goals and policies are from the Aesthetics Element of the Nevada County General Plan (General Plan) related to aesthetics, light, and glare (Nevada County 1995), and are relevant to the proposed Project. The goals that directly pertain to the proposed Project are discussed in the impact analysis below.

Objective 18.2 Develop standards to protect scenic resources and viewsheds.

> **Policy 18.7** Encourage protection of scenic corridors wherever feasible.

Objective 18.3 Promote the conservation of scenic roads and highways.

> **Policy 18.8A** The County will designate scenic corridors along the following routes: Interstate 80 and Highways 49, 89, 174, and 267 for their entire length in the County; all of Highway 20, Donner Pass Road (Old Highway 40), from the Interstate 80 intersection at Soda Springs to the town limits of Truckee. These corridors should be placed within the SC "Scenic Corridor" Combining District, with boundaries based upon adopted studies.

Soda Springs Area Plan 2016

The following goals and policies from the Natural and Cultural Resources chapter related to aesthetics are relevant to the proposed Project. Those goals and policies that directly pertain to the proposed Project are discussed in the impact analysis below. In addition, large portions of Old Highway 40 (i.e., Donner Pass Road) still remain and the section from Cisco Grove to the Rainbow Bridge is considered one of the most scenic pieces of highway in the country (Nevada County 2016).

Goal NCR-2: Ensure the built environment does not adversely affect natural resources in the Donner Summit area.

> **Policy NCR-2.1: Scenic Protection** Preserve the extraordinary aesthetic quality and scenic values of the Donner Summit area, including the following prominent ridgelines in Nevada County: Castle Peak, Beacon Hill, Boreal Ridge, and Signal Hill. Request consultation with Placer County when development is proposed on the following prominent ridgelines in Placer County: Donner Peak, Mount Judah, Mount Lincoln, Crow's Nest, Rowton Peak, and Devil's Peak. Examine impacts to the identified landscape views from roadways, bike paths, and public areas for all proposed development.

3.1.2 ENVIRONMENTAL SETTING

The proposed Project area is located in the Sierra Nevada Mountain Range south of both I-80 and Donner Pass Road and northwest of Sugar Bowl ski area. Although I-80 is not officially designated as a State Scenic Highway it is on the Caltrans list as eligible State Scenic Highway (Caltrans 2021) and is the closest highway to the Project. Additionally, Donner Pass Road (Old Highway 40) is within a Nevada County designated scenic corridor and is adjacent to the proposed Project site to the north respectively.

The aesthetic character of Van Norden Meadow surrounding the Project site is typical of a Sierra meadow environment with forests surrounding the vast open meadow area. Van Norden Meadow is one of the larges sub-alpine meadows in the Sierra and is the headwaters of the South Yuba River, collecting spring runoff from Castle Peak, Sugar Bowl, and Razorback Ridge. The meadow contains an important, yet rare, ecosystem that benefits wildlife and people (TDLT 2017). The meadow has a rich human history and was dammed in 1874. In 1916, PG&E took ownership of the dam, enlarged it, and at that point most of the meadow was covered in water. By 1976, the dam was deemed unsafe, and it was notched to release most of the water (Bunker 2018). In 2012, TDLT acquired the meadow and then transferred it to USFS in 2017. In 2019, the existing dam infrastructure was deemed unsafe in its current state, and it was notched an additional five feet.

Restoring Van Norden Meadow will alter the appearance of the meadow during construction and immediately after. Once the work is completed, the disturbed areas within the meadow will be reshaped and revegetated. (i.e., seeded and mulched) to enhance native plant flora within the meadow system. Willow and sedge planting would occur where native plant recruitment is desired. Surface roughness would be created on top of channel fill and stripped areas by planting vegetation, installing salvaged meadow vegetative mats (e.g., harvested sod), installing harvested logs (e.g., embedded logs), and by installing select rocky material. Throughout the proposed Project area, all disturbed areas from construction would be revegetated and restored upon the completion of the proposed Project. Additionally, the meadow is currently surrounded by a dense lodgepole pine grove encroaching on the

meadow habitat, which will be thinned to reduce the encroachment and enhance meadow visibility from surrounding areas. These restoration activities will not only aid in the revegetation of the meadow but also enhance the aesthetic appearance of the meadow following construction.

3.1.3 IMPACT ANALYSIS

I. AESTHETICS Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	—	—	**X**	—
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway?	—	—	**X**	—
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?	—	—	**X**	—
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	—	—	**X**	—

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

Finding: Less than Significant

Van Norden Meadow is visible from nearly every ridgeline and peak surrounding the meadow including Castle Peak, Mount Judah, Crow's Nest, and Soda Springs Mountain Resort. The proposed Project is also visible from Donner Pass Road which is within a Nevada County Scenic Corridor. The proposed Project activities will temporarily affect the scenic quality of the meadow (approximately 4.5 months each year, over three years). In addition, the proposed Project would alter vegetative types within the meadow shifting from dry meadow upland species to those more typical to a wet meadow environment such as willows and other riparian species. These changes in vegetation would cause minor aesthetic changes and would not likely be noticeable to anyone passing by on nearby Donner Pass Road. The meadow restoration activities will enhance and restore the ecosystem of the meadow and the aesthetic quality of the meadow will improve following construction due to the meadow being restored to historic conditions. As such, the proposed Project would not have a substantial adverse effect on any scenic vista. 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?

Finding: Less than Significant

Based on review of the Caltrans State Scenic Highway list and the General Plan, the proposed Project site is not adjacent to or visible from a designated State Scenic Highway (Caltrans 2021; Nevada County 1995). Donner Pass Road is within a designated scenic corridor (Nevada County 1995a). No impacts would occur as a result of the proposed Project to scenic resources within either I-80 or Donner Pass Road. Viewers on Donner Pass Road have a view of the nearby proposed Project area; however, views of construction activities would be temporary in nature for the approximately 2−3-month construction season each year (2022 and 2023) and would be similar to existing conditions once construction is complete. Slight landscape scarring may be noticeable in the short-term post construction while revegetation plantings and seedings take root; however, the revegetation of the proposed Project area would ensure that impacts are short-term and less than significant. Slight alternations to meadow topography would occur, but the visual character of the meadow environment would remain intact. Additionally, the conifer treatment activities (i.e., thinning of lodgepole pine stands surrounding the meadow) would increase the long-term visibility of the scenic subalpine meadow. Since there are no designated State Scenic Highways in the Project area, the proposed Project's minor alterations to the meadow are temporary, views of the Project from Donner Pass Road are limited and would only be enhanced, and the proposed Project would not substantially or adversely damage the scenic nature of Van Norden Meadow, the proposed Project would not have an impact to scenic resources within a State Scenic Highway. Therefore, a less than significant impact to scenic resources within a State scenic highway would occur.

c) Would the Project 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?

Finding: Less than Significant

The proposed Project is located in a non-urbanized area. The restoration activities would slightly alter the current visual character of the site and its surroundings by removing flow impediments to historic drainage patterns, utilizing PALS and BDAs, and filling portions of the existing degraded channels. Additionally, the proposed Project would remove and thin up to 150 acres of conifers that have encroached into the meadow edge and interior. The material removed would either be repurposed as stream channel roughness features, made available to the public for firewood, made available to the Washoe Tribe for cultural use, or masticated and left in place. However, the proposed Project would result in a more historic natural setting in the Project influence area that would visually appear similar to the surrounding area. This change would not degrade the visual character of the area.

Additionally, the presence of construction equipment would temporarily alter the character of the site. However, construction activities would only last approximately 4.5 months per season (over three construction seasons) and would therefore not be considered significant. The proposed Project site would be restored when complete, and revegetation with native plants and seedlings would limit the potential long-term impacts from ground disturbing activities. Once vegetation, wintertime stormwater flows, and native wildlife have assimilated back into the region, the area would be restored back to historic riparian, aquatic, and wetland functions, ensuring the visual character would not be degraded. Additionally, the

conifer treatment activities (i.e., lodgepole pine stand thinning) will enable enhanced views of the scenic meadow from surrounding vantage points. Therefore, the proposed Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings, and any impact would be less than significant.

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

Finding: Less than Significant

Construction activities would temporarily introduce equipment and vehicles to the proposed Project site. If req, these construction-related impacts would be temporary, lasting approximately 4.5 months per season (over three construction seasons) during the late summer months. The proposed Project does not include any new operational lighting and would not create any new permanent sources of light or glare once in operation. Additionally, there are no residences within the proposed Project area or immediately adjacent to it, thus any potential temporary lighting or glare from the proposed Project construction would have a minimal effect on nearby by sensitive receptors. Therefore, there would not be any new sources of permanent light or glare and there would be minimal temporary lighting from construction activities. Thus, impacts would be considered less than significant.

3.1.4 MITIGATION MEASURES

No mitigation is required.

3.2 Agricultural and Forestry Resources

3.2.1 REGULATORY SETTING

3.2.1.1 Federal

Farmland Protection Policy Act

The Farmland Protection Policy Act of 1981 (Sections 1539-1549 Public Law 97-98), requires the Secretary of Agriculture to establish and carry out a program to "minimize the extent to which federal programs contribute to the unnecessary and irreversible conversion of farmland to nonagricultural uses, and to the extent practicable, will be compatible with State, units of local government, and private programs and policies to protect farmland." (7 USC 4201-4209 and 7 USC 658) (NRCS 2021).

National Forest Management Act

The National Forest Management Act of 1976 requires that the USFS assess the nation’s renewable resources to develop a program of use and subsequently develop a Land Use Management Plan (LMP) for each National Forest. As such, the Tahoe National Forest Land and Resource Management Plan as amended by the Sierra Nevada Forest Plan Amendment Record of Decision (SNFPA) (USFS 2004) describes strategic direction at the broad program level for managing National Forest System (NFS) lands and resources. The USFS uses the SNFPA to help guide the management of lands and resources (USFS

2004). The SNFPA includes guidance pertaining to various resource areas including forested ecosystems, aquatic, riparian, and meadow ecosystems and associated species, fire and fuels, noxious weeds, among others.

3.2.1.2 State

Williamson Act

The California Land Conservation Act of 1965, also known as the Williamson Act, is the State's principal policy for the "preservation of a maximum amount of the limited supply of agricultural land in the State" (Cal. Government Code Section 51220(a)). The purpose of the Williamson Act is to preserve agricultural and open space lands by discouraging premature and unnecessary conversion to urban uses. The Williamson Act enables private landowners to contract with counties and cities to voluntarily restrict their land to agricultural and compatible open space uses. In return for this guarantee by landowners the government jurisdiction assesses taxes based on the agricultural value of the land rather than the market value, which typically results in a substantial reduction in property taxes (DOC 2019a).

Open Space Subvention Act

The purpose of the Open Space Subvention Act (OSSA), enacted on January 1, 1972 (California Government Code Section 16143), is to provide for the partial replacement of local property tax revenue forgone as a result of participation in enforceable open space restriction programs such as the Williamson Act (DOC 2019b). The OSSA states that land shall be deemed to be devoted to open space uses of Statewide significance if (CLI 2021a):

a) Could be developed as prime agricultural land, or

b) Is open space land as defined in Section 65560 which constitutes a resource whose preservation is of more than local importance for ecological, economic, educational, or other purposes. The Secretary of the Resources Agency shall be the final judge of whether the land is in fact devoted to open-space use of Statewide significance.

California Public Resources Code

The following California PRC section regarding the California Forest Legacy Program Act of 2007 are discussed in the impact analysis below (CLI 2021b):

Section 12220(g): "Forest land" is land that can support 10 percent native tree cover of any species, including hardwoods, under natural conditions, and that allows for management of one or more forest resources, including: timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits (CLI 2021b).

3.2.1.3 Local

Nevada County General Plan

The following goals and policies from the Forest and Agriculture Elements related to forestry and agriculture resources are relevant to the proposed Project (Nevada County 1995a and 1995b). Those goals and policies that directly pertain to the proposed Project are discussed in the impact analysis below.

Goal 15.1 Identify and maintain sustainable timber lands and resources.

Objective 15.1 Identify and protect significant timber lands from conversion to unrelated residential and other non-timber-related uses.

Objective 15.2 Promote and provide for the continued diversity and sustainability of the forest resources including timber, watersheds, wildlife habitat, aesthetics and recreation.

Objective 15.3 Provide for both on-site and off-site forest-related industries while minimizing conflicts with adjacent uses.

Goal 16.1 Encourage the use of significant agricultural lands and operations in Rural Regions.

Objective 16.1 Identify and encourage the use of significant agricultural lands based on soil type and suitability for various forms of agriculture.

Objective 16.2 Maintain and encourage agriculture on lands zoned for agricultural use, especially those which border Community Regions, while minimizing conflicts with adjacent non-agricultural lands.

Objective 16.3 Minimize and reduce pressures to convert lands zoned for agricultural use to more intensive uses.

Objective 16.4 Identify the appropriate parcel sizes on lands zoned for agricultural use that provide for a range of agricultural operations that may be carried on in those zones.

Objective 16.5 On all lands zoned for agricultural use, allow and provide for on-site and off-site support facilities, services and uses that further local agricultural production and marketing.

Objective 16.6 Allow housing for agricultural workers and their families on lands zoned for agricultural use, to serve seasonal requirements.

Goal 16.2 Promote a strong and sustainable local agricultural economy.

Objective 16.7 Allow marketing of products grown or processed on-site in all areas zoned for agricultural uses.

Objective 16.8 Facilitate the placement of significant agricultural lands in the Williamson Act.

Objective 16.9 Promote new means for the recycling of waste that could be used by agricultural operations.

Goal 16.3 Provide for and protect agricultural water supplies.

Objective 16.10 Support the provision of adequate water for agricultural irrigation in Nevada County, while encouraging conservation in its use.

3.2.2 ENVIRONMENTAL SETTING

The proposed Project would be located on land owned by the USFS and TDLT in both Nevada and Placer counties, with Project activities occurring primarily on land governed by the USFS. During the planning stages of the proposed Project, the General Plan, land ownership, county zoning, and USFS special-uses program goals, objectives, and regulations were taken into consideration. The General Plan and land use designation for the Project area is Forest, which is intended to provide for production and management of timber resources (Nevada County 2020). The zoning designation for the Project area is Forest in Nevada County and both Forest and Water in Placer County (Nevada County 2021a and Placer County 2021). Pursuant to the Nevada County Zoning Regulations, the Forest District is intended to protect and support timber uses such as open space and recreational uses (Nevada County 2021a).

As of 2017, there are no lands with Williamson Act contracts in the proposed Project area within Nevada and Placer Counties (DOC 2019c, Nevada County 2021b). Additionally, the proposed Project area is outside the survey area for the State's Farmland Mapping and Monitoring Program (FMMP). Based on a review of the California Department of Conservation's guidelines for determining important farmlands (DOC 2019c) and a review of the characteristics of soils, there are no rangelands or agricultural lands to be of economic importance for the production of food and fiber located within the proposed Project area. The proposed Project area is not currently used as agricultural land and is not planned to be converted to that use in the future.

3.2.3 IMPACT ANALYSIS

II. AGRICULTURAL AND FORESTRY RESOURCES **Would the Project:**	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**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?	—	—	—	**X**
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	—	—	—	**X**
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))?	—	—	**X**	—

3 Impact Analysis

II. AGRICULTURAL AND FORESTRY RESOURCES **Would the Project:**	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less than Significant Impact**	**No Impact**
d) Result in the loss of forest land or conversion of forest land to non-forest use?	—	—	**X**	—
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?	—	—	—	**X**

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?

Finding: No Impact

The proposed Project lies outside of the survey boundary of the FMMP (FMMP 2019c) and therefore is not on land pursuant to the FMMP. The proposed Project is not located on land currently used as agricultural lands and the proposed use of the property is consistent with designated land uses and the present zoning classification. Since the proposed Project would not convert Farmland as designated by the FMMP to non-agricultural use, there would be no impact.

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

Finding: No Impact

The zoning designation for the proposed Project area is both Recreation and Forest in Nevada County and both Forest and Water in Placer County (Nevada County 2021a and Placer County 2021), and therefore, the proposed Project would not convert any zoned or land use designated as agricultural land. The proposed Project area is not designated as an agricultural preserve nor is it under a Williamson Act contract based on a review of the most recent Williamson Act lands geographic information system (GIS) map published (DOC 2019c, Nevada County 2021b). The proposed Project would not conflict with existing zoning for agricultural use or a Williamson Act contract, therefore, 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 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))?

Finding: Less than Significant

The zoning designation for the proposed Project area is Recreation and Forest in Nevada County (Nevada County 2021a) where conifer thinning would occur. PRC Section 12220(g) defines forest land as, "... land that can support 10 percent native tree cover of any species, including hardwoods, under

natural conditions, and that allows for management of one or more forest resources, including timber, aesthetics, fish and wildlife, biodiversity, water quality, recreation, and other public benefits." The Project proposes to restore approximately 335 acres of open meadow and approximately 150 acres of edge habitat. A majority of the proposed Project area does not support 10 percent native tree cover as most of the area is meadow consisting primarily of herbs and graminoids. The surrounding area of the meadow currently does support greater than 10 percent native tree cover and this area is planned for conifer thinning.

Although the portion of the proposed Project area that lies within Nevada County (and would have conifer thinning activities) is partially designated as forestland under both the zoning code (FR-40) and the land use code (FOR), it would not conflict with existing zoning purposes for forestry or timberland resources as current or future planned uses for the proposed Project area do not include using it for timberland. The current density of conifers in this area also precludes growing a crop of trees to produce lumber and other forest products. Additionally, the county has gradually transitioned from a resource-based (timber and mining) rural county to a more varied and diverse economic base displayed by the current commercial, rural residential, and recreational uses.

Treatments for the conifer thinning would follow a legal prescription and include thinning and non-commercial removal of select trees for use in restoration activities, as needed. The proposed Project is intended to improve existing forest lands and the resilience and hydrologic function of the meadow. As such, there will be a less than significant impact.

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

Finding: Less than Significant

The Project proposes to restore 485 acres of meadow and meadow edge habitat, 335 acres of which are open meadow and 150 acres are dominated by conifer including primarily lodgepole pine (*Pinus contorta*) and some white fir (*Abies concolor*). Historically, lodgepole pine forests ringed the meadow and supported an understory of grasses and riparian shrub lined seasonally wet channels that flowed into the meadow. Currently, these forests are unsustainably dense, shading and suppressing riparian hardwoods and creating a fuels hazard. Therefore, up to 120 acres of conifers would be removed or thinned to restore the meadow surface, aspen, and the surrounding forest, in compliance with the SNFPA (USFS, 2004). Conifers would be disposed of through chipping, hand or grapple piling for burning, mastication, decking for public fuelwood cutting, sold as commercial fuel wood, biomass removal, and/ or incorporation into fill material for stream restoration activities. While this upland habitat is more likely than wet meadow or riparian habitat to support growth of timber, any tree mortality or gradual transition of upland habitat to wet meadow or riparian habitat associated with the proposed Project would be limited and would not be a substantive loss or conversion of forest land to a non-forest use. Therefore, this would be a less than significant 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?

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Finding: No Impact

The restoration nature of the proposed Project does not conflict with the purposes of the forest zoning designation, and it is not located on Farmland or land under a Williamson Act contract. Instead, the proposed Project is restoring creek function and raising the water table, including the application of conifer treatment methods (thinning). This would improve foraging habitat as well as raising groundwater levels which in turn improves water supply and are consistent with the Forest, Recreation, and Water zoning of the land and consistent with the SNFPA (USFS 2004). Therefore, no impact would occur.

3.2.4 MITIGATION MEASURES

No mitigation is required.

3.3 Air Quality

3.3.1 REGULATORY SETTING

The Project site is located in the Soda Springs, California within both Placer and Nevada Counties, and is within the Mountain Counties Air Basin, under the jurisdiction of the Northern Sierra Air Quality Management District (NSAQMD), the Placer County Air Pollution Control District (PCAPCD), the California Air Resources Board (CARB), and United States Environmental Protection Agency (USEPA).

3.3.1.1 Federal

Federal Clean Air Act

The Federal Clean Air Act (FCAA) establishes the framework for modern air pollution control. The FCAA, enacted in 1970 and amended in 1990, directs the USEPA to establish ambient air quality standards for six pollutants: ozone (O_3), carbon monoxide (CO), lead (Pb), nitrogen dioxide (NO_2), particulate matter 10 microns or smaller (PM_{10}), particulate matter 2.5 microns or smaller ($PM_{2.5}$), and sulfur dioxide (SO_2). These standards are divided into primary and secondary standards; the former are set to protect human health, the latter are set to protect environmental values, such as plant and animal life.

3.3.1.2 State

California Clean Air Act

The California Clean Air Act (CAA) focuses on attainment of the California Ambient Air Quality Standards (CAAQS). These standards are more stringent than federal regulations with respect to certain criteria pollutants and averaging periods. Responsibility for monitoring the CAAQS is placed on the CARB and local air pollution control districts. Table 3-1 shows the Nevada and Placer Counties area designations for State and National ambient air quality standards.

Table 3-1. Nevada and Placer Counties Area Designations for State and National Ambient Air Quality

Criteria Pollutants	State Designation	National Designation
Ozone	Nonattainment	Attainment (Eastern county)
PM_{10}	Nonattainment	Unclassified
$PM_{2.5}$	Unclassified	Unclassified/Attainment
Carbon Monoxide	Unclassified	Unclassified/Attainment
Nitrogen Dioxide	Attainment	Unclassified/Attainment
Sulfur Dioxide	Attainment	Unclassified
Sulfates	Attainment	-
Lead	Attainment	Unclassified/Attainment

Criteria Pollutants	State Designation	National Designation
Hydrogen Sulfide	Unclassified	-
Visibility Reducing Particles	Unclassified	-

Source: CARB 2022

3.3.1.3 Northern Sierra Air Quality Management District

NSAQMD adopted Rules 202 and 226 to improve air quality in the district. Below is a summary of these rules as they apply to the proposed Project.

Rule 202 - Visible Emission limitations

During site preparation, alternatives to open burning of vegetative material shall be used unless otherwise deemed infeasible by NSAQMD. Among suitable alternatives is chipping, mulching, or conversion to biomass fuel. Construction equipment exhaust emissions shall not exceed NSAQMD Rule 202 Visible Emission limitations.

Rule 226 – Dust Control

The purpose of this rule is to reduce and control fugitive dust emissions to the atmosphere. This rule shall apply to any person engaged in: Dismantling or demolition of buildings; Public or private construction; Processing of solid bulk materials (i.e., sand, gravel, rock, dirt, sawdust, ash, etc.); Operation of machines or equipment; and Operation and use of unpaved parking facilities. Any person shall take all reasonable precautions to prevent dust emissions. Reasonable precautions may include, but are not limited to, cessation of operations, cleanup, sweeping, sprinkling, compacting, enclosure, chemical or asphalt sealing, and use of wind screens or snow fences.

No person may disturb the topsoil or remove ground cover on any real property and thereafter allow the property to remain unoccupied, unused, vacant, or undeveloped unless reasonable precautions are taken to prevent generation of dust. A dust control plan must be submitted to and approved by the Air Pollution Control Officer before topsoil is disturbed on any project where more than one (1) acre of natural surface area is to be altered or where the natural ground cover is removed. In the dust control plan, the Air Pollution Control Officer may require use of palliatives, reseeding, or other means to minimize windblown dust.

No person shall cause or allow the handling or storage of any materials on a manner which results or may result in the generation of dust.

Any vehicle operation on a paved roadway with a load of any bulk material susceptible to being dropped, spilled, leaked, or otherwise escaping there from and being entrained in the air, must take one of the following control measures:

1. Six (6) inches of freeboard is maintained within the bed of the vehicle. For the purposes of this regulation, "freeboard" means the vertical distance from the highest portion of the edge of the load to the lowest part of the rim of the truck bed.

2. Materials contain enough moisture to control dust emissions from the point of origin to their final destination. Whenever possible, the use of dust suppressants must be applied in conjunction with the water.

3. In the event that measures 1 or 2 are ineffective in preventing materials from escaping, tarps or other cargo covers shall be employed.

Rocked/paved entry aprons or other effective cleaning techniques (e.g., wheel washers), may be required by the Air Pollution Control Officer to prevent tracking onto paved roadways. Paved entry aprons may include road section or coarse aggregate or steel grate to "knock off" dirt which accumulates on the vehicle and/or vehicle wheels.

Any material which is tracked onto a paved roadway must be removed (swept or washed) as quickly and as safely as possible. Exceptions to this provision may be made by the Air Pollution Control Officer or the project manager for the construction, maintenance, and/or repair of paved roadways and for the application of de-icing and traction materials for wintertime driving safety.

Additionally, the NSAQMD has established tiered significance thresholds to determine a project's potential impacts and provide a basis from which to apply mitigation measures. This approach has been developed for NO_x, ROG (reactive organic gases), and PM_{10} and includes the following threshold levels:

- A project with emissions meeting Level A thresholds would require the most basic mitigations;
- Projects with project emissions in the Level B range would require more extensive mitigation; and
- Those projects which exceed Level C threshold would require the most extensive mitigations.

The NSAQMD significance thresholds emission limits are detailed in the Table 3-2.

Table 3-2. NSAQMD Tiered Significance Thresholds for Daily Maximum Emissions

NSAQMD Significance Thresholds	NO_x	ROG	PM_{10}
Level A (lbs/day)	<24	<24	<79
Level B (lbs/day)	24-136	24-136	79-136
Level C (lbs/day)	≥136	≥136	≥136

NO_x, ROG, and PM_{10} emissions must be mitigated to a level below Level C to be considered less than significant. If emissions for NO_x, ROG, and PM_{10} exceeds 136 pounds per day, then there is a *significant* impact; below Level C is *potentially significant* (NSAQMD 2016).

3.3.1.4 Placer County Air Pollution Control District

Below is a summary of the adopted rules from the PCAPCD CEQA Air Quality Handbook (Updated November 21, 2017) that pertain to the proposed Project.

Rule 202 - Visible Emissions

A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three (3) minutes in any one (1) hour which is:

A. As dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or

B. Of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke described in Subsection (A) above.

Rule 205 Nuisance

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause to have a natural tendency to cause injury or damage to business or property.

Rule 207 – Particulate Matter

A. For the Sacramento Valley Air Basin and the Mountain Counties Air Basin portions of the Placer County APCD a person shall not release or discharge into the atmosphere from any source or single processing unit, exclusive of sources emitting combustion contaminants only, particulate matter emissions in excess of 0.1 grains per cubic foot of gas at District standard conditions.

Rule 228 - Fugitive Dust

Rule 228 establishes standards to be met by activities generating fugitive dust. Rule 228 applies to the entire County of Placer and addresses fugitive dust generated by construction and grading activities, and by other land use practices including recreational uses. Fugitive dust is particulate matter discharged into the atmosphere due to a man-made activity or condition. Examples of dust sources that are subject to the rule are excavating and trenching, drilling, boring, earthmoving and grading operations, pavement or masonry cutting operations, brush clearing, travel on unpaved roads within construction sites, and wind-blown dust from uncovered graded areas and storage piles. Rule 228 establishes standards to be met by activities generating fugitive dust. Among these standards to be met is a prohibition on visible dust crossing the property boundary, generation of high levels of visible dust (dust sufficient to obscure vision by 40%), and controls on the track-out of dirt and mud on to public roads. The regulation also establishes minimum dust mitigation and control requirements. Rule 228's minimum dust control practices must be used for all construction and grading activities.

Additionally, the PCAPCD has established significance thresholds to determine a project's projected impacts and provide a basis from which to apply mitigation measures. This approach has been developed for NO_x, ROG, and PM_{10} and includes the following threshold levels Table 3-3.

Table 3-3. Placer County Air Pollution Control District Significance Thresholds

PCAPCD Significance Thresholds	NO_x	ROG	PM_{10}
Pounds per day	82	82	82

Source: Placer County Air Pollution Control District (PCAPCD) 2017

3.3.1.5 Local

Nevada County General Plan

The following goals and policies from the Air Quality Element related to air quality are relevant to the proposed Project (Nevada County 2014). Those goals and policies that directly pertain to the proposed Project are discussed in the impact analysis below.

Goal 14.1 Attain, maintain and ensure high air quality.

Objective 14.2 Implement standards that minimize impacts on and/or restore air quality.

Placer County General Plan

The following goals and polies from the Natural Resources Element of the Placer County General Plan are relevant to the proposed Project:

Goal 6.F: To protect and improve air quality in Placer County

Policy 6.F.6. The County shall require project-level environmental review to include identification of potential air quality impacts and designation of design and other appropriate mitigation measures or offset fees to reduce impacts. The County shall dedicate staff to work with project proponents and other agencies in identifying, ensuring the implementation of, and monitoring the success of mitigation measures.

3.3.2 ENVIRONMENTAL SETTING

The proposed Project is located in Soda Springs, California within the Mountain Counties Air Basin. Air quality issues in Nevada and Placer Counties are primarily related to motor vehicle emissions generated from commuting to and from the Sacramento area, as well as prevailing winds transporting pollutants from the San Francisco Bay Area and the Central Valley up against the western Sierra Foothills (NSAQMD 2017). According to the CARB, Eastern Nevada and Placer Counties violate State ozone standards as well as State PM_{10} standards (See Table 3.3-1 above); this can be attributed to the climate, topography, and the growing number of people, industries, businesses, and cars that collectively contribute to the formation of smog (NSAQMD 2017).

Nevada County has two federally recognized air monitoring sites: The Litton Building in Grass Valley (fine particulate matter, also called PM2.5, and ozone) and the fire station in downtown Truckee (PM2.5 only). For eight-hour average ozone concentrations, Nevada County is serious nonattainment for both

the 2008 and 2015 state and federal ozone standards of 75 and 70 parts per billion, respectively (Table 1). Unlike other pollutants, ozone is not typically released directly into the atmosphere from any sources. Ozone is created by the interaction of Nitrogen Oxides and Reactive Organic Gases (also known as Volatile Organic Compounds) in the presence of sunlight, especially when the temperature is high. The major sources of Nitrogen Oxides and Reactive Organic Gases, known as ozone precursors, are combustion sources such as factories, automobiles and evaporation of solvents and fuels. Ozone is mainly a summertime problem, with the highest concentrations generally observed in July and August, when the days are longest, especially in the late afternoon and evening hours. Ozone is considered by the California Air Resources Board to be overwhelmingly transported to Nevada County from the Sacramento Metropolitan area and, to a lesser extent, the San Francisco Bay Area. This recognition of overwhelming transport relieves Nevada County of CAAQS-related requirements, including the development of CAAQS attainment plan with a "no-net-increase" permitting program or an "all feasible measures" demonstration.

For particulate matter, ambient air quality standards have been established for both PM10 and PM2.5. California has standards for average PM10 concentrations over 24-hour periods and over the course of an entire year, which are 50 and 20 µg/m3, respectively. (The notation "µg/m3" means micrograms of pollutant per cubic meter of ambient air.) For PM2.5, California only has a standard for average PM2.5 concentrations over a year, set at 12 µg/m3, with no 24-hour-average standard.

Nevada County is in compliance with all of the federal particulate matter standards, but like most California counties it is out of compliance with the state PM10 standards. Particulate-matter is identified by the maximum particle size in microns as either PM2.5 or PM10. PM2.5, is mostly smoke and aerosol particles resulting from woodstoves and fireplaces, vehicle engines, wildfires, and open burning. PM-10 is a mixture of dust, combustion particles (smoke) and aerosols from sources such as surface disturbances, road sand, vehicle tires, and leaf blowers.

3.3.3 IMPACT ANALYSIS

The potential Project-related impacts and the mitigation to reduce such impacts to less than significant levels are discussed below. In order to assess potential Project-related impacts to air quality, the California Emissions Estimator Model (CalEEMod version 2020.4.0) was used to estimate emissions from project construction activities. CalEEMod was developed by the California Air Pollution Control Officers association in partnership with California Air Districts to provide a uniform platform for government agencies, land use planners, and environmental professionals to estimate potential emissions associated with both construction and operational use of land use projects. The model was run using the following assumptions/project details:

- Each phase of the proposed Project construction activities would take approximately 4.5 months to complete and would be completed over three construction seasons.
- The Project, once constructed, should have no emissions from operations (similar to the existing conditions at the site). Therefore, operations emissions estimates were not included in this analysis for the project.

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III. AIR QUALITY **Would the Project:**	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less than Significant Impact**	**No Impact**
a) Conflict with or obstruct implementation of the applicable air quality plan?	—	**X**	—	—
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?	—	**X**	—	—
c) Expose sensitive receptors to substantial pollutant concentrations?	—	**X**	—	—
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	—	—	**X**	—

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

Finding: Less than Significant with Mitigation Incorporated

Neither NSAQMD or PCAPCD provide guidance for determining whether a project would conflict with or obstruct an applicable air quality plan, as such the following criteria are used in this assessment:

1) Does the project comply with applicable goals and policies adopted to improve air quality as part of an air quality plan?

2) Does the project exceed applicable regional thresholds of significance adopted to be protective of air quality standards.

The Nevada County General Plan, the NSAQMD, and PCAPCD have adopted goals and rules intended to improve air quality in Nevada and Placer Counties and the air basin as a whole to move towards attainment of Federal and State air quality standards. Nevada and Placer Counties are in nonattainment for State ozone and PM_{10} standards. The applicable goals and rules of Nevada and Placer counties, and the NSAQMD and PCAPCD respectively, to the Project are listed above in the regulatory framework of this section. The proposed Project would comply with applicable rules and regulations from the respective air districts. The proposed Project would be consistent with the first criterion.

To assess the proposed Project's potential to obstruct implementation of an air quality plan, a regional emissions assessment was prepared. Particulate matter emissions, primarily PM_{10}, are of concern during construction because of potential fugitive dust emissions during earth-disturbing activities. Ozone emissions are generated from increased hauling and the use of off-road heavy-duty diesel equipment for site grading during construction.

During construction of the proposed Project, various types of equipment and vehicles, as described in the Project Description (Section 2.4.1), would temporarily operate on the proposed Project site. Construction exhaust emissions would be generated from construction equipment, earth movement activities,

construction workers' commutes, and construction material hauling. These activities would involve the use of diesel- and gasoline-powered equipment that would generate emissions of criteria pollutants.

Air quality modeling was performed using Project-specific details in order to determine whether the proposed Project would result in criteria air pollutant emissions in excess of the applicable thresholds of significance. Presented in Table 3-4, the proposed Project's construction-related emissions have been estimated using CalEEMod (See Table 3-4 and Appendix B). The results of the unmitigated emissions modeling were compared to both the NSAQMD and PCAPCD significance thresholds, however, because the NSAQMD thresholds are generally more stringent that the PCAPCD thresholds, the NSAQMD thresholds were used for the analysis (Table 3-4) (CalEEMod 2021).

Table 3-4. CalEEMod Predicted Maximum Daily Project Emissions Estimates

Daily Emissions Estimates	ROG	NO_x	CO	PM_{10}	$PM_{2.5}$
Project Unmitigated Construction Emissions (lbs/day)	8.7	72.6	74.3	19.9	11.2
NSAQMD Level A Significance Thresholds (lbs/day)	<24	<24	n/a	<79	n/a
NSAQMD Level B Significance Thresholds (lbs/day)	24-136	24-136	n/a	79-136	n/a
NSAQMD Level C Significance Thresholds (lbs/day)	≥136	≥136	n/a	≥136	n/a
PCAPCD Thresholds (lbs/day)	82	82	n/a	82	n/a

Because the NSAQMD and PCAPCD are in nonattainment for State PM_{10} (see Table 3.3-1), and because the Project impact area is greater than one acre, Mitigation Measure (MM) AIR-1: Dust Control Measures as described in Section 3.3.4 would be implemented to reduce the potential for Project emissions to obstruct the implementation of an air quality plan or substantially contribute to an existing air quality violation by prescribing measures that limit dust particulate matter emissions in accordance with NSAQMD level A mitigation measures. Additionally, as shown in Table 3.3-4 above, PM_{10} emissions are well below the NSAQMD Level A threshold and PCAPCD threshold and would not have a significant impact. The proposed Project would be consistent with the second criterion.

Additionally, CARB has adopted regulations to control emissions from portable equipment as a component of the State's air quality plans. All applicable portable engines and off-road equipment must be registered with CARB's portable engine and off-road equipment programs. To control emissions from portable equipment, MM AIR-2: Implement BMPs to Reduce Impacts on Air Quality from Construction Equipment Emissions would be implemented to reduce equipment idling times and ensure properly maintained equipment and thus, would be in compliance with NSAQMD level A mitigation measures.

The proposed Project construction would span over three years with construction lasting 4.5 months per construction season and increases to criteria pollutants would be temporary. Additionally, because the Project would disturb more than one acre, the NSAQMD requires the preparation of a Dust Control Plan, pursuant to District Rule 226. As a result, MM AIR-1 would be implemented to reduce fugitive dust impacts by incorporating dust limiting measures to less than significant levels. In addition, MM AIR-2 would be implemented to reduce construction equipment emission during construction by, as discussed above, requiring proper maintenance of equipment and restrictions on idling times. The Project would require no operational activities except monitoring success criteria of revegetation efforts and would be the same as existing conditions; therefore, no long-term impacts to air quality would occur.

The proposed Project would comply with applicable rules and regulations of both the NSAQMD and the PCAPCD through the implementation of MM AIR-1 and MM AIR-2 and regional emissions would not exceed either air district's thresholds of significance. Accordingly, impacts are considered less than significant with mitigation incorporated.

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?

Finding: Less than Significant with Mitigation Incorporated

In developing thresholds of significance for air pollutants, NSAQMD and PCAPCD considered the emissions levels for which a project's individual emissions would be cumulatively considerable. Regarding a project's cumulative impacts, past, present and future development projects in the Mountain Counties Air Basin region contribute to adverse air quality impacts in the region on a cumulative basis. Air pollution is largely a cumulative impact by its nature. No single project is sufficient in its overall emission, in isolation, to result in nonattainment of ambient air quality standards. A project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. The NSAQMD and PCAPCD significance thresholds are intended to analyze whether a project's contribution to the cumulative impact is considerable. Therefore, if a project exceeds the identified significance thresholds, its emissions would also be considered cumulatively considerable, resulting in a significant adverse air quality impact to the region's existing air quality conditions and additional analysis to assess cumulative impacts is unnecessary.

As shown in Impact A above, the proposed Project's emissions would not exceed the thresholds of significance for either air district, as such the criteria air pollutant emissions would not be cumulatively considerable for any nonattainment pollutants. In addition, MM AIR-1 and MM AIR-2 would be implemented, which would include a Dust and Air Emissions Control Program and construction equipment BMPs, respectively, to effectively reduce the levels of dust and vehicle related emissions from construction to a less-than-significant level. Therefore, the potential for the Project to result in a cumulatively considerable impact would be considered less than significant with MM AIR-1 and MM AIR-2 incorporated.

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

Finding: Less than Significant with Mitigation Incorporated

This discussion addresses whether the project would expose sensitive receptors to construction-generated fugitive dust (PM10), naturally occurring asbestos (NOA), construction-generated toxic air contaminants (TAC) in the form of diesel particulate matter (DPM). The proposed Project construction involves operating heavy equipment and construction activities that would temporarily produce additional dust and air emissions.

3.3.3.1 Fugitive Dust

The nearest sensitive receptor in the vicinity of the proposed Project site would be the summer and autumn recreational around Van Norden meadow, residential properties to the southwest in the Soda

Springs neighborhood and properties southeast of the meadow at Sugar Bowl, both approximately 0.5 miles from the proposed Project. Most of this fugitive dust would remain localized and would be deposited near the project site. However, the potential for impacts from fugitive dust exists unless control measures are implemented to reduce the emissions from the project site. MM AIR-1 would be implemented to reduce potential fugitive dust impacts to a less than significant level.

3.3.3.2 Naturally Occurring Asbestos

The project is not located in an area mapped as having, or otherwise known to have, ultramafic rock, serpentine or NOA. The nearest ultramafic mapping unit is approximately 12 miles to the west of the project. (California Geologic Survey 2011). Therefore, it can be reasonably concluded that the project would not expose sensitive receptors to NOA. Impacts would be less than significant.

3.3.3.3 Toxic Air Contaminant (TAC) Emissions

Construction activities have the potential to generate DPM emissions related to the number and types of equipment typically associated with construction. Off-road, heavy-duty diesel equipment used for site grading and other construction activities result in the generation of DPM. However, construction would be temporary and would occur over a relatively short duration, 4.5 months per construction season, over three years. In addition, only portions of the site would be disturbed at a time, with operation of construction equipment regulated by federal, State, and local regulations, including NSAQMD rules and regulations, and occurring intermittently throughout the course of a day, the likelihood that any one sensitive receptor would be exposed to high concentrations of DPM for any extended period of time would be low. As described in Impact 'a' above, CARB has adopted regulations to control emissions from portable equipment as a component of the State's air quality plans. As a part of Project construction and MM AIR-1, all applicable portable engines and off-road equipment must be registered with CARB's portable engine and off-road equipment programs and would align with the requirements set forth in the attainment plans. In addition, MM AIR-1 and MM AIR-2 would be implemented to reduce fugitive dust emissions and emissions generated from construction equipment.

In summary, it is not anticipated the proposed Project would expose sensitive receptors to substantial pollutant concentrations and impacts would be considered less than significant with mitigation incorporated.

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

Finding: Less than Significant

While offensive odors rarely cause any physical harm, they can still be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and the NSAQMD and PCAPCD. The occurrence and severity of odor impacts depends on numerous factors, including nature, frequency, and intensity of the source, the wind speed and direction, and the sensitivity of the receptor. The nearest sensitive receptor in the vicinity of the proposed Project site would be the summer and autumn recreational around Van Norden meadow, residential properties to the southwest in the Soda Springs neighborhood and properties southeast of the meadow at Sugar Bowl, both

approximately 0.5 miles from the proposed Project. The proposed Project construction and current and future operations would not omit or add to odors in the area. Given this is a restoration project and does not entail the application of foul-smelling materials, the distance from sensitive receptors, and lack of current odor complaints from the public, the impacts from odor would be considered less than significant.

3.3.4 MITIGATION MEASURES

3.3.4.1 Mitigation Measure AIR-1: Dust and Emissions Control Plan

Nevada County shall require that the selected contractor prepare and implement a Project Dust and Emissions Control Plan that is approved by the NSAQMD and PCAPCD prior to construction. The following shall be included in the plan and shall be implemented throughout the construction period to limit and control dust and air emissions:

- All material excavated, stockpiled, or graded shall be sufficiently watered, treated, or covered to prevent fugitive dust from leaving the property boundaries and/or causing a public nuisance. Watering during construction activities shall occur at least three times daily, with application to all disturbed areas (excavated areas, stockpiles, and/or graded areas until stabilized).
- All areas with vehicle traffic shall be watered or have dust palliative applied as necessary to minimize dust emissions.
- All on-site vehicle traffic shall be limited to a speed of 15-mph on unpaved roads within the Project footprint.
- All land clearing, grading, earth moving, or excavation activities on the Project shall be suspended as necessary to prevent excessive windblown dust when winds are expected to exceed 20-mph.
- All inactive portions of the Project site shall be covered, seeded, or watered or otherwise stabilized until a suitable cover is established.
- All material transported to or from off-site shall be either sufficiently watered or securely covered to prevent it from being entrained in the air and there must be a minimum of six-(6) inches of freeboard in the bed of the transport vehicle.
- The nearest paved street is approximately 0.25-miles to the north of the Project site. Any paved streets used for transport to the project shall be reasonably clean through methods such as sweeping or washing at the end of each day, or more frequently if necessary, to remove excessive accumulations or visibly raised areas of soil which may have resulted from activities transporting materials to or from the Project site.
- Prior to the end of construction, the applicant shall re-establish ground cover on the Project site through seeding and re-vegetation.
- The Project contractor shall ensure that all construction equipment is properly maintained; and

- All applicable portable engines and off-road equipment must be registered with CARB's portable engine and off-road equipment programs.

Mitigation Measure AIR-1 Implementation

- **Responsible Party:** Nevada County shall require that the contractor prepare and implement a Construction Emissions and Dust Control Plan. Nevada County shall be responsible for ensuring that all adequate dust control measures are implemented in a timely manner during all phases of project development and construction by the contractor.
- **Timing:** An Emissions and Dust Control Plan shall be prepared and approved by the NSAQMD, PCAPCD and Nevada County prior to construction and implemented during all phases of grading and activities that have the potential to generate dust.
- **Monitoring and Reporting Program:** During construction, regular inspections shall be performed by Nevada County representative and reports shall be kept on file by Nevada County for inspection by the NSAQMD, PCAPCD, or other interested parties.
- **Standards for Success:** Visible emissions and dust are kept to the lowest practicable level during construction periods. The goal is to minimize dust and emissions during construction and to the extent feasible, complaints from the public.

3.3.4.2 Mitigation Measure AIR-2: Implement BMPs to Reduce Impacts on Air Quality from Construction Equipment Emissions

- Employ best management construction practices to avoid unnecessary emissions (e.g., trucks and vehicles in loading and unloading queues would turn their engines off when not in use). Vehicle and equipment idling shall not be allowed to exceed five minutes, unless extenuating circumstances are documented occur requiring additional idling time. Any idling time exceptions shall be documented by Nevada County representatives to be kept on file.
- Encourage construction worker commuters to carpool or employ other means to reduce trip generation.
- A minimum of 50 percent of off-road heavy-duty (i.e., 50 horsepower, or greater) diesel fueled construction equipment shall, at a minimum, meet CARB's Tier 3 certified engine standards. Cleaner off-road heavy-duty diesel engines (e.g., Tier 4) shall be used to the extent feasible and available.

Mitigation Measure AIR-2 Implementation

- **Responsible Party**: Nevada County shall require that the contractor implement construction equipment BMPs during all phases of project development and construction by the contractor.
- **Timing**: BMPs would be implemented during all phases of construction activities.

- **Monitoring and Reporting Program**: Prior to construction, equipment inspections shall be performed by a Nevada County representative and reports shall be kept on file by Nevada County for inspection by the NSAQMD, PCAPCD, or other interested parties. Reports documenting exceptions to idling time and off-road heavy-duty diesel engine compliance shall also be completed by Nevada County and a file copy submitted to for inspection or review by NSAQMD, PCAPCD, or interested parties.

- **Standards for Success**: Construction emissions from operating equipment reduced by operating all Tier 3 equipment. Construction queues minimized and idling vehicle time limited to five-minute maximums, unless exceptions are documented. Workers encouraged to carpool.

3.4 Biological Resources

The Biological Resources section addresses the regional and local biological environment of the proposed Project area by identifying and screening species that make up the natural environment and by establishing potential special status species and their likelihood of occurrence within the Project area. The section then documents the applicable Federal, State, and local rules, regulations, and guidelines applicable to biological resources potentially impacted by the proposed Project. Next, specific Project-related impacts would be evaluated based on the thresholds of significance established in the CEQA guidelines. The section concludes by detailing MMs, if necessary, required to reduce potential impacts to less than significant levels.

3.4.1 REGULATORY SETTING

3.4.1.1 Federal

Clean Water Act

Section 401

The U.S. Environmental Protection Agency (EPA) regulates surface water quality in waters of the U.S. under Section 401 of the Clean Water Act (CWA) and in California this authority is delegated to the State's Regional Water Quality Control Boards (RWQCB). Section 401 Certification, also known as a Water Quality Certification (WQC), provides states and authorized tribes with an effective tool to help protect the physical, chemical, and biological integrity of water quality, by providing them an opportunity to address the aquatic resource impacts of federally issued permits and licenses. CWA 401 states that no federal permit or license can be issued if a proposed action may result in a discharge to waters of U.S., unless the RWQCB certifies that the discharge is consistent with standards and other water quality goals or waives certification (EPA 2021a). CWA 401 compliance is required for any project that produces a federal action with construction that could have an impact to surface water quality.

Section 404

The U.S. Army Corps of Engineers (USACE) and the EPA regulate the discharge of dredge or fill material into waters of the U.S. under Section 404 of the CWA. Waters of the U.S. include wetlands, lakes, rivers, streams, and their tributaries. Wetlands are defined, for regulatory purposes, as areas inundated or saturated by surface, or groundwater; at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated solid conditions (33 Code of Federal Regulations [CFR] 328.3, 40 CFR 230.3) (EPA 2021b). If a project discharges any fill materials into water of the U.S., including wetlands, before and after the proposed project actions, then a permit must be obtained from the USACE.

Endangered Species Act of 1973

The federal Endangered Species Act (ESA) was passed by Congress in 1973 to protect and recover imperiled species and the habitat upon which they depend. Administered by the U.S. Fish and Wildlife Service (USFWS), protected species listed under the ESA are either listed as "endangered", in danger of

extinction throughout all or a significant region of the species range; or as “threatened”, likely to become endangered within the foreseeable future (USFWS 2020a). The ESA also designates “candidate” species as those plants and animals that the USFWS has sufficient data on their biological status to propose them to be listed under the Federal ESA (USFWS 2017a).

Under the ESA, it is unlawful for a person to take a listed animal without a permit. Take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.” Through regulations, the term “harm” is defined as “an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering” (USFWS 2017a).

Consultation with the USFWS would be necessary if a proposed action has the potential to affect federally listed species, such as Sierra Nevada yellow-legged frog (*Rana sierrae*), as well as suitable habitat or designated critical habitat (DCH) for a listed species. This consultation would proceed under Section 7 of the ESA if a federal action is part of the proposed action or proceed through Section 10 of the ESA if no such nexus were available (USFWS 2017a).

For Section 7 Consultations, the USFWS issued a Programmatic Biological Opinion (PBO), as Amended in 2017 for Nine Forest Programs on Nine National Forests in the Sierra Nevada of California for the Endangered Sierra Nevada Yellow-legged Frog, Endangered Northern Distinct Population Segment of the Mountain Yellow-legged Frog, and Threatened Yosemite Toad (USFWS 2017b). This PBO covers a variety of activities including restoration and recreation. It also includes species-specific avoidance and MMs. The PBO would be applicable if formal consultations were required for the proposed Project; however, no adverse effect is anticipated to amphibian species and thus ESA compliance would proceed under a project specific consultation.

Migratory Bird Treaty Act of 1918 and Bald and Gold Eagle Protection Act

The Migratory Bird Treaty Act (MBTA) (16 USC Section 703-712) and the Bald and Golden Eagle Protection Act (BAGEPA) (16 USC Section 668) protect specific species of birds and prohibits “take” (i.e., harm or harassment). The MBTA protects migrant bird species from “take” through setting hunting limits and seasons and protecting occupied nests and eggs (USFWS 2021a). BAGEPA prohibits the take or commerce of any part of the bald or golden eagle (USFWS 2018). The USFWS administers both the MBTA and BAGEPA and reviews actions that may affect species protected under each act.

National Forest Management Act

The National Forest Management Act of 1976 requires that the USFS assess the nation’s renewable resources to develop a program of use and subsequently develop an LMP for each National Forest. As such, the Tahoe National Forest Land and Resource Management Plan (USFS 1990) as amended by the Sierra Nevada Forest Plan Amendment Record of Decision (SNFPA) (USFS 2004) describes strategic direction at the broad program level for managing NFS lands and resources. The USFS uses the SNFPA to help guide the management of lands and resources and includes guidance pertaining to various resource areas including forested ecosystems, aquatic, riparian, and meadow ecosystems and associated species, fire and fuels, noxious weeds, among others. Detailed information including specific

standards and guidelines for species management can be found in the SNFPA (USFS 2004). General Forest Service direction for Threatened, Endangered, and Sensitive species is summarized below:

Forest Service Manual 2670.31 Threatened and Endangered Species

1) Place top priority on conservation and recovery of endangered, threatened, and proposed species and their habitats through relevant National Forest System, State and Private Forestry, and Research activities and programs.

2) Establish through the Forest planning process objectives for habitat management and/or recovery of populations, in cooperation with States, the USFWS, and other Federal agencies.

3) Through the biological evaluation process, review actions and programs authorized, funded, or carried out by the USFS to determine their potential for effect on threatened and endangered species and species proposed for listing.

4) Avoid all adverse impacts on threatened and endangered species and their habitat except when it is possible to compensate adverse effect totally through alternatives identified in a biological opinion rendered by the USFWS, or when the USFWS biological opinion recognizes an incidental taking. Avoid adverse impacts on species proposed for listing during the conference period and while their federal status is being determined.

5) Initiate consultation or conference with the USFWS when the Forest Service determines that proposed activities may have an adverse effect on threatened, endangered, or proposed species or when USFS projects are for the specific benefit of a threatened or endangered species

6) Identify and prescribe measures to prevent adverse modification or destruction of critical habitat and other habitats essential for the conservation of endangered, threatened, and proposed species. Protect individual organisms or populations from harm or harassment as appropriate.

Forest Service Manual 2670.32 Sensitive Species

1) Assist States in achieving their goals for conservation of endemic species.

2) As part of the National Environmental Policy Act process, review programs and activities, through a biological evaluation, to determine their potential effect on sensitive species.

3) Avoid or minimize impacts to species whose viability has been identified as a concern.

4) If impacts cannot be avoided, analyze the significance of potential adverse effects on the population or its habitat within the area of concern and on the species as a whole.

5) Establish management objectives in cooperation with the States when a project on National Forest System lands may have a significant effect on sensitive species population numbers or distribution. Establish objectives for federal candidate species, in cooperation with the USFWS and the States.

Current management direction on desired future conditions for Threatened, Endangered, and Sensitive species in the Tahoe National Forest can be found in the following documents, filed at the District Office:

- Forest Service Manual and Forest Service Handbook 2670
- National Forest Management Act
- Endangered Species Act
- National Environmental Policy Act
- Tahoe National Forest Land and Resource Management Plan, as amended by the 2004 Record of Decision for the Sierra Nevada Forest Plan Amendment Final Supplemental Environmental Impact Statement (USFS 2004)
- Species-specific Recovery Plans which establish population goals for recovery of those species
- Species management plans, guides, or conservation strategies
- Regional Forester policy and management direction

3.4.1.2 State

California Endangered Species Act

The CDFW has jurisdiction over plant and wildlife species listed as threatened or endangered under Section 2080 of the California Fish and Game Code (FGC). The California Endangered Species Act (CESA) prohibits "take" of State-listed threatened or endangered species. The State CESA differs from the Federal ESA in that it does not include habitat destruction in its definition of "take". CDFW defines "take" as- to "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CDFW may authorize "take" under the CESA through FGC Section 2081. If the results of a biological survey indicate that a State-listed species could be affected by a proposed project, then under Section 2081, CDFW could authorize take of species listed as endangered, threatened, candidate, or a rare plant, if that take is incidental to otherwise lawful activities and if certain conditions are met. (CDFW 2021a, CLI 2021a).

The State of California designates Species of Special Concern as wildlife and plant species of limited distribution, declining populations, diminishing habitat, or unusual scientific, recreational and/or educational values. These species do not have the same legal protection as listed species but may be added to official lists in the future (CDFW 2021b). Examples of Species of Special Concern that occur in the Sierra Nevada are yellow warbler (*Setophaga petechia*), Sierra Nevada snowshoe hare (*Lepus americanus tahoensis*), Sierra Nevada mountain beaver (*Aplodontia rufa californica*), and California spotted owl (*Strix occidentalis occidentalis*). In the 1960's California also created a designation to provide additional protection to rare species. This designation remains today and is referred to as "Fully Protected" animals, and those listed as "may not be taken or possessed at any time" (CDFW 2021c). An example of a "Fully Protected" species that may occur in the vicinity of the proposed Project is the American peregrine falcon (*Falco peregrinus anatum*) and the California wolverine (*Gulo gulo*).

California Environmental Quality Act Guidelines Section 15380

The CEQA Guidelines provide protection for federal and/or State listed species, as well as species not listed federally or by the State that may be considered rare, threatened, or endangered. If the species can be shown to meet specific criteria for listing outlined in CEQA Guidelines subsection 15380 (b). Species that meet these criteria can include “candidate species”, species “proposed for listing”, and “species of special concern”. Plants appearing on California Native Plant Society (CNPS) California Rare Plant Rank (CRPR) System are considered to meet CEQA’s Section 15380 criteria. Impacts to these species would therefore be considered “significant” requiring mitigation (CDFW 2021d, AEP 2021).

All plants with a CRPR are considered “special plants” by CDFW. The term “special plants” is a broad term used by CDFW to refer to all the plant taxa inventoried in CDFW’s California Natural Diversity Database (CNDDB), regardless of their legal or protection status. Specifically, plants ranked as CRPR 1A, 1B, 2A, and 2B may qualify as endangered, rare, or threatened species within the definition of CEQA Guidelines Section 15380. CDFW recommends that potential impacts to CRPR 1 and 2 species be evaluated in CEQA documents. In general, CRPR 3 and 4 species do not meet the definition of endangered, rare, or threatened pursuant to CEQA Guidelines Section 15380. However, these species may be evaluated by the lead agency on a case-by-case basis.

Section 15380 was also included to address a potential situation in which a public agency is to review a proposed project that may have a significant effect on, for example a “candidate species”, which has not yet been listed by the USFWS or CDFW. Therefore, CEQA enables an agency to protect a species from significant project impacts until the respective government agencies have had an opportunity to list the species as protected, if warranted (AEP 2021).

California Fish and Game Code Sections 1602: Streambed Alteration Agreement

Per FGC Sections 1602, CDFW has jurisdictional authority to regulate all work under the jurisdiction of the State of California to protect, manage, and conserve rivers, streams, or lakes. Such work includes those actions that would substantially divert, obstruct, or change the natural flow of a river, stream, or lake; substantially change the bed, channel, or bank of a river, stream, or lake; or use material from a streambed. In practice, CDFW marks its jurisdictional limit at the top of the stream or lake bank, or the outer edge of the riparian vegetation (where present), and sometimes extends its jurisdiction to the edge of the 100-year floodplain (CDFW 2021e). Because riparian habitats do not always support wetland hydrology or hydric soils, wetland boundaries, as defined by CWA Section 404, sometimes include only portions of the riparian habitat adjacent to a river, stream, or lake. Therefore, jurisdictional boundaries under Section 1602 may encompass a greater area than those regulated under CWA Section 404. Projects that fall under the CDFW’s jurisdiction described above must notify and apply to enter into a Streambed Alteration Agreement (SAA) with the CDFW.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) delegates responsibility to the State Water Resource Control Board (SWRCB) for water rights and water quality protection and directs the nine State RWQCBs to develop and enforce water quality standards within their jurisdiction. The Porter-Cologne Act requires any entity discharging waste, or proposing to discharge waste, within any region

that could affect the quality of the "waters of the State" to file a "report of waste discharge" with the appropriate RWQCB. The appropriate RWQCB then must issue a permit, referred to as a waste discharge requirement (WDR). As defined within the California Water Code Section 13263, WDRs implement water quality control plans and take into consideration the beneficial uses to be protected, the water quality objectives reasonably required for that purpose, other waste discharges, and the need to prevent nuisances (CLI 2021b).

California Fish and Game Code Sections 3503, 3503.5, and 3800

Nesting migratory birds and raptors are protected under FGC Sections 3503, 3503.5 and 3800; which prohibit the take, possession, or destruction of birds, their nests, or eggs. Implementation of take provisions require that proposed project-related disturbance, within active nesting territories, be reduced or eliminated during critical phases of the nesting cycle (approximately March 1 – August 31 depending on the region). Disturbance that causes nest abandonment and/or loss of reproductive effort (e.g., killing or abandonment of eggs or young), or the loss of habitat upon which birds are dependent, is considered take, and is potentially punishable by fines and/or imprisonment (CLI 2021c). Such taking would also violate federal law protecting migratory birds under the MBTA.

California Fish and Game Code Section 1900 et seq.

The Native Plant Protection Act (NPPA) was enacted in 1977 and is administered by CDFW, FGC Section 1900 et seq. The NPPA prohibits "take" of endangered, threatened, or rare plant species native to California, with the exception of special criteria identified in the CDFW Act Code. A "native plant" means a plant growing in a wild uncultivated state which is normally found native to the plant life of the State. Under the FGC, species become endangered, threatened, or rare when the plants' prospects of survival and reproduction are in immediate jeopardy for one or more causes (CLI 2021d). "Rare" species can be defined as species that are: broadly distributed but never abundant where found, narrowly distributed or clumped yet abundant where found, and/or narrowly distributed or clumped and not abundant where found. If potential impacts are identified for a proposed project activity, then consultation with CDFW, permitting, and/or other mitigation may be required. Endangered, threatened, and/or rare species can be identified through the CNPS CRPR (CNPS 2021a).

3.4.1.3 Local

Nevada County General Plan

The following goals and objectives from the Wildlife and Vegetation Element related to biological resources are relevant to the proposed Project (Nevada County 1995a). Those goals and policies that directly pertain to the proposed Project are discussed in the impact analysis below.

Goal 13.1 Identify and manage significant areas to achieve sustainable habitat.

> **Objective 13.1** Discourage intrusion and encroachment by incompatible land uses in significant and sensitive habitats.

Policy 13.2A Project review standards shall include a requirement to conduct a site-specific biological inventory to determine the presence of special-status species or habitat for such species that may be affected by a proposed project. The results of the biological inventory shall be used as the basis for establishing land use siting and design tools required to achieve the objective of no net loss of habitat function or value for special-status species.

Policy 13.4A No net loss of habitat functions or values shall be caused by development where rare and endangered species and wetlands of over 1 acre, in aggregate, are identified during the review of proposed projects. No net loss shall be achieved through avoidance of the resource, or through creation or restoration of habitat of superior or comparable quality, in accordance with guidelines of the U.S. Fish and Wildlife Service and the California Department of Fish and Game.

Objective 13.2 Minimize impacts to corridors to ensure movement of wildlife.

Objective 13.3 Provide for the integrity and continuity of wildlife environments.

Objective 13.4 Support the acquisition, development, maintenance and restoration, where feasible, of habitat lands for wildlife enhancement.

Objective 13.5 Support, where feasible, the continued diversity and sustain ability of the habitat resource through restoration and protection.

Objective 13.6 Discourage significant adverse environmental impacts of land development, agricultural, forest and mining activities on important and sensitive habitats.

Objective 13.7 Identify and preserve heritage and landmark trees and groves where appropriate.

3.4.2 ENVIRONMENTAL SETTING

The proposed Project is located in Placer and Nevada counties on Donner Summit at the headwaters of the South Yuba River on the western side of the Sierra Crest, within one mile of the communities of both Soda Springs and Serene Lakes. The proposed Project area is approximately 485 acres and is located in the *Soda Springs* and *Norden*, California, USGS 7.5-minute quads at an elevation of approximately 6,775 feet above msl.

Van Norden Meadow is the headwaters of South Yuba River Watershed and encompasses hundreds of acres of degraded montane meadow system and degraded streambed. Annual precipitation in the area, measured at the UC Berkeley Central Sierra Snow Lab study site (located approximately 1.24 miles from the Project area and at approximately 6,890 feet above msl), is approximately 64.8 inches with average annual snowfall measuring 409 inches (10.4 meters). Average air temperature ranges from 14 to 78 degrees Fahrenheit (-10 to 26 degrees Celsius) (Osterhuber and Schwartz 2021). The climate of the proposed Project area can be considered a Cold-Forest climate, with Mediterranean climate characteristics. Conditions include mostly dry and warm, mild temperatures in the summer, and wet during the winter, like a Mediterranean climate; however, in the Sierra Nevada, the difference lies in that the wet winter precipitation is mostly in the form of snow (CFG 2003).

The proposed Project would return flows in the meadow to their historic channels and improve habitat for a range of both wildlife and plant species. Restoration of meadow hydrology, by re-connecting the stream channel flow to its naturally evolved floodplain, is the primary basis upon which other ecological values would be sustained including restoring historic riparian wet meadow, aquatic, and wetland function within the Van Norden Meadow system.

Additional environmental setting details relative to biological resources are included in the study results described in Section 3.4.2.2.

3.4.2.1 Study Methods

Desktop Analysis Methodology

Biological field surveys were conducted within the proposed Project area at various times throughout 2013–2021 by various parties including C.S. Ecological Survey and Assessments and USFS for botanical surveys and Ted Beedy, UC Davis, Gateway, Dudek, and Point Blue Conservation Science for wildlife surveys (including amphibians, reptiles, birds, mammals, and fish). Additionally, Stantec has completed a desktop analysis to identify sensitive biological resources including wildlife species, plant species, and their habitats that may occur within the proposed Project area and region, as defined by the CDFW, USFWS, CNPS, and USFS. The following resources were used to identify those potentially occurring biological resources:

- CDFW California Natural Diversity Database records search of special status species and habitat observations in the proposed Project area and in the five miles surrounding the proposed Project area (Figure 4a and Figure 4b), (CDFW 2021f);
- CNPS online Inventory of Rare and Endangered Plants of California for *Hobart Mills, Webber Peak*, *Independence Lake, Cisco Grove, Soda Springs, Norden, Truckee, Royal Gorge, and Granite Chief* USGS 7.5-minute quadrangles between 5,135−8,415 feet (1,565−2,565 meters) (CNPS 2021b);
- USFWS list of endangered, threatened, and candidate species for within five miles of the proposed Project area (USFWS 2021a);
- USFWS Critical Habitat data for federally threatened and endangered species (USFWS 2021b);
- U.S. Department of Agriculture, Forest Service, Pacific Southwest Region 5 Sensitive Plant and Animal Species within the Tahoe National Forest (USFS 2013a, USFS 2013b); and
- Calflora online database for Nevada and Placer Counties (Calflora 2021). Calflora was used as a secondary tool for the purpose of assessing rare plant species that have the potential to occur within Nevada and Placer Counties.

Figure Error! Bookmark not defined.**a. California Natural Diversity Database Plant Occurrences**

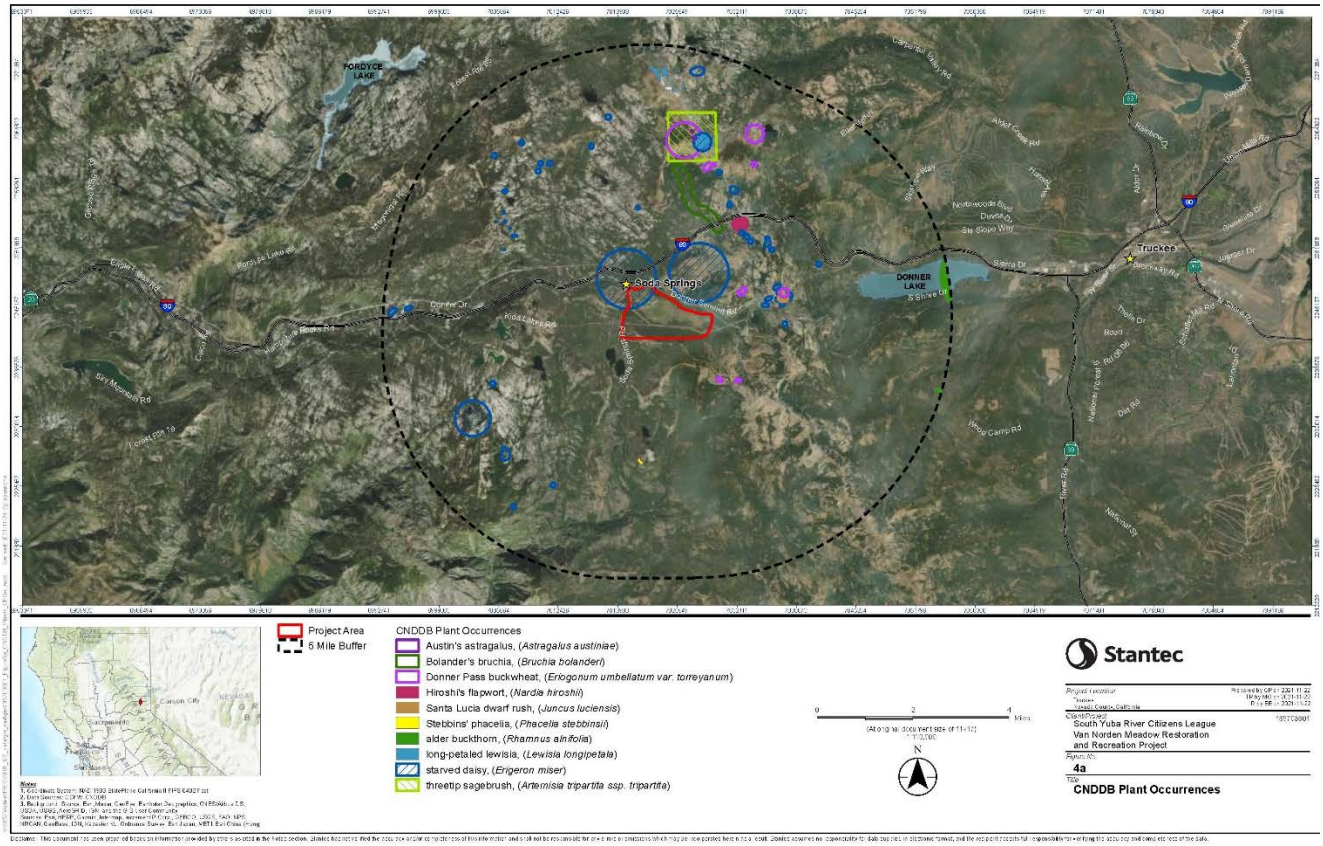
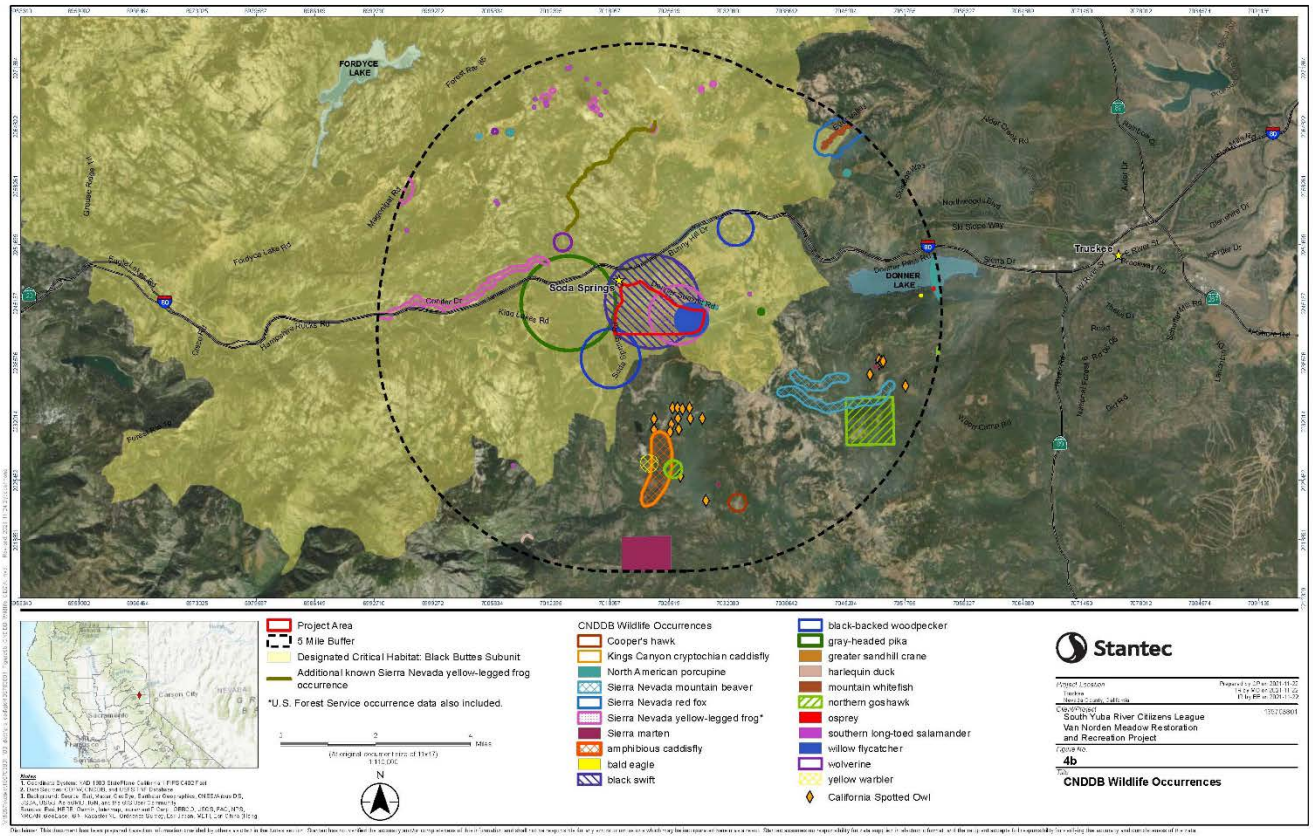


Figure Error! Bookmark not defined.**b. California Natural Diversity Database Wildlife Occurrences**



Endangered, threatened, rare, and/or special status species that were identified during the desktop analysis of the proposed Project are compiled in Table 3-5 below. For the purpose of this IS/MND, special status species are defined by the following parameters:

- Species listed or proposed for listing as threatened or endangered under the federal Endangered Species Act (50 CFR 17.12 for listed plants, 50 CFR 17.11 for listed animals, and various notices in the Federal Register for proposed species);
- Species that are listed or proposed for listing by California as threatened or endangered under the CESA (14 California Code of Regulations 670.5);
- Plants listed as rare under the California NPPA of 1977 (California FGC 1900 et seq.);
- Plants considered by the CNPS to be Rank 1- a) "plants presumed extirpated in California and either rare or extinct elsewhere, or b) "rare, threatened, or endangered in California and elsewhere";
- Plants considered by CNPS to be a Rank 2- a) Plants presumed extirpated in California, but common elsewhere, or b) "rare, threatened, or endangered in California and common elsewhere";
- Plants considered by CNPS to be a Rank 3- "plants about which more information is needed" and cannot yet be excluded from review;
- Plants considered by CNPS to be a Rank 4- "plants with limited distribution";
- Species that meet the definitions of "rare" or "endangered" under CEQA Guidelines, Section 15380;
- Animal State Species of Special Concern designated by California Department of Fish and Wildlife (CDFW);
- Plant and animal species that are designated as "special animals" or "those of greatest conservation need", by CDFW through the California Natural Diversity Database; and
- Species designated by the Pacific Southwest Region of the USFS to be "sensitive" and that occur in the Tahoe National Forest. Please note: the USFS also designates species as Management Indicator Species (MIS). MIS are species identified by USFS in the land and resource management plans of each national forest that represent habitat types that either occur within the national forest boundary and/or species that are presumed to be sensitive to the various forest management activities within that forest (USFS 2004). Although MIS designations are noted within this IS/MND, species are not considered special status species with this designation alone.

Field Study Methodology

From 2013–2021, various biological surveys were conducted within the proposed Project area. Surveys were conducted on foot walking meandering transects to identify the presence of rare plants, and the presence of and/or habitat of special status wildlife species mentioned above. The following surveys have been completed over the years for special status wildlife and plant species:

- In addition to August 2016 field surveys conducted by Peek (2017), monitoring was also conducted by Mr. Peek and the Center for Watershed Sciences within the Van Norden Dam Spillway Modification Project from 2012 through 2017, which included numerous visual encounter surveys for amphibians and fish, dip-net surveys, benthic macroinvertebrate sampling, and delineation of hydrogeomorphic habitats.
- Monitoring efforts began on the Truckee and Sierraville Ranger Districts in 2015 by USFS following the federal listing of Sierra Nevada yellow-legged frog in 2014. More specifically, in 2019, the USFS conducted visual encounter surveys for Sierra Nevada yellow-legged frog in Upper Castle Creek from Van Norden to the USFS boundary south of Interstate 80 (I-80), and in 2019 and 2021, surveys were also conducted from I-80 to Upper Castle Creek's headwaters.
- In 2015, C.S. Ecological Surveys and Assessments performed special status plant surveys for the Lake Van Norden Dam Spillway Modification Project and its influence area (i.e., Van Norden Meadow).
- 2014−2017, 2020−2021 Point Blue conducted avian surveys in the proposed Project area.

3.4.2.2 Study Results

Biological Communities

The proposed Project is in a relatively wet meadow setting, which is a mosaic of a variety of vegetation communities. To classify some of the communities and further crosswalk to wildlife habitats, Stantec defined these using the following classification systems. However, these communities were not mapped in the field and all communities that define available habitat were classified.

The CDFW and the CNPS have developed a standard classification system for floristically describing vegetation communities Statewide; further translating to the National Vegetation Classification. The CDFW and CNPS system has been compiled in A Manual for California Vegetation, 2nd Edition (Sawyer et al. 2009), and has been accepted and adopted by State and Federal agencies. The Manual of California Vegetation (MCV) classifications assist in defining vegetation based on quantitative based rules to distinguish between vegetation community types, local variation, ecological land classification/composition, species rarity and significance, and historical and current land management practices (Sawyer et al. 2009). The MCV defines vegetation communities by dominant and/or co-dominant species present as: 1A) alliance- a broad unit of vegetation with discernible and related characteristics; 1B) provisional alliance- a temporary vegetation community and/or candidate alliance; and/or 2) association- a basic secondary unit of classification, not as broad as an alliance, with uniform composition and conditions. The MCV classifications replace lists of vegetation types developed for the CNDDB.

Alnus incana Shrubland Alliance- Mountain alder thicket

Mountain alder scrub (*Alnus incana*) is a riparian mixed shrub natural vegetation community that is generally found at elevations ranging from approximately 3,937 to 9,596 ft (1,200 to 2,925 m). In California, this natural community can be found in the Klamath, Southern Cascade, Northern Coastal, and

Sierra Nevada ranges along montane streams, springs, seeps as well as lake and pond margins (CNPS 1995a). The indicator species specific to this alliance that were identified within the proposed Project area include mountain alder as the dominant species and Lemmon's willow as the co-dominant species. Within these dense thickets of mountain alder, there are few understory species. However, in the less dense patches of alder there are beaked sedge, tufted hairgrass and other wetland graminoids and forbs (CSESA 2017). Mountain alder possesses nitrogen-fixing bacteria and provides a nutrient supply to streams and ponds. Additionally, as an aggressive colonizer, it helps maintain stream bank stability and prevents soil loss on the steep forested hillsides on which it commonly occurs. This natural community is state listed as vulnerable and globally ranked as apparently secure (CNPS 1995a).

Within the survey area mountain alder scrub is confined to the area along the edges of the historic Lake Van Norden and the streambank in the western end of the proposed Project area.

Carex (utriculata, vesicaria) Herbaceous Alliance- Beaked sedge and blister sedge meadows

Beaked sedge (*Carex utriculata*) and blister sedge (*Carex vesicaria*) Herbaceous Alliance (Sawyer et al. 2009) is a wet forb meadow vegetation alliance that is generally found at elevations ranging from approximately 200 to 8,860 feet (60 to 2,700 meters). This biological community can be found in the Klamath Mountains, Modoc Plateau, Mono, North California Coast Range, and Sierra Nevada range of California. The general habitats include fens, wet montane meadows, and edges of ponds and streams. Soils are usually mineral to highly peaty and hummocky. The Beaked Sedge and Blister Sedge Meadow Alliance within the Project area is almost exclusively composed of beaked sedge though blister sedge is also present along with a few other forbs and graminoids (CSESA 2017). The USFWS National Wetlands Inventory (NWI) recognizes beaked sedge and blister sedge as an Obligate (OBL) wetland species, occurring almost always in wetlands (USACE 2020). This biological community is state listed as *apparently secure*, and globally listed as *secure* (CNPS 1995b).

This biological vegetation community can be found along the banks of both the South Yuba River and Castle Creek. This vegetation type exists in openings between the Lemmon's willow scrub and in the wet meadow area.

Carex nebrascensis Herbaceous Alliance- Nebraska sedge meadows

Nebraska sedge *(Carex nebrascensis)* Herbaceous Alliance (Sawyer et al. 2009) is a wet grass and forb biological vegetation community that is generally found at elevations ranging from approximately 200 to 8,860 feet (60 to 2,700 meters). This biological community can be found in the Klamath Mountains, Modoc Plateau, Mono, North California Coast Range, and Sierra Nevada range of California. The general habitats include fens and wet meadows yet are rarely along stream sides or lake basins. Soils are usually deep alluvium with organic surface layers. The indicator species specific to this herbaceous alliance that were identified within the proposed Project area include Nebraska sedge as the dominant species, and creeping spikerush (*Eleocharis macrostachya*), fringed willowherb (*Epilobium ciliatum*), inflated sedge (*Carex utriculata*), Kentucky bluegrass (*Poa pratensis*), mat muhly (*Muhlenbergia richardsonis*), Nevada lewisia (*Lewisia nevadensis*), Parry's aster (*Symphyotrichum foliaceum* var. *parryi*), primrose monkeyflower (*Mimulus primuloides*), small wing sedge (*Carex microptera*), and tufted hairgrass

(*Deschampsia cespitosa*) as the co-dominant species (CNPS 1995c). The USFWS NWI recognizes Nebraska sedge as an OBL wetland species, occurring almost always in wetlands (USACE 2020). Nebraska sedge is an important forage species for livestock, as it typically resists grazing, trampling damage, and soil compaction. Baltic rush (*Juncus arcticus*) or Kentucky bluegrass may replace Nebraska sedge when grazed continuously. This biological community is state listed as *apparently secure*, and globally listed as *secure* (CNPS 1995c).

This biological vegetation community can be found within and near hydrologic features within the proposed Project area. It is specifically present within the wet meadow areas of the Van Norden Meadow.

Danthonia californica – Deschampsia cespitosa – Camassia quamash Herbaceous Alliance- Oatgrass – Tufted Hairgrass – Camas wet meadow

Oatgrass *(Danthonia californi*a*)* Herbaceous Alliance (Sawyer et al. 2009) is a wet grass and forb biological vegetation community that is generally found at elevations ranging from approximately 4,265 to 12,800 feet (1,300 to 3,900 meters). This biological community can be found in the Modoc Plateau, Mono, and Sierra Nevada range of California. The general habitats include montane to alpine seasonally wet meadows on flat to steep slopes. Soils are typically sandy loam to clay loam. The indicator species specific to this herbaceous alliance that were identified within the proposed Project area include tufted hairgrass (*Deschampsia caespitosa*) with Baltic rush (*Juncus balticus*), meadow barley (*Hordeum brachyantherum*), slender beaked sedge (*Carex athrostachya*), and various wetland forbs such as willow herb (*Epilobium* sps.) and cinquefoils (*Potentilla* sps.) (Sawyer et al. 2009). The USFWS NWI recognizes oatgrass as facultative (FAC), and tufted hairgrass*,* camas*,* large camas (*Camassia leichtlinii*) and meadow barley (*Hordeum brachyantherum*) as facultative wetland plants plants (USACE 2020). This biological community is state listed as *apparently secure*, and globally not ranked (CNPS 2019).

The tufted hair grass meadow alliance occurs on the edges of the proposed Project area in areas in which the soil is not saturated throughout the growing season. This vegetation type is widespread throughout Van Norden Meadow.

Eleocharis macrostachya Herbaceous Alliance- Pale spike rush marshes

Pale spike rush (*Eleocharis macrostachya*) Herbaceous Alliance (Sawyer et al. 2009) is an emergent palustrine wetland type which is confined to areas in which the soil is saturated throughout most of the growing season. This vegetation alliance is characterized by greater than 50 percent relative cover by pale spike rush, more commonly known as creeping spike rush, in the herbaceous layer (Sawyer et al. 2009). The general habitats include lakeshores, streambeds, swales, vernal pools, pastures, ditches, natural and artificial ponds. Soils are alluvial and often highly organic; they are flooded part of the growing season with alkaline, brackish, or fresh water. The USFWS NWI recognizes *Eleocharis palustris* as an OBL plant (USACE 2020). This biological community is state and globally listed as *apparently secure* (CNPS 2009a).

This vegetation type occurs in the historic areas of Lake Van Norden where it typically has more water. Within the proposed Project area this vegetation alliance also supports needle spike rush (*E. acicularis*), European bur reed (*Sparganium emersum*) and spearwort (*Ranunculus flammula*).

Pinus contorta ssp. murrayana Forest Alliance- Lodgepole pine forest

Lodgepole pine (*Pinus contorta* ssp. *murrayana*) Forest Alliance (Sawyer et al. 2009) is a lodgepole pine/ultramafic mixed conifer biological vegetation community that is generally found at elevations ranging from approximately 500 to 11,150 feet (152 to 3,400 meters). This biological community can be found in the Klamath Mountains, Modoc Plateau, Mono, Sierra Nevada, Southern California Mountains and Valleys, and Southern Cascade ranges of California. The general habitats include terraces, lake and meadow margins, depressions that flood seasonally, upland slopes, and ridges to the treeline. The indicator species specific to this forest alliance that were identified within the proposed Project area include lodgepole pine as the dominant species, and mountain hemlock (*Tsuga mertensiana*), red fir (*Abies magnifica*), western white pine, and white fir as the co-dominant species (CNPS 1995d). The USFWS NWI recognizes lodgepole pine as a FAC wetland species (USACE 2020). Threats to this biological community include stand-replacing fires that are related to insect attacks, particularly by the lodgepine needleminer (*Coleotechnites milleri*) and mountain pine beetle (*Dendroctonus ponderosae*), and also to high fuel loading. Issues surrounding the “invasion” of lodgepole pine communities into subalpine meadows have raised concerns with managers because of uncertainty regarding whether these shifts are natural or human mediated. This biological community is state and globally listed as *apparently secure* (CNPS1995d).

Pinus contorta ssp. *murrayana* Forest Alliance are concentrated along the north and south edges of the Van Norden Meadow and the adjacent meadow uplands.

Salix lemmonii Shrubland Alliance- Lemmon’s willow thickets

Lemmon’s willow (*Salix lemmonii*) Shrubland Alliance (Sawyer et al. 2009) is a willow-riparian scrub biological vegetation community that is generally found at elevations ranging from approximately 3,950 to 8,850 feet (1,800 to 2,700 meters). This biological community can be found in the Modoc Plateau and the Sierra Nevada of California. The general habitats include streambanks, lake shores, seeps, and mesic meadows. Soils are typically alluvium, derived from granitic parent material. The indicator species specific to this forest alliance that were identified within the proposed Project area include Lemmon’s willow as the dominant species, and Geyer's willow (*Salix geyeriana*), mountain willow (*Salix eastwoodiae*), and Wood's rose (*Rosa woodsia*) as the co-dominant species (CNPS 2009b). The USFWS NWI recognizes Lemmons’s willow as an OBL wetland species (USACE 2020). Studies that *Salix lemmonii* stands provide habitat for the willow flycatcher (*Empidonax traillii*), a California endangered species. Additionally, the characteristically dense nature of willow thicket stands provide hiding and foraging habitat for avian and other species and can also reduce stream temperature for amphibians and native fish. This biological community is state listed as *vulnerable*, and globally listed as *apparently secure* (CNPS 2009b).

This biological vegetation community can be found within and near hydrologic features of the proposed Project area. It is specifically present surrounding the wet meadow areas of the Van Norden Meadow and represents the transitional point between wet meadow and the lodgepole pine Forest Alliance that resides upland.

Salix lucida Woodland Alliance- Shining willow groves

Shining willow (*Salix lucida*) Woodland Alliance (Sawyer et al. 2009) is a willow-alder biological vegetation community that is generally found at elevations ranging from zero to 8,850 feet (0 to 2,700 meters). This biological community can be found in the northern, central and southern California Coast ranges, Great Valley, Modoc Plateau, Sierra Nevada, and Southern California Mountain and Valley region of California. The general habitats include low-gradient depositions along rivers and streams, with some being tidally influenced. The indicator species specific to this forest alliance that were identified within the proposed Project area include shining willow as the dominant species, and American dogwood (*Cornus sericea*) and black cottonwood (*Populus balsamifera* ssp. *trichocarpa*) as the co-dominant species (CNPS 1995e). The USFWS NWI recognizes shining willow as an OBL wetland species (USACE 2020). This biological community is state listed as *vulnerable* and *fairly threatened*, and globally listed as *apparently secure* (CNPS 1995e).

This biological vegetation community can be found within and near hydrologic features of throughout the entirety of the proposed Project area.

Scirpus microcarpus Herbaceous Alliance- Small-fruited bulrush marsh

Small-fruited bulrush (*Scirpus microcarpus*) Herbaceous Marsh Alliance (Sawyer et al. 2009) is a tule-cattail biological vegetation community that is generally found at elevations ranging from zero to 9,180 feet (zero to 2,800 meters). This community can be found on the Northern California Coast, Sierra Nevada and Southern Cascade ranges of California. The general habitats include seasonally flooded marshes, streamsides, and roadside ditches. Soils typically have high organic content and are poorly aerated. The stands of this biological vegetation community are typically small and restricted to wet, freshwater seeps and swales. Such stands in the Sierra Nevada occur on peat deposits and are indicative of high quality sheetflow fens. The indicator species specific to this forest alliance that were identified within proposed Project area include small-fruited bulrush as the dominant species and annual fireweed (*Epilobium brachycarpum*), fringed willowherb (*Epilobium ciliatum*), green sheathed sedge (*Carex feta*), hair sedge (*Carex filifolia*), Hood's sedge (*Carex hoodia*), inflated sedge (*Carex utriculata*), large leaf avens (*Geum macrophyllum*), little leaf sedge (*Carex luzulifolia*), mountain sedge (*Carex scopulorum*), Nebraska sedge, shining willow, and water sedge (*Carex aquatilis*) as the co-dominant species (CNPS 2009c). The USFWS NWI recognizes small-fruited bulrush as an OBL wetland species (USACE 2020). This biological community is state listed as *imperiled*, and globally listed as *apparently secure* (CNPS 2009c).

This biological vegetation community can be found within and near hydrologic features of the proposed Project area. It is specifically present within the wet meadow areas of the Van Norden Meadow.

Hydrologic Communities and Features

Hydrologic features are extensive within the proposed Project area and have the potential to be jurisdictional waters of the U.S and/or waters of the State; as well as are associated with the aforementioned vegetation communities and potential habitat(s). Hydrologic features observed throughout the entirety of the proposed Project area during baseline biologic surveys includes ponds; seasonal and seep wetlands; wet meadows (Van Norden Meadow); ephemeral, intermittent, and

perennial streams; and a perennial river (South Yuba River). Vegetation communities specifically associated with these hydrologic features within the proposed Project area include Nebraska Sedge Herbaceous Alliance, Lodgepole Pine Forest Alliance, Lemmon's Willow Shrubland Alliance, Shining Willow Woodland Alliance, and Small-fruited Bulrush Marsh Herbaceous Alliance.

Wildlife Habitat

In addition to the observed biological vegetation communities within the proposed Project area providing suitable habitat for special status vegetation species, they also provide habitat to wildlife species. Specifically, riparian and wetland habitats are considered to be high value habitat for wildlife including birds, mammals, reptiles, amphibians, and invertebrates alike. Riparian areas have increases biological productivity and provide a valuable connection between terrestrial and aquatic habitats (BLM 2020). Part of the proposed Project area contains Sierran mixed conifer habitat, generally made up of multiple layers and variability in stand structure from historical logging and fire events (Mayer and Laudenslayer 1988). A majority of the proposed Project Area is classified by the California Wildlife Habitat Relationships System as wet meadow. Both habitat types support a variety of wildlife species such as the mule deer (*Odocoileus hemionus),* Sierra gartersnake (*Thamnophis couchii*)*,* song sparrow (*Melospiza melodia*), yellow warbler, and raccoon (Procyon lotor) that may use this habitat for foraging, cover, and reproduction. Various predator species such as coyote (*Canis latrans*), fox, and various raptors also use these habitat types to feed on the rodents and other small mammals such as the snowshoe hare.

Wildlife Corridors

Wildlife movement corridors have been recognized by USFWS and CDFW as important habitats worthy of conservation. Wildlife corridors provide migration channels seasonally (i.e., between winter and summer habitats); provide non-migratory wildlife with the opportunity to move within their home range for food, cover, and reproduction; and allow for dispersal for individuals to colonize new areas (CDFW 2021g, USFWS 2019). Although data on the locations and value of wildlife movement corridors specific to the proposed Project Area are lacking, the natural communities and variety of habitats within the proposed Project area have the potential to support wildlife movement. Specifically, the proposed Project area includes or is adjacent to mixed vegetation covers in association with freshwater emergent wetland, riparian wetland, and stream channels and may be considered highly favored habitats to a variety of wildlife species. This habitat type provides corridors for wildlife movement, specifically undisturbed and continuous expanses of land as opposed to areas with fragmentation like nearby highways such as I-80. The proposed Project is nearby the western edge of the Loyalton-Truckee Mule Deer Herd Focus Area; however, recent data shows that deer within this herd do not use this region of the proposed Project Area with great frequency and are concentrated farther north and to the east for migration, as well as both their summer and winter grounds (NFWF 2020).

Other contributing factors that are useful for wildlife migration include undisturbed and continuous expanses of land. According to CDFW's Terrestrial Connectivity, Areas of Connectivity (ACE) dataset accessed through CDFW's Biogeographic Information and Observation System, the proposed Project area is ranked as ACE Rank 5 and ACE Rank 4 (CDFW 2019a):

- **ACE Rank 5:** Irreplaceable and Essential Corridors: This includes channelized areas as identified in The Nature Conservancy's (TNC) Omniscape model, and priority species movement corridors. Information on priority wildlife movement corridors is currently very limited and is not comprehensive across the state. Identifying priority wildlife movement corridors is an active area of research and information will be added as it becomes available. The Nature Conservancy mapped channelized areas are those areas where surrounding landuse and barriers are expected to funnel, or concentrate, animal movement. Channelized areas may represent the last available connection(s) between two areas, making them high priority for conservation (CDFW 2019b).

- **ACE Rank 4:** Conservation Planning Linkages: These are the habitat connectivity linkages mapped in the California Essential Habitat Connectivity Project and fine-scale regional connectivity studies. Habitat connectivity linkages are often based on species-specific models and represent the best connections between core natural areas to maintain habitat connectivity. Linkages have more implementation flexibility than irreplaceable and essential corridors. Any linkage areas not included in the category above was included here (CDFW 2019b).

Designated Critical Habitat

DCH is part of the ESA and designated by the USFWS. DCH is considered a specific geographic area of habitat (i.e., natural home or environment) that is essential to the conservation and survival of federally threatened and endangered species.

Sierra Nevada Yellow-legged Frog Designated Critical Habitat

In California, a total of approximately 1,082,147 acres has been designated as critical habitat for the Sierra Nevada yellow-legged frog in April 2013 becoming final rule in 2016 (USFWS 2016). To determine what areas to designate as critical habitat, species specific physical or biological features are considered including: 1) space for individual and population growth and for normal behavior; 2) food, water, air, light, minerals, or other nutritional or physiological requirements; 3) cover or shelter; 4) sites for breeding, reproduction or rearing (or development) of offspring; and 5) habitats protected from disturbance or representative of the historical, geographic, and ecological distributions of the species. Based on the current knowledge of the physical or biological features and habitat characteristics required to sustain the species' life-history processes, the USFWS defines primary constituent elements for Sierra Nevada yellow-legged frog as the following elements (USFWS 2016):

- **Primary Constituent Element 1: Aquatic habitat for breeding and rearing.** This includes habitat that consists of permanent water bodies, or those that are either hydrologically connected with, or close to, permanent water bodies, including, but not limited to, lakes, streams, rivers, tarns, perennial creeks (or permanent plunge pools within intermittent creeks), pools (such as a body of impounded water contained above a natural dam), and other forms of aquatic habitat.

- **Primary Constituent Element 2: Aquatic nonbreeding habitat (including overwintering habitat).** This habitat may contain the same characteristics as aquatic breeding and rearing habitat (often at the same locale), and may include lakes, ponds, tarns, streams, rivers, creeks,

plunge pools within intermittent creeks, seeps, and springs that may not hold water long enough for the species to complete its aquatic life cycle.

- **Primary Constituent Element 3: Upland areas.** Upland areas include 1) area adjacent to or surrounding breeding and nonbreeding aquatic habitat that provide area for feeding and movement by Sierra Nevada yellow-legged frog; and 2) areas (catchments) adjacent to and surrounding both breeding and nonbreeding aquatic habitat that provide for the natural hydrologic regime (water quantity) of aquatic habitats (USFWS 2016).

The proposed Project area is within the DCH Black Buttes subunit for the Sierra Nevada yellow-legged frog (USFWS 2021c). The Black Buttes subunit (2C) is approximately 136,049 acres and includes both federally and privately-owned land; 80,678 acres and 22,408 acres, respectively (USFWS 2016). It spans from Sierra County, through Nevada County, into the northern region of Placer County, and is located within the boundaries of the Tahoe National Forest. Threats to the Sierra Nevada yellow-legged frog in the Black Buttes subunit include fish persistence and stocking, water diversions/development, grazing, timber harvest/fuels reduction, and recreation (USFWS 2016).

Although no observations were made during the field surveys, due to the presence of suitable habitat within the proposed Project area, site specific permitting including Federal ESA Section 7 Consultation would be required for this species.

Special Status Species

Special status plant and wildlife species and DCH known to occur within five miles of the proposed Project area are shown below on

3 Impact Analysis

Figure Error! Bookmark not defined.**a, CNDDB Plant Occurrences and**

Figure **Error! Bookmark not defined.**b, CNDDB Wildlife Occurrences.

Based on the results of the background research listed above in Study Methods, 48 special status plant and 39 fish and wildlife species were defined as potentially occurring within the proposed Project region. This includes special status plant and wildlife species that are known to occur within five miles of the proposed Project area or have the potential to occur based on background research data from the CDFW CNDDB, CNPS online inventory, Calflora, and USFWS list of Federal Endangered and Threatened Species (Table 3-5).

Conclusions in Table 3-5 regarding the habitat suitability and the potential for species occurrence were based on the background research, database searches, and local habitat suitability. For each special status species known to occur in the Project region, the “potential for occurrence” at the proposed Project area has been evaluated and is defined as follows:

- **Very Low to Nil:** The proposed Project area and/or immediate area do not support suitable habitat for a particular species. Proposed Project is outside the species known range.
- **Low:** The proposed Project area and/or immediate area only provide limited habitat for a particular species. In addition, the known range for a particular species may be outside the immediate proposed Project area.
- **Moderate:** The proposed Project area and/or immediate area provide suitable habitat for a particular species, and habitat for the species may be impacted.

- **High:** The proposed Project area and/or immediate area provide ideal habitat conditions for a particular species, and/or known populations occur in the immediate area and within the potential area of impact.
- **Present:** Recorded historically or observed on site during biological surveys for the proposed Project.

Species with a moderate potential, high potential, or known potential to occur in the proposed Project area are further described in the species accounts below Table 3-5 and are analyzed for potential impacts.

3.4.2.3 Field studies

Special Status Plants

A species site suitability analysis evaluating the potential to occur within and near the proposed Project area was completed for all plant species that were identified through background research prior to field surveys. This analysis weighed proposed Project area ecological characteristics and suitability with individual species suitability requisites; including vegetation community type, habitat availability, elevation, soils, and known occurrences in the proposed Project region documented by Calflora, CDFW, CNPS, USFWS, and USFS. A level for "potential of occurrence" within the proposed Project area was evaluated and applied to each special status species identified during background research (Table 3-5).

Furthermore, typical blooming (phenological) periods for all vegetation species, including those listed as special status within the proposed Project region, include early-bloom (April to May), mid-bloom (June to mid-July), and late-bloom (mid-July to September). It is recommended that additional botanical surveys are conducted during the appropriate bloom periods to further determine presence of special status plant species that may the potential to occur within the proposed Project area (discussed further in Section 3.4.4 Mitigation Measures).

Of the 48 plant species identified in the background research as having the potential to occur within the proposed Project area, 11 were identified as having a moderate or high potential to occur. Ten special status plant species identified as having a moderate or high potential to occur within the proposed Project area have a CRPR of 1A) plants presumed extirpated in California and either rare or extinct elsewhere, 1B) plants rare, threatened, or endangered in California and elsewhere, 2A) plants presumed extirpated in California but common elsewhere, 2B) Plants rare, threatened, or engendered in California but more common elsewhere; and/or federally or state listed, are detailed below.

Special status species with a moderate or high potential of occurrence within the proposed Project area, under a level of legal status ranking 1A, 1B, 2A, or 2B are discussed below.

Broad-nerved hump moss (Meesia uliginosa)

Federal Status: None; State Status: Vulnerable; CNPS Status: 2B.2. Fairly Endangered

Broad-nerved hump moss is a moss that is native to California. It is part of the Meesiaceae, or moss plant family. This species can be found in damp soils including bogs and fens, meadows and seeps, subalpine

coniferous forest and upper montane coniferous forest vegetation communities. *Meesia uliginosa* has a typical bloom period in October in elevations ranging from 3,969 to 9,200 feet (1,210 to 2,804 meters) (Calflora 2021, CNPS 2021b). In California, the species is most common around the Lake Tahoe Basin. The greatest threat to the species is water diversion leading to loss of habitat (CNPS 2021b). There is a moderate potential for broad-nerved hump moss to occur within the proposed Project area with suitable habitat known within the proposed Project area. There are known occurrences of broad-nerved hump moss in the Independence Lake, Hobart Mills, and Dog Valley quads (CNPS 2015b). This species was not observed during various baseline botanical surveys conducted for the proposed Project.

Donner Pass buckwheat (Eriogonum umbellatum var. torreyanum)

Federal Status: None; State Status: Imperiled; USFS: Sensitive; CNPS Status: 1B.2. Fairly Endangered

Donner Pass buckwheat is a perennial herb that is endemic to California. It is part of the Polygonaceae, or buckwheat family. This species can be found in rocky and volcanic soils, meadows and seeps, and upper montane coniferous forest vegetation communities. *Eriogonum umbellatum* var. *torreyanum* has a typical bloom period between July through September in elevations ranging from 6,085 to 8,595 feet (1,855 to 2,620 meters) (Calflora 2021, CNPS 2021b). The species is known to occur in California by approximately 20 occurrences mostly occurring near the Lake Tahoe Basin (CNPS 2021b). Donner Pass buckwheat provides important habitat for many native bees, predatory or parasitoid insects, and butterflies (Calflora 2021). There is a high potential for Donner Pass buckwheat to occur within the proposed Project area, with ideal habitat known to occur in the proposed Project area. There are known occurrences of Donner Pass buckwheat in the within the proposed Project area, reported on the north side of Donner Summit Bridge neat the Pacific Crest Trail, and north of the South Yuba River within Van Norden Meadow at the east side of the relic Lake Van Norden (Calflora 2021, CNPS 2021b). This species was not observed during various baseline botanical surveys conducted for the proposed Project.

Lemmon’s milk vetch (Astragalus lemmonii)

Federal Status: None; State Status: Imperiled; USFS: Sensitive; CNPS Status: 1B.2. Fairly Fndangered

Lemmon's milk vetch is a perennial herb native to California. It is part of the Fabaceae, or legume, pea, or bean family. This species has an affinity for wet areas; specifically meadows, seeps, marshes, swamps. and lake shores, and also often occurs in the Great Basin scrub vegetation community. The blooming period for Lemmon's milk-vetch is May to September in regions where the elevation ranges from 3,300−7,217 feet (1,007−2,200 meters) (Calflora 2021, CNPS 2021b. This species occurs in valleys along the eastern edge of the Sierra Nevada, as well as in Oregon and Nevada. This species is fairly endangered in California due to land conversion and pipeline construction in suitable habitat (CNPS 2021b). Lemmon’s milk vetch has a moderate potential to occur within the proposed Project area, with wet meadow habitat. No known occurrences within 5 miles of the proposed Project area. This species was not observed during various baseline botanical surveys conducted for the proposed Project.

Mingan moonwort (Botrychium minganense)

Federal Status: None; State Status: Imperiled; USFS: Sensitive; CNPS Status: 2B.2. Fairly Endangered

Mingan moonwort is a rhizomatous fern that is native to California. It is part of the Ophioglossaceae, or Adder's tongue family. This species can be found in bogs and fens, lower and upper montane coniferous forest, and along the edges of meadows and seeps. *Botrychium minganense* has a typical bloom period between July through September and can be found in elevation ranging from 4,773 to 7,152 feet (1,455 to 2,180 meters) (Calflora 2021, CNPS 2021b). This species is known to occur in California throughout the Sierra Range and into the Trinity and Costal ranges of northern California (CNPS 2021b). Mingan moonwort is potentially threatened by grazing, trampling, fire and habitat alteration (CNPS 2021b). There is a moderate potential for Mingan moonwort to occur within the proposed Project site, with suitable habitat known to occur in the proposed Project area. There are known occurrences of Mingan moonwort in the Hobart Mills Quad (CNPS 2021b). This species was not observed during various baseline botanical surveys conducted for the proposed Project.

Oregon fireweed (Epilobium oreganum)

Federal Status: None; State Status: Imperiled; USFS: Sensitive; CNPS Status: 1B.2. Fairly Endangered

Oregon fireweed is a perennial herb that is native to California. It is part of the Onagraceae, or willowherb or evening primrose, family. This species can be found in mesic environments in bogs and fens, meadows and seeps, and upper and lower montane coniferous forest vegetation communities. Oregon fireweed typically blooms June to September, in elevation ranging from 1,640−7,350 feet (500−2,240 meters). The species is a candidate for state listing in Oregon, where fewer than 1,000 individuals occur. (CNPS 2021b). Oregon fireweed is also fairly endangered in its broad distribution throughout the Sierra Nevada and Northern California due to logging and grazing (CNPS 2021b). Oregon fireweed has been observed along the banks of Upper Castle Creek (Calflora 2021) within the proposed Project area. Although no Project-specific surveys have located this species, it has a high likelihood of occurrence.

Ribbon leaf pondweed (Potamogeton epihydrus)

Federal Status: None; State Status: Imperiled; USFS: Sensitive; CNPS Status: 1B.2. Fairly Endangered

Ribbon leaf pondweed is a perennial rhizomatous herb (aquatic). It is part of the Potamogetonaceae, or pondweed, family. This species is found in wetlands in freshwater marshes and riparian habitats. Ribbon leaf pondweed bloom July to September, in elevation ranging from 1,210−7,125 feet (369−2,172 meters). This species is largely threatened by recreational activities and water contamination (CNPS 2021b). Ribbon leaf pondweed has been observed within the slower moving water in Castle Creek and the South Yuba River and is therefore present in the proposed Project area. This species was observed in the proposed Project area in 2015 during the special status plant survey for Lake Van Norden by C.S. Ecologic Services and Assessments (CSESA 2017).

Santa Lucia dwarf rush (Juncus luciensis)

Federal Status: None; State Status: Imperiled/Vulnerable; USFS: Sensitive; CNPS Status: 1B.2. Fairly Endangered

Santa Lucia dwarf rush is an annual herb that is endemic to California. It is part of the Juncaceae, or rush, plant family. This species can be found in chaparral, (Great Basin) scrub, lower montane coniferous

forest, meadows, seeps, and vernal pool vegetation communities. *Juncus luciensis* typically bloom April to July (mid to late-bloom cycle) in elevation ranging from 984 to 6,692 feet (300 to 2,040 meters) (Calflora 2021, CNPS 2021b). The plant stem is wide, hairy, and ranges 0.1 to 0.3 millimeters. The leaves are at the base and range 1.5 centimeters. The flowers have green mid-veins, are dark red at the tips, typically have six parts ranging 1.6 to 4.2 millimeters (Jepson eFlora 2021). Santa Lucia dwarf rush has a moderate potential to occur, with suitable habitat near the east end of the proposed Project area (Calflora 2021). This species was not observed during various baseline botanical surveys conducted for the proposed Project.

Scalloped moonwort (Botrychium crenulatum)

Federal Status: None; State Status: Imperiled; USFS: Sensitive; CNPS Status: 2B.2. Fairly Endangered

Scalloped moonwort is a rhizomatous fern that is native to California. It is part of the Ophioglossaceae, or adder's tongue family. This species can be found in bogs and fens, lower and upper montane coniferous forest, meadows and seeps, and in marshes and swamps. *Botrychium crenulatum* has a typical bloom period from June through September and can be found in elevations ranging from 4,160 to 10,761 feet (1,268 to 3,280 meters) (Calflora 2021, CNPS 2021b). The species is known to occur in nine western states including a broad distribution throughout the Sierra Nevada, the Trinity and Costal Ranges; as well as the Werner Range (CNPS 2021b). Scalloped moonwort is threatened by foot traffic, grazing and fuel reduction projects among others (CNPS 2021b). There is a moderate potential for scalloped moonwort to occur within the proposed Project area, with suitable habitat known to occur within the proposed Project area. There are known occurrences of scalloped moonwort in the Independence Lake and Hobart Mills quads (CNPS 2021b). This species was not observed during various baseline botanical surveys conducted for the proposed Project.

Starved daisy (Erigeron miser)

Federal Status: None; State Status: Imperiled; USFS: Sensitive; CNPS Status: 1B.3. Not Very Endangered

Starved daisy is a perennial herb that is endemic to California. It is part of the Asteraceae, or sunflower family. This species can be found in upper montane coniferous forest vegetation communities. *Erigeron miser* has a typical bloom period from June through October and can be found in elevations ranging from 6,036 to 8,595 feet (1,840 to 2,620 meters) (Calflora 2021, CNPS 2021b). Starved daisy provides important habitat to predatory and parasitoid insects as well as butterflies. Starved daisy is threatened by recreational activities and illegal dumping (CNPS 2021b). There is a high potential for starved daisy to occur within the proposed Project site, with ideal habitat known to occur within the proposed Project area. There are known occurrences of starved daisy in the proposed Project area scattered just north of the proposed Project area, but south of I-80 (CDFW 2021f, Figure **Error! Bookmark not defined.**a). This species was not observed during various baseline botanical surveys conducted for the proposed Project.

Upswept moonwort (Botrychium ascendens)

Federal Status: None; State Status: Imperiled; USFS: Sensitive; CNPS Status: 2B.3. Not Very Endangered

Upswept moonwart is a rhizomatous fern that is native to California. It is part of the Ophioglossaceae, or adder's-tongue fern, family. This species can be found in meadows and seeps and lower montane coniferous forest vegetation communities. Upswept moonwort has a typical bloom period in July through August in elevations ranging from 3,660 to 9,990 feet (1,115 to 3,045 meters) (CNPS 2021b). In addition to California, the species is known to occur in Nevada, Oregon, and Washington and is likely threatened by logging, trampling, and foot traffic (CNPS 2021b). There is a moderate potential for upswept moonwort to occur in the proposed Project area with suitable habitat known to occur. There are known occurrences of common moonwort in the nearby Royal Gorge Quad (CNPS 2021b). This species was not observed during various baseline botanical surveys conducted for the proposed Project.

Special Status Wildlife

Based on the results of desktop research using various resources listed above in the Survey Methods section and various survey data within the proposed Project area between 2013 and 2021, 39 special status wildlife species (including mammals, bird, reptiles/amphibians, fish, and invertebrates) were identified through background research as having the potential to occur in the Project region or have been known to occur within five miles of the proposed Project area (Table 3-5). The proposed Project area has been evaluated to determine habitat suitability and the level of potential occurrence for each of the 39 special status wildlife species as well as nesting raptors and migratory birds. Based on desktop analysis, habitat assessment, and field surveys conducted during the years 2014-2017 and 2020-2021, 32 special status species were found to have a low or low to nil potential to occur within the proposed Project area (Table 3-5). Eight special status wildlife species, including nesting raptors and migratory birds, were found to have a moderate potential, high potential, or were found to be present within the proposed Project area and discussed below: Monarch butterfly (*Danaus plexippus*), southern long-toed salamander (*Ambystoma macrodactylum sigillatum*), greater sandhill crane (*Grus canadensis tabida*), olive-sided flycatcher (*Contopus cooperi*), osprey (*Pandion haliaetus*), willow flycatcher (*Empidonax traillii), and* yellow warbler (*Setophaga petechia*). Although determined to have a low potential to occur within the proposed Project area, the Sierra Nevada yellow-legged frog is also discussed below due to its federally endangered status and the presence of DCH within the proposed Project area.

Monarch Butterfly (Danaus plexippus)

Federal Status: Candidate; State Status: None; USFS Status: Sensitive

The Monarch Butterfly was federally listed as a candidate species on December 15, 2020, and the USFWS will review its status annually until a listing decision is made to list it as either threatened or endangered under the ESA (USFWS 2020c). It's found throughout North America to southern Canada as well as Hawaii and other Pacific islands, Australia, New Zealand, Spain, and Portugal. They are most numerous in North America and here they are known to migrate hundreds or even thousands of miles from their breeding grounds across the U.S. and southern Canada to overwintering sites located in primarily in Mexico and California (Xerces Society 2018). The eastern and western monarch butterfly populations are not genetically distinct (Lyons et al. 2012, Zhan et al. 2014), but most western and eastern populations migrate to different areas to overwinter. The western monarch population breeds west of the Rocky Mountains and overwinters in forested groves along the Pacific Coast from Mendocino, California, south into western Baja, Mexico (Xerces Society 2018).

3 Impact Analysis

Each spring, monarchs leave their overwintering grounds to seek out milkweed (*Asclepias* spp.) in their spring and summer breeding range. Western monarchs are thought to breed continuously from spring through fall in California, Nevada, and Arizona, with later generations traveling north and east into the interior of the continent throughout the summer (Xerces Society 2018). Female monarch butterflies lay eggs on milkweed (*Asclepias* spp.) and other related genera. Larvae (caterpillars) rely on their host plant for food as they develop through five instars (one molting in between each instar). In addition to a source of food, milkweed provides the caterpillars with cardenolides, toxic compounds which cause them to be distasteful to predators, and the bright aposematic coloration of monarch larvae warns predators of their toxicity (Xerces Society 2018). However, predation and parasitism by other invertebrates are still high with typically less than 10% of eggs surviving to adulthood (Nail et al. 2015). When caterpillars reach the fifth instar they form a green chrysalis, or pupa, with gold trim. The pupa is usually attached to milkweed, other surrounding vegetation, fences, or other structures. After only few days, an adult butterfly emerges and begins searching for nectar and a mate. Female monarch butterflies will also search for milkweed on which to lay their eggs (Xerces Society 2018). In total, depending on temperature and other factors, it takes approximately one month for a monarch to develop from an egg to adult. While multiple generations may be produced over the spring and summer, only the fall generations migrate to overwintering sites; spring and summer generations only live 2–5 weeks as adults while overwintering butterflies may live 6–9 months (Xerces Society 2018)**.**

The last monarchs to reach adulthood begin the migration to the overwintering grounds in the fall. Like birds, monarch use the earth's magnetic fields and likely other environmental cues to start flying south (Heinze and Reppert 2011). Monarchs typically reach their overwinter grounds in California in September and October where they form clusters to conserve warmth for the next 4−5 months (Xerces Society 2018).

The major threats to breeding and migratory monarch butterfly populations in North America include habitat loss (of both of milkweed and nectar plants), insecticide use, climate change, and parasites, diseases, and predators (Xerces Society 2018). Monarch numbers today are a small fraction of the millions of butterflies which aggregated in the past. Data from the Xerces Society Western Monarch Thanksgiving Count, a long-term citizen monitoring effort conducted since 1997 shows a decline in monarchs of approximately 74% since the 1990s (Pelton et al. 2016). According to Shultz et al. (2017), the western monarch has declined by over 95% in the last 30−40 years and with current trends leading towards potential extinction in the next few decades.

In the early 1970s, Dr. Art Shapiro began monitoring butterfly populations at ten sites along a transect across central California (UC Davis 2021a). Dr. Shapiro began collected data in 1972 by surveying fixed routes at these sites at approximate two-week intervals in the late spring through Fall up through 2017 (UC Davis 2021a, Halsch pers. comm. 2021). Recently, in 2018, data collection was taken over by Matt Forister, Assistant Professor at the University of Nevada in Reno, and Chris Halsch, University of Nevada graduate student.

One of the ten sites Dr. Shapiro began visiting included a fixed route on Donner Pass. This route is described as being within montane communities with local subalpine elements including granite with herbs and low shrubs, mature red fir forest, a large wet and dry meadow complex with a few boggy spots and fringing willows and mountain alders (UC Davis 2021a). The majority of the Donner Transect follows

Donner Pass Road, or old Highway 40 and generally runs north of the proposed Project area with an approximate 0.75-kilometer section within the proposed Project area (UC Davis 2021a). Monarch butterflies have been identified along this transect most years since data began in the early 1970s and numbers observed have shown an obvious decline. The most recent observation of a monarch butterfly on the Donner Transect was in 2018, and when they are seen there it is typically in Late July through September (Halsch pers. comm. 2021). According to CDFW's CNDDB there are no known records of the monarch butterfly within five miles of the proposed Project (CDFW 2021f).

Sierra Nevada yellow-legged frog (Rana sierra)

Federal Status: Endangered, DCH; State Status: Threatened, Watch List; USFS Status: Sensitive

The Sierra Nevada yellow-legged frog is medium-sized frog measuring approximately 1.5−3.25 inches (3.8−8.3 centimeters) in length. They have indistinct dorsolateral folds, smooth skin, slim waste, long legs, and webbing on its hind feet (Stebbins and McGinnis 2012, USFWS 2020d). Females tend to be larger, and coloration varies, usually having dark spots with a mix of brown and yellow coloring, or may also be grey, red, or greenish brown (USFWS 2020d). Females also tend to be larger than males and live slightly longer (up to 14 years) in contrast to male Sierra Nevada yellow-legged frog (up to 12 years).

They inhabit the Sierra Nevada Mountains from Plumas County south to Tulare and Inyo Counties at elevations from approximately 4,500 feet to 12,000 feet (1,371 to 3,658 meters) (Stebbins and McGinnis 2012, USFWS 2020d). Sierra Nevada yellow-legged frog can be found in areas with gentle slopes on open stream and lake edges and sunny riverbanks, and they are often found in meadow streams, ponds, and lakes about 2–3 inches (5–8 centimeters) deep but may also be found in slow pockets within fast-moving streams (CaliforniaHerps 2021, Stebbins and McGinnis 2012). Locally, in the Tahoe National Forest, Aquatics/Fisheries Biologist, Carrie Johnson, has also observed Sierra Nevada yellow-legged frog occupying habitats including the bottoms of streams and ponds at depths greater than eight centimeters as well as within small crevices on vertical rocks or large boulders (Johnson 2021a). Sierra Nevada yellow-legged frog tend to spend most of their time close to water, typically within a few meters of the water's edge, and are most active during the day in the summer months (CaliforniaHerps 2021). Mating and egg-laying occurs in still or slow-moving water from May to August after streams have slowed from winter runoff (Stebbins and McGinnis 2012). Reproduction sites must not completely freeze, leaving a thawed portion on the bottom throughout the winter to ensure tadpole survival; therefore, creeks must be connected to permanent ponds or lakes. Tadpoles may take three to four years to metamorphose into frogs.

When foraging, Sierra Nevada yellow-legged frog typically use the "sit and wait" method of hunting to capture prey when it comes into range using their large, sticky tongue to bring the prey to their mouths. Sierra Nevada yellow-legged frog prey on a variety of terrestrial and aquatic invertebrates including beetles, flies, ants, bees, and true bugs (Jennings and Hayes 1994). They will also feed on tadpoles, including dead frogs and sometimes, their own eggs (CaliforniaHerps 2021). Sierra Nevada yellow-legged frog larvae feed on the algae and diatoms found along rocky bottoms in streams, lakes, and ponds. Common predators of both larval and adult Sierra Nevada yellow-legged frog are garter snake and introduced trout (Zeiner et al. 1988-1990, Knapp 1996).

Over the last few decades, the Sierra Nevada yellow-legged frog has undergone a range-wide decline in the Sierra Nevada (USFWS 2003), with an estimation of over 90 percent of historically occupied sites in the Sierra Nevada are now unoccupied (Jennings and Hayes 1994, Vredenburg et al. 2007). A major contributor to the decline of Sierra Nevada yellow-legged frog is due to the introduction of fish in the last century to the high elevation breeding lakes (USFWS 2003). Both distribution and abundance of Sierra Nevada yellow-legged frog larvae are significantly reduced when trout are introduced to an area (Knapp et al. 2001), and when fish are removed from an area, frog populations immediately begin to recover regardless of other habitat conditions (Knapp et al. 2001, Knapp et al. 2007).

Two diseases are particularly hard on this species. The first is known as “red-leg” disease and is caused by the bacterium *Aeromonas hydrophila*. Animals with this disease are emaciated, sluggish, poorly coordinated and the ventral surfaces of limbs are abnormally red due to hemorrhage and enlarged capillaries. “Red-leg” disease is attributed to the die-off of approximately 800 adult frogs at a single location over the timespan of a single season (Bradford 1991). It should be noted that although “red-leg” disease is attributed to that particular die-off, the diagnosis was made before amphibian chytridiomycosis was well known and the die off may have been the result of a combination of both diseases or the result of only one of the two diseases. More recently, the disease chytridiomycosis has emerged as a significant threat to the species as well (Briggs et al. 2005, Oullet et al. 2005, Wake and Vredenburg 2008). This second disease is caused by the fungus *Batrachochydrium dendrobatidis,* or Bd.

Historically, they have occurred within a number of locations in the Tahoe National Forest but now exist in only a few populations in ponds and streams and generally in small numbers (USFWS 2003). Since the federal listing of Sierra Nevada yellow-legged frog in 2014, more intensive survey efforts began in 2015 on Truckee and Sierraville Ranger Districts to monitor known populations and to locate other potential unknown populations within the Tahoe National Forest (Johnson 2021a).

In 2019, the USFS conducted visual encounter surveys in Upper Castle Creek from Van Norden to the USFS boundary south of I-80. In 2019 and 2021, surveys were also conducted from I-80 to Upper Castle Creek’s headwaters. All surveys yielded no observations of Sierra Nevada yellow-legged frog or other amphibians (Johnson 2021b). During the time of the 2021 survey, some pooled areas were present with a trickle flow, and several sections of the creek were dry. Surveyors noted that the lower section has decent Sierra Nevada yellow-legged frog habitat, similar in structure to Lower Castle Creek, but likely lacks the water depth needed for persistence and overwintering (Johnson 2021c).

The stretch of Lower Castle Creek from the USFS boundary to its headwaters in Round Valley was surveyed for Sierra Nevada yellow-legged frog annually from 2018 through 2021 for a total of four consecutive years, and all life stages of Sierra Nevada yellow-legged frog were observed within the entire surveys reach indicating a relatively stable population of reproducing Sierra Nevada yellow-legged frog (Johnson 2021b).

According to the CNDDB, Sierra Nevada yellow-legged frog historically occurred in South Yuba River within the proposed Project vicinity (CDFW 2021f,

Figure Error! Bookmark not defined.**b). Occurrences include one in 1958 approximately 0.5 miles above the former Lake Van Norden within an area described as having deep pools and a winding meadow stream, and another located approximately two miles downstream from the Van Norden Dam from 1939 (CDFW 2021f,**

Figure **Error! Bookmark not defined.**b). These two records were the last reported observations from South Yuba River within proximity to the proposed Project and also occurred prior to the lowering of the lake in 1976. More recently, focused Sierra Nevada yellow-legged frog field surveys following protocols

established by Heyer et al. (1994) were conducted in August 2016 by Ryan Peek and University of California Davis (U.C. Davis) Center for Watershed Sciences (Peek 2017). Field surveys were completed throughout existing wetted and aquatic areas in Van Norden Meadow including the lacustrine zone and stream channel. Monitoring was also conducted by Mr. Peek and the Center for Watershed Sciences within the Van Norden Dam Spillway Modification Project from 2012 through 2017, which included numerous visual encounter surveys for amphibians and fish, dip-net surveys, benthic macroinvertebrate sampling, and delineation of hydrogeomorphic habitats. No Sierra Nevada yellow-legged frog were detected during any of the aforementioned surveys, and it was concluded that habitat was unsuitable for all life stages of Sierra Nevada yellow-legged frog due to the lack of permanent water of adequate depths to avoid freezing as well as the known presence of American bullfrog (*Lithobates catesbeianus)* and predatory fish including brook trout (*Salvelinus fontinalis*), brown trout (*Salvelinus fontinalis*), brown bullhead (*Ameiurus nebulosus*), yellow perch (*Perca flavescens*), and speckled dace (*Rhinichthys osculus*), all known to occur within the relic Lake Van Norden, South Yuba River, and Castle Creek (Dudek 2014, Appelbaum 2018, Peek 2017). Amphibian species observed within the proposed Project area during surveys and monitoring were western toad (*Anaxyrus boreas*), Pacific chorus frog (*Pseudacris regilla*), and American bullfrog (Peek 2017).

In 2018, eDNA samples were collected from Van Norden Meadow by a field crew supervised by Dr. Karen Pope of the U.S. Department of Agriculture (USDA) Pacific Southwest Research Station and Dr. Caren Goldberg of Washington State University. This effort resulted in no detection of Sierra Nevada yellow-legged frog and a positive detection of the Bd (WSU 2020). Bd can exist within the habitat without the presence of frogs but has been known to cause the decline or extinction of frog populations around the world (Whittaker and Vredenburg 2011).

Visual encounter surveys conducted in June 2021 by Dr, Ryan Peek yielded no observations of Sierra Nevada yellow-legged frog (Peek 2021). The most recent visual encounter survey conducted within Van Norden Meadow took place on September 1st and 9th of 2021 by the USFS (Johnson 2021d). Surveys were focused on wetted areas within USFS property. At the time of the survey many pools of water were present measuring approximately 2−4 feet deep at the upper eastern end of the meadow, however no flowing water was present. Observations were made of California toad (*Anaxyrus boreas halophilus*), Sierran treefrog, Sierra gartersnake, speckled dace and signal crayfish (*Pacifastacus leniusculus*); however, no evidence of Sierra Nevada yellow-legged frog was detected during the surveys.

Although the proposed Project area is within DCH, there and is limited suitable habitat present and repeated surveys over the past decade have yielded no observations of Sierra Nevada yellow-legged frog within the proposed Project area. Therefore, there is low potential for the Sierra Nevada yellow-legged frog to occur within the proposed Project area.

Southern long-toed salamander (Ambystoma macrodactylum sigillatum)

Federal Status: None; State Status: Species of Special Concern; USFS Status: None

The long-toed salamander (*Ambystoma macrodactylum sigillatum*) typically occurs in habitats including ponderosa pine, montane hardwood-conifer, mixed conifer, montane riparian, red fir**,** and wet meadows from near sea level to 9,180 feet (2,800 meters)**.** Their range is in the north central mountains of California and east of the Cascades in Modoc and Lassen Counties south into the Sierra Nevada south to

Tuolumne County in the vicinity of the Stanislaus River (Zeiner et al. 1988-1990). Adults are subterranean the majority of the year and use mammal burrows, rock fissures, and occasionally human-made structures. However, during breeding migrations they may be found under surface objects such as rocks or logs near the breeding pond, while aquatic larvae use clumps of vegetation or other bottom debris as cover and prefer shallow water, less than 12 inches (30 centimeters) in depth (Zeiner et al. 1988-1990). Most surface movements such as migration to and from breeding ponds, mostly in the spring and fall, and the dispersal of juveniles away from ponds, are associated with sustained rainfall, especially at night. In montane habitats salamanders emerge and migrate to temporary breeding ponds formed by winter and spring rains and snowmelt as soon as springtime temperatures are warm enough to reduce snow cover and open ponds (Zeiner et al. 1988-1990). Those populations occurring at high elevations, require permanent ponds because of slow developmental rates of larvae (Anderson 1967).

Suitable habitat occurs within the proposed Project area. The two closest known occurrences are from 2005 and located approximately one mile to the northeast and southeast of the proposed Project area (CDFW 2021f). Additionally, in 2018, the USFS observed individuals in ponds between Lower and Upper Castle Creek across I-80 (Johnson 2021e).

Greater Sandhill Crane (Grus canadensis tabida)

Federal Status: None; State Status: Threatened, Fully Protected; USFS Status: Sensitive

The greater sandhill crane is listed as threatened in California and is designated as Sensitive on the Region 5 Forester's Sensitive Species List (USFS 2013b) and threatened in the state of California. Greater sandhill cranes of the west coast are not hunted and are protected by the MBTA. The California Central Valley population of sandhill cranes is the most western of five distinct populations. A total of 276 cranes were recorded within the state during a breeding pair survey in 1988 (CDFG 1994). In California, greater sandhill cranes winter primarily throughout the Sacramento, San Joaquin, and Imperial Valleys (Grinnell and Miller 1944). Current known breeding populations are located within Lassen, Modoc, Plumas, Shasta, Sierra, and Siskiyou Counties (Littlefield 1982, CDFG 1994). In the Tahoe National Forest, a breeding population of approximately 11 pair occur within Carman Valley and Kyburz Flats on the Sierraville Ranger District (Youngblood pers. comm. 1998).

California pairs of sandhill cranes generally nest in wet meadow, shallow lacustrine, and fresh emergent wetland habitat, with nests constructed of large mounds of water plants over shallow water (Zeiner et al. 1988-1990, CDFG 1994). Cranes do not breed until their fourth year, but then usually mate for life (Johnsgard 1975). Nesting activities begin with courtship in April with peak breeding occurring in May through July and nesting usually completed by late August. The average clutch size is two, ranging from one to three. Incubation takes approximately 30 days. Shortly after the second egg hatches, adults lead the young from the nest site and begin feeding them. Each adult generally feeds one chick. Chicks are aggressive toward each other, and, shortly after hatching one becomes dominant. Often this dominance leads one chick to be pushed away from the adults. This may cause the chick to starve or be consumed by a predator (Zeiner et al. 1988-1990, CDFG 1994). Young fledge at about 70 days but remain with their parents for up to one year (Harrison 1978).

Young cranes (colts) depend mostly on invertebrates during their first five or six weeks and sometimes starve to death when invertebrates decrease with water levels (Pacific Flyway Council 1997). In dry years

colts are moved upland, where they feed primarily on grasshoppers and other insects (CDFG 1994). Adults feed on grasses, forbs, cereal crops, roots, tubers. Animal matter such as insects, mice, crayfish and frogs, is taken opportunistically, but should not be considered a major component of their diet.

Threats to greater sandhill crane include predation livestock grazing. Recruitment of young is suppressed by predation at most breeding areas within their range (CDFG 1994), and predation from coyotes, common raven (*Corvus corax*), and raccoons are a major factor in low nesting success, especially in years of low precipitation (Littlefield 1989, CDFG 1994, Pacific Flyway Council 1997). Preliminary studies indicate that up to 45% of egg losses and up to 76% of young crane mortality may be attributed to predation (Ivey 1995). Spring and summer livestock grazing may cause a loss of nests and young due to nest desertion and trampling of young (Littlefield 1989). This can be extremely detrimental to breeding cranes, especially if water is limited (CDFG 1994). Lowering of ground water tables often results in stream down cutting with subsequent drying and degradation of wetland habitats (CDFG 1994). According to CDFW's CNDDB, there is one observation within five miles of the proposed Project area in 2016. The family group consisting of two adults and two young was observed on the southwest side of the Lake Van Norden (no longer present) amongst willows and low-growing vegetation; however was not confirmed to be nesting within the meadow (CDFW 2021f,

Figure **Error! Bookmark not defined.**b).

Olive-sided flycatcher (Contopus cooperi)

Federal Status: Bird of Conservation Concern; State Status: Species of Special Concern; USFS Status: Sensitive

There is a moderate potential for the olive-sided flycatcher to occur within the proposed Project area. They are summer resident throughout California in a variety of forest and woodland habitats below 9,000 feet (2,800 meters) exclusive of the deserts, the Central Valley, and other lowland valleys and basins (Zeiner et al. 1988-1990). Preferred nesting habitats include mixed conifer, montane hardwood-conifer, Douglas-fir, redwood, red fir, and lodgepole pine (Grinnell and Miller 1944, Garrett and Dunn 1981). For nesting and roosting sites, olive-sided flycatcher typically require large, tall trees, usually conifers, with lofty perches (e.g., dead tips or uppermost branches of the tallest trees in vicinity) for singing posts and hunting perches (Zeiner et al. 1988-1990). They build open cup nests consisting of grasses, mosses, lichens, rootlets, pine needles approximately 5−70 feet (2−20 meters) above ground well out on a horizontal limb of conifer trees (Bent 1942). Suitable habitat exists within the proposed Project area. Occurrences of olive-sided flycatcher have historically been observed in forests around the former Lake Van Norden. Suitable breeding habitat exists in the meadow complex along Mackay Creek, just upstream from Palisade Lakes (TDLT 2014).

Osprey (Pandion haliaetus)

Federal Status: None; State Status: Watch List; USFS Status: None

The osprey is a large hawk that is dark brown above and white underneath and has dark marks on its wings and a white head with brown streak through its eye and cheek. They breed in northern California from the Cascade Range south to Lake Tahoe as well as along the California coast south to Marin County. Osprey nest from mid-March to early April on platforms of sticks at the top of large snags, cliffs, or human-made structures next to inland lakes and reservoirs and rivers often within ponderosa pine and mixed conifer habitats (Zeiner et al. 1988-1990). They subsist mostly on fish caught in open clear waters of rivers, lakes, reservoirs, bays, estuaries, and surf zones, but will also take mammals, birds, reptiles, amphibians, and invertebrates. To catch their pray, osprey swoops from flight, hover, or perches to catch fish near surface of water (Zeiner et al. 1988-1990).

There is a moderate potential for osprey to occur within the proposed Project area due to the potential foraging habitat within the South Yuba River as well as potential nesting habitat along the edge of Van Norden Meadow. There is one known nest on the south side of Donner Lake approximately five miles to the east of the proposed Project area (CDFW 2021f,

Figure **Error! Bookmark not defined.**b). The last documented occurrence of the nest being active was in 2005; however, two adult ospreys were observed soaring and exhibiting agitated behavior (vocalizations) on Schallenberger Ridge during surveys conducted in August 2018 (Placer County 2021).

Willow flycatcher (Empidonax traillii brewsteri)

Federal Status: Bird of Conservation Concern; State Status: Endangered; USFS Status: Sensitive

The willow flycatcher is a small passerine neotropical migrant found breeding in low dense vegetation, most frequently in the presence of water and willow species in the U.S. and Canada. It winters in tropical and subtropical areas from southern Mexico to northern South America (Green et al. 2003). There are three subspecies of willow flycatcher in different portions of California; they have been distinguished from each other based on distribution and color. In the Sierra Nevada, *Empidonax trailli adastus* and *Empidonax trailli brewsteri* generally occupy the eastern and western slopes, respectively; both of these subspecies likely occur in the Tahoe National Forest (Green et al. 2003). The southwestern willow flycatcher, *Empidonax trailli extimus*, occupies southern California as well as other southwestern States and was listed as endangered by the USFWS in 1995 (USFWS 1995).

The willow flycatcher was once a common summer resident throughout California where suitable habitat existed; areas where it was most common included the Central Valley and central California in general, and the southern coastal region (Grinnell and Miller 1944, Harris et al. 1987). Breeding habitat typically includes moist meadows with perennial streams and smaller spring fed or boggy areas with willow or alders; dense thickets are generally avoided in favor of more patchy willow sites providing considerable edge (Green et al. 2003). Willow flycatchers have also been found in riparian habitats of various types and sizes ranging from small lakes or ponds surrounded by willows with a fringe of meadow or grassland, to willow lined streams, grasslands, or boggy areas. Willow flycatchers in the northern Sierra Nevada typically begin arriving on their breeding grounds around June 1, and egg laying for first nest attempts sometimes begins as early as the second week in June, but more often in late June/early July (Green et al. 2003). Up to three nesting attempts may occur as a result of nest failure, with egg-laying through the first week of August, and all willow flycatchers appear to be gone from their breeding territories by mid-September (Green et al. 2003).

Willow flycatchers forage by either aerially gleaning insects from trees, shrubs, and herbaceous vegetation, or they hawk larger insects by waiting on exposed forage perches and capturing them in flight (Ettinger and King 1980, Sanders and Flett 1989). Potential predators of willow flycatcher nests include a variety of mammalian and avian species (Cain et al. 2003), the occurrence of which varies according to environmental characteristics in different portions of meadows (Cain et al. 2006).

Based on data from 14 years of the demography study, populations across the Sierra Nevada have declined 19% yearly in the Lake Tahoe and West Carson River areas to the south, and 6% yearly in the Little Truckee River area (Mathewson et al. 2012). The highest recorded number of territories on National Forest System land in the Sierra Nevada bioregion is located in the Perazzo Meadows area in the Tahoe National Forest where systematic surveys and research on willow flycatchers have occurred throughout the Perazzo Meadow area since the early 1980s (Serena 1982, Flett and Sanders 1987, Harris et al. 1987, Sanders and Flett 1989, Bombay et al. 2003, Mathewson et al. 2009).

In addition to the existing population of willow flycatcher at Perazzo Meadow approximately 12 miles to the north of the proposed Project area, CDFW's CNDDB reports one known occurrence of willow flycatcher from 1991 in the proposed Project area described as in the meadow upstream of Lake Van Norden (no longer exists) (CDFW 2021f,

Figure **Error! Bookmark not defined.**b). According to the CNDDB record, the observation was of a single pair of adults exhibiting breeding behavior although nesting was not confirmed. Additionally, there has been local accounts of willow flycatcher in 1986, 1992, 2000, 2004 and 2010 (TDLT 2014). However, no willow flycatcher were observed in the Project area during bird surveys conducted by Point Blue in 2014−2017, 2020, and 2021.

Yellow warbler (Setophaga petechia)

Federal Status: Bird of Conservation Concern; State Status: Special of Special Concern; USFS Status: Management Indicator Species

The yellow warbler is a small migrant passerine that prefers areas of riparian habitat in close proximity to wet meadows or water along streams. In northern California, they are often found riparian shrubs and

trees such as willow (*salix sp*.) and cottonwood (*Populus sp.)* but may also nest in montane shrub or chaparral fields and shrubby understory of mixed-conifer forests in areas of the western Sierra Nevada (Shuford and Gardali 2008). Their breeding season is typically April to late July. Their diet consists of mainly of invertebrates such as flies, spiders, beetles, caterpillars, ants, and bees. Threats to the yellow warbler include habitat destruction and nest parasitism by the brown-headed cowbird (*Molothrus ater*) and predation from species like the Douglas squirrel (*Tamiasciurus douglasii*) and Steller's jay (*Cyanocitta stelleri*) (Shuford and Gardali 2008).

There is a moderate potential for the yellow warbler to occur within the proposed Project area as suitable riparian habitat for the yellow warbler exists in the proposed Project area. A single observation was made during a survey conducted in June 2015 by a Stantec biologist within the proposed Project area (Placer County 2016), and there is also a known occurrence approximately three miles south of proposed Project area (CDFW 2021f,

Figure **Error! Bookmark not defined.**b).

Nesting raptors and other migratory birds

Federal Status: Migratory Bird Treaty Act; State Status: California FGC; USFS Status: None

There is a high potential for nesting raptors and/or migratory birds to occur within the proposed Project area or within the areas immediately adjacent to the proposed Project area. To name a few, suitable habitat exists for cavity-nesting species such as the white-headed woodpecker (*Leuconotopicus albolarvatus*) and the red-breasted nuthatch (*Sitta canadensis*)*;* tree-nesting species such as black-headed grosbeak (*Pheucticus melanocephalus*) and western tanager (*Piranga ludoviciana*); and ground nesting species such as dark-eyed junco (*Junco hyemalis*) and song sparrow. Raptors that may

potentially nest within the proposed Project area include red-tailed hawk (*Buteo jamaicensis*) and great horned owl (*Bubo virginianus*). Multiple surveys have been conducted within the proposed Project area within the last decade by entities including Point Blue, Placer County, SYRCL, TDLT, and USFS; dozens of non-nesting bird species protected under the MBTA have been observed within the proposed Project area as well as nesting species including the dark-eyed junco, song sparrow, and American robin (*Turdus migratorius*) (Placer County 2016).

Table 3-5 Special Status Plant and Wildlife Species and Their Potential to Occur in the Proposed Van Norden Meadow Restoration and Recreation Project Area, Nevada and Placer Counties, California.

Common Name *Scientific Name*	Federal Status	State Status	Forest Service Status	CNPS Status	Geographic Distribution	Preferred Habitat	Identification Period	Level of Potential of Occurrence within the Project Area
Plants								
Alder buckthorn *Rhamnus alnifolia*	—	S3	—	2B.2	4,494−6,988 feet (1,370−2,130 meters)	Lower and upper montane coniferous forest; meadows, seeps, riparian scrub.	May−July	**Low.** Limited suitable habitat in the proposed Project area. Two known occurrences approximately 5 miles east of the Project area (1903, 2013) (CDFW 2021f).
Austin's astragalus *Astragalus austiniae*	—	S2S3	—	1B.3	8,005−9,745 feet (2,440−2,970 meters)	Alpine boulder and rock fields; subalpine coniferous forest; dry rocky slopes and exposed ridges.	July−September	**Very low to nil.** Limited to no habitat in the proposed Project area. Two known occurrences approximately 3.5 miles (one to the north and one to the south) of the proposed Project area (2019-2020) (CDFW 2021f).
Blandow's bog moss *Helodium blandowii*	—	S1	S	2B.3	6,108−8,858 feet (1,862−2,700 meters)	Damp soils, meadows, seeps; subalpine coniferous forest.	Year-round	**Low.** Limited suitable habitat in the proposed Project Area, and there are no known occurrences within 5 miles of the proposed Project area. Species typically needs slow moving water within the preferred habitat type.
Bolander's bruchia *Bruchia bolanderi*	—	S3	S	4.2	5,577−9,186 feet (1,700−2,800 meters)	Damp soils in lower montane coniferous forest; meadows, seeps; upper montane coniferous forest.	Undefined	**Moderate.** Suitable habitat in the proposed Project area. One known occurrence on the north side of I-80 near Castle Valley in the Tahoe National Forest approximately 2.5 miles north of the proposed Project area from an unknown date (CDFW 2021f).
Broad-nerved hump moss *Meesia uliginosa*	—	S3	S	2B.2	3,969−9,200 feet (1,210−2,804 meters)	Damp soils, bogs, fens, meadows, seeps; subalpine coniferous forest, upper montane coniferous forest	October	**Moderate.** Suitable habitat in the proposed Project area. No known occurrences within 5 miles of the proposed Project area.
Butte County fritillary *Fritillaria eastwoodiae*	—	S3	S	3.2	164−4,921 feet (50−1,500 meters)	Chaparral; cismontane woodland; lower montane coniferous forest.	March−June	**Very Low to Nil.** Limited to no suitable habitat in the proposed Project area. The proposed Project area is outside of known species elevation range, and there are no known occurrences within 5 miles of the proposed Project area.
Cantelow's lewisia *Lewisia cantelovii*	—	S3	S	1B.2	1,083−4,495 feet (330−1,370 meters)	Broad-leafed upland forests; cismontane woodland; lower montane coniferous/ yellow pine/ mixed evergreen forests; chaparral; granitic; serpentine seeps; riparian; wetlands; mesic.	May−October	**Very Low to Nil.** Limited to no suitable habitat in the proposed Project Area. The proposed Project Area is outside of known species elevation range, and there are no known occurrences within 5 miles of the proposed Project area.
Closed-throated beardtongue *Penstemon personatus*	−	S2	S	1B.2	3,494−6,955 feet (1,065−2,120 meters)	Meta-volcanic environments; chaparral; lower and upper montane coniferous forest.	June−October	**Very Low to Nil.** Limited to no suitable habitat in the proposed Project area, and no known occurrences within 5 miles of the proposed Project area.
Clustered-flower cryptantha *Cryptantha glomeriflora*	—	S4	—	4.3	5,905−12,303 feet (1,800−3,750 meters)	Great Basin scrub; meadows and seeps; subalpine coniferous forest; upper montane coniferous forest [granitic or volcanic, sandy].	June−September	**Low.** Rocky areas near streams and dry spots in the meadow may provide habitat. No known occurrences within 5 miles of the proposed Project area.
Clustered lady's-slipper *Cypripedium fasciculatum*	−	S4	S	4.2	330−7,990 feet (100−2,435 meters)	Lower montane coniferous, north coast coniferous, yellow pine, redwood forests; serpentine; riparian, stream banks, seeps, wetlands.	March−August	**Low**. Limited suitable habitat in the proposed Project area, and there are no known occurrences within 5 miles of the proposed Project area.
Common moonwort *Botrychium lunaria*	—	S2	S	2B.3	6,496–11,154 feet (1,980−3,400 meters)	Meadows, seeps; subalpine coniferous forest, upper montane coniferous forest.	August	**Low.** Limited suitable habitat in the proposed Project area. This species is normally found in areas with a forest overstory. No known occurrences within 5 miles of the proposed Project area.
Davy's sedge *Carex davyi*	—	S3	—	1B.3	4,920-10,500 feet (1,500−3,200 meters)	Subalpine coniferous forest; upper montane coniferous forest	May−August	**Low.** Limited suitable habitat in the proposed Project area. This species is normally found in areas with a forest overstory. No known occurrences within 5 miles of the proposed Project area.

Common Name *Scientific Name*	Federal Status	State Status	Forest Service Status	CNPS Status	Geographic Distribution	Preferred Habitat	Identification Period	Level of Potential of Occurrence within the Project Area
Dog Valley ivesia *Ivesia aperta*	—	S1	S	1B.1	5,249−6,561 feet (1,600−2,000 meters)	Volcanic and rocky environments; lower montane coniferous forest; meadows, seeps.	June−August	**Very Low to Nil.** Limited to no suitable habitat in the proposed Project area, and no known occurrences within 5 miles of the proposed Project area.
Donner Pass buckwheat *Eriogonum umbellatum* var. *torreyanum*	—	S2	S	1B.2	6,085−8,595 feet (1,855−2,620 meters)	Volcanic and rocky environments; meadows, seeps; upper montane coniferous forest.	July−September	**Moderate.** Suitable habitat in the proposed Project area. Eight known occurrences within 5 miles of the proposed Project area (1991-2012) (CDFW 2021f).
Elongate copper moss *Mielichhoferia elongata*	—	S2	S	2B.2	1,640−4,265 feet (500−1,300 meters)	Cismontane woodland; rocky outcrops.	Year-round	**Very Low to Nil.** Limited to no suitable habitat in the proposed Project area. The proposed Project area is outside of the known species elevation range, and no known occurrences within 5 miles of the proposed Project area.
Follett's monardella *Monardella folletti*	—	S2	S	1B.2	2,165−6,562 feet (600−2,000 meters)	Lower montane coniferous/yellow pine forests; rocky and serpentine soils.	June−September	**Very Low to Ni**l. Limited to no suitable habitat in the proposed Project area, and no known occurrences within 5 miles of the proposed Project area.
Galena Creek rockcress *Arabis rigidissima* var. *demota*	—	S1	S	1B.2	7,398−8,398 feet (2,255−2,560 meters)	Rocky environments; upland forest; upper montane coniferous forest.	August	**Very Low to Nil.** Limited to no suitable habitat in the proposed Project area, and no known occurrences within 5 miles of the proposed Project area.
Hiroshi's flapwort *Nardia hiroshii*	—	S1	—	2B.3	7,200−7,200 feet (2,195−2,195 meters)	Meadows and seeps.	Undefined	**Low.** Although suitable habitat exists in the proposed Project area, little is known about this species. The one known occurrence in California is approximately 2 miles east of the proposed Project area (1992) (CDFW 2021f).
Howell's tauschia *Tauschia howellii*	—	S2	S	1B.3	5,593−8,200 feet (1,705−2,500 meters)	Granitic and gravelly; subalpine coniferous forests; upper montane coniferous forest.	June−August	**Low**. Limited suitable habitat in the proposed Project area, and no known occurrences within 5 miles of the proposed Project Area.
Hutchison's lewisia *Lewisia kelloggii* ssp. *hutchisonii*	—	S2S3	S	3.2	2,509−7,759 feet (765−2,365 meters)	Openings, ridgetops, often slate, rhyolite tuff; upper montane coniferous forest.	April−August	**Low.** Limited suitable habitat in the proposed Project area. Known occurrence population of this species has been reported southwest of the proposed Project area near Kidd Lake (2002, 2009) (Calflora 2021).
Kellogg's lewisia *Lewisia kelloggii* ssp. *kelloggii*	—	S2S3	S	3.2	4,805−7,760 feet (1,465−2,365 meters)	Upper montane coniferous, yellow pine, red fir forest; openings, ridgetops, often slate- rhyolite-tuff geologic environments.	May−August	**Low.** Limited suitable habitat in the proposed Project area. Species observed during surveys conducted in May 2015 southwest of the proposed Project area also near Kidd Lake. This species was observed just north of the reported population of Hutchison's lewisia (*Lewisia kelloggii* ssp. *hutchisonii*) (Placer County 2016).
Lemmon's milk-vetch *Astragalus lemmonii*	—	S2	S	1B.2	3,300−7,217 feet (1,007−2,200 meters)	Great Basin scrub; meadows, seeps, marshes, swamps, lake shores.	May−September	**Moderate. S**uitable habitat in the proposed Project area, and no known occurrences within 5 miles of the proposed Project Area.
long-petaled lewisia *Lewisia longipetala*	—	S3	S	1B.3	8,202−9,596 feet (2,500−2,925 meters)	Granitic, rocky, mesic environments; alpine boulders, rock fields; subalpine coniferous forest.	July−September	**Low.** Limited suitable habitat in the proposed Project Area. This species is difficult to identify unless surveys are conducted during the species reproductive period of late bloom, specifically fall. Three known occurrences approximately 3.5−4.5 miles north of the proposed Project Area (1992, 1999) (CDFW 2021f).
Marsh skullcap *Scutellaria galericulata*	—	S2	S	2B.2	0−6,890 feet (0−2,100 meters)	Lower montane coniferous forest; meadows (mesic); marshes and swamps.	June−September	**Low.** Suitable habitat may occur around the edges of the relic Lake Van Norden; however, it is unlikely to occur due to elevation and no known occurrences. No known occurrences within 5 miles of the proposed Project area.
Mingan moonwort *Botrychium minganense*	—	S2	S	2B.2	4,773−7,152 feet (1,455−2,180 meters)	Bogs, fens, meadows, seeps; lower and upper montane coniferous forest.	July−September	**Moderate.** Suitable habitat in the proposed Project area. No known occurrences within 5 miles of the proposed Project area.

Common Name *Scientific Name*	Federal Status	State Status	Forest Service Status	CNPS Status	Geographic Distribution	Preferred Habitat	Identification Period	Level of Potential of Occurrence within the Project Area
Modoc Plateau milk-vetch *Astragalus pulsiferae* var. *coronensis*	—	S3	S	4.2	4,412−6,200 feet (1,345−1,890 meters)	Sandy, gravelly, volcanic; Great Basin scrub; lower montane coniferous forest; Pinyon and juniper woodland.	May−July	**Very Low to Nil.** Limited to no suitable habitat in the proposed Project area, and no known occurrences within 5 miles of the proposed Project area.
Mountain lady's-slipper *Cypripedium montanum*	—	S4	S	4.2	606−7,300 feet (185−2,225 meters)	Broad-leafed upland forest; cismontane woodland; lower montane coniferous forest; North Coast coniferous forest.	March−August	**Very Low to Nil**. Limited to no suitable habitat in the proposed Project area, and no known occurrences within 5 miles of the proposed Project area.
Monro's Desert mallow *Sphaeralcea munroana*	—	S1	—	2B.2	6,560 feet (2,000 meters)	Great basin scrub	May–June	**Very Low to Nil**. Limited to no suitable habitat in the proposed Project area, and no known occurrences within 5 miles of the proposed Project area.
Oregon fireweed *Epilobium oreganum*	—	S2	S	1B.2	1,640–7,350 feet (500–2,240 meters)	Bogs and fens; lower montane coniferous forest; meadows and seeps; upper montane coniferous forest.	June−September	**High.** Oregon fireweed has been observed along the banks of Upper Castle Creek (Calflora 2020) within the proposed Project area. Although no Project-specific surveys have located this species, it has a high likelihood of occurrence.
Plumas ivesia *Ivesia sericoleuca*	—	S2	S	1B.2	4,297−7,217 feet (1,310−2,200 meters)	Vernally mesic and volcanic environments; Great Basin scrub; lower montane coniferous forest; meadows, seeps, vernal pools.	May−October	**Low.** Limited suitable habitat in the proposed Project area. No known occurrences within 5 miles of the proposed Project area.
Ribbon leaf pondweed *Potamogeton epihydrus*	—	S2S3	—	2B.2	1,210−7,125 (368−2,172 meters)	Marshes and swamps (shallow freshwater)	July−September	**High.** Ribbon leaf pondweed is present within the slower moving water in Castle Creek and the South Yuba River and is therefore present in the proposed Project area. This species was observed in the proposed Project area in 2015 during the special status plant survey for Lake Van Norden.
Santa Lucia dwarf rush *Juncus luciensis*	—	S2S3	S	1B.2	984−6,692 feet (300−2,040 meters)	Chaparral; Great Basin scrub; lower montane coniferous forest; Meadows, seeps, vernal pools.	April−July	**Moderate.** Suitable habitat in proposed Project area. One known occurrence approximately 1.5 miles east of the proposed Project area along Donner Pass Road (2006) (CDFW 2021f).
Saw-toothed lewisia *Lewisia serrata*	—	S2	S	1B.1	2,959−4,780 feet (900−1,435 meters)	Mesic environments; rocky slopes; broad−leafed upland forest; lower montane coniferous forest.	May−June	**Very Low to Nil**. Limited to no suitable habitat in the proposed Project area and is located outside of known species elevation range. No known occurrences within 5 miles of the proposed Project area.
Scalloped moonwort *Botrychium crenulatum*	—	S2	S	2B.2	4,160−10,761 feet (1,268−3,280 meters)	Lower and upper montane coniferous forest; meadows, seeps, bogs, fens, marshes, swamps, bogs, fens, freshwaters.	June−September	**Moderate.** Suitable habitat in proposed Project area. No known occurrences within 5 miles of the proposed Project area.
Sierra blue grass *Poa sierrae*	—	S2S3	S	1B.3	1,197−4,921 feet (365−1,500 meters)	Openings; lower montane coniferous forest.	April−June	**Very Low to Nil.** Limited to no suitable habitat in the proposed Project area and is located outside of known species elevation range. No known occurrences within 5 miles of the proposed Project area.
Sierra Valley ivesia *Ivesia aperta*	—	S2	S	1B.2	4,855−7,545 feet (1,480−2,300 meters)	Vernally mesic, usually volcanic environments; Great Basin scrub; lower montane coniferous forest; pinyon and juniper woodland; vernal pools, meadows, seeps.	June−September	**Low.** Limited suitable habitat in the proposed Project Area, and no known occurrences within 5 miles of the proposed Project area.
Small bur-reed *Sparganium natans*	—	S3	—	4.3	5,330−8,205 feet (1,625−2,500 meters)	Bogs and fens, Marshes and swamps, Meadows and seeps.	June−September	**Low.** Suitable habitat in the proposed Project area, however, no known occurrences within 5 miles of the proposed Project area.

Common Name *Scientific Name*	Federal Status	State Status	Forest Service Status	CNPS Status	Geographic Distribution	Preferred Habitat	Identification Period	Level of Potential of Occurrence within the Project Area
Starved daisy *Erigeron miser*	—	S2	S	1B.3	6,036−8,595 feet (1,840−2,620 meters)	Upper montane coniferous forest (rocky).	June−October	**Moderate.** Limited suitable habitat in proposed Project area, however multiple known occurrences within 5 miles of the proposed Project area. The two occurrences just north and within approximately 0.5 miles are from 1881 and 1943.
Stebbins' phacelia *Phacelia stebbinsii*	—	S3	S	1B.2	2,001−6,594 feet (610−2,010 meters)	Cismontane woodland; lower montane coniferous forest; meadows, seeps.	May−July	**Low.** Suitable habitat in proposed Project area, however this species usually occurs at lower elevations. One known occurrence approximately 3 miles south of the proposed Project (2009) (CDFW 2021f).
Sticky pyrrocoma *Pyrrocoma lucida*	—	S3	S	1B.2	2,295−6,400 feet (700−1,950 meters)	Lower montane coniferous/ yellow pine forest; Great Basin scrub; meadows, seeps; alkaline and clay environments.	July−October	**Very Low to Nil**. Limited to no suitable habitat in the proposed Project area, and no known occurrences within 5 miles of the proposed Project area.
Tahoe yellow cress *Rorippa subumbellata*	—	S1	—	1B.1	6,200−6,250 feet (1,890−1,905 meters)	Lower montane coniferous forest, Meadows and seeps.	May−September	**Low.** Suitable habitat in the proposed Project area, however this species usually occurs at lower elevations. No known occurrences within 5 miles of the proposed Project area.
Threetip sagebrush *Artemisia tripartita* ssp. *tripartita*	—	S2	—	2B.3	7,217−8,530 feet (2,200−2,600 meters)	Rocky and volcanic environments; Upper montane coniferous forest.	August	**Low.** Limited suitable habitat in the proposed Project area. One known occurrence approximately 4 miles north of the proposed Project area (2011) (CDFW 2021f).
Upswept moonwort *Botrychium ascendens*	—	S2	S	2B.3	3,658−8,858 feet (1,115−2,700 meters)	Lower montane coniferous forest; meadows, seeps.	July−August	**Moderate.** Suitable habitat in proposed Project area. No known occurrences within 5 miles of the proposed Project area.
Webber's ivesia *Ivesia webberi*	—	S1	S	1B.1	3,280−6,807 feet (1,000−2,075 meters)	Sandy or gravelly soil within Great Basin scrub; volcanic ash environments; lower montane coniferous forest; pinyon and juniper woodland.	May−July	**Very Low to Nil.** Limited to no suitable habitat in the proposed Project area, and no known occurrences within 5 miles of the proposed Project area.
Webber's milk-vetch *Astragalus webberi*	—	S1	S	1B.2	2,398−4,101 feet (731−1,250 meters)	Broad-leafed upland forest; lower montane coniferous forest; meadows, seeps.	May−July	**Very Low to Ni**l. Limited to no suitable habitat in the proposed Project area. The proposed Project area is outside of known species elevation range, and no known occurrences within 5 miles of the proposed Project area.
Western goblin *Botrychium montanum*	—	S2	S	2B.1	4,806−7,152 feet (1,465−2,180 meters)	Lower and upper montane coniferous forest; meadows, seeps.	July−September	**Low.** Suitable habitat in proposed Project area. No known occurrences within 5 miles of the proposed Project area and not known in a nearby location.
Western waterfan lichen *Peltigera gowardii*	—	S3	S	4.2	3,494−8,595 feet (1,065−2,620 meters)	Cold water creeks, riparian forests; non-disturbed areas, rocky and other environments exhibiting shallow sediments.	Year-round	**Very Low to Nil.** Limited to no suitable habitat in the proposed Project area, and no known occurrences within 5 miles of the proposed Project area.
Whitebark pine *Pinus albicaulis*	—	—	S	—	6,003−13,713 feet (1,830−4,180 meters)	Alpine and sub alpine coniferous forest.	Year-round	**Low.** Limited suitable habitat in the proposed Project area, and no known occurrences within 5 miles of the proposed Project area.
Woolly-fruited sedge *Carex lasiocarpa*	—	S2	—	2B.3	5,580−6,890 feet (1,700−2,100 meters)	Bogs and fens, Marshes and swamps.	June−July	**Low.** Suitable habitat in the proposed Project area, however this species usually occurs at lower elevations. No known occurrences within 5 miles of the proposed Project area.
Invertebrates								
Amphibious caddisfly *Desmona bethula*	—	S2S3	—	N/A	Sierra Nevada, including Madera, Mariposa, Mono, Nevada, Placer, Plumas, and Sierra Counties, and Sequoia National Park.	Small spring streams with slow currents in wet meadows.	Spring (larvae), Fall (Adult)	**Low.** Limited suitable habitat within the proposed Project area. One known occurrence approximately 3 miles south of the proposed Project area from 1982 (CDFW 2021f).

Common Name *Scientific Name*	Federal Status	State Status	Forest Service Status	CNPS Status	Geographic Distribution	Preferred Habitat	Identification Period	Level of Potential of Occurrence within the Project Area
Black juga *Juga nigrina*	—	—	S	N/A	Found throughout north central California, northwestern Nevada, and southwestern Oregon. Common in tributaries and interior drainages in northeastern California.	Seepages, springs and creeks, with perennial flowing water.	Year-round	**Very Low to Nil.** Limited to no suitable habitat within the proposed Project area. No known occurrences within 5 miles of proposed Project area.
California floater *Anodonta californiensis*	—	S2?	S	N/A	Historically found throughout the western United States; currently extirpated from much of its historic range in California. Typically found at low elevations.	Freshwater mussel found in lakes, slow rivers and some reservoirs with mud or sand substrates.	Year-round	**Very Low to Nil.** Limited to no suitable habitat within the proposed Project area. No known occurrences within 5 miles of proposed Project area.
Great Basin rams-horn *Helisoma newberryi newberryi*	—	S1	S	N/A	Once scattered throughout the Great Basin, Idaho, Utah, and Wyoming; Currently a limited distribution exists with most populations extinct.	Freshwater aquatic snail found in lakes and rivers.	Year-round	**Very Low to Nil.** Limited to no suitable habitat within the proposed Project area. No known occurrences within 5 miles of proposed Project area.
Kings Canyon cryptochian caddisfly *Cryptochia excella*	—	S1S2	—	N/A	Sagehen Creek basin (upper reaches of Lower Kiln tributary), Nevada County.	Cold spring streams and their sources.	Spring−Summer	**Low.** Limited suitable habitat within the proposed Project area. One known occurrence approximately 3 miles south of the proposed Project area from 1982 (CDFW 2021f).
Monarch butterfly *Danaus plexippus*	C	S2S3	S	N/A	Throughout North America to southern Canada as well as Hawaii and other Pacific islands, Australia, New Zealand, Spain, and Portugal.	Fields, roadsides, open areas, wet areas, or urban gardens including their only hostplant, milkweed, and various other nectar-producing flowering plants.	Spring−early Fall	**Moderate.** Suitable habitat within the proposed Project area. No occurrences listed within 5 miles of the proposed Project area with the CNDDB. However, this species has been observed along Dr. Shapiro's Donner Summit survey route which includes a small portion of Van Norden Meadow. Observations were made in most years from 1972 until 2018, when the most recent observation was made (UC Davis 2021a).
Western bumble bee *Bombus occidentalis*	—	S1	S	N/A	Northwestern and central United States extending north into Canada and Alaska. Since 1998, drastic declines have occurred in western and central California. Found in isolated areas, primarily in the Rocky Mountains.	Open flowering grasslands, savannas, and alpine meadows. Do not depend on one flower type.	Spring−Summer	**Low.** Suitable habitat within the proposed Project area. However, no known occurrences within 5 miles of proposed Project area.
Fish								
Delta smelt *Hypomesus transpacificus*	T	E	—	N/A	San Francisco Estuary.	Most spawning happens in tidally influenced backwater sloughs and channel edge-waters.	Year-round	**Very Low to Nil.** No suitable habitat within the proposed Project area. Does not occur in the proposed Project's watershed, and no known occurrences within 5 miles of the proposed Project area.
Hardhead *Mylopharodon conocephalus*	—	SSC, S3	S	N/A	Sierra Nevada foothills from Shasta south to Sequoia. Limited distribution in the coastal range north of San Francisco Bay.	Bottom feeders in lakes and streams.	Year-round	**Very Low to Nil.** Limited to no suitable habitat within the proposed Project area. No known occurrences within 5 miles of proposed Project area.
Lahontan cutthroat trout *Oncorhynchus clarkii henshawi*	T	S2	—	N/A	Eastern Sierra drainages that once connected to ancient Lake Lahontan.	Streams with clear, cold water with silt-free substrate and a variety of habitats including areas with slow deep water, abundant instream cover and relatively stable streamflow and temperature regimes.	Year-round	**Very Low to Nil.** No suitable habitat within the proposed Project area. Does not occur in the proposed Project's watershed, and no known occurrences within 5 miles of proposed Project area.
Mountain whitefish *Prosopium williamsoni*	—	SSC, S3	—	N/A	In California, typically found in clear cold waters at high elevations.	Mountain lakes or mountain streams with deep pools (>1 meter) where summer temperatures range from 11−21° Celsius.	Year-round	**Very Low to Nil.** No suitable habitat within the proposed Project area. One known occurrence within 5 miles of proposed Project area within the South Fork of Prosser Creek from 1983 (CDFW 2021f).

Common Name *Scientific Name*	Federal Status	State Status	Forest Service Status	CNPS Status	Geographic Distribution	Preferred Habitat	Identification Period	Level of Potential of Occurrence within the Project Area
Lahontan Lake tui chub *Gila bicolor pectinifer*	—	SSC, S1S2	S	N/A	Eastern Sierra drainages that once connected to ancient Lake Lahontan.	Slow moving water with abundant aquatic vegetation.	Year-round	**Very Low to Nil.** Limited to no suitable habitat within the proposed Project area. Does not occur in the proposed Project's watershed, and no known occurrences within 5 miles of proposed Project area.
Reptiles and Amphibians								
Foothill yellow-legged frog *Rana boylii*	—	E, SSC, S2S3	S	N/A	Found from near sea levels to 6,365 feet (1,940 meters) in California, mostly distributed throughout the foothill portions of most drainages from the Oregon border to the San Gabriel River.	Partly shaded shallow streams and riffles with a rocky substrate in a variety of habitats.	Year-round	**Very Low to Nil**. Limited to no suitable habitat within the proposed Project area. The proposed Project area is at the very upper limit of the species' elevation range, and no known occurrences within 5 miles of proposed Project area.
Sierra Nevada yellow-legged frog *Rana sierrae*	E, X	T, WL, S1	S	N/A	Northern and central Sierra Nevada Mountains.	High mountain lakes, streams, and ponds above 4,000 feet (1,219 meters); rarely found more than a few feet from water.	Spring−Fall	**Low.** Limited suitable habitat occurs within the proposed Project area. Seven known occurrences within 5 miles from the proposed Project area from 1939-2018 (CDFW 2021f). Multiple surveys and aquatic species monitoring have been conducted within the proposed Project area from 2012−2017 and 2021, and no frogs were observed (Peek 2017, Peek 2021, Johnson 2021a, Johnson 2021b). However, recent surveys (2021) have detected breeding frogs approximately 2 miles from the proposed Project aera in Lower Castle Creek (Johnson 2021a, Johnson 2021b). The proposed Project is also within the proposed designated critical habitat Black Buttes subunit.
Southern long-toed salamander *Ambystoma macrodactylum sigillatum*	—	SSC, S3	—	N/A	In California, in the northeast and along the northern Sierra Nevada south to Garner Meadows and Spicer Reservoir, and in Trinity and Siskiyou Counties near the Trinity Alps at elevations up to 10,000 feet (3,048 meters).	Inhabits alpine meadows, high mountain ponds and lakes.	Spring−Fall	**Moderate.** Suitable habitat occurs within the proposed Project area. The two closest known occurrences are from 2005 and located approximately 1 mile to the northeast and southeast of the proposed Project area (CDFW 2021f). Additionally, in 2018, the USFS observed individuals in ponds between Lower and Upper Castle Creek across I-80 (Johnson 2021e).
Western pond turtle *Actinemys marmorata*	—	SSC, S3	S	N/A	Extreme western United States into Baja, Mexico.	Slow moving streams, marshes and ponds, typically less than 4,000 feet (1,219 meters) in elevation.	Spring−fall	**Very Low to Nil.** Limited to no suitable habitat within the proposed Project area, and typically occurs below 4,000 feet. No known occurrences within 5 miles of the proposed Project area.
Birds								
Bald eagle *Haliaeetus leucocephalus*	D, BGEPA, BCC	E, FP, S2	S	N/A	North America including all continuous U.S.	Near lakes or streams	Year-round	**Low.** Limited suitable foraging habitat within the proposed Project area. One known occurrence of an active nest documented nest at Donner Lake in 2005 (CDFW 2021f).
Black swift *Cypseloides niger*	—	SSC, S2	—	N/A	Coastal belt of Santa Cruz and Monterey Counties. Central and southern Sierra Nevada. San Bernardino and San Jacinto Mountains.	Mountainous regions, nesting on canyon walls near water or behind waterfalls.	Spring−Summer	**Low.** Limited suitable habitat within proposed Project area. One known occurrence in 1956 at Lake Van Norden. Although the known occurrence is within close proximity to the proposed Project area (CDFW 2021f).
Black-backed woodpecker *Picoides arcticus*	—	—	MIS	N/A	Northern coniferous forests of Alaska, Canada and northwestern United States. Found in Northeastern California from the Oregon border extending south into the Sierra Nevada Mountains.	Boreal and montane coniferous forest; especially recently burned areas following wood-boring beetles.	Year-round	**Low**. Limited suitable habitat within the proposed Project area. Two known occurrences (1989 and 2006) located approximately 1 mile and 2.5 miles from the proposed Project area, respectively (CDFW 2021f).

Common Name *Scientific Name*	Federal Status	State Status	Forest Service Status	CNPS Status	Geographic Distribution	Preferred Habitat	Identification Period	Level of Potential of Occurrence within the Project Area
California spotted owl *Strix occidentalis occidentalis*	—	SSC, S3	S, MIS	N/A	Found throughout northern California extending into southern California along the Sierra Nevada, Coastal, and transverse ranges.	Multi-layered forest habitat with high canopy closure with a mixture of tree sizes and densities, including large diameter old-growth trees for nesting and roosting. Found in elevations up to approximately 8,500 feet.	Year-round	**Low.** Limited suitable habitat within the proposed Project area. Multiple observations within five miles of the proposed Project area; however, they are a minimum of two to four miles to the south and southeast of the proposed Project area (CDFW 2021f).
Cooper's hawk *Accipiter cooperii*	—	S4	WL	N/A	Southern Canada, United States and Central America.	Forests and woodlands including dense forests and leafy backyards; prefer to nest in trees on flat ground rather than slopes.	Year-round	**Low**. Limited suitable habitat within the proposed Project area. One known occurrence approximately 4 miles to the southeast of proposed Project area (CDFW 2021f).
Greater sandhill crane *Grus canadensis tabida*	—	T, FP, S2	S	N/A	Found breeding in Lassen, Modoc, Plumas, Shasta, Sierra, and Siskiyou Counties. Wintering grounds include Central Valley near Chico, Butte County, south to Delano, Kern, and Imperial Counties.	Sandhill Cranes breed and forage in open prairies, grasslands, and wetlands. They will roost on ponds or lakes to avoid predators.	Spring−Summer	**Moderate.** Suitable habitat within the proposed Project area. One observation made in 2016 within the proposed Project area consisting of a family group: two adults and two young on the southwest side of the Lake Van Norden (no longer present) amongst willows and low-growing vegetation (CDFW 2021).
Great gray owl *Strix nebulosa*	—	E, S1	S	N/A	Primarily found in northern Canada and Alaska with a portion of range extending into the United States following the Rockies and Sierra Nevada Mountains.	Boreal forest and mountains of the western United States. In the Sierra Nevada, primarily in the greater Yosemite National Park area, breeding activity is generally found in mixed coniferous forest from 2,500 to 8,000 feet elevation where such forests occur in combination with meadows or other vegetated openings.	Year-round	**Low.** Although the proposed Project area provides habitat for their preferred prey species, no occurrences have been detected within 5 miles of proposed Project area.
Harlequin duck *Histrionicus histrionicus*	—	SSC, S1	—	N/A	Winter on rocky shores of the Pacific Northwest and the Northeast's Atlantic coast. Breed mainly inland along whitewater rivers.	Turbulent mountain rivers typically with low acidity, steep banks, instream rocks and islands for roosting and nesting, and relatively high vegetative cover on stream banks.	May−August	**Very Low to Nil.** Limited to no suitable habitat within the proposed Project area. One known occurrence approximately 5 miles to the southwest of proposed Project area along the North Fork of the American River (CDFW 2021f).
Northern goshawk *Accipiter gentilis*	—	SSC, S3	S	N/A	North American forests habitats, typically higher elevation mountainous areas south into central Mexico.	Locally, prefer mature forests down to about 2,500 feet (762 meters). Nest stands generally consist of larger trees with greater canopy cover, with relatively open understory.	Year-round	**Low.** Limited suitable habitat within the proposed Project area. Three known occurrences withing 5 miles of the proposed Project area. The two most recent (1996 and 1997) known occurrences are located in Coldstream Valley and approximately 5 miles to the east of the proposed Project area, respectively (CDFW 2021f).
Olive-sided Flycatcher *Contopus cooperi*	BCC	SSC	—	N/A	Mountain ranges throughout the western North America, including the Sierra Nevada.	Coniferous forests at edges and openings, meadows and ponds. Nests on the outer rim of a tree branch.	Spring−Summer	**Moderate.** Suitable habitat within the proposed Project area. Observed in forests around Lake Van Norden; suitable breeding habitat exists in the meadow complex along Mackay Creek, just upstream from Palisade Lakes (T. Beedy, S. Sanders pers. obs. as cited in TDLT 2014).
Osprey *Pandion haliaetus*	—	WL, S4	—	N/A	Alaska to New England, Montana to Mexico, Carolina to California.	Elevated nest sites (trees or manmade platforms) within 12 miles of shallow, fish-filled water, including rivers, lakes, reservoirs, lagoons, swamps, and marshes.	Spring−Summer	**Moderate.** Suitable nesting habitat along the edge of Van Norden Meadow. One known nest on the south side of Donner Lake approximately 5 miles to the east of the proposed Project area (CDFW 2021f).

Common Name *Scientific Name*	Federal Status	State Status	Forest Service Status	CNPS Status	Geographic Distribution	Preferred Habitat	Identification Period	Level of Potential of Occurrence within the Project Area
Willow flycatcher *Empidonax traillii brewsteri*	BCC	E, S1S2	S	N/A	United States, through Mexico south into the northern region of South America.	Nests in riparian areas, often marsh areas with shrubs and standing or running water.	Spring−Summer	**Moderate.** Suitable habitat within the proposed Project area. One known occurrence from 1991 within meadow upstream of the relic Lake Van Norden (CDFW 2021f). There have also been local accounts of willow flycatcher in 1986, 1992, 2000, 2004 and 2010 (S. Sanders pers. comm., T. Beedy pers. obs. as cited in TDLT 2014).
Yellow warbler *Setophaga petechia*	BCC	SSC, S3S4	MIS	N/A	In California, breed throughout most of the state with the exception of regions in the central valley and southeastern California.	Nests in riparian, montane shrub, and chaparral field. Prefers areas close to water.	March−October	**High.** Suitable habitat within in the proposed Project area. A single observation was made during a survey conducted in June 2015 by a Stantec biologist within the proposed Project area (Placer County 2016). There is also a known occurrence approximately 3 miles south of proposed Project area (CDFW 2021f).
Nesting raptors and other migratory birds	MBTA	FGC	—	N/A	Migrants and resident species.	Tree, shrub, ground, and riparian vegetation.	Nesting (approximately March 1¯August 31)	**High.** Suitable habitat present and nesting birds previously observed on site during biological surveys within the proposed Project area.
Mammals								
Fisher – West Coast DPS *Pekania pennanti*	—	SSC, S2S3	S	N/A	In California, currently in two separated regions: the northwest including the northern Coast Range and Klamath Province, and the southern Sierra Nevada.	Typically, late successional forests associated with high canopy closure. Areas without frequent deep fluffy snow (restricts movement). Large live trees, snags, and logs used for resting and denning.	Year-round	**Very Low to Nil.** Limited to no suitable habitat within the proposed Project area. No known occurrences from within 5 miles of the proposed Project area.
Fringed myotis *Myotis thysanodes*	—	S3	S	N/A	Throughout California, Oregon, and Washington. From British Columbia east to the Rocky Mountain states and south to Mexico.	Most frequently in coastal and montane forests and mountain meadows from 5,000–8,000 feet (1,524–2,438 meters). Nursery colonies and roosting sites are typically in caves or old buildings.	Year-round	**Low.** Suitable foraging habitat present, but limited nursery and roosting habitat within the proposed Project area. Low potential for species presence during regular construction hours. No known occurrence within 5 miles of proposed Project area.
Gray-headed pika *Ochotona princeps schisticeps*	—	S2S4	—	N/A	Found in the northern portions of the Sierra Nevada and Trinities, southern portion of the range near south Lake Tahoe north to the California / Oregon state line.	Found at high elevations on rocky slopes with adequate forb abundance.	Year-round	**Very Low to Nil.** Limited to no suitable habitat within the proposed Project area. The most recent known occurrence from 2010 is approximately 1.5 miles east of the proposed Project area, about 0.25 miles east of Lake Mary in the Vicinity of Donner Pass. The second occurrence located approximately 1 mile west of the proposed Project area was detected in 1934 (CDFW 2021f).
North American porcupine *Erethizon dorsatum*	—	S3	—	N/A	From Alaska to northern Mexico and from California to Maine. Likely occur in most major regions and habitat types across northern California including the Coast Ranges, Klamath Mountains, southern Cascades, Modoc Plateau, Sierra Nevada, and Transverse Ranges.	In northern Sierra Nevada, mixed conifer, red fir, lodgepole. Prefers low human disturbance, finds cover generally in dense forest. In California, most commonly found in montane conifer and wet meadow habitats.	Year-round	**Low.** Limited suitable habitat within the proposed Project area. Five known occurrences within 5 miles of proposed Project area including the closest observation within 1 mile to the east along Donner Pass Road (CDFW 2021f).
North American wolverine *Gulo gulo luscus*	—	T, FP, S1	S	N/A	Scarce resident of North Coast mountains and Sierra Nevada, 4,300−7,300 feet (1,311−2,225 meters) in the northern Sierra Nevada.	In northern Sierra Nevada, mixed conifer, red fir, lodgepole. Likely subalpine conifer, wet meadow, and montane riparian habitats. Prefers low human disturbance, finds cover generally in dense forest.	Year-round	**Very Low to Nil.** Limited to no suitable habitat within the proposed Project area. Two known occurrences within 5 miles of proposed Project area with the most recent from 2014 located approximately 2 miles northwest of the proposed Project area (CDFW 2021f).

Common Name *Scientific Name*	Federal Status	State Status	Forest Service Status	CNPS Status	Geographic Distribution	Preferred Habitat	Identification Period	Level of Potential of Occurrence within the Project Area
Pallid bat *Antrozous pallidus*	—	SSC, S3	S	N/A	Occurs in California except for the high Sierra Nevada from Shasta to Kern Counties to northern Mendocino County. Found at lower elevation, below 6,562 feet (2,000 meters).	Grasslands, shrublands, woodlands, and mixed conifer forests. Water and suitable roosting habitat must be close by. Roosts in cliff fissures, abandoned buildings, and under bridges.	Year-round (in most of its range)	**Low.** Limited suitable habitat within the proposed Project area. Typically occurs at lower elevations. No known occurrences within 5 miles of proposed Project area.
Sierra marten *Martes caurina sierrae*	—	SSC, S3	S	N/A	Salmon-Trinity Mountains east to the Cascades and south throughout the Sierra Nevada above 3,937 feet (1,200 meters).	Remote sections of boreal forest of pine, fir, and hemlock. Talus slopes and open rocky areas.	Year-round	**Low.** Limited suitable habitat within the proposed Project area. Three known occurrences within approximately 4−5 miles southeast south of the proposed Project area from 1990−2014 (CDFW 2021f).
Sierra Nevada mountain beaver *Aplodontia rufa californica*	—	SSC, S2S3	MIS	N/A	Northwest California through coastal range and through the Sierra Nevada up to 8,530 feet (2,600 meters).	Dense riparian-deciduous and open, brushy stages of most forest types. Typical habitat in the Sierra Nevada is montane riparian. Require deep, friable soils for burrowing and a cool, moist microclimate.	Year-round	**Low.** Limited suitable habitat within the proposed Project area. Two known occurrences from 1985 approximately 2.5 miles to the southeast in Cold Creek and Emigrant Canyon Creek and one occurrence from 2010 approximately 4 miles northwest of the proposed Project area (CDFW 2021f).
Sierra Nevada red fox *Vulpes vulpes necator*	PE	T	—	N/A	Cascade Range in Siskiyou County, Lassen County and Tulare County. 3,900−11,900 feet (1,200−3,700 meters).	Coniferous forests with meadows or alpine dwarf-shrub openings; montane riparian.	Year-round	**Low.** Limited suitable habitat within the proposed Project area. One known occurrence from 1941 approximately 5 miles to the northeast in Euer Valley (CDFW 2021f). As of 2013, only two populations are known to exist: 1) near Lassen Peak and 2) near Sonora Pass.
Townsend's big-eared bat *Corynorhinus townsendii*	—	SSC, S2	S	N/A	Found throughout California.	Wide range of habitat from coniferous forest to desert to riparian communities but prefers mesic habitats. Populations dependent on caves and other suitable roosting habitat.	Year-round	**Very Low to Nil.** Limited to no suitable habitat present within the proposed Project area. Low potential for species presence during regular construction hours. No known occurrence within 5 miles of proposed Project area.

Key:

Federal
E = Endangered under the federal Endangered Species Act
T = Threatened under the federal Endangered Species Act
C = Candidate for listing under the federal Endangered Species Act
D = Delisted under the federal Endangered Species Act
P = Proposed to be listed under the federal Endangered Species Act
BGEPA = Bald and Golden Eagle Protection Act
MBTA = Protected under the Migratory Bird Treaty Act
X = Designated Critical Habitat
BCC = Birds of Conservation Concern
- = No listing

State (plants and wildlife)
E = Endangered under the California Endangered Species Act
T = Threatened under the California Endangered Species Act
C = Candidate for listing under the California Endangered Species Act
SSC = Species of Special Concern
FP = Fully protected
WL = Watch List
CESA = Protected under California Endangered Species Act
FGC = California Fish and Game Code
- = No listing

State Rank (plants and wildlife)
S1 = Critically Imperiled
S2 = Imperiled
S3 = Vulnerable
S4 = Apparently Secure
S = Secure

California Native Plant Society
1A = Plants presumed extirpated in CA and either rare or extinct elsewhere
1B = Plants rare, threatened, or endangered in California and elsewhere
2A = Plants presumed extirpated in CA but more common elsewhere
2B = Plants rare, threatened, or endangered in California but more common elsewhere
3 = Plants about which more information is needed - a review list
4 = Plants of limited distribution - a watch list
0.1 = Seriously threatened in California
0.2 = Fairly threatened in California
0.3 = Not very threatened in California

United States Forest Service – Tahoe National Forest (Region 5) (plants and wildlife)
S = Sensitive
MIS = Management Indicator Species
- = No listing

Sources: Bolster 1998, Bombay et al. 2003, CaliforniaHerps 2021, CDFW 2021f, CNPS 2021b, Greene 1995, Jameson and Peeters 2004, Johnson 2021a, Johnson 2021b, Johnson 2021e, Peek 2017, Peek 2021, Placer County 2016, Shuford and Gardali 2008, Sibley 2003, Stebbins and McGinnis 2012, TDLT 2014, UC Davis 2021a, UC Davis 2021b, USFS 2013a, USFS 2013b, USFS 2021, USFWS 2021a, USFWS 2021b, Xerces Society 2018, Xerces Society 2020, Zeiner et al. 1988-1990.

3.4.3 IMPACT ANALYSIS

IV. BIOLOGICAL RESOURCES Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species in local or regional plans, policies, or regulations, or regulated by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	—	**X**	—	—
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 or U.S. Fish and Wildlife Service?	—	**X**	—	—
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?	—	**X**	—	—
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?	—	—	**X**	—
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	—	—	**X**	—
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?	—	—	**X**	—

a) Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species in local or regional plans, policies, or regulations, or regulated by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?

Finding: Less than Significant with Mitigation Incorporated

Species listed in local or regional plans, policies, or regulations, or regulated by the CDFW, USFWS or USFS are called special status species. Special status species within the proposed Project area were identified by a desktop query of local general plans, CNPS, CDFW, USFWS and USFS lists and databases to identify a list of species known to occur within the Project region. As noted above, that query was then refined by further research and reconnaissance-level biological field surveys to identify habitats that support special status species and/or the species themselves that could occur on or around the

Project site (otherwise referred to as the Project area) where they could potentially be adversely impacted by proposed Project construction or operation. The special status species query identified 48 special status plant species and 39 total wildlife species with the potential to occur within the region surrounding the proposed Project (Table 3-5).

The proposed Project's purpose is to enhance and restore native habitats which would overall benefit sensitive species. The proposed Project would have short-term construction-related impacts that would be relatively minor and temporary (approximately 4.5 months for each phase). The proposed Project has the greatest potential to have a substantial adverse effect on species with a moderate or high potential to occur on site as determined by high habitat suitability or by the species' variable range and mobility. While the potential for adverse effects on species with very low or nil potential to occur is possible it is unlikely due to limited or no suitable habitat and/or a species limited mobility from a nearby occurrence to reach the Project area. The potential impacts to species with a moderate or high potential to occur are discussed in the following sections.

Impacts to Special Status Plant Species

As discussed in Section 3.4.2.3 there is a moderate potential for nine special status species to occur within the proposed Project area and a high potential for two special status species. The two species that have a high likelihood for occurrence have been identified in the proposed Project area during proposed Project surveys. It is anticipated that impacts to these species would be unlikely because the proposed Project would be within the stream channels or along the disturbed access roads, and/or staging area where these plants do not typically grow. Additionally, both of these species are located outside of proposed Project impact areas where direct construction would occur.

Potential impacts to these species when present within the proposed Project area could occur from excavation (i.e., species removal) and access (i.e., species compaction). However, due to previous Project surveys in the Project area and the absence of special-status species, there is a low likelihood of occurrence where construction would occur. The proposed Project activities would not impact these species.

Further, impact to special status species could result from unknowing construction workers operating outside the Project footprint. To avoid this potential impact, MM BIO-1 Pre-Construction Worker Environmental Awareness Training would be required that workers on the site are appropriately trained for identification of and avoidance of special status species and MM BIO-2 Minimize Vegetation Disturbance and Revegetate All Disturbed Areas would be implemented to ensure that ground and vegetation disturbance would be minimized to the extent possible.

Construction related disturbance to vegetation communities would occur as a result of the proposed Project; however, the footprint of disturbance would be minimized by limiting construction to the stream channels and access to work areas. Additionally, reed canarygrass (*Phalaris arundinacea*) is an invasive species of concern in Sierra Nevada meadows (Lavergne and Molofsky 2007; Cal-IPC 2019). In Van Norden meadow, it covers nearly 30 acres of meadow habitat, primarily adjacent to the South Yuba River stream channel, extirpating native wetland and riparian plant species, and reducing habitat for ground nesting birds. As a part of the proposed Project, removal and treatment of the reed canarygrass would

occur. Reed canarygrass seed heads would be clipped, bagged, and disposed of for 1-2 years in advance of stream restoration and in the years following stream restoration to reduce future seed availably. This would allow the native plants to re-establish by reducing the impact of non-native species.

Overall, the goal of improving meadow function and meadow habitat would in turn improve sensitive species habitat over the long-term. As such, impacts from the proposed Project would not have a substantial adverse effect to any special status species. However, MM BIO-1 and BIO-2, have been incorporated to ensure any potential adverse impacts are less than significant. Therefore, potential impacts to special status plant species are considered less than significant with mitigation.

Impacts to Special Status Wildlife Species

Of the 39 special status wildlife species identified in Table 3-5, eight wildlife species, as well as nesting raptors and other migratory birds, were found to have a moderate or high potential to occur within the proposed Project area. Potential impacts to these eight species, nesting raptors and other migratory birds, and the Sierra Nevada yellow-legged frog are discussed and analyzed in the subheadings below.

Monarch Butterfly

There is a moderate potential for the monarch butterfly to occur within the proposed Project area. The most recent occurrence of monarch butterfly within the vicinity of the proposed Project area was from 2018 (Halsch pers. comm. 2021); however, it is unlikely that they would be found breeding within Van Norden Meadow. According to plant surveys conducted in the proposed Project area (TDLT 2015, CSESA 2017), no milkweed has been observed within the proposed Project area. Project implementation, and specifically forest thinning, has the potential to provide beneficial effects to the monarch butterfly and its habitat. By thinning the encroaching conifer forest along Van Norden Meadow and opening the forest canopy, more sunlight would reach the forest floor and would benefit flowering and nectar producing plants by reducing competition from trees for water and nutrients, as well as reducing needles and duff on the soil surface. Ground disturbance related to meadow restoration, road improvements, and forest thinning may favor nectar producing and flowering plants that may also prove additional resources for the monarch butterfly. Although the proposed Project the potential to temporarily alter the habitat of the monarch butterfly, following proposed Project completion, Van Norden Meadow would be restored, and the quality of habitat would improve as well as the removal of reed canarygrass and other invasive species would benefit the butterfly by restoring the meadow and by the replanting of native species. Restoration activities within the meadow would likely begin in later summer each season and not affect earlier blooming species. However, restoration activities are weather dependent, and could occur between June and October during each of three years. These activities would be limited in acreage leaving additional habitat for foraging monarchs to utilize in the adjacent areas. Additionally, no milkweed species have been observed in the construction areas of the proposed Project area. Therefore, there would be a less than significant impact to the species.

Sierra Nevada yellow-legged frog

Although the proposed Project area is within DCH, it has limited suitable aquatic (breeding and overwintering habitat) and upland habitat. Project activities have the greatest

potential to impact Sierra Nevada yellow-legged frog individuals or their habitat within the approximate 335-acre region within Van Norden Meadow and its associated stream channels. Specifically, ground disturbance associated with stream channel restoration by use of heavy equipment such as tractors, excavators, and dump/haul trucks have the potential, to cause direct loss to Sierra Nevada yellow-legged frog if individuals were present in the area under current conditions although unlikely. Potential impacts could also occur from turbidity increases or sedimentation flowing downstream to modify potentially suitable habitat where there were historic (1939) known occurrences in the South Yuba River (CDFW 2021f,

Figure **Error! Bookmark not defined.**b). However, impacts would be short term and reduced when construction is complete.

In contrast, term effects from proposed Project activities include the enhancement of potential suitable aquatic and upland habitat for Sierra Nevada yellow-legged frog through some of the desired outcomes of the proposed Project including: 1) a delay in the spring recession period which would increase groundwater levels to support aquatic and terrestrial species; 2) prolonging and expanding meadow surface inundation which may provide refuge as the climate changes; and 3) prevention of erosion that would in turn effect downstream water quality.

Additionally, the proposed Project would occur within DCH; however, the proposed Project area includes only approximately 900 acres within the approximately 136,049-acre DCH Black Buttes subunit (

Figure **Error! Bookmark not defined.**b), with approximately half of the 900 acres includes the restoration of Van Norden Meadow, which is expected to result in a net benefit to the species and its habitat.

Although the risk of impacts to the Sierra Nevada yellow-legged frog is low due to the limited suitable habitat and the lack of observations during a decade of surveys within the proposed Project area, with the implementation of MM BIO-1 Pre-Construction Worker Environmental Awareness Training and BIO-3 Reduce Potential Impacts to Sierra Nevada Yellow-Legged Frog and Their Habitat, the likelihood of impacts to the species would be further reduced to less than significant.

Southern long-toed salamander

Suitable habitat exists within the proposed Project area, and there is a moderate potential for the southern long-toed salamander to occur within the proposed Project area. Although this species has not been observed in the proposed Project area during the decade of aquatic surveys conducted in the area, observation have been made in Lower and Upper Castle Creek in 2018, which is in relatively close proximately to the proposed Project area (Johnson 2021e). Impacts to the potential suitable habitat of the southern long-toed salamander would be short term and the proposed Project, meadow restoration, would likely result in a net benefit to the species through providing higher quality wet meadow habitat. Additionally, with the implementation of MM BIO-1 Pre-Construction Worker Environmental Awareness Training, impacts to the southern long-toed salamander would be less than significant.

Willow flycatcher

There is a moderate potential for the willow flycatcher to occur within the proposed Project area due to the suitable nesting habitat present and the various accounts of this species observed within the proposed Project area and vicinity. Although it is likely that the proposed Project would have an overall positive effect on willow flycatcher including restoration of Van Norden Meadow and creation of additional

riparian habitat including the thinning and removing of conifers that continue to encroach into the meadow, meadow restoration activities do have the potential to disturb and directly affect nesting willow flycatcher during their breeding season (late August) if they were present within Van Norden Meadow. Therefore, pre-construction surveys shall be conducted as outlined within MM BIO-4 Avoid Disturbance to Nesting Willow Flycatcher and would reduce impacts to less than significant.

Nesting raptors and other migratory birds, including the greater sandhill crane, olive-sided flycatcher, osprey, and yellow warbler

There is a high potential for nesting raptors and other migratory birds protected under the MBTA to occur within the proposed Project area including tree, shrub and ground nesting birds. Project construction activities occurring during the nesting season (approximately March 1 through August 31) have the potential to cause impacts to nesting raptors and other migratory birds such as disturbance resulting in nest abandonment, the loss of eggs, or direct mortality to a nesting bird, which would be considered a significant impact. To the extent feasible, vegetation removal, conifer thinning and/or removal activities shall be conducted during the non-nesting season (approximately September 1 to February 28); however, proposed Project activities are weather dependent, could occur between June and October during each of three years. Conifer treatment specifically, may occur beginning in early summer to work earlier in the fire season and avoid hazardous or smokey conditions. However, with the implementation of MM BIO-1, Pre-Construction Worker Environmental Awareness Training, workers would be educated to look for nests and/or the species present on site which would reduce potential construction impacts because a biologist and CDFW would be contacted to facilitate ensure avoidance. Further, MM BIO-5, Avoid Disturbance to Nesting Raptors and Other Migratory Birds provides measures specific to nesting raptors and other migratory birds and would ensure the facilitation of nesting bird identification and the appropriate avoidance methods by scheduling disturbance activities during non-nesting season or implementing other prescribed avoidance measures by having workers prepared to identify sensitive resources themselves that would reduce the potential significance of any potential impact. Therefore, with the implementation of MM BIO-1 and BIO-5, potential impacts to nesting migratory birds or raptors would be reduced to a less than significant level.

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

Finding: Less than Significant with Mitigation Incorporated

The proposed Project involves restoring the historic riparian, aquatic, and wetland function of the meadow system within Van Norden Meadow by eliminating incisions in the current channels and returning flows to their historic channels. This activity would not result in a substantial adverse effect on riparian habitat and wetlands, which are considered a sensitive natural community because while the current hydrologic regime does support some riparian and wet meadow vegetation, the overall restoration would improve riparian habitat and meadow habitat.

However, construction activities are directly within the meadow and stream environments so MM BIO-2 and MM BIO-6, Compensation for Direct Permanent Impacts to Waters of the U.S., would be

implemented to ensure that any vegetation disturbance is kept to a minimum within the proposed Project objectives, as well as be revegetated with native species post-construction and constructed during the dry season ensuring impacts to riparian habitat would be properly restored and not impacted during wet season construction. In addition, MM GEO-1 would be implemented to ensure sediment control BMPs would be in place in any area where construction activities approach waters of the U.S. An assessment of erosion control and water quality impacts is addressed in the Geology and Soils (Section 3.6) and Water Quality and Hydrology (Section 3.8) of this IS/MND.

The riparian habitats, which primarily comprise of emergent vegetation, such as those along current water channels are considered sensitive by CDFW and Placer County. However, ultimately the proposed Project would improve riparian habitat and the impacts due to construction would be very minimal. Potential direct impacts to wetlands and other waters of the U.S. are assessed below. The proposed Project would not entail the removal of riparian trees.

The implementation of MM BIO-2, MM BIO-6, and MM GEO-1 (listed in Section 3.6) the potential impacts of the proposed Project would be minimized to less than significant levels.

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

Finding: Less than Significant with Mitigation Incorporated

Jurisdictional waters of the U.S. include jurisdictional wetlands as well as all other waters of the U.S. such as creeks, ponds, and intermittent drainages. Wetlands are defined as those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support and under normal circumstances, support a prevalence of vegetation typically adapted for life in saturated soil conditions. The majority of jurisdictional wetlands in the U.S. meet three wetland assessment criteria: hydrophytic vegetation, hydric soils, and wetland hydrology. Jurisdictional waters of the U.S. can also be defined by exhibiting a defined bed and bank and an ordinary high-water mark. The portions of South Yuba River, Lytton Creek, and Castle Creek that are to be restored have a defined bed and bank and is therefore a jurisdictional water of the U.S. Emergent vegetation (e.g., *Carex sp., Juncus sp., Salix* sp.) typical of saturated soils occurs within the proposed Project area indicating a high potential for meeting the full definition of federally protected wetlands within the Project footprint.

Project activities would cause direct impacts to these features through the direct fill and hydrological interruption. However, the overall goal of the proposed Project is to improve and restore the meadow system and associated wetland habitat. Fill would be placed into stream channels along 2.38 miles of the South Yuba, 0.37 miles of Lytton Creek and 0.04 miles of Castle Creek to match floodplain elevations and allow for hydrologic connectivity with existing distributary channel network. Partially fill or placement of BDA/PALS along 0.82 miles of South Yuba, 0.23 miles of Lytton Creek and 0.23 feet of Castle Creek would be used to match floodplain elevations and allow for hydrologic connectivity with existing distributary channel network.

The repair, maintenance, re-alignment, or decommissioning of existing routes and trails is needed to reduce future resource damage. Therefore, decommissioning and realignment activities are designed to promote natural recovery of the road surface by restoring the natural hydrologic function of the soil and reducing runoff and erosion. The construction of low water crossings, installation of culverts, creation of drivable dips, and replacement bridges at drainages where sediment movement or erosion is present would occur along Van Norden Dam Road and the PG&E Road. The construction of low water crossings or installation of culverts at drainages on the Meadow Bisect Road would also occur. These activities would improve hydrologic connectivity and reduce sediment delivery from roads.

Construction activities would take place directly in and immediately adjacent to the channels; however, fill would be placed and compacted in accordance with BMPs required in MM GEO-1 (as described in Section 3.6). Additionally, surface roughness features would be added to slow flow and reduce potential for erosion. Surface roughness would be created on top of channel fill and stripped areas by planting vegetation, installing salvaged meadow vegetative mats (harvested sod), installing harvested logs (embedded logs), and by installing select rocky material. Embedded logs would be used to redirect flow to limit potential for channelization in newly placed channel fill. Harvested sod and revegetation would be used to slow flow and to anchor soil via rooting. Within the reed canarygrass treatment areas, tarping would be inserted using plastic after snowmelt and left in place for one growing season. Tarped areas would be revegetated using available sod mat, seeding, sedge plugs, and willow pole plantings. These methods would decrease the potential for loss of topsoil to impact protected wetlands to a less than significant level.

Additionally, the placement of the fill and work within the channels would require a CWA Section 404 permit which requires completion of a wetland and/or waters delineation, a USACE verification of that delineation, and proof of compliance with the CWA Section 404. MM BIO-6 provides requirements for completing these components of the CWA Section 404 permitting process and would ensure that potential impacts to protected wetlands are adequately quantified and mitigated through the CWA Section 404 permitting process, reducing the potential for substantial adverse effects to a less than significant level. Furthermore, because the proposed Project would require a CWA Section 404 permit, a CWA Section 401 WQC would also be obtained. A CWA Section 401 WQC would ensure that the activities of the proposed Project comply with all applicable water quality standards, limitations, and restrictions.

Therefore, with the implementation of MM GEO-1 (as listed in the Geology and Soils Section 3.6) and MM BIO-6, the potential impact to seasonal wetlands and drainages (as defined by CWA Section 404) would be considered less than significant. Additionally, the proposed Project would have an overall net benefit on the meadow ecosystem as it would improve wetland habitat and the wildlife and plants species that depend on it.

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?

Finding: Less than Significant

Wildlife movement corridors are important habitats that allow wildlife to travel, migrate, or disperse between significant habitats. Wildlife movement corridors have been recognized by federal agencies such as the USFWS and the State of California as important habitats worthy of conservation. The nearest designated movement corridor to the proposed Project is the western edge of the Loyalton-Truckee Mule Deer Herd Focus Area; however, recent data shows that deer within this herd do not use this region of the proposed Project Area with great frequency and are concentrated farther north and to the east for migration, as well as both their summer and winter grounds (NFWF 2020).

In general, movement corridors are comprised of areas of undisturbed land cover that connects larger, contiguous habitats. The proposed Project area includes open grasslands, meadows, and adjacent forested areas. Additionally, the channels and adjacent tributaries are located in the proposed Project and provide potential water sources for native wildlife species.

Construction activities and/or removal of vegetation could cause temporary disturbance to common wildlife movements; however, the extent of the disturbance is limited as wildlife could move around the area, given the open nature of the site. Additionally, following construction activities, the proposed Project area would be reshaped and revegetated (weed-free plants and sod mats) to allow for native plant flora to become a natural part of the meadow system. As a result, the proposed Project construction and operation is expected to have a less than significant impact on wildlife species movements. Thus, the potential impacts to native resident or migratory wildlife species are considered less than significant with no mitigation necessary.

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

Finding: Less than Significant

The proposed Project would not conflict with local ordinances relative to biological resources because the proposed Project aims to improve biologic and hydrologic function in the meadow improving the long-term function of the ecosystem with improved hydrological and habitat benefits.

The project would be consistent with the resource objectives and policies contained within the Nevada County General Plan Open Space and Wildlife and Vegetation Elements that address protection of natural resources (Nevada County 1995a, Nevada County 1995b). Additionally, in accordance with Nevada and Placer County General Plans' Objectives, Goals, and Policies, the proposed Project is protective of Nevada and Placer County's streams, creeks, groundwater, wetland communities, riparian areas, fish and wildlife species, and their habitats by avoiding, minimizing or mitigating for work in these areas. The proposed Project aims to restore the currently incised, down cut, and widened channels to return historic flows to the current channels improving the meadow's overall condition. In accordance with the aforementioned policies, the proposed Project minimizes impacts to, and ultimately improves, riparian habitat and open spaces. As such, the proposed Project would not conflict with any approved or planned local policies or ordinances protecting biological resources.

Tree removal and thinning would occur in areas where conifers have encroached into Van Norden Meadow and its adjacent meadow edge and riparian habitats (Figure 2). Only forest thinning will be conducted in the area of the Royal Gorge cross-country area and will focus on removing smaller conifers (less than 24 inches DBH). However, conifers greater than 24 inches may be cut if they are infected with pests or pathogens, have weak chlorotic crowns, or are fading/dying. Nevada County and Placer County tree policies apply to heritage and landmark trees and groves, and to oak trees; there are no such tree resources in the proposed Project area. Project implementation would not result in a loss of any biological resources protected under local policies or ordinances, such as wetland and riparian habitats.

The proposed Project area is not currently subject to an approved habitat conservation plan, or other approved local, regional, or State habitat conservation plans. Therefore, the proposed Project would not conflict with any approved or planed local policies or ordinances protecting biological resources. This potential impact would thus be considered less than significant, and no mitigation would be required.

3.4.4 MITIGATION MEASURES

3.4.4.1 Mitigation Measure BIO-1: Pre-Construction Worker Environmental Awareness Training

Prior to construction each year, a qualified biologist shall conduct one Worker Environmental Awareness Training (WEAT) for construction personnel. The WEAT shall be given to construction personnel to brief them on how to recognize special status plant species, wildlife species, sensitive habitats, and appropriate avoidance measures that could occur in the proposed Project area (i.e., special status plant identification, amphibian identification, nesting bird identification and habitat, riparian habitats, relevant BMPs, mitigation, and regulations). WEAT reference pamphlets shall also be provided to keep onsite for use by an environmentally trained foreman for training new Project personnel in the absence of the biologist. If special status species are encountered in the work area, construction shall cease and the SYRCL and a qualified biologist shall be notified for guidance before any construction activities are resumed. Depending on the listing of the observed species and its persistence in the area, the SYRCL shall notify the CDFW, USFWS and/or the USFS for guidance.

Mitigation Measure BIO-1 Implementation:

- **Responsible Party:** The SYRCL shall ensure that a qualified biologist conducts one pre-construction Worker Environmental Awareness Training.
- **Timing:** Prior to the initiation of construction each year.
- **Monitoring and Reporting Program:** The training shall be conducted by a qualified biologist, the environmental training reference pamphlets shall be kept on the construction site, and a sign-in sheet for all personnel required to attend the training shall be included in the MMRP report.
- **Standards for Success:** Construction personnel are trained in the key characteristics for identifying and avoiding impacts to special status species and sensitive habitats.

3.4.4.2 Mitigation Measure BIO-2: Minimize Vegetation Disturbance and Revegetate All Disturbed Areas

Ground and vegetation disturbance shall be minimized during project implementation. Activities shall be confined to designated planned work areas. There shall be a project manager or representative on site at all times during work within the floodplain or stream channels. The contractor shall be instructed on the importance of avoiding disturbance of anything not necessary to meet project goals. All equipment shall use planned disturbance sites as access routes where possible and access routes shall be planned carefully.

Revegetation shall occur along routes, in staging areas, reed canarygrass removal areas, tree removal areas, and within the dam degrade area using available sod mat, seeding, sedge plugs, and willow pole plantings. The planting palette used for the Project site shall incorporate both the Climate Smart Restoration Planting tool as well as work completed on the lipid value of specific plants at Van Norden by University of Nevada Reno researchers. Additionally, all disturbed areas shall be revegetated using native vegetation, such as sedge (*Carex utriculata* and *Carex nebrascensis*) plugs and/or mats, and willow (*Salix lemmonii*) staking.

Mitigation Measure BIO-2 Implementation:

Responsible Party: The SYRCL shall ensure that a representative is onsite while work is occurring within the floodplain or creek and that ground and vegetation disturbance is being kept to a minimum. Additionally, the SYRCL shall ensure that all sites are revegetated post-construction.

Timing: During construction; and revegetation post-construction.

Monitoring and Reporting Program: The SYRCL shall document when construction occurs, as well as how and where revegetation occurred. A brief technical memorandum documenting vegetation disturbance and revegetation shall be prepared by SYRCL and kept on file with Nevada County.

Standards for Success: Vegetation disturbance is minimized and restoration of plants are successfully establish within five years after Project completion.

3.4.4.3 Mitigation Measure BIO-3: Reduce Potential Impacts to Sierra Nevada Yellow-Legged Frog and Their Habitat

To minimize effects to SNYLF during and after Project implementation the following measures will be applied:

- Tightly woven fiber netting, plastic mono-filament netting, or similar material shall not be used for erosion control or other purposes within suitable habitat.
- Measures will be in place to protect streamflows and avoid disturbance and impact to the hydrology of wetlands and meadows. Access routes are designed to minimize impacts and will be restored following use.

- Design criteria will include measures to minimize the risk of activity related sediment from entering aquatic habitats.
- Areas disturbed in suitable habitat will be restored to pre-existing conditions within one breeding season. This restoration Project is designed to enhance existing conditions.
- Prior to initiating ground disturbing activities or staging construction equipment, a Spill Prevention Control and Countermeasure Plan will be created to address protection measures related to the storage and use of fuels and other toxic materials.
- Drafting sites shall be located to minimize sediment and maintain riparian resources, channel condition, and SNYLF habitat. Screening devices will be used for water drafting pumps, along with low entry velocity to minimize removal of aquatic species, including juvenile fish, amphibian egg masses and tadpoles, from aquatic habitats.
- All equipment (e.g., field gear, pumps) used in a water body during Project implementation shall be inspected and free of invasive species prior to implementation. Equipment should be free of all soil and plant material and should be dried prior to moving to a different meadow.

Mitigation Measure BIO-3 Implementation:

- **Responsible Party:** The SYRCL shall ensure that a representative is onsite while work is occurring within suitable habitat of SNYLF to ensure implementation of the above measures. This includes items such as the installation of appropriate BMPs and proper procedures involving dewatering or diverting water. Additionally, the SYRCL shall ensure that all sites are revegetated post-construction.
- **Timing:** Measures will be conducted during pre-, during, and post-construction phases of the proposed Project.
- **Monitoring and Reporting Program:** The SYRCL shall document when the different construction phases occur as well as track the development and implementation of the Spill Prevention Control and Countermeasure Plan and information shall be included in a technical memorandum prepared by SYRCL and kept on file.
- **Standards for Success:** No SNYLF or SNYLF suitable habitat will be impacted as a result of the proposed Project.

3.4.4.4 Mitigation Measure BIO-4: Avoid Disturbance to Nesting Willow Flycatcher

If construction activities that have the potential to disturb willow flycatcher are planned to occur in the vicinity of potential nesting habitat, pre-construction surveys shall be conducted for willow flycatcher by a qualified biologist following the guidance of A Survey Protocol for Willow Flycatcher in California (Bombay et al. 2003) or other most recent agency-approved or preferred protocol. If surveys indicate the presence of nesting willow flycatcher, the biologist shall establish an appropriate avoidance buffer around the nest in which no work would be allowed until the young have successfully fledged or the nest has been

abandoned. The size of the avoidance buffer shall be determined by a qualified biologist and shall depend on factors such as the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, other topographical or artificial barriers, and the sensitivity of the nesting bird to the disturbance. Active willow flycatcher nests shall be monitored during all Project activities that have potential to disturb the nesting birds. If construction activities cause the nesting willow flycatcher to become agitated (i.e., agitated/increase vocalizations, defensive flight behavior, leave their nesting/brooding duties, or otherwise modify normal behaviors), the avoidance buffer shall be increased until the agitated behavior ceases. Project activity shall not commence within the buffer areas until a qualified biologist determines that young have fledged and are no longer reliant upon the nest or parental care for survival, the nest is no longer active, or reducing the buffer would not likely result in nest abandonment.

Mitigation Measure BIO-4 Implementation:

- **Responsible Party:** The SYRCL shall ensure that qualified biologist conducts pre-construction willow flycatcher surveys according to the timing and appropriate agency-approved survey protocol.
- **Timing:** Surveys shall be conducted prior to construction, and any required monitoring of active nests may occur during construction.
- **Monitoring and Reporting Program:** The qualified biologist shall prepare a short survey report detailing the results of the willow flycatcher surveys and any required monitoring. SYRCL shall keep this report on file and provide to agencies as needed and/or on request. Any confirmed observations of willow flycatcher shall be submitted to the CDFW CNDDB.
- **Standards for Success:** No nesting willow flycatcher are impacted as a result of the proposed Project.

3.4.4.5 Mitigation Measure BIO-5: Avoid Disturbance to Nesting Raptors and Other Nesting Migratory Birds

To the extent feasible, ground disturbance and vegetation thinning and/or removal activities shall be conducted during the non-nesting season (approximately September 1 to February 28). If construction, such as tree removal, grading, excavation, etc., that have the potential to disturb nesting birds occur during the nesting season, a qualified biologist shall conduct a pre-construction nesting bird survey prior to vegetation removal or ground disturbing activities within the proposed Project area with the following criteria:

- Surveys shall be conducted within the proposed Project area and all potential bird nesting habitat for waterfowl and passerine species within 150 feet.
- Surveys shall be conducted within the proposed Project area and all potential raptor nesting habitat for waterfowl and passerine species within 500 feet.

- The surveys should be conducted within one week before initiation of construction if construction is scheduled to occur between March 1 and August 31.
  - If no active nests are detected, then no additional mitigation is required.
  - If surveys indicate the presence of nesting birds, the biologist shall establish an appropriate avoidance buffer around the nest in which no work would be allowed until the young have successfully fledged or the nest has been abandoned. The size of the avoidance buffer shall be determined by a qualified biologist and shall depend on the status of the species present, the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise and other disturbances, other topographical or artificial barriers, and the sensitivity of the nesting bird to the disturbance. Typically, avoidance buffers are up to 300 feet for raptors and up to 150 feet for waterfowl and passerines. Generally, these distances are sufficient (depending on the species and project activities) to prevent substantial disturbance to nesting birds which would cause direct mortality. However, these buffers may be increased or decreased at the discretion of the biologist, as appropriate. Active nest sites shall be monitored periodically throughout the nesting season to identify any sign of disturbance.
- If nesting birds are documented to have established themselves in a given location within the proposed Project area during pre-existing construction activities, then it shall be assumed that the nesting birds are habituated to the construction activities. Under this scenario, the active nest shall be monitored by a qualified biologist periodically until the young have successfully fledged, or the nest has been abandoned, as described above.
- If active nests are identified on or immediately adjacent to the proposed Project area, then all non-essential construction activities (e.g., equipment storage and meetings) should be avoided in the immediate vicinity of the nest site, but the remainder of construction activities may proceed.

Mitigation Measure BIO-5 Implementation:

- **Responsible Party:** The SYRCL shall ensure that qualified biologist conducts pre-construction nesting bird survey within one week before initiation of construction if construction are schedules to occur between March 1 and August 31.
- **Timing:** Pre-construction surveys shall be conducted within one week before initiation of construction, and any required monitoring of active nests may occur during construction.
- **Monitoring and Reporting Program:** The qualified biologist shall prepare a short survey report detailing the results of the pre-construction nesting bird surveys and any required monitoring. SYRCL shall keep this report on file and provide to agencies as needed and/or on request. Any confirmed observations of special status species shall be submitted to the CDFW CNDDB.
- **Standards for Success:** No nesting birds are impacted as a result of the proposed Project.

3.4.4.6 Mitigation Measure BIO-6: Compensation for Direct Permanent Impacts to Waters of the U.S.

Because avoidance of the wetlands/waters of the U.S./waters of the State or riparian areas is not practicable, the SYRCL shall apply for and obtain a CWA Section 404 Nationwide Permit (NWP) and comply with the current USACE compensation schedule for any permanent loss of waters of the U.S. The SYRCL shall work with the USACE to ensure that the local and federal "no net loss" of wetlands is properly upheld. In addition, for work within a stream or lakebed, riparian zone, or floodplain, SYRCL shall apply for, obtain and comply with a CDFW SAA. For all activities that trigger the USACE CWA Section 404 NWP, the SYRCL shall also apply for, obtain and comply with a CWA Section 401 WQC from RWQCB.

Mitigation Measure BIO-6 Implementation

- **Responsible Party**: The SYRCL is responsible for applying for all permits and approvals needed to fill the wetlands, work in waters of the U.S./Waters of the State, and riparian zones.
- **Timing:** If required, the CWA Section 404, CDFW SAA, and CWA Section 401 Permits shall be obtained prior to construction.
- **Monitoring and Reporting Program**: The SYRCL shall ensure that environmental permits shall be obtained prior to construction and the appropriate fees paid to comply with the regulatory agency compensatory mitigation schedule for temporary and permanent impacts to waters of the U.S. and riparian areas. The SYRCL shall prepare brief letter report on compliance with this mitigation measure and submit it to Nevada County for their files.
- **Standards of Success**: Appropriate State and federal permit compliance and compensation, including no net loss of waters of the U.S. from the proposed Project.

3.4.4.7 Mitigation Measure GEO-1: Sediment and Erosion Control Measures

See MM GEO-1, Section 3.6

3.5 Cultural Resources

This section was developed by Stantec Consulting pursuant to Section 15064.5 of CEQA. The purposes were to (1) identify and record cultural resources in the Project area; (2) make preliminary evaluations of such resources' significance according to the criteria of the California Register of Historical Resources (CRHR); and (3) recommend procedures for avoidance or mitigation of impacts to CRHR-eligible resources.

3.5.1 REGULATORY SETTING

3.5.1.1 Federal

National Historic Preservation Act

Most regulations at the federal level stem from the National Environmental Policy Act (NEPA) and historic preservation legislation such as the National Historic Preservation Act (NHPA) of 1966, as amended. NHPA established guidelines to "preserve important historic, cultural, and natural aspects of our national heritage, and to maintain, wherever possible, an environment that supports diversity and a variety of individual choice." The NHPA includes regulations (Section 106) which pertain to all projects (including the proposed Project) that are funded, permitted, or approved by any federal agency and which have the potential to affect cultural resources. Provisions of NHPA establish the National Register of Historic Places (NRHP) maintained by the National Park Service, the Advisory Councils on Historic Preservation, State Historic Preservation Offices, and grants-in-aid programs. Complying with federal regulations such as Section 106 of the NHPA is the responsibility of the USFS.

3.5.1.2 State

CEQA

Pursuant to PRC Section 21084.1, a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. Section 21083.2 also requires agencies to determine whether proposed projects would have effects on unique archaeological resources.

Historical Resources

"Historical resources" is a term defined in PRC Section 21084.1 and CEQA Guidelines CCR Section 15064.5 (a). The term embraces any resource that is listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR) that is defined at in PRC Section 5024.1 and CCR Section 4852. The CRHR includes resources listed in or formally determined to be eligible for listing in the NRHP, as well as some California State Landmarks and Points of Historical Interest.

Pursuant to CCR Section 15064.5 (a)(3), an historical resource is any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or

cultural annals of California that may be considered to be an historical resource, provided that the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered to be historically significant by the lead agency if the resource meets the criteria for listing on the CRHR. The criteria are as follows:

> (A) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage.
>
> (B) Is associated with the lives of persons important in our past.
>
> (C) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values.
>
> (D) Has yielded, or may be likely to yield, information important in prehistory or history.

Unique Archaeological Resources

"Unique archaeological resources" is a term defined in PRC Section 21083.2 (g). The term means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

> 1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
>
> 2) Has a special and particular quality such as being the oldest of its type or the best available example of its type.
>
> 3) Is directly associated with a scientifically recognized, important prehistoric or historic event or person.

Local Register of Historical Resources

A resource included in a local register of historical resources, as defined in PRC Section 5020.1(k), or identified as significant in an historical resource survey that meets the requirements of PRC Section 5024.1(g) shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant (CCR Section 21084.1 and CCR Section 4850).

Similarly, pursuant to CCR Section 21084.1, the fact that a resource is not listed in, or determined to be eligible for listing in the CRHR, not included in a local register of historical resources, or identified in an historical resources survey (i.e., meeting the criteria in PRC Section 5024.1(g)) does not preclude a lead agency from determining that the resource may be identified as an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

California PRC Section 5097.99 and 5097.995

California PRC Section 5097.99 states that no person shall obtain or possess any Native American artifacts or human remains that are taken from a Native American grave and any person who knowingly or willfully obtains or possesses any such artifacts or human remains is guilty of a felony. In addition, any person who without authority of law, removes any such items with intent to sell or dissect or with malice or wantonness is guilty of a felony.

California PRC Section 5097.995 et seq., the California Native American Historic Resources Protection Act of 2002, imposes civil penalties, including imprisonment and fines up to $50,000 per violation, for persons who unlawfully and maliciously excavate upon, removes, destroys, injures, or defaces a Native American historic, cultural, or sacred site that is listed or may be listed in the CRHR.

California Health and Safety Code

Section 7052 of the Health and Safety Code states that the disturbance of Native American cemeteries is a felony. Section 7050.5 requires that construction or excavation be stopped in the vicinity of discovered human remains until the coroner can determine whether the remains are those of a Native American. If determined to be Native American, the coroner must contact the Native American Heritage Commission (NAHC).

Sections 8010-8011 established the California Native American Graves Protection and Repatriation Act in 2001. The state repatriation policy is consistent with and facilitates implementation of the federal Native American Graves Protection and Repatriation Act. The California act strives to ensure that all California Indian human remains and cultural items are treated with dignity and respect.

3.5.1.3 Local

County of Nevada General Plan 2014

The following goals and policies from the County of Nevada General Plan related to cultural and tribal resources are relevant to the proposed Project (County of Nevada 1994; amended in 2014).

Goal 19.1. Identify and protect and where economically feasible restore significant archaeological and historic resources.

> **Objective 19.1**. Encourage the inventory, protection and interpretation of the cultural heritage of Nevada County, including historical and archaeological landscapes, sites, buildings, features, artifacts.
>
> **Objective 19.2.** Implement development standards, including the preservation of open space, to protect identified significant cultural sites.
>
> **Objective 19.3.** Include in the development review process consideration of historic, cultural, and Native American concerns and values.

Policy 19.6. Require all applications for discretionary project permits, and all applications for ministerial project permits except single family residences on individual lots shall be accompanied by a Site Sensitivity Literature Review, prepared by a qualified archaeologist or entity such as the North Central Information Center, Department of Anthropology, California State University at Sacramento. Where review indicates significant archaeological or historical sites or artifacts are, or are likely, present, on-site field review shall be required. If a site or artifacts are discovered, the find shall be evaluated, and potential significance determined. If significant cultural resources may be directly or indirectly impacted by proposed development, appropriate mitigation shall be developed and implemented in accordance with California Environmental Quality Act standards, including Appendix K, prior to onset of ground disturbance. Avoidance of significant cultural resources shall be considered the mitigation priority. Excavation of such resources shall be considered only as a last resort when sufficient planning flexibility does not permit avoidance. On-site field review, evaluation of site significance, and development of mitigation measures, as identified above, shall be performed by a qualified professional archaeologist.

Policy 19.7. Cooperate with local historical societies and the Native American Indian community to protect significant historical, cultural and archaeological artifacts, improve access to and interpretation of unrestricted resources and archaeological history by involving them in the development review process.

3.5.2 ENVIRONMENTAL SETTING

The following section describes the regional and local cultural setting for the proposed Project. The section includes the methodology used for establishing the contextual setting along with a summary of the natural environment, prehistoric context, ethnographic context, and historic context.

3.5.2.1 Methodology for Establishing Setting

Records Search

Prior to the pedestrian archaeological survey conducted in 2018, a records search and literature review were conducted by Anthropological Studies Center, Sonoma State University (ASC). Prior to the pedestrian archaeological survey, a records search and literature review were conducted by the North Central Information Center (NCIC) at Sacramento State University in Sacramento, California, on 8 April 2016. The NCIC is part of the California Historical Resources Information System (CHRIS) that is the official state repository for records and reports on archaeological surveys, historical resources, and archaeological resources. ASC included a records search review with the Tahoe National Forest. Online resources were also reviewed included historical map collections, the United States Department of Agriculture (USDA) Web Soil Survey website, United States Geological Survey online map and geological information, websites of local historical museums and societies, the Donner Summit Historical Society's (DSHS) newsletter (i.e., the *Donner Summit Heirloom),* and tribal websites.

The records search identified 14 previously conducted cultural resources studies within or adjacent to the proposed Project area and 36 documented cultural resources within the proposed Project area, consisting of 18 prehistoric cultural resources, 10 historic-era cultural resources, and 8 multicomponent cultural resources containing both prehistoric and historic-era elements (Tables 3.5-1 and 3.5-2). Of these documented sites, seven have not been formally recorded (Lindström 2001). Furthermore, three documented sites are adjacent to, but not in, the proposed Project area; including one prehistoric, one historic, and one multicomponent (P-29-4401, -4530, and Site S12 in Lindström 2001).

Two sites, a segment of the Lincoln Highway/Victory Highway (P-29-000950/ P-31-001295, CA-NEV-714H/CA-PLA-1003H) and Van Norden Dam (P-29-004530) have been evaluated for the NRHP. The isolated segment of the Lincoln Highway/Victory Highway, a Placer and Nevada County resource, is recommended as eligible to the NRHP under Criterion A (Marvin et al. 2022). The Van Norden Dam is not eligible for the NRHP with concurrence received from the State Historic Preservation Officer (Selverston 2018; SHPO letter filed code USFS 20201217001, letter dated January 6, 2021).

Table 3.5-1 Cultural Resources Studies Conducted In or Adjacent to the proposed Project Area

Study Number	Author	Year	Findings	Within Project Area?
S-9958	Kelton	1950	The Overland Emigrant Trail	Yes
S-210	Claytor	1973	Identified 43 sites including 6 within the Study Area (P-29-000441, -000444, P-31-000421, -000440, and -000452 and -001041). Claytor did not record or map these sites.	Yes
S-7975	Payen	1976	P-29-000442, -000443, -000444, -000445, -000446, P-31-000440, -000441, -000442, -000443, -000444, -000445, -000446, -000447, -000448, -000449, and -000450	Yes
S-7978	Ann S. Peak & Associates	1976	P-29-000442, -000443, P-31-000421, -000449, -000450, and -000452.	Yes
S-1856	Peak and Associates, Inc.	1983	None.	No
S-8074	Peak	1988	Relocated P-29-000442, -000445, P-31-000448, and -000450, but did not relocate P-29-000443.	Yes
S-2307	Suter	1995	Relocated Payen's 1976 sites, and identified P-29-000711, P-31-001064, -001065, -001066).	Yes
S-8165	Lindström	2001	Recorded 5 new sites (P-29-002349, -002350, -002352, -002353, P-29-000950/P-31-001295) and updated 4 previously recorded site records (P-29-000442, -000443, -000445, P-31-000450). Eight additional cultural resources were identified but not recorded.	Yes
S-8036	Nadolski and Lambert	2006	P-29-000442 and -000443	Yes

Study Number	Author	Year	Findings	Within Project Area?
N/A	Crawford	2013	Revisited P-29-000442, -000443, -000445, P-29-000950/P-31-001295, P-29-002349, -002350, -002352, -002353, P-31-000449, -000448, -000450, and -001066; did not relocate P-31-000449 and -000450; updated P-31000448 and -001066; and recorded P-29-004401.	Yes
N/A	Lindström	2014	Historic context of the Lake Van Norden, Van Norden Meadow, Summit Valley area	Yes
S-12096	Drews	2016	P-29-004530, the Van Norden Dam	Yes
12097	Drews and Speulda-Drews	2016	Evaluated P-29-004530, the Van Norden Dam for eligibility to the National and California Registers. Found eligible by the consultant to the California Register under Criterion 1.	No
N/A	Holm	2017	Revisited and updated P-31-000440; did not relocate P-31-000441, -000442, and -000443.	No

Table 3.5-2. Cultural Resources In or Within ½-Mile of the proposed Project Area Based on Records Search

Trinomial	Primary Number	Site type	Description
P-29-000442	CA-NEV-384/H	Multicomponent	Bedrock milling features, historic-era artifacts
P-29-000443	CA-NEV-385	Multicomponent	Bedrock milling features and basalt lithic concentration
P-29-000444	CA-NEV-386	Prehistoric	Lithic concentration and midden deposit
P-29-000445	CA-NEV-387/H	Multicomponent	Small historic-era artifact and prehistoric lithic concentration, bedrock milling features
P-29-000446	CA-NEV-388	Prehistoric	Basalt lithic concentration and a bedrock milling feature
P-29-000711	N/A	Historic-era	Collapsed cabin
P-29-000950/ P-31-001295	CA-NEV-714H/ CA-PLA-1003H	Historic-era	Lincoln Highway/Victory Highway/Old U.S. 40 (Segment A)
P-29-002349	CA-NEV-1475/H	Multicomponent	Historic-era artifact concentration, prehistoric basalt lithic
P-29-002350	CA-NEV-1476H	Historic-era	Historic-era artifact concentration.
P-29-002352	CA-NEV-1478H	Historic-era	Historic-era artifact concentration.
P-29-002353	CA-NEV-1479/H	Multicomponent	Historic-era artifact concentration and prehistoric lithic concentration
P-29-004401	CA-NEV-2176	Multicomponent	Historic-era artifact concentration and bedrock milling feature
P-29-004525	N/A	Historic-era	Isolated iron plates
P-29-004526	N/A	Prehistoric	Bedrock milling features
P-29-004527	N/A	Historic-era	Stone alignment used as a walkway/pier to the lake edge
P-29-004530	N/A	Historic-era	Van Norden Dam
P-31-000421	CA-PLA-295	Prehistoric	Basalt lithic concentration
P-31-000440	CA-PLA-314	Prehistoric	Bedrock milling features and basalt, obsidian, granitic, chalcedony, and chert lithic concentration

Trinomial	Primary Number	Site type	Description
P-31-000441	CA-PLA-315	Prehistoric	Basalt lithic concentration
P-31-000442	CA-PLA-316	Prehistoric	Basalt lithic concentration
P-31-000443	CA-PLA-317	Prehistoric	Basalt lithic concentration and a bedrock milling feature
P-31-000444	CA-PLA-318	Prehistoric	Bedrock milling features and basalt lithic concentration
P-31-000445	CA-PLA-319H	Historic-era	Narrow-gauge railroad grade and structure foundation
P-31-000446	CA-PLA-320/H	Multicomponent	Basalt lithic concentration, historic-era artifact concentration, and stone chimney
P-31-000447	CA-PLA-321	Prehistoric	Basalt lithic concentration
P-31-000448	CA-PLA-322H	Historic-era	Remains of a sheep farm, historic-era artifact concentration
P-31-000449	CA-PLA-323	Prehistoric	Basalt lithic concentration
P-31-000450	CA-PLA-324/H	Multicomponent	Lithic concentration, historic-era artifact concentration
P-31-000452	CA-PLA-326	Prehistoric	Basalt lithic concentration
P-31-001041	N/A	Prehistoric	Bedrock milling features and basalt lithic concentration
P-31-001066	N/A	Historic-era	Historic-era artifact concentration associated with Southern Pacific railroad
Not recorded	N/A	Prehistoric	Bedrock milling feature
Not recorded	N/A	Prehistoric	Lithic concentration
Not recorded	N/A	Multicomponent	Bedrock milling features, lithic concentration, historic-era artifact concentration
Not recorded	N/A	Prehistoric	Bedrock milling feature and lithic concentration
Not recorded	N/A	Prehistoric	Bedrock milling feature
Not recorded	N/A	Prehistoric	Lithic concentration
Not recorded	N/A	Prehistoric	Bedrock milling feature

Trinomial	Primary Number	Site type	Description
Not recorded	N/A	Historic-era	Utility line

Field Survey

Anthropological Studies Center (ASC) staff archaeologists conducted a pedestrian archaeological survey from October 5, 2017 to October 9, 2017 within the current proposed Project area, examining the ground surface for archaeological artifacts and features. Ground visibility was poor (approximately 10%) due to dense coverage by native and non-native grasses, and thick stands of willow within the Van Norden lakebed. To offset the poor visibility, the field crew cleared polygon sections of vegetation with hand tools to expose the ground surface and inspect for indicators of archaeological deposits. Back dirt piles from rodent disturbance and the beds and sidewalls of down-cutting channels were also inspected.

During the survey, special attention was given to examining the beds and sidewalls of down-cutting channels in the meadow. Close inspection of these features confirms the presence of stratified alluvium. Multiple locations around the margins of the meadow have evidence of substantial prehistoric activity. The soils closer to these zones of intense cultural activity are more likely to contain unidentified archaeological resources. Alluvial fan deposits where the main streams enter the valley margins may have a different soil profile than the channels in the middle of the meadow. There is archaeological evidence of intense prehistoric cultural activity where Castle Creek crosses the meadow. Multiple sites are located along both sides of this watercourse. The likelihood of encountering buried archaeological remains is greater in this area than other portions of the meadow.

The pedestrian archaeological survey found five new archaeological resources. Survey coverage encompassed 13 previously documented resources, and site record updates were generated for seven of them

Additional cultural resource identification efforts were completed in 2021 by Browning Cultural Resources, Inc., Foothill Resources, Ltd. (Foothill) and Solano Archaeological Services, LLC. (SAS) within a refined project area based on the current proposed action and purpose and need. BCR's scope of work entailed additional identification efforts and remapping of sites affiliated with Native American use. This effort resulted in refinement of site boundaries for 5 precontact sites within the project area (P-29-000442, P-29-000443, P-31-000449, P-31-000446, and Forest Service Site 05175700985). Tribal representative, Mr. Allan Wallace, participated in these identification efforts. Mr. Wallace was designated by the Washoe Tribe's Tribal Historic Preservation Officer, Mr. Darrel Cruz. Survey worked completed in support of PG&E transmission line upgrades in 2020 resulted in site boundary refinement of 5 additional precontact sites (P-29-000444, P-31-000440, P-31-000443, P-29-000446, P-31-000442) within and adjacent to the project area (BCR 2020). Additionally, Drews recorded an isolated bedrock milling station as P-29-004526 (Drews 2016).

Due to the importance of Summit Valley to the Washoe Tribe, known cultural resource data for pre-European contact sites was utilized to inform the preliminary restoration and recreation design. Cultural resource data helped inform adjustments to design concepts to avoid construction or operational (i.e.,

recreation user) impacts to these resources important to the Washoe Tribe (refer to Section 3.17 on Tribal Cultural Resources). A site visit with representatives from the USFS, SYRCL, the Project design team, and the Washoe Tribe was conducted on September 28, 2021. The purpose of this site meeting was to ensure the proposed Project did not adversely affect resource important to the Washoe Tribe.

Historic resources were relocated, reassessed, and evaluated for inclusion in the National Register of Historic Places (Marvin et al., 2022) including many historic refuse depositions never formally recorded by Lindstrom (2001). The only eligible historic resource in the area of potential effect (APE) is the isolated segment of Lincoln Highway, also known as Lake Van Norden Road, a Placer and Nevada County resource.

3.5.2.2 Natural Environment

A brief overview of the natural environment setting is provided in Section 3.4 Biological Resources Environmental Setting.

3.5.2.3 Cultural Context

Precontact

In 1953, Heizer and Elsasser presented the first cultural chronology for the Sierra Nevada. This chronology was based on survey work conducted to the east of the crest of the Sierra Nevada around Lake Tahoe and parts of the drainages of the Truckee and Carson Rivers. Heizer and Elsasser (1953), in the course of this work, identified two "complexes". The earliest cultural group was named the Martis Complex which was followed by the King's Beach Complex. Both "complexes" were defined on the basis of surface material.

Heizer and Elsasser (1953) defined the Martis Complex based on nine criteria derived from data obtained from thirteen sites. These nine criteria are: 1) the use of basalt as the preferred lithic material for tools; 2) the rare use of chert and obsidian for tool production; 3) the use of roughly chipped, large, heavy projectile points in a variety of forms; 4) the use of the mano and metate; 5) the use of bowl mortars with cylindrical pestles; 6) the use of boatstones and atlatls; 7) an economy primarily based on hunting and supplemented by the gathering of seeds; 8) the use of large numbers of basalt flake scrapers; and 9) the frequent use of expanded base, finger held drills (Heizer and Elsasser 1953:19). The use of basalt as the preferred material for tools was highlighted by Heizer and Elsasser as the most distinguishing characteristic of the Martis Complex. They (1953:20) also suggest that the Martis Complex, based on this characteristic, may be related to other basalt-using complexes in the Great Basin, the Mohave Desert, and the Early Horizon in the Central Valley of California. Boatstones from the Martis Complex type site, CA-Pla-5, resembling those from the Central Valley of California, reinforced the supposition of Heizer and Elsasser (1953:26) that the Martis Complex may be related to the Early or Middle Horizon of the Central Valley.

Elsasser continued research along both the east and west sides of the Sierra crest and provided additional data to aid in characterizing the Martis Complex and defining its possible relationships to other cultures. In 1960, he published the results of excavations at three Martis Complex sites, CA-NEV-15, CA-

SIE-20, and 26-DO-12. The excavation of these sites expanded the known territory of the Martis Complex to include the upper elevations of the western slope of the Sierra Nevada (Elsasser 1960). Elsasser (1960:68) suggested Martis people most likely hunted large, seasonally migratory animals, such as deer and antelope, which they followed between the lower and higher elevations of the Sierra Nevada. Elsasser (1960) also emphasized the expanding and apparently widespread distribution of the Martis Complex across the mid-elevations of the Sierra Nevada.

Elsasser highlighted the need for an examination of Sierra Nevada archaeological sites and their assemblages in a wide regional context that compares and contrasts cultural elements of the Great Basin, the Central Valley, and the Southern Cascades with sites from the Sierra Nevada. Elsasser (1960:76) suggests “Only then can the prehistory of any of the regions separately and of western North America as a whole be meaningfully synthesized”. Unfortunately, regional archaeological comparisons are still lacking in California archaeology.

Elston (1971) augmented the work of Heizer and Elsasser (1953) by exploring the relationship between the Martis Complex, Kings Beach Complex, and the historic Washoe. Elston (1971) identified a “pre-Martis” culture, the Spooner Complex, and suggested a revision of the Martis Complex based on his excavation of four sites east of Lake Tahoe, within the ethnographic territory of the Washoe. The Spooner Complex is characterized by Humboldt Concave-based and Pinto projectile points and is dated between 7,000 Before Present (B.P.) to approximately 3,000 B.P. (Elston 1971:135). He proposed that the Spooner Complex represents the initial colonization of the higher elevations of the Sierra Nevada by groups from the western Great Basin who were seeking refuge from the conditions induced by the Altithermal.

In addition, Elston (1971:136-137) suggested dividing the Martis Complex into two phases. Phase 1 dates from 3,000 B.P.-2,000 B.P. and is linked to the first intensive occupation of the Sierra Nevada. This phase may also be derived from cultural groups of the Great Basin, but it seems to exhibit specialization in the exploitation of the Transition Zone (Elston 1971:137). Indeed, the groups associated with the first phase of the Martis Complex probably had already incorporated patterns of transhumance similar to those of ethnographic groups in the area (Elston 1971:137). Phase 1 is also marked by Elko series, Martis series, and Sierra stemmed triangular projectile points. Phase 2 dates from 2,000 B.P.-1,500 B.P. and is differentiated from the first phase by smaller stemmed and triangular projectile points, an increase of the use of chert and obsidian for tools, the introduction of bedrock mortars, and a concomitant decline in the use of manos and metates.

Elston et al. (1977) provided an additional explanation for the areal distribution of the Martis Complex and also a refinement of the cultural chronology for the north-central Sierra Nevada. Elston et al. (1977:19) suggest that the Martis Complex may represent exploitation of the Sierra Nevada by both California and Great Basin groups using similar tool kits to exploit similar environments. Projectile points were used to seriate the sites at the Tahoe Reach of the Truckee River. The results of the seriation suggested that Martis could be divided into three phases. These three phases are: Early Martis (4,000-3,500 B.P.) characterized by contracting stem points (Elko and Martis Series); Middle Martis (3,500-2,500 B.P.) characterized by Steamboat points; and Late Martis (2,500-1,500 B.P.) characterized by notched and eared Martis and Elko Series points (Elston et al. 1977). However, Elston et al. (1994:16) state that their

original tripartite division for Martis is not substantiated due to recent analyses of the temporal distribution of contracting stem (i.e., Martis, Elko, and Gatecliff Series) and leaf shaped points (i.e., Steamboat). Consequently, it is suggested that Martis be divided into two phases, Early and Late Martis (Elston et al. 1994:16). Early Martis (5,000-3,000 B.P.) is characterized by Martis Contracting Stem, Martis Split Stem, and Steamboat points. Late Martis (3,000-1,500 B.P.) is characterized by Martis Corner Notched, Elko Corner Notched, and Elko Eared points. Elston et al. (1994:16) emphasize, however, that Early and Late Martis merely define blocks of time, since nothing is really known about culture change beyond the changing frequencies of point types.

At about 1,500 B.P. shifts in the cultural patterns of the Martis Complex become evident in the archaeological record. For example, changes become evident in technology and subsistence and settlement strategies. Technological shifts are apparent in the appearance of larger numbers of smaller projectile points made from obsidian flake blanks rather than larger projectile points made from basalt. Subsistence and settlement strategies highlight an intensification of plant exploitation, an increase in regional population size, and a reduction in the size of regularly used territory (Zeier and Elston 1986; Moore and Burke 1992; Elston et al. 1994). These changes are probably related to a shift in climatic regime and an overall increase in population size across the region (i.e., growth of local populations and/or an influx of new cultural groups). Regardless, these changes mark the waning of the Martis Complex and the emergence of the Kings Beach Complex.

Initial characterizations of the Kings Beach Complex by Heizer and Elsasser (1953:20) highlighted: a preference for obsidian in the production of small projectile points; the rare use of basalt; an absence of drills; bedrock mortars; and an economic emphasis on seed processing and fishing. The Kings Beach Complex is commonly divided into two periods: Early Kings Beach (1,300-700 B.P.), characterized by Rosegate Series points; and Late Kings Beach (700-150 B.P.), characterized by Desert Series Points (Elston 1971; Drews 1986; Zeier and Elston 1986). Early Kings Beach is thought to represent the initial phase of the Washoe ethnographic pattern.

Washoe

This overview and citations are from the ethnographic summary in Button and Browning 2021.

The Washoe people are the original people of the Summit Valley/ Van Norden area. The Washoe language was initially thought to be a unique, isolated language stock; however, linguists now classify it as a member of the widely dispersed Hokan language family. Other Hokan groups were also located in northern and southern California and along the California coast (Shipley 1978). At the time of “contact” (ca. 1840s), with the onset of Euro-American migration, the Van Norden Meadow area was frequented by the northern Washoe or *Welmelti*. These “northerners” occupied the northern Lake Tahoe Basin, Donner-Truckee Basins, Sierra Valley, and the eastern Sierran front north of Carson Valley, through Washoe Valley and north to Truckee Meadows (Reno). The Washoe have long tenure in their known area of historical occupation (d’Azevedo 1986:466, 471; Price 1962). They are part of an ancient Hokan-speaking population, . Ethnographic settlements and resource areas are documented in the Truckee vicinity: Washoe consultants working with anthropologist Warren d’Azevedo identified an unusual concentration of named settlements within the Truckee River watershed along the Truckee River between

Donner Creek and the Little Truckee River (d'Azevedo 1956; Rucks 2005; Rucks in Lindström et al. 2007:12), suggesting there were permanent habitation camps in the area.

The Washoe generally inhabited the Summit Valley within which Van Norden Meadow is situated as well as inhabiting the greater Truckee Valley/Basin. Their core territory extended from montane valleys including Sierra Valley as well as the Truckee River watershed which encompasses the Project Area and vicinity (D'Azevedo 1986:468; Kroeber 1925: 569). The volume of archaeological sites in Van Norden Meadow and the vicinity reflect Washoe's intensive use of Summit Valley and higher elevation valleys in the Sierra Nevada. This intensive use is reflected in Martis Valley, Stampede Valley, Sardine Valley, all of which are situated in the greater Truckee area.

Tribal members identify the Summit Valley and Van Norden Meadow as *yayalu deteyi.* A nearby site in particular is associated with the quartz crystal healing medicine *oysik* (Personal Communication, with Washoe tribal members Darrel Cruz, Melba Rakow, and Alan Wallace, 2021). Major habitation centers were on the floors of large valleys with an average elevation of 4,500 feet; however, the Washoe did have some permeant, year-round settlements in places like the upper reaches of the Truckee River near Donner Lake where the elevation is around 5,500 feet (approximately 6 miles east of the current APE). According to Freed (1966:81), the junction of Donner Creek and the Truckee River was known as, *dewbeyulélbeti?,* meaning water forking together and/or water flowing down. Another name for this same place is *dat'sa sut ma'lam detde'yi'*, meaning porcupine + hides + lives there and/or mouth of stream + tributary + live there. This was a place used for fishing and hunting, as Donner Creek provided better fishing than the Truckee River because it was smaller and could be diverted.

Contemporary Washoe are very interested in preserving their traditional culture and protecting their traditional cultural properties. Washoe have an established tribal and political presence across their traditional lands, including the Project area, and take an active role in developing plans to address tribal concerns including maintaining Washoe cultural heritage.

3.5.2.4 Historic Context

Historic-era settlement of the Project area has been thoroughly documented by Lindström (2014) and Drews and Speulda-Drews (2016). The Donner Summit Historical Society has also featured Summit Valley in a number of the newsletters available on the internet.

Emigrants traveling west to California to participate in the Gold Rush passed through the Project area along the Overland Emigrant Trail beginning in 1841. The first continued use of the Project area by Euro-Americans was in the 1860s with the construction of the Dutch Flat and Donner Lake Wagon Road that passed through the northern portion of Summit Valley. A lone cabin is depicted on a circa 1861 survey map at the confluence of Castle Creek and South Yuba River (DSHS 2013:3). The wagon road was completed and opened for travel in 1864 serving as a freight and passenger road from Dutch Flat to the Comstock mines, and to support the Central Pacific Railroad with supplies at designated points along the rail line (Lindström 2014:12). The opening of the wagon road increased traffic through Summit Valley, bringing settlers into the valley, such as G. W. Lytton and Witherspoon, whose house and cabin are depicted on the General Land Office Plat map surveyed in 1866. The same plat also depicts Tinker's Hotel near present-day Soda Springs.

The route for the Central Pacific Railroad, a transcontinental railroad connecting California to the rest of the United States, was surveyed by Theodore Judah in 1860. Construction on the rail line through Donner Pass began between 1864 and 1866 with approximately 15,000 Chinese laborers. Despite heavy snow and slow tunneling though the granite that characterizes the Sierra Nevada, the Central Pacific Railroad between Truckee and Cisco Grove was completed in 1868. The survey alignment of the railroad was depicted on the General Land Office plat surveyed in 1866, paralleling the Dutch Flat and Donner Lake Wagon Road. The presence of the railroad and wagon road encouraged settlement of the area, the construction of train stations, cattle and sheep ranches, and lumber mills soon followed (Lindström 2014:9–10).

The station and town of Hopkins Springs was developed by Mark Hopkins and Leland Stanford around 1870. The Tinkers Station was established to serve the Central Pacific Railroad from 1867 to 1873 when the name of the town and trains station was changed to Soda Springs Station. The station was first depicted as Soda Springs on the 1891 USGS topographic map. The Soda Springs post office was established in 1875 (Gudde 1998:368).

Truckee became a major lumber center soon after 1867 and two sawmills were reportedly located near Summit Valley and the Project area. One sawmill, owned by William Jones, was located two miles west of present-day Soda Springs, south of the railroad tracks. A second sawmill, owned by the Richardson Brothers, boasted a boarding house, horses, oxen, and trucks. This sawmill was located at the lower end of Summit Valley (Powell 2003:42, cited in Lindström 2014).

The coming of the railroad influenced the development of the ice harvesting industry in the Donner Pass region. Ice was harvested from nearby alpine lakes and used for cooling the Comstock mine shafts, and refrigeration of train cars transporting produce from California to the rest of the country. Although the industry was mainly located in Truckee and along the Truckee River, the Summit Valley Ice Company operated just east of Soda Springs from about 1868 to 1872 (Lindström 2014:16). The small-scale company produced 500 to 600 tons of ice per year. The local ice harvesting industry declined by 1927 because of competition and the availability of artificially-manufactured ice.

Norden village was named for Charles Van Norden. The Norden village post office was established in 1927, discontinued in 1943, and re-established in 1947 (Gudde 1998:263; Durham 2000:233). Before construction of the Van Norden Dam, Summit Valley was used for grazing sheep and cattle. Sheep and cattle corrals were located near Soda Springs, Donner Summit, and within Summit Valley (Lindström 2014:17). In the same location as G. W. Lytton's house are recorded sheep corrals and historic-era domestic artifacts. It is unclear when this location was first inhabited, but Lytton's house was present by 1866, when the survey for the General land Office plat was performed. No additional information about G. W. Lytton or his occupation within Summit Valley has been identified.

In 1865 the South Yuba Canal Company constructed the South Yuba Canal to provide water to nearby mines. After the decline in hydraulic mining in the 1890s, water was redirected to hydroelectric power and agriculture. The Van Norden family, for whom Van Norden Lake and the village of Norden are named, developed hydroelectric power in Summit Valley by investing in the South Yuba Canal Company. There are conflicting dates for when the Van Norden Dam was built to create Lake Van Norden reservoir, but sources provide dates of 1890, 1900, and 1916 (Lindström 2014:20). A segment of the popular Dutch Flat

Wagon Road had to be relocated north out of the meadow to bypass both the new dam and the shoreline. Lindström (2014) suggests the earliest date the dam is depicted on a map is 1913. Either way, it was constructed on the site of an earlier, much smaller dam that was present by the 1870s (DSHS 2013:6). The lake is depicted as different sizes on maps dating from 1932 to 1986 (Lindström 2014:21; USGS 1932). Lake Van Norden dam was 32 feet high constructed of redwood timbers and planks covered by earth and rip-rap (Powell 2003, cited in Lindström 2014:21). The spillway at the dam first appears on the USGS Donner Pass, topographic map (USGS 1955). The dam held approximately 5,800 acre-feet of water. In an attempt to repair leaks in the dam in 1976, PG&E wanted to remove the dam, but eventually left the dam partially demolished to let out most of the water (Lindström 2014:21). This also left the reservoir much smaller in size.

Summer recreation at Lake Van Norden included fishing, camping, waterskiing, and boating. Lindström (2014:21) notes eight campgrounds and seven picnic areas around Lake Van Norden before 1976. Winter recreation in Summit Valley consisted of skiing, sleighing, tobogganing, and dog races. Soda Springs developed as a mountain community emphasizing winter sports in the 1920s and the first ski lodge was built in Norden in 1925 (Lindström 2014:22–23). Downhill and cross-country skiing continues today in Van Norden Meadow and on the slopes overlooking Summit Valley.

3.5.3 IMPACT ANALYSIS

V. CULTURAL RESOURCES Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as identified in Section 15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☒	☐	☐

a) Would the Project cause a substantial adverse change in the significance of a historical resource as identified in Section 15064.5?

Finding: Less than Significant with Mitigation Incorporated

Two resources, a segment of the Lincoln Highway/Victory Highway (P-29-000950/ P-31-001295, CA-NEV-714H/CA-PLA-1003H) and Van Norden Dam (P-29-004530) have been evaluated for the NRHP. The segment of the Lincoln Highway/Victory Highway is recommended eligible for the NRHP under Criterion A (Marvin et al 2022). The Van Norden Dam is not eligible for the NRHP. There are no other eligible historic resources in the area of potential effects (APE). On-going maintenance and proposed drainage improvement to the Lincoln Highway is considered no effect to the roadbed as this segment of road has been managed and maintained since construction. Project plans, however, were designed in

coordination with the Washoe Tribe's Tribal Historic Preservation Officer, Mr. Darrel Cruz, and Native American tribal representatives to avoid all known precontact sites and implementation of Mitigation Measures (MM) CUL-1 and CUL-2 (i.e., cultural resources sensitivity training and implementation of an inadvertent discovery plan) would reduce any potential proposed Project impacts to less than significant.

b) Would the Project cause a substantial adverse change in the significance of an archaeological resource as identified in Section 15064.5?

Finding: Less than Significant with Mitigation Incorporated

None of the known archaeological sites within the proposed Project area have been evaluated for the NRHP or CRHR and given the history of the meadow, the proposed Project area has a highly sensitivity for the presence of undiscovered precontact and historic sites. Consequently, the Project could cause a substantial adverse change in the significance of an archaeological resource. Project plans, however, have been designed to avoid all known precontact and historic sites, regardless of their evaluation status. Additionally, the implementation of MM CUL-1, a cultural resource awareness training, and CUL-2, an inadvertent discovery plan that entails halting work, making appropriate contacts, and effectively protecting resources, would reduce any potential Project impacts to less than significant.

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

Finding: Less than Significant with Mitigation Incorporated

There are no known human burials or remains within the proposed Project area. However, given the precontact use of the proposed Project area there is a potential for the Project to disturb previously unknown human remains. However, implementation of MM CUL-1 and CUL-2 would reduce any potential Project impacts to less than significant.

3.5.4 MITIGATION MEASURES

3.5.4.1 MM CUL-1: Cultural Resource Worker Awareness Training

A qualified archaeologist (i.e., an archaeologist that meets the Secretary of the Interiors Standards and Guidelines for Professional Qualifications in Archaeology) shall prepare and conduct pre-construction cultural resources awareness training that includes a Washoe Tribal member or designated representative as part of the training. All construction personnel shall be required to attend the awareness training. The training will inform construction staff of the possibility of encountering precontact or historic cultural resources and/or human remains within the proposed Project area and the protocol(s) to be followed if cultural resources or human remains are encountered during Project implementation.

To facilitate compliance, all grading and construction plans shall include a Note indicating all equipment operators and employees involved in any form of ground disturbance shall be trained to recognize potential archeological resources and advised of the possibility of encountering subsurface cultural resources during grading activities.

Mitigation Measure CUL-1 Implementation

Responsible Party: Nevada County

Timing: Nevada County shall verify a qualified archaeologist is retained by SYRCL prior to construction to prepare and present the cultural resources awareness training. The training shall take place prior to construction and all construction staff (i.e., staff present at the initiation of the Project and any new staff) must attend the training prior to participating in any Project related activities. The qualified archaeologist presenting the awareness training shall provide Nevada County with documentation of construction personnel attendance.

Reporting: Cultural Resource Worker Awareness Training document

Standards of Success: The identification of and prevention of any impacts to known or inadvertently discovered cultural resources during Project construction.

3.5.4.2 MM CUL-2: Cultural Resources and Human Remains Inadvertent Discovery Plan, including Halt Work Provisions

An inadvertent discovery plan for cultural resources and human remains shall be prepared prior to and implemented during Project construction. The inadvertent discovery plan shall be prepared by a qualified archaeologist (i.e., an archaeologist that meets the Secretary of the Interiors Standards and Guidelines for Professional Qualifications in Archaeology). The inadvertent discovery plan shall address, at a minimum, archaeological and Washoe Tribal monitoring of Project construction activities, protocols to be implemented in case of an inadvertent discovery of cultural resources and/or human remains and reporting the results of monitoring and/or the treatment of any inadvertently discovered cultural resources and/or human remains.

More specifically, all equipment operators shall be advised of the possibility of encountering cultural resources. If such resources are encountered or suspected, work shall be halted immediately within 200 feet of the suspected resource and the Nevada County Planning Department shall be contacted. A professional archaeologist shall be retained by SYRCL and consulted to access any discoveries and develop appropriate management recommendations for archaeological resource treatment. If bone material is encountered, it must be determined if they are faunal or human. An expert in bone identification, i.e., a forensic anthropologist, will be contacted and consulted with to determine the nature of the bone. If the bone is human, or the nature of the find indicates a possible grave, California Law requires that the Nevada County Coroner and the Native American Heritage Commission be contacted and, if Native American resources are involved, Native American organizations and individuals recognized by the County shall be notified and consulted about any plans for treatment. In this case as the land is Federally managed land under the USDA, Forest Service, Tahoe National Forest, the Heritage Program Manager for the Tahoe National Forest will be contacted immediately as well as the Tribal Historic Preservation Officer for the Washoe Tribe of Nevada and California.

Mitigation Measure CUL-2 Implementation

Responsible Party: Nevada County

Timing: Plan completion prior to construction. Plan implementation prior to and during construction.

Reporting: As needed, if cultural resources found

Standards of Success: The identification of and prevention of any impacts to known or inadvertently discovered cultural resources and/or human remains during Project construction.

3.6 Geology and Soils

3.6.1 REGULATORY SETTING

3.6.1.1 Federal

Clean Water Act

The CWA (33 USC 1344) focuses primarily on waters of the U.S. and is further described in Section 3.4 (Biological Resources) and Section 3.8 (Hydrology and Water Quality). However, the CWA also focuses on sediment control in two aspects. First, the USACE administers Section 404, which regulates the discharge of fill into waters of the U.S. Second, Section 401 and Section 402 of the CWA apply to non-point source discharges, where erosion control is an integral part of achieving permit compliance.

Earthquake Hazards Reduction Act of 1977

The Earthquake Hazards Reduction Act of 1977 established the National Earthquake Hazards Reduction Program (NEHRP), which includes multiple agencies and partners working together "to reduce the risks of life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards reduction program." The four principal goals of the NEHRP are (FEMA 2021):

- Develop effective practices and policies for earthquake loss reduction and accelerate their implementation;
- Improve techniques for reducing earthquake vulnerabilities of facilities and systems;
- Improve earthquake hazards identification and risk assessment methods, and their use; and
- Improve the understanding of earthquakes and their effects.

Many of the tools used to assess, as well as mitigate, earthquake hazards and impacts were developed under the NEHRP (FEMA 2021).

3.6.1.2 State

Alquist-Priolo Zoning Act

The Alquist-Priolo Zoning Act, PRC Section 2621.9, requires the mapping of zones around active faults in California, in an effort to prohibit the construction of structures for human occupancy on active faults and minimize damage due to rupture of a fault (CLI 2021). Active faults are those that have ruptured within the past 11,000 years. Where the act identifies an Earthquake Fault Zone, a geologic investigation and report is necessary to prevent siting of buildings on active fault traces (DOC 2021).

Seismic Hazard Mapping Act

The Seismic Hazard Mapping Act (SHMA), PRC, Chapter 7.8, Section 2690-2699.6) was passed in 1989 by legislature following the Loma Prieta Earthquake, which occurred along the San Andreas fault approximately 56 miles south of San Francisco. The purposed of the SHMA is to reduce the threat to public safety and to minimize the loss of life and property by identifying and mitigating these seismic hazards (DOC 2019). It is intended to delineate zones where earthquakes could cause hazardous ground shaking and ground failure, including liquefaction and landslides. Local cities and counties within these zones then use this information for planning and controlling construction and development in order to minimize loss associated with these seismic hazards (DOC 2019).

3.6.1.3 Local

Nevada County General Plan

The following goals and policies from Chapter 12 Soils of the Nevada County General Plan are relevant to the proposed Project (Nevada County 1995). Those goals and policies that directly pertain to the proposed Project are discussed in the impact analysis below.

Goal 12.1 Minimize adverse impacts of grading activities, loss of soils and soil productivity.

> **Objective 12.1** Minimize earth movement and disturbance.
>
> **Policy 12.2.** Enforce Grading Ordinance requirements for grading or vegetation removal not associated with a development project. Exempted from this requirement are actions necessary for evaluation of soils and other environmental characteristics, and for control of fire fuels, and for agricultural and timber production.

Nevada County Land Use and Development Code

The Nevada County Land Use and Development Code, Section L-V 13.14 (Erosion Control), sets forth rules and regulations to control excavation, grading, and earthwork construction; describes measures for minimizing water quality impacts from stormwater runoff; and provides requirements for preparation of sediment and erosion control plans

3.6.2 ENVIRONMENTAL SETTING

3.6.2.1 General Geologic Setting

The proposed Project is characterized by a gently sloping Sierra meadow and surrounding mountainous region typical of the Sierra Nevada Mountain Range. The proposed Project site ranges from approximately 5,985 feet to 6,191 feet in elevation above msl, depending on the location within the meadow. Available geologic and soils mapping and site observations by Balance Hydrologics, Inc., indicate that the Van Norden lakebed area is composed of alluvium, with glacial deposits along the margin of the valley (Balance Hydrologics 2014). The geologic map for the region indicates that the

primary geological resources consist of Miocene and Pliocene volcanic rocks as well as Cretaceous granitics. Bedrock of the upper watershed and presumably underlying the meadow is Tertiary in age and composed of erodible pyroclastic volcanic deposits like tuff, welded tuff, ash layers, and more cohesive andesite and basalt overlying Cretaceous granitic basement rock. Following glaciation, Van Norden Meadow experienced a number of glaciations over the past several hundred thousand years, with extensive ice sheets covering the valley and lowering nearby peaks (Balance Hydrologics 2014).

It is likely that proglacial (during glaciation) and transient post-glacial lakes occupied the valley bottom prior to sedimentation and meadow development during the Holocene. The meadow surface is mapped as aquolls/borolls, poorly drained soils that have developed as a result of shallow groundwater and regularly or continuously saturated conditions. Valley margin soils have developed on glacial deposits. Mapped as Tallac-Cryumbrepts, wet complex, they tend to consist of fairly well-drained sandy and gravelly loam (Hanes 2002). Soil types found on the meadow surface as well as the adjacent hillslopes are listed as erodible or highly erodible (Balance Hydrologics 2014).

3.6.2.2 Earthquake Potential

Placer and Nevada Counties are classified as a low-severity earthquake zone and contains relatively inactive faults. Generally, in the Sierra Nevada Range, there is relatively shallow weathered material underlain by dense bedrock, which lessens the seismic risk. Igneous and metamorphic bedrock provide the least amount of seismic hazard due to ground shaking (Placer County 2018). The Dog Valley Fault is a Quaternary fault and is the closest fault to the proposed Project area, approximately 6.5 miles to the northeast. Historic displacement has occurred along this fault within the past 200 years (DOC 2015). The Polaris Fault is also located approximately 12 miles to the east of the proposed Project area. This fault is classified as a Holocene fault, meaning displacement has occurred in the past 11,700 years (DOC 2015). The Honey Lake Fault Zone, located approximately 60 miles to the north of the Project site, is the nearest principal fault identified and mapped pursuant to the Alquist-Priolo Earthquake Zoning Act (DOC 2015).

3.6.2.3 Soil Characteristics

According to the USDA Natural Resource Conservation Service (NRCS) Soil Survey, the proposed Project area consists of Aquolls, Borolls, and Tallac-Cryumbrepts soils (NRCS 2019). Aquolls soils are shallow to moderately deep, poorly drained soils along valley floors with frequent ponding and slow runoff. Borolls soils are similar, shallow to moderately deep, poorly drained, with slow runoff and a low water capacity. These soils are usually developed as a result of shallow groundwater and regularly or continuously saturated conditions (USDA 1994). Tallac-Cryumbrepts soils typically consist of fairly well-drained sandy and gravelly loam (NRCS 2019; Balance Hydrologics 2014). Soils in the adjacent hillslopes are listed as erodible or highly erodible (Balance Hydrologics 2014).

3.6.2.4 Liquefaction Potential

Liquefaction, a process in which the soil behaves like a liquid, can damage buildings, roads, and pipelines through loss of structural support capabilities and uneven settlement of the soil. Recently saturated loose, granular sediment and strong ground shaking are requirements for liquefaction to occur (USGS 2021).

The ground shaking potential and poorly drained soils of the proposed Project area could result in some potential for liquefaction.

3.6.2.5 Landslide Potential

The risk of landslides in Nevada and Placer Counties is generally low, and moderate at worst, due to the prevalence of igneous and metamorphic bedrock overlain by relatively shallow cohesive soils. Most soils within eastern Nevada and Placer Counties are underlain with dense bedrock, resulting in “low risk” landslide ratings (Nevada County 2016). Additionally, the Project site is located in a meadow region characterized by relatively flat topography that is not consistent with landslides.

3.6.2.6 Paleontological Resources

Significant nonrenewable vertebrate and invertebrate fossils and unique geologic units have been documented throughout California. The fossil-yielding potential of an area is highly dependent on the geologic age and origin of the underlying rocks. Paleontological potential refers to the likelihood that a rock unit will yield a unique or significant paleontological resource. All sedimentary rocks, some volcanic rocks, and some low-grade metamorphic rocks have potential to yield paleontological resources. Depending on the location, the paleontological potential of subsurface materials generally increases with depth beneath the surface, as well as with proximity to known fossiliferous deposits.

Pleistocene or older (older than 11,000 years) continental sedimentary deposits have a high paleontological potential while Holocene-age deposits (less than 10,000 years old) have a low paleontological potential, because they are geologically immature and are unlikely to have fossilized the remains of organisms. Metamorphic and igneous rocks have a low paleontological potential, either because they formed beneath surface area (such as granite), or because they have been altered under high heat and pressures, chaotically mixed or severely fractured. Generally, the processes that form igneous and metamorphic rocks too destructive to preserve identifiable fossil remains.

Prior to 40,000 years ago, Pleistocene trunk glaciers flowed down Donner Pass into the Truckee River Basin on the east and the South Yuba River drainage on the west, sculpting the terrain into its present form. Holocene glaciation within the past 10,000 years was limited to the advance of small cirque glaciers along the Sierran crest. Moraines and glacial outwash are remnants of these events. Large granitic outcrops occur along the valley margin and were targeted as prehistoric bedrock mills (Lindstrom 2014). A Nevada County search of the University of California Museum of Paleontology’s database was conducted on March 22, 2018 for the Van Norden Dam Spillway Modification Project (Nevada County, 2019). Records of paleontological finds maintained by the University of California Berkeley Museum of Paleontology (UCMP 2018) state that there are 62 localities at which fossil remains have been found in Nevada County (UCMP 2018).

3.6.3 IMPACT ANALYSIS

VI. GEOLOGY AND SOILS Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	—	—	**X**	—
ii) Strong seismic ground shaking?	—	—	**X**	—
iii) Seismic-related ground failure, including liquefaction?	—	—	**X**	—
iv) Landslides?	—	—	**X**	—
b) Result in substantial soil erosion or the loss of topsoil?	—	**X**	—	—
c) Be located on 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?	—	—	**X**	—
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code, creating substantial risks to life or property?	—	—	—	**X**
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?	—	—	—	**X**
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	—	**X**	—	—

a) Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

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

Finding: Less than Significant

The proposed Project area is not located in a fault zone delineated on the California Geological Survey, Alquist-Priolo Earthquake Fault Zoning Map (DOC 2015). While there has been historic movement near the Dog Valley Fault, the nearest active fault, the Honey Lake Fault, is approximately 60 miles north of the proposed Project area. The proposed Project does not include construction of structures for human occupancy, rather the only structures are low elevation, likely wooden viewing platforms, trails, and small drainage crossings. Therefore, given the distance to the nearest active fault and general lack of human occupancy structures, the proposed Project would not subject people or structures to adverse effects due to rupture of a known fault. Therefore, impacts are considered less than significant.

ii) Strong seismic ground shaking.

Finding: Less than Significant

Nevada and Placer Counties are classified as low-severity earthquake zone and contain relatively inactive faults with a range of faults including quaternary (displacement during the last 1.8 million years), late Quaternary (displacement during the last 700,000 years) and Holocene (displacement during the last 11,700 years) faults. The Dog Valley Fault, located approximately 6.5 miles to the northeast of the proposed Project area, has experienced historic displacement within the last 200 years near the proposed Project area (DOC 2015). The low severity zone designation and relative inactivity of the faults within the area, combined with the fact that the proposed Project is in an open undeveloped valley indicates there is a limited potential to expose people or structures to substantial adverse effects, including the risk of loss, injury, or death, resulting from strong seismic ground shaking. Therefore, the potential for impact is considered less than significant.

iii) Seismic related ground failure, including liquefaction.

Finding: Less than Significant

As discussed in the seismic ground shaking discussion above as well as the environmental setting, the proposed Project area would be only mildly susceptible to ground shaking due to the proximity of the Dog Valley Fault and the proposed Project's location within a low severity earthquake zone. The potential for ground failure resulting from events such as liquefaction is possible when the ground shaking potential is combined with the poorly drained soils located within the meadow. While the ground shaking potential and poorly drained soils of the proposed Project area result in some potential for liquefaction, there would be no manmade structures built within the proposed Project area. Currently, the Project area is not open for public use and public use within the proposed Project area would continue to be limited during Project construction. Therefore, the potential to expose people or structures to substantial adverse effects, including the risk of loss, injury, or death involving seismic related ground failure, including liquefaction, is considered less than significant.

iv) Landslides

Finding: Less than Significant

Soils underlying the proposed Project area are mostly characterized as Aquolls and Borolls soils (0 to 5 percent slopes). These soils are generally not susceptible to landslides due to the relatively flat nature of

the soils. Geology in the proposed Project area is generally characterized by Miocene-Pliocene volcanic rocks (USDA 1994). Overall, the Project area is located within a meadow system with flat topography and gentle slopes. Additionally, no structures for residential purposes or public gathering places would be included as part of the proposed Project. According to the NRCS Web Soil Survey, the proposed Project area is not located in an area that is prone to landslides. Due to the characteristics of the underlying geology, soils, and the fact that no structures for habitation or public gatherings are proposed for construction, the proposed Project will result in no impacts related to landslides and impacts would be less than significant.

b) Would the Project result in substantial soil erosion or the loss of topsoil?

Finding: Less than Significant with Mitigation Incorporated

The construction activities associated with the proposed Project such as partially filling or placing BDA/PALS along the South Yuba River, Lytton Creek, and Castle Creek allowing for hydrologic connectivity with existing distributary channel network has the potential to remove topsoil and increase erosion in the area. Temporary diversion construction activities would minimize downstream turbidity according to the SWPPP as well as a post-Project erosion control/site stabilization plan will be developed and implemented, to at a minimum include where necessary downstream siltation structures and sump stations placed to control sediment and provide for clear discharge out of the project area during implementation. MM GEO-1, Sedimentation and Erosion Control Measures, would be implemented in order to reduce erosion and loss of topsoil from construction activities and would include BMPs such as measures to trap sediment and prevent soil erosion or transport to nearby surface water courses to ensure potential impacts are less than significant. An erosion control plan shall be implemented and inspected accordingly throughout the construction process. The erosion control plan would also include measures for restoring and stabilizing the Project area after construction to minimize and control erosion after completion of the proposed Project. The implementation of the erosion control plan, along with the BMPs, would minimize any substantial soil erosion or loss of topsoil, reducing impacts to a less than significant level with the incorporation of mitigation.

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?

Finding: Less than Significant

The proposed Project is located in the Sierra Nevada Range on mostly Aquolls and Borolls soils (0 to 5 percent slopes) and Tallac-Cryumbrepts soils (2 to 30 percent slopes) underlain by dense bedrock, which lessens the seismic risk. Igneous and metamorphic bedrock provide the least amount of seismic hazard due to ground shaking. These soils, as well as the bedrock, are inherently stable, generally not susceptible to landslide or lateral spreading, and are not likely susceptible to subsidence or liquefaction (USDA 1994). As a result, hazard potentials related to seismic ground failure, including liquefaction are considered low, and therefore, impacts are considered to be less than significant.

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

Finding: No Impact

The proposed Project does not involve the construction of structures for human habitation or for public gathering places; rather structures will be limited to a small low elevation viewing platform, trails, and potential drainage crossings. Therefore, development of the proposed Project would not create substantial risks to life or property related to expansive soils and as such, no impact would result from development of the proposed Project.

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?

Finding: No Impact

Development of the proposed Project would not involve the use of septic tanks or alternative wastewater disposal systems. Rather, trailheads may include the installation of porta-potties or vaulted toilets. As such, no impact to wastewater disposal systems would result from the proposed Project's development.

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

Geologic and soil conditions in the region are characterized by deep granitic bedrock with typically shallow surface soils. The project area is generally underlain with sedimentary rock formations of a type that is not anticipated to contain fossils. Past glacial movement in the area has resulted in significant movement and disturbance of rock and soil, further minimizing the potential for fossils to be present. Significant unique paleontological resources or sites are not likely or expected to occur within the project area; therefore, no impact to unique paleontological resources or sites would occur.

3.6.4 MITIGATION MEASURES

3.6.4.1 Mitigation Measure GEO-1: Sedimentation and Erosion Control Measures

SYRCL and their contractor shall prepare and implement an erosion control plan to ensure erosion and sedimentation from the Project is kept to a minimum. The standard erosion and sediment control BMPs shall be used during and after construction to control accelerated soil erosion and sedimentation.

Construction activities shall occur when meadows are dry and the stream channels are at minimum flow, and proposed Project shall be timed to avoid the period of highest rainfall, streamflow, and erosion potential. However, if an unexpected rainfall event were to occur during construction, construction shall be shut down until the streamflow is sufficiently low and soil/channel conditions are sufficiently dry and stable. Erosion and sediment control BMPs shall be applied to all disturbed ground during temporary construction delays caused by such weather events. Examples of BMPs to be included during a rainfall event include placement of readily available mulch materials and/or imported mulch materials to protect

any disturbed areas from rainfall, placement of tarps to cover exposed soil, and the placement of straw wattles, silt fences, and/or hay bales to reduce runoff velocity and intercept sediment.

The revegetation of all graded and disturbed areas of bare soil shall be completed within three months of proposed Project completion or prior to the rainy season. Native materials (i.e., seed, plugs, pine needles, rocks, and woody debris) consistent with MM BIO-2 shall be used to replicate the naturally occurring vegetation.

Mitigation Measure GEO-1 Implementation

- **Responsible Party:** SYRCL shall require the contractor to develop and implement an erosion control plan as well as to revegetate the Project area
- **Timing:** During and immediately after construction activities.
- **Monitoring and Reporting Program:** During Project construction, SYRCL shall monitor implementation of the erosion and sediment control measures. Upon completion of the erosion control plan, copy of the plan shall be on site during Project activities as well as submitted to Nevada County as a file copy.
- **Standards of Success:** Minimize on- and off-site erosion and prevent introduction of significant amounts of sediment into any stream or drainage.

3.7 Greenhouse Gasses and Energy

3.7.1 REGULATORY SETTING

3.7.1.1 State

In the absence of federal regulations, control of GHGs is generally regulated at the state level and is typically approached by setting emission reduction targets for existing sources of GHGs, setting policies to promote renewable energy and increase energy efficiency, and developing statewide action plans.

California has adopted statewide legislation addressing various aspects of climate change and GHG emissions mitigation. Much of this legislation establishes a broad framework for the state's long-term GHG reduction and climate change adaptation program. The governor has also issued several executive orders (EOs) related to the state's evolving climate change policy. Of particular importance are the following:

Executive Order S-3-05

On June 1, 2005, former California Governor Arnold Schwarzenegger announced EO S-3-05, which announced the following reduction targets for GHG emissions:

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

The 2050 reduction goal represents what some scientists believe is necessary to reach levels that would stabilize the climate. The 2020 goal was established to be a mid-term target. Because this is an EO, the goals are not legally enforceable for local governments or the private sector.

Assembly Bill 32

The California State Legislature enacted Assembly Bill (AB) 32, the California Global Warming Solutions Act of 2006. AB 32 requires that GHGs emitted in California be reduced to 1990 levels by the year 2020. "Greenhouse gases" as defined under AB 32 include CO2, methane (CH4), nitrogen oxides (NOX), hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Since AB 32 was enacted, a seventh chemical, nitrogen trifluoride, has also been added to the list of GHGs. CARB is the state agency charged with monitoring and regulating sources of GHGs. AB 32 states the following:

> *Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.*

CARB approved the 1990 GHG emissions level of 427 MMTCO2e on December 6, 2007 (CARB 2007). Therefore, to meet the state's target, emissions generated in California in 2020 are required to be equal to or less than 427 MMTCO2e. In order to set a framework for the state to meet this target, CARB was tasked with creating a Scoping Plan (as described below). California announced in July 2018 that the state emitted 429 MMTCO2e in 2016 and achieved AB 32 goals.

Senate Bill 32

Senate Bill (SB) 32 was signed into law on September 8, 2016. SB 32 gives CARB the statutory responsibility to include the 2030 target previously contained in EO B-30-15 in the 2017 Scoping Plan Update. SB 32 states that "In adopting rules and regulations to achieve the maximum technologically feasible and cost-effective greenhouse gas emissions reductions authorized by this division, the state [air resources] board shall ensure that statewide greenhouse gas emissions are reduced to at least 40 percent below the statewide greenhouse gas emissions limit no later than December 31, 2030."

Executive Order B-30-15

On April 29, 2015, Governor Edmund G. Brown Jr. issued EO B-30-15 to establish a California GHG reduction target of 40 percent below 1990 levels by 2030. The Governor's EO aligns California's GHG reduction targets with those of leading international governments ahead of the United Nations Climate Change Conference in Paris in late 2015. The EO sets a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure that California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050, and directs CARB to update the Climate Change Scoping Plan to express the 2030 target in terms of MMTCO2e. The EO also requires the state's climate adaptation plan to be updated every 3 years and for the state to continue its climate change research program, among other provisions. As with EO S-3-05, this EO is not legally enforceable against local governments and the private sector. Legislation that would update AB 32 to provide post-2020 targets was signed by the Governor in 2016. SB 32 includes a 2030 mandate matching the requirements of the EO.

Climate Change Scoping Plan

In December 2008, CARB approved the AB 32 Scoping Plan outlining the state's strategy to achieve the 2020 GHG emissions limit. The Scoping Plan estimates a reduction of 174 MMTCO2e (about 191 million U.S. tons) from the transportation, energy, agriculture, forestry, and high climate-change-potential sectors, and proposes a comprehensive set of actions designed to reduce overall GHG emissions in California, improve the environment, reduce dependence on oil, diversify California's energy sources, save energy, create new jobs, and enhance public health. The Scoping Plan must be updated every 5 years to evaluate the implementation of AB 32 policies to ensure that California is on track to achieve the 2020 GHG reduction goal. The First Update to the Climate Change Scoping Plan was approved by the CARB on May 22, 2014. In 2016, the Legislature passed SB 32, which codified a 2030 GHG emissions reduction target of 40 percent below 1990 levels. With SB 32, the Legislature passed companion legislation AB 197, which provides additional direction for developing the Scoping Plan. On December 14, 2017, the CARB approved the Second Update to the Climate Change Scoping Plan, the 2017 Climate

Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target (CARB 2018). The 2017 Scoping Plan identified key sectors of the implementation strategy, which includes improvements in low carbon energy, industry, transportation sustainability, natural and working lands, waste management, and water. Through a combination of data synthesis and modeling, CARB determined that the target statewide 2030 emissions limit is 260 MMTCO2e, and that further commitments will need to be made to achieve an additional reduction of 50 MMTCO2e beyond current policies and programs. Key elements of the 2017 Update include a proposed 20 percent reduction in GHG emissions from refineries and an expansion of the Cap-and-Trade program to meet the aggressive 2030 GHG emissions goal.

Assembly Bill 398

The Governor signed AB 398 on July 25, 2017, to extend the Cap-and-Trade Program to 2030.The legislation includes provisions to ensure that offsets used by sources are limited to 4 percent of their compliance obligation from 2021 to 2025 and 6 percent of their compliance obligation from 2026 through 2030. AB 398 also prevents air districts from adopting or implementing emission reduction rules from stationary sources that are also subject to the Cap-and-Trade Program (CARB 2017).

Executive Order S-01-07: Low Carbon Fuel Standard

The governor signed EO S 01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the EO established a Low Carbon Fuel Standard (LCFS) and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, CARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by California Energy Commission on December 24, 2007) and was submitted to CARB for consideration as an "early action" item under AB 32. CARB adopted the Low Carbon Fuel Standard on April 23, 2009.

The LCFS was subject to legal challenge in 2011. Ultimately, CARB was required to bring a new LCFS regulation for consideration in February 2015. The proposed LCFS regulation was required to contain revisions to the 2010 LCFS as well as new provisions designed to foster investments in the production of the low-carbon fuels, offer additional flexibility to regulated parties, update critical technical information, simplify and streamline program operations, and enhance enforcement. The Office of Administrative Law approved the regulation on November 16, 2015. The regulation was last amended in 2018.

Executive Order S-13-08

EO S-13-08 states that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the EO, the 2009 California Climate Adaptation Strategy was adopted, which is the "… first statewide, multi-sector, region-specific, and information-based climate change

adaptation strategy in the United States." Objectives include analyzing risks of climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Executive Order B-55-18

EO B-55-18 issued by Governor Brown on September 10, 2018, establishes a new statewide goal to achieve carbon neutrality as soon as possible, but no later than 2045, and to achieve and maintain net negative emissions thereafter. The EO directs CARB to work with relevant state agencies to develop a framework for implementation and accounting that tracks progress toward this goal.

Senate Bill 1078: Renewable Electricity Standards

On September 12, 2002, Governor Gray Davis signed SB 1078, requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed EO S-14-08, which established an RPS target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Governor Schwarzenegger signed EO S-21-09, which directed CARB to adopt a regulation by July 31, 2010, requiring the state's load serving entities to meet a 33 percent renewable energy target by 2020. CARB approved the Renewable Electricity Standard on September 23, 2010, by Resolution 10-23. In 2011, the State Legislature adopted this higher standard in SB X1-2. Renewable sources of electricity include wind, small hydropower, solar, geothermal, biomass, and biogas.

Senate Bill 350: Clean Energy and Pollution Reduction Act of 2015

The legislature approved and the governor then signed SB 350 on October 7, 2015, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the RPS, higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations.

Senate Bill 100: California Renewables Portfolio Standard Program.

The Governor approved SB 100 on September 10, 2018. The legislation revised the RPS goals to achieve the 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. The bill would require that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024; 52 percent by December 31, 2027; and 60 percent by December 31, 2030.

3.7.1.2 Local

Nevada County Air Quality Management District and Placer County Air Pollution Control District

Although the NSAQMD has not established a significance threshold for GHG emissions, the PCAPCD has developed a bright-line threshold of 10,000 MT of CO_2e per year for construction projects (PCAPCD 2017). According to the PCAPCD CEQA Air Quality Handbook (Updated November 21, 2017), the PCAPCD considered the following factors in developing the GHG significance thresholds:

- The significance thresholds adopted by the other air districts
- The CEQA projects reviewed by the PCAPCD over the last 13 years
- The applicable statewide regulatory requirements required by 2030
- The special geographic features in placer county

The Bright-line threshold is the point at which a project would be deemed to have a cumulatively considerable contribution to global climate change.

Nevada County Energy Action Plan

The Nevada County Energy Action Plan (EAP) was adopted in 2019. The EAP provides an analysis of the energy use within the unincorporated county limits and develops a strategy for accelerating energy efficiency, water efficiency, and renewable energy efforts already underway in Nevada County.

Placer County Sustainability Plan

The Placer County Sustainability Plan demonstrates the County's leadership and commitment to reduce GHG emissions and enhance community resiliency to long-term changes associated with climate-related hazards.

3.7.2 ENVIRONMENTAL SETTING

Many chemical compounds found in the Earth's atmosphere act as GHGs, which allow sunlight to enter the atmosphere freely. When sunlight strikes the Earth's surface, some of it is reflected back towards space as infrared radiation (heat). GHGs absorb this infrared radiation and trap the heat in the atmosphere. Over time, the amount of energy sent from the sun to the Earth's surface should be about the same as the amount of energy radiated back into space, leaving the temperature of the Earth's surface roughly constant. Many gases exhibit these "greenhouse" properties. Some of them occur in nature (water vapor, carbon dioxide, methane, and nitrous oxide), while others are exclusively human-made (like gases used for aerosols).

The principal climate change gases resulting from human activity that enter and accumulate in the atmosphere are listed below:

- Carbon Dioxide (CO_2): CO_2 enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and chemical reactions (e.g., the

manufacture of cement). CO_2 is also removed from the atmosphere (or "sequestered") when it is absorbed by plants as part of the biological carbon cycle.

- Methane (CH_4): CH_4 is emitted during the production and transport of coal, natural gas, and oil. CH_4 emissions also result from livestock and agricultural practices and the decay of organic waste in municipal solid waste landfills.
- Nitrous Oxide (N_2O): N_2O is emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.
- Fluorinated Gases: HFCs, PFCs, and SF_6 are synthetic, powerful climate-change gases that are emitted from a variety of industrial processes. Fluorinated gases are often used as substitutes for ozone-depleting substances (i.e., chlorofluorocarbons, hydrochloro fluorocarbons, and halons). These gases are typically emitted in smaller quantities, but because they are potent climate-change gases, they are sometimes referred to as high Global Warming Potential (GWP) gases.

3.7.2.1 Sources of Greenhouse Gas Emissions

On a global scale, GHG emissions are predominantly associated with activities related to energy production; changes in land use, such as deforestation and land clearing; industrial sources; agricultural activities; transportation; waste and wastewater generation; and commercial and residential land uses. World-wide, energy production including the burning of coal, natural gas, and oil for electricity and heat is the largest single source of global GHG emissions.

In 2019, GHG emissions within California totaled 418.1 million metric tons (MMT) of CO_2e. Within California, the transportation sector is the largest contributor, accounting for approximately 41% of the total statewide GHG emissions. Emissions associated with industrial uses are the second largest contributor, totaling roughly 24%. Electricity generation totaled roughly 14%. Residential, commercial, and agricultural/forestry made up the approximately 8%, 6%, and 8% of the remaining GHG emissions. (CARB 2021).

3.7.2.2 Potential Climate Change Effects

There are uncertainties as to exactly what the climate changes will be in various local areas of the earth. There are also uncertainties associated with the magnitude and timing of other consequences of a warmer planet: sea level rise, spread of certain diseases out of their usual geographic range, the effect on agricultural production, water supply, sustainability of ecosystems, increased strength and frequency of storms, extreme heat events, increased air pollution episodes, and the consequence of these effects on the economy.

Within California, climate changes would likely alter the ecological characteristics of many ecosystems throughout the state. Such alterations would likely include increases in surface temperatures and changes in the form, timing, and intensity of precipitation. For instance, historical records are depicting an increasing trend toward earlier snowmelt in the Sierra Nevada. This snowpack is a principal supply of water for the state, providing roughly 50% of state's annual runoff. If this trend continues, some areas of

the state may experience an increased danger of floods during the winter months and possible exhaustion of the snowpack during spring and summer months. An earlier snowmelt would also impact the state's energy resources. An early exhaustion of the Sierra snowpack may force electricity producers to switch to more costly or non-renewable forms of electricity generation during spring and summer months. A changing climate may also impact agricultural crop yields, coastal structures, and biodiversity. As a result, resultant changes in climate will likely have detrimental effects on some of California's largest industries, including agriculture, wine, tourism, skiing, recreational and commercial fishing, and forestry.

3.7.3 IMPACT ANALYSIS

VII. GREENHOUSE GAS EMISSIONS and ENERGY **Would the Project:**	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less than Significant Impact**	**No Impact**
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	—	—	X	—
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	—	—	X	—
c) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	—	—	X	—
d) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	—	—	X	—

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

Finding: Less than Significant

The proposed Project could contribute to climate change impacts through its contribution of GHGs. The proposed Project would generate a variety of GHGs during construction, including several defined by AB 32, such as CO_2, CH_4, and N_2O from the exhaust of equipment and the exhaust of construction hauling trips and worker commuter trips. The NSAQMD has not established GHG significance thresholds; however, the PCAPCD has defined thresholds for GHGs which are discussed in regulatory setting above (Section 3.7.1). This threshold is 10,000 MT of CO_2e/yr and is consistent with SB 32, which requires a 40 percent reduction below the statewide GHG emissions limit by 2030.

Construction emissions were computed for the Project using the CalEEMod model. The primary sources of proposed Project-related GHG emissions are anticipated to be combustion of fossil fuels from the operation of internal combustion engines used during Project construction (portable equipment, off road equipment, and vehicles). As shown in Table 3-3, the predicted proposed Project emissions are well below the PCAPCD bright-line significance thresholds. It is not anticipated that the proposed Project

would generate GHG emissions levels that either directly or indirectly have significant impacts on the environment due to the low Project CO_{2e} emission estimates. Therefore, since the total Project CO_{2e} emission estimates would be well below the PCAPCD thresholds, potential GHG emission impacts would be considered less than significant.

Table 3-3. CalEEMod Predicted CO_2e Emissions Estimates

Emissions Estimates	Metric tons/year
Total Construction Source CO_{2e} Emission Estimates (metric tons/year unmitigated)	887
PCAPCD Brightline GHG Construction Thresholds	10,000

Regarding operational emissions, recently published research on carbon sequestration in Sierra Nevada meadows reports that, on average, good condition meadows can store 26.2 kg m-2yr-1of carbon compared to 18.8kg m-2 yr-1 in meadows that are in some state of degradation (Reed *et al.* 2020). A limited study of the carbon stocks in Van Norden reported carbon storage is within the range of other degraded meadows. Therefore, it is anticipated that, as a result of restoration efforts, the carbon stocks in Van Norden meadow will nearly double in the years to decades after the restoration project is complete. Van Norden Meadow is ten times larger than the average size of meadows in the Sierra Nevada, and therefore the magnitude of the carbon sequestration benefit as a result of restoration will be considerably larger.

The proposed Project also includes conifer removal and thinning activities leading to a reduction in carbon sequestration potential from the surrounding forest. However, the majority of material generated from conifer removal will be incorporated into fill material for stream restoration activities or kept on-site via chipping and mastication, thereby maintaining a portion of the carbon sequestration potential. According to a study completed in 2020, one acre of restored, healthy montane meadow can sequester as much carbon as six acres of surrounding forest (Reed *et al*. 2020). Therefore, the increase in carbon stocks from the 485 acres of restored meadow are anticipated to greatly outweigh the reduction from the thinning and limited removal efforts within 120 acres of conifer forest. Therefore, operational impacts would be considered 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?

Finding: Less than Significant

The proposed Project would have a significant impact if it were to conflict with applicable GHG reduction plans, policies, or regulations. In order to demonstrate consistency with applicable plans, policies, and regulations, the proposed project was compared to the Placer County Sustainability Plan and CARB's 2017 Scoping Plan.

The Placer County Sustainability Plan includes the restoration of Van Norden dam and meadow as a specific climate change adaptation strategy to reduce the potential of flooding, therefore the proposed

Project would be consistent with the Sustainability Plan. The 2017 scoping plan focuses attention on California's natural and working lands and the contribution they make to meet the State's goals for carbon sequestration, GHG reduction, and climate change adaptation. As discussed in GHG impact A, it is anticipated that the carbon stocks in Van Norden meadow will nearly double in the years to decades after the restoration project is complete. In addition, the project would be consistent with climate change adaptation measures by enhancing water storage and reducing downstream flooding potential. Therefore, the proposed Project would be consistent with both the Placer County Sustainability Plan and the 2017 Scoping Plan and impacts would be considered less than significant.

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

Finding: Less than Significant

The energy requirements for the proposed Project were determined using the construction and operational estimates generated from the Air Quality Analysis (refer to Appendix B). Short-term construction energy consumption is discussed below.

3.7.3.1 Off-Road Equipment

The proposed Project is anticipated to be constructed over three years with a construction season of 4.5 months during each year. Table 3-4 provides estimates of the proposed Project construction fuel consumption from off-road construction equipment.

Table 3-4. Construction Off-Road Fuel Consumption

Phase	Phase Description	Fuel Consumption (gallons)
Phase 1	Channel work in the meadow, berm decommissioning, grading, bridge demolition, bridge install, road improvements on the meadow bisect road, tree removal, beaver dam analog (BDA) building, and revegetation (e.g., sedge mats, willow staking and seeding)	38,919.30
Phase 2	Tree removal, road improvements on the county road, Lytton upstream channel work, BDA improvements	16,785.32
Phase 3	Continued tree work, trail work, boardwalks, restrooms, parking lots	17,359.11
Total		**73,063.72**

Source: Stantec Consulting Services Inc. 2022

As shown in Table 3-4, off-road construction activities associated with the proposed Project would be estimated to consume 73,063.72 gallons of diesel fuel.

3.7.3.2 On-Road Vehicles

On-road vehicles for construction workers, vendors, and haulers would require fuel for travel to and from the proposed Project site during construction. Total on-road fuel usage for the proposed Project would be 11,261 gallons, see Appendix B for the fuel usage calculations There are no unusual project characteristics that would necessitate the use of construction equipment that would be less energy-efficient than at comparable construction sites in other parts of the state. Therefore, it is expected that construction fuel consumption associated with the proposed Project would not be any more inefficient, wasteful, or unnecessary than at other construction sites in the region, therefore, impacts would be less than significant.

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

Finding: Less than Significant

Both the Nevada County EAP and the Placer County Sustainability Plan provide several renewable energy and energy reduction strategies. The majority of the reduction strategies presented in both the EAP and Sustainability Plan are only applicable to the operational phase of a project and therefore are not relevant to the proposed Project. Once constructed, the proposed Project would not use energy and therefore would not conflict with plans for renewable energy or energy efficiency. Impacts would be considered less than significant.

3.7.4 MITIGATION MEASURES

No mitigation is required.

3.8 Hazards and Hazardous Materials

3.8.1 REGULATORY SETTING

A hazardous material is defined by the California Environmental Protection Agency and the Department of Toxic Substances Control (DTSC) as a material that poses a significant present or potential hazard to human health and safety or the environment if released because of its quantity, concentration, or physical or chemical characteristics (26 CCR 25501). For the purposes of this analysis, hazardous materials include raw materials and material remaining on-site as a result of past activities. Applicable regulations and policies considered relevant to the proposed Project are summarized below.

3.8.1.1 Federal

The principal federal regulatory agency responsible for the safe use and handling of hazardous materials is the EPA. Two key federal regulations pertaining to hazardous wastes are described below. Other applicable federal regulations are contained primarily in CFR Titles 29, 40, and 49.

Resource Conservation and Recovery Act

The Resource Conservation and Recovery Act enables the EPA to administer a regulatory program that extends from the manufacture of hazardous materials to their disposal, thus regulating the generation, transport, treatment, storage, and disposal of hazardous waste at all facilities and sites in the nation (EPA 2021a).

Comprehensive Environmental Response, Compensation, and Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act, also known as Superfund, was passed to facilitate the cleanup of the nation's toxic waste sites. In 1986, the Superfund was amended through the Superfund Amendment and Reauthorization Act Title III (community right-to-know laws). Title III states that past and present owners of land contaminated with hazardous substances can be held liable for the entire cost of the cleanup, even if the material was dumped illegally when the property was under different ownership (EPA 2021b).

Toxic Substances Control Act

The Toxic Substances Control Act (15 USC 2601 et seq.) provides EPA with authority to require reporting, recordkeeping and testing, and restrictions related to chemical substances and/or mixtures. The Toxic Substances Control Act addresses the production, importation, use, and disposal of specific chemicals including polychlorinated biphenyls (PCBs), asbestos, radon, and lead-based paint.

Clean Air Act

Regulations under the Clean Air Act (42 USC 7401 et seq., as amended) are designed to prevent accidental releases of hazardous materials. The regulations require facilities that store a threshold

quantity or greater of listed regulated substances to develop a risk management plan that includes hazard assessments and response programs to prevent accidental releases of listed chemicals.

Occupational Safety and Health Administration Worker Safety Requirements

The U.S. Occupational Safety and Health Administration (OSHA) is responsible for ensuring worker safety. OSHA sets federal standards for implementation of workplace training, exposure limits, and safety procedures for handling hazardous substances and addressing other potential industrial hazards. OSHA also establishes criteria by which each state can implement its own health and safety program. The Hazard Communication Standard (CFR Title 29, Part 1910) requires that workers be informed of the hazards associated with the materials they handle. Workers must be trained in safe handling of hazardous materials, use of emergency response equipment, and building emergency response plans and procedures. Containers must be labeled appropriately, and material safety data sheets must be available in the workplace.

Hazardous Materials Transportation Act

The U.S. Department of Transportation (USDOT) has developed regulations in Titles 10 and 49 of the CFR pertaining to the transport of hazardous substances and hazardous wastes. The Hazardous Materials Transportation Act is administered by the Research and Special Programs Administration of the USDOT. The act provides the USDOT with a broad mandate to regulate the transport of hazardous materials, with the purpose of adequately protecting the nation against risk to life and property that is inherent in the commercial transportation of hazardous materials. USDOT regulations that govern the transportation of hazardous materials are applicable to any person who transports, ships, causes to be transported or shipped, or who is involved in any way with the manufacture or testing of hazardous materials packaging or containers

3.8.1.2 State

California regulations are equal to, or more stringent than, federal regulations. The EPA has granted the State of California primary oversight responsibility to administer and enforce hazardous waste management to ensure that hazardous wastes are handled, stored, and disposed of properly to reduce risks to human health and the environment. Several key laws pertaining to hazardous wastes are discussed below.

Hazardous Waste Control Act

The Hazardous Waste Control Act, passed in 1972, created the State hazardous waste management program, which is similar to, but more stringent than, the federal Resource Conservation and Recovery Act program (DTSC 2021a). The Act is implemented by regulations contained in Title 26 of the California Code of Regulations, which describes the following required aspects for the proper management of hazardous waste:

- Identification and classification;
- Generation and transport;

- Design and permitting of recycling, treatment, storage, and disposal facilities;
- Treatment standards;
- Operation of facilities and staff training; and
- Closure of facilities and liability requirements.

These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of them. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from the generator to the transporter to the ultimate disposal location.

Emergency Services Act

Under the Emergency Services Act, the State developed an emergency response plant to coordinate emergency services provided by Federal, State, and local agencies. Rapid response to incidents involving hazardous materials or hazardous waste is an important part of the plan, which is administered by the California Office of Emergency Services (OES). The office coordinates the responses of other agencies, including the EPA, the California Highway Patrol, RWQCBs, air quality management districts, and county disaster response offices (CLI 2021).

California Government Code Section 65962.5

The provisions of California Government Code Section 65962.5 are commonly referred to as the “Cortese List” (after the legislator who authored the law). The Cortese List is a planning document used by State and local agencies to comply with CEQA requirements in providing information about the location of hazardous materials release sites. Section 65962.5 requires Cal/EPA to develop an updated Cortese List at least annually. DTSC is responsible for a portion of the information contained in the Cortese List. Other State and local government agencies in California, such as the State Water Resources Control Board, also must provide additional release information.

Other Laws, Regulations, and Programs

Various other State regulations have been enacted that affect hazardous waste management, including:

- Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65), which requires labeling of a substance known or suspected by the State to cause cancer; and

State and Federal regulations also require that hazardous materials sites be identified and listed in public records. These lists are:

- Comprehensive Environmental Response, Compensation, and Liability Information System;
- National Priorities List for Uncontrolled Hazardous Waste Sites;
- Resource Conservation and Recovery Act;
- California Superfund List of Active Annual Workplan Sites; and
- Lists of State-registered underground and leaking underground storage tanks.

3.8.1.3 Local

Nevada County General Plan

The following goals and policies from the Safety Element related to hazards and hazardous materials are relevant to the proposed Project (Nevada County 2020). Those goals and policies that directly pertain to the proposed Project are discussed in the impact analysis below.

Goal EP 10.1. Provide a coordinated approach to hazard and disaster response preparedness.

> **Policy EP 10.1.2.** The Local Hazard Mitigation Plan (LHMP), adopted by the County and periodically reviewed and updated in accordance with the Federal Disaster Mitigation Act of 2000 and Government Code 65302.6, shall serve as the implementation program for the coordination of hazard planning and disaster response efforts within the County.
>
> The LHMP, which is incorporated into the General Plan's Safety Element by reference and includes mitigation strategies for wildland fire hazards, shall be reviewed, along with the County's mutual aid agreements and existing wildland fire-related codes and ordinances to address the hazards of development in the wildland urban interface annually, or as necessary, to ensure compliance with the Federal Disaster Mitigation Act of 2000 and State Fire Code, as it exists or as may be amended.
>
> **Policy EP 10.1.4.** Provide for adequate evacuation routes in areas of high fire hazard, high potential for dam failure, earthquake, seiches, avalanche, flooding, or other natural disaster.
>
> **Policy EP 10.1.6.** Transportation routes that are designated on the General Plan Land Use Maps as Interstates, freeways, highways, and other principal arterial routes shall be considered primary evacuation routes on a countywide basis. Such routes provide the highest levels of capacity and contiguity and serve as the primary means for egress from the County.
>
> The routes designated on the General Plan Land Use Maps as minor arterial or major collector routes shall be considered secondary evacuation routes on a countywide basis. These routes supplement the primary evacuation routes, and provide egress from local neighborhood and communities.

Goal HM 10.5. Protect public health, safety, natural resources, and property through the regulation of us storage, transport, and disposal of hazardous materials.

> **Policy HM 10.5-1.** Provide means for the identification, safe use, storage, transport, and disposal of hazardous materials.

Goal FP 10.7. Enhance fire safety and improve fire protection effectiveness through infrastructure service improvements.

> **Policy FP 10.7.1.** Ensure County-maintained roads meet design standards for current or anticipated uses, as designated on the General Plan Land Use Map. Maintain and update Nevada County road standards for both public and private roads to adequately address emergency ingress and egress.

Policy FP 10.7.2. As a condition of development, require long-term maintenance of private roads to meet current standards, including roadside vegetation management, as part of a formal private road association or similar entity.

Nevada County Local Hazard Mitigation Plan

The Nevada County Local Hazard Mitigation Plan (LHMP) outlines the potential hazards in Nevada County while also providing mitigation plans for reducing or eliminating long-term risks to people and property. This LHMP states that the greatest potential natural hazards in Nevada County include wildland fires and floods while the greatest human-caused potential hazard is the release of hazardous materials incidents (Nevada County 2016).

Nevada County Environmental Health Department

The Environmental Health Department for Nevada County is responsible for carrying out a diverse range of programs with environmental protection and public health as our focus. Environmental Health uses State of California Health and Safety Codes as guidance, as well as Nevada County codes when conducting plan review, inspections, and educational programs that will positively impact the public health of the citizens and visitors to Nevada County (Nevada County 2021).

Nevada County Emergency Operation Plan

Nevada County has an Emergency Operation Plan that provides guidelines for emergency response planning, preparation, training and execution throughout Nevada County. The plan provides guidance for the Emergency Services Organization as well as other County departments and agencies that allows those departments and agencies to develop internal plans and procedures for emergency response (Nevada County 2011).

Nevada County Land Use and Development Code

The Nevada County Land Use and Development Code, Section L-XVI 2.9, requires continued maintenance of properties to assure continued availability, access, and utilization of the defensible space provided for in these standards during a wildfire, provisions for continued annual maintenance shall be included in the development plans and/or shall be provided as a condition of the permit, parcel or map approval. In addition, Section L-XVI 5.2 requires disposal of flammable vegetation and fuels, including chipping, burying, burning or removal to a landfill site approved by the local jurisdiction, shall be completed prior to completion of construction or final inspection of a building permit.

3.8.2 ENVIRONMENTAL SETTING

For purposes of this section, the term “hazardous materials” refers to both hazardous substances and hazardous wastes. A “hazardous material” is defined in the CFR as “a substance or material that … is capable of posing an unreasonable risk to health, safety, and property when transported in commerce” (Title 49 CFR Section 171.8).

A search of potential hazardous materials databases was conducted for the proposed Project area. The Donner Summit Wastewater Treatment Facility located approximately 1.5 miles northwest of the proposed Project area is listed in the EPA's Envirofacts Web database as facility that reports to the EPA (EPA 2021c). This reporting requirement is related to the wastewater treatment facility's permit to discharge of treated effluent to the South Yuba River (RWQCB 2009). The Central Sierra Snow Lab (EnviroStor ID 80000519), a military evaluation site, is located approximately 1.9 miles to the northeast of the proposed Project area.; No hazards or further action are listed for the site (DTSC 2021b). According to the SWRCB GeoTracker, Sugar Bowl Fuel (T10000004242), a Leaking Underground Storage Tank (LUST) Cleanup Site, is located approximately 1.5 miles west of the proposed Project area and has a status of "Open – Eligible for Closure" as of October 14, 2020. This status means that corrective action at the site has been determined to be completed and any remaining petroleum constituents from the release are considered to be low threat to Human Health, Safety, and the Environment and is going through the process of being closed (SWRCB 2021). None of these sites are on the Hazardous Waste and Substances Site List (Cortese List) (DTSC 2021c). Other closed cases within close proximity to the proposed Project area include the following (SWRCB 2021):

- Snow Mountain (T0605700076) LUST Cleanup Site – closed June 29, 2020
- Vail Building (T0605700458) LUST Cleanup Site – closed August 14, 2015
- Union Pacific Railroad (SL0605702638) Cleanup Program Site – closed November 5, 2004
- Norden Railyard (T0605700009) LUST Cleanup Site – August 28, 2003
- Union Pacific Railroad – Norden Snowshed Spill (SL185622930) Cleanup Program Site – closed March 12, 2014.
- Union Pacific Railroad Norden Snow Shed (T10000005924) Cleanup Program Site – closed December 19, 2018.
- Union Pacific Railroad Norden Snow Shed (T10000003486) Cleanup Program Site – closed April 23, 2014.
- Streamborn (SLT5S2693307) Cleanup Program Site – closed June 20, 2017.
- Norden SP Railyard (T0605791909) LUST Cleanup Site – closed October 5, 2000.
- Sugar Bowl Resort – Manager's House (T0606100313) LUST Cleanup Site – closed June 13, 2000.

Schools and Airports

Donner Trail Elementary School is the closest school located approximately five miles west of the proposed Project area. The closest airport is the Tahoe-Truckee Airport located approximately 12 miles east of the proposed Project area.

Wildfire

The project area and area surrounding the project influence area are designated as very high fire zones by California Department of Forestry and Fire Protection (CAL FIRE 2007a, 2007b). Nevada County has adopted an Emergency Operation Plan to ensure that communities in Nevada County are prepared for natural and human caused disasters (Nevada County 2021).

3.8.3 IMPACT ANALYSIS

VIII. HAZARDS AND HAZARDOUS MATERIALS Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	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?	—	—	X	—
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?	—	X	—	—
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	—	—	—	X
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?	—	—	—	X
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?	—	—	—	X
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	—	—	X	—
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	—	X	—	—

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

Finding: Less than Significant

Temporary construction activities associated with the proposed Project would involve the transport and use of limited quantities of hazardous substances including gasoline, diesel fuel, hydraulic fluid, solvents, and oils. These chemicals would be brought to the proposed Project area, as well as transported along the roadways. Federal and State laws regulate the handling, storage, and transport of these and other hazardous materials, as well as the mechanisms to respond and clean up any spills along local and regional roadways. Chemicals present on site or used for the proposed Project would be handled in accordance with applicable Federal, State, and local regulations (including those laws mentioned in the

regulatory setting above) for hazardous substances. Therefore, the potential for impacts related to hazardous materials transport, use, or disposal would be considered less than significant.

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?

Finding: Less than Significant with Mitigation Incorporated

Temporary construction activities associated with the proposed Project would involve the transport and use of limited quantities of hazardous materials including gasoline, diesel fuel, hydraulic fluid, solvents, and oils. Chemicals present on site during Project construction would be handled by the contractor in accordance with applicable Federal, State, and local regulations for hazardous substances, and any spills would be immediately cleaned up and disposed of in the appropriate manner. The proposed Project site is not listed by any Federal or State database that identifies known hazardous materials sites within the proposed Project area (DTSC 2021b, DTSC 2021c, SWRCB 2021). Further, to ensure hazardous materials are not released into the environment during construction, MM HAZ-1 would be implemented and involves the development and implementation of a Spill Prevention Control and Countermeasure Plan, thus reducing the potential for a spill to create a significant hazard to the public or environment by quickly and efficiently having materials on-site to treat and clean up any potential spill. Therefore, with the incorporation of MM HAZ-1 impacts would be reduced to a less than significant level.

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?

Finding: No Impact

The proposed Project is not expected to emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school. The closest school to the proposed Project area is Donner Trail Elementary School, located approximately five miles west of the Project area, and the proposed Project does not involve operational activities that would result in hazardous emissions. Operations would consist of a restored meadow ecosystem with no potential to emit hazardous materials or emissions. Therefore, no impacts would occur.

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

Finding: No Impact

A review of the DTSC and SWRCB hazardous materials database did not identify the Project area as a known hazardous materials site (DTSC 2021b, DTSC 2021c, SWRCB 2021). Additionally, according to the DTSC and SWRCB databases, there are no active/open cases of LUST or Program Cleanup Sites within one mile of the proposed Project site, and therefore, no impacts would occur.

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?

Finding: No Impact

The proposed Project is not located within an airport land use plan, or within two miles of a public or private airport. The nearest airport to the proposed Project area is the Truckee Tahoe Airport which is located approximately 12 miles east of the proposed Project area. Therefore, there is no potential for the proposed Project to result in a safety hazard for people residing or working in the Project area and no impact would occur.

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

Finding: Less than Significant

Nevada County has adopted an Emergency Operation Plan (Nevada County 2021b). However, the proposed Project would not physically interfere with this or any other emergency response plan. Trucks and equipment traveling to the proposed Project area would use Donner Pass Road, Soda Springs Road, and Lake Van Norden Road for a limited time period (approximately 4.5 months each construction season). Construction vehicles would stage on the Project area and would not block any evacuation routes. Therefore, the proposed Project would not physically interfere with any emergency response or evacuation plans and therefore, this impact would be less than significant.

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

Finding: Less than Significant with Mitigation Incorporated

The project area and area surrounding the project influence area are designated as Very High Fire Hazard Severity Zone by California Department of Forestry and Fire Protection (CALFIRE) (CALFIRE 2007a, 2007b). The project would not result in construction of new residential occupancy structures or the introduction of new residents into the Very High Fire Hazard Severity Zone. During construction, the project would comply with Nevada County Land Use and Development Code, Sections L-XVI 2.9 and L-XVI 5.2, which require maintenance of defensible space and disposal of flammable vegetation removed during construction, in this case likely entailing the reuse of vegetation as a soil amendment in the meadow. The proposed Project also includes conifer treatment (thinning) around the meadow in lodgepole stands and re-wetting of meadow areas thus creating a longer term wildfire risk reductions. However, temporary equipment used during construction activities may generate sparks that could ignite dry vegetation on or adjacent to the construction area and cause wildland fires in the area. The nearest fire station to the proposed Project area is approximately two miles northwest of the Project area at the Truckee Fire Protection District Station 97, located at 53823 Sherritt Lane, Soda Springs, California, 95728. To further reduce the risk of fire, MM HAZ-2, Fire Suppression and Control, would be incorporated into the proposed Project. At a minimum the Fire Suppression and Control Plan will include roles and responsibilities in the event of a fire, specific equipment to prevent and control fires, and coordination with

the fire chief and/or Nevada County on specific fire suppression actions to be taken. MM HAZ-2 would help reduce the potential for a fire that could be caused by sparks from construction activities by taking the specific precautions outlined, thus reducing the impact to a less than significant level. Therefore, the potential to expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires would be considered less than significant with MM HAZ-2 incorporated.

3.8.4 MITIGATION MEASURES

3.8.4.1 Mitigation Measure HAZ-1: Develop or Use Current Spill Prevention Control and Countermeasure Plan

SYRCL, or its contractor, shall develop and implement a Spill Prevention Control and Countermeasure Plan (SPCCP) in accordance with Federal and State requirements to minimize the potential for, and effects from, spills of hazardous, toxic, or petroleum substances during construction activities for all contractors. The SPCCP shall include the following measures:

- Hazardous materials, chemicals, fuels, and oils shall be stored at least 100 feet from receiving waters and liquid hazardous materials shall be covered and stored within secondary containment where containment is 110 percent of liquid material volume.
- Materials shall be stored in appropriate containers and contents labeled.
- Material volume shall be restricted to the volume that can be addressed by available spill kits and supplies.
- Used containers shall be disposed of at an appropriate landfill or other legal disposal or recycling facility.
- Bulk storage tanks shall have secondary containment systems. Secondary containment shall be at least 110 percent of storage tank capacity or more if the area is uncovered to account for storm events.
- Spill cleanup shall occur immediately, and notification shall be given to CDFW, USFWS, USFS, Nevada and Placer Counties SYRCL, and the RWQCB;
- Workers shall be trained to properly handle hazardous materials, cleanup spills, and report spills. Construction workers shall be trained to identify indicators of contaminated soils such as soil discoloration, odors, differences in soil properties, and buried debris. Construction workers shall be trained to be aware of proper handling techniques and appropriate responses and actions to be taken if hazardous materials are accidentally released, with special emphasis on those hazardous materials with the greatest potential to occur at the Project site.
- Soils contaminated with fuels or chemicals shall be disposed of in a suitable location to prevent discharge to surface waters and in accordance with the rules and regulations of the California Department of Transportation, the EPA, the RWQCB, and other agencies including but not limited to the California Environmental Protection Agency.

- Excess or unused quantities of hazardous materials shall be removed upon Project completion. Although hazardous waste generation is not anticipated, any such wastes produced during construction shall be properly containerized, labeled, and transported to an approved hazardous waste disposal facility.

- All nonhazardous waste materials including construction refuse, garbage, and sanitary waste, shall be disposed of by removal from the work area to an approved disposal facility. All nonhazardous waste containers shall be covered when not in use and/or at the end of each shift or before a rain or other precipitation event.

A fueling plan shall be prepared separately or as a part of the SPCCP. The fueling plan shall include the following measures:

- Vehicles shall be monitored for fluid leaks and shall be maintained regularly to reduce the chance of leakage. If any leaks are detected, the vehicle shall be taken to a special paved area designated for vehicle repair and equipped with management controls for leaked materials or if it cannot be repaired removed from service and site and obtain replacement.

- Vehicles refueling shall only occur on flat level ground where there is little chance of a spilled substance reaching a stream or waterway over an impermeable surface. A spill kit shall be available as appropriate for the activity.

- Refueling and vehicle maintenance shall be performed at least 100 feet from receiving waters.

- All fueling materials shall be properly labeled.

- Oil, antifreeze, solvents, and other materials related to equipment maintenance shall be disposed of or recycled appropriately offsite. If these materials have to be stored before disposal/recycling, they shall be stored in covered areas in containers with 110 percent capacity with berms and lined with impermeable material to contain any spills. The impermeable material should be maintained free of holes, etc. that would permit leaks to contact the ground surface or otherwise leave the containment area.

SYRCL shall review and approve the SPCCP before onset of construction activities. During construction, SYRCL shall routinely inspect the construction area to verify that the measures specified in the SPCCP are properly implemented and maintained, and shall notify its contractors immediately if there is a noncompliance issue and shall require compliance.

The Federal reportable spill quantity for petroleum products, as defined in CFR Title 40 Part 110 is any oil spill that (1) violates applicable water quality standards, (2) causes a film or sheen upon or discoloration of the water surface or adjoining shoreline, or (3) causes a sludge or emulsion to be deposited beneath the surface of the water or adjoining shorelines.

If a spill is reportable, SYRCL or the contractor would take action to contact the appropriate safety and clean-up crews to ensure the SPCCP is followed. A written description of reportable releases must be submitted to the RWQCB. The submittal must include a description of the release, including the type of

material and an estimate of the amount spilled, the date of the release, an explanation of why the spill occurred, and a description of the steps taken to prevent and control future releases. The releases would be documented on a spill report form.

Mitigation Measure HAZ-1 Implementation

- **Responsible Party:** SYRCL or its contractor shall develop and implement a Spill Prevention Control and Countermeasure Plan (SPCCP) to minimize the potential for, and effects from, spills of hazardous, toxic, or petroleum substances during construction activities for all contractors.
- **Timing:** The SPCCP shall be implemented prior to and during all phases of construction.
- **Monitoring and Reporting**: Evaluation of SPCCP shall be conducted by SYRCL. Reports on the SPCCP implementation shall be documented by SYRCL and submitted to Nevada County and the RWQCB to be kept on file.
- **Standard of Success:** Minimize the potential for, and effects from, spills of hazardous, toxic, or petroleum substances during construction activities in accordance with the requirements of this measure as well as Federal; and State laws.

3.8.4.2 Mitigation Measure HAZ-2: Fire Suppression and Control

SYRCL shall require the selected construction contractor to coordinate with the local fire chief, Nevada County, and the USFS to ensure fire control measures are in place to reduce the risk of fires during the proposed Project. The fire prevention and control measures shall include requirements for onsite extinguishers, roles and responsibilities of SYRCL and its contractor including what to do in the event of a fire, fire suppression equipment and critical fire prevention and suppression items, and any other items or awareness measures recommended by the fire chief Nevada County, and/or the USFS.

Mitigation Measure HAZ-2 Implementation

- **Responsible Party:** SYRCL's contractor shall coordinate with the local fire chief, Nevada County, CalFire, and the USFS to ensure fire control measures including, but not limited to, fire suppression and management measures are in place and on site and readily accessible during construction in the event of an unintended fire.
- **Timing:** Coordination with the local fire chief, Nevada County, CalFire, and USFS shall take place prior to construction and implementation of fire suppression and control measures shall be implemented during all phases of construction.
- **Monitoring and Reporting:** Evaluation of the fire suppression and control measures shall be conducted by SYRCL. The SYRCL inspector or other SYRCL personnel shall verify that coordination with the fire chief, Nevada County, CalFire, and the USFS took place and that proper responsibilities and fire suppression, and control equipment/items are available on site during construction. Documentation shall be submitted by SYRCL to Nevada County to be kept on file at the Nevada County office.

- **Standard of Success:** Preparedness for and minimization of the start and spread of wildfire during construction activities for all contractors.

3.9 Hydrology and Water Quality

3.9.1 REGULATORY SETTING

3.9.1.1 Federal

Clean Water Act

The CWA (33 U.S.C. Section 1251 et seq.), formerly the Federal Water Pollution Control Act of 1972, was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA regulates discharges of pollutants into waters of the U.S. and sets standards to protect, maintain, and restore surface water quality.

The following sections of the CWA are applicable to the proposed Project:

- **Section 404:** Section 404 of the CWA regulates the discharge of dredge or fill into waters of the U.S., including wetlands. Any action that will result in the discharge of dredge or fill into a waters of the U.S. requires a permit obtained from the U.S. Army Corps of Engineers (USACE). The permit type required for an action will be determined by the degree of impact from the proposed action and the permit must be obtained prior to work within the USACE jurisdiction.

- **Section 402:** Section 402 of the CWA regulates discharge of pollutants to surface waters through National Pollutant Discharge Elimination System (NPDES) permits. The State Water Resource Control Board (SWRCB) issues both General Construction Permits under the auspices of the federal NPDES construction stormwater program. Projects disturbing more than one acre of land during construction are required to file a Notice of Intent with the SWRCB to be covered under the State NPDES General Construction Permit for discharges of storm water associated with construction activity. Construction activities that are subject to this General Permit includes clearing, grading, disturbances to the ground such as stockpiling, or excavation that results in soil disturbances of at least one acre of total land area. Control measures must be implemented that are consistent with the State General Permit. A Stormwater Pollution Prevention Plan (SWPPP) must be developed and implemented for each site covered by the General Permit. A SWPPP describes BMPs the discharger will use to protect storm water runoff and reduce potential impacts to surface water quality through the construction period. The SWPPP must contain the following: a visual monitoring program; a chemical monitoring program for “non-visible” pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment (SWRCB 2021).

- **Section 401:** Section 401 of the CWA regulates surface water quality, and a Water Quality Certification is required for federal actions (including construction activities) that may entail impacts to surface water. In California, Section 401 permitting authority is delegated to, and administered by, the nine RWQCBs. The Central Valley Regional Water Quality Control Board has jurisdiction over the proposed Project area.

- **Section 303(d):** Section 303(d) of the CWA regulates states to develop lists of water bodies that do not attain water quality objectives after implementation of required levels of treatment by point source dischargers (municipalities and industries). Section 303(d) requires that the state develop a total maximum daily load (TMDL) for each of the listed pollutants. The TMDL is the amount of the pollutant that the water body can receive and still comply with water quality objectives. The TMDL is also a plan to reduce loading of a specific pollutant from various sources to achieve compliance with water quality objectives. In California, implementation of TMDLs is achieved through water quality control plans, known as Basin Plans, of the State RWQCBs.

National Flood Insurance Policy Act

The Federal Emergency Management Agency (FEMA) is responsible for managing the National Flood Insurance Program (NFIP), which makes federally backed flood insurance available for communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage.

The NFIP, established in 1968 under the National Flood Insurance Act, requires that participating communities adopt certain minimum floodplain management standards, including restrictions on new development in designated floodways, a requirement that new structures in the 100-year flood zone be elevated to or above the 100-year flood level (known as base flood elevation). To facilitate identifying areas with flood potential, FEMA has developed Flood Insurance Rate Maps (FIRMs) that can be used for planning purposes, including floodplain management, flood insurance, and enforcement of mandatory flood insurance purchase requirements.

3.9.1.2 State

Porter Cologne Water Quality Control Act

The State of California established the SWRCB, which oversees the nine RWQCBs, through the Porter-Cologne Act. Through the enforcement of the Porter Cologne Act, the SWRCB determines the beneficial uses of the waters (surface and groundwater) of the State, establishes narrative and/or numerical water quality standards, and initiates policies relating to water quality. The SWRCB and, more specifically, the RWQCB, is authorized to prescribe WDRs for the discharge of waste, which may impact waters of the State. Furthermore, the development of water quality control plans, or Basin Plans, are required by Porter-Cologne Act to protect water quality.

Water Quality Control Plan for the Sacramento and San Joaquin River Basins

The Central Valley RWQCB's *Water Quality Control Plan for the Sacramento and San Joaquin River Basins* (Basin Plan) implements the requirements of the California Water Code (Section 13240) and the Federal CWA. Section 303 of the CWA requires states to adopt water quality standards which "consist of the designated uses of the navigable waters involved and the water quality criteria for such waters based upon such uses." According to Section 13050 of the California Water Code, basin plans consist of a designation or establishment for the waters within a specified area of beneficial uses to be protected, water quality objectives to protect those uses, and a program of implementation needed for achieving the objectives. State law also requires that basin plans conform to the policies set forth in the Water Code,

beginning with Section 13000, and any state policy for water quality control. Because beneficial uses, together with their corresponding water quality objectives, can be defined per federal regulations as water quality standards, the Basin Plans are regulatory references for meeting the state and federal requirements for water quality control (40 CFR 131.20).

The Basin Plan designates the South Yuba River in Hydro Unit Number 515.3. Designated beneficial uses for Hydro Unit Number 515.3 include agriculture, power (hydroelectric), recreation, freshwater habitat, migration, spawning, and wildlife habitat. The South Yuba River between Spaulding Reservoir and Englebright Reservoir is listed as impaired under Section 303d of the CWA for mercury and temperature.

California Water Code

The California Water Code is enforced by the California Department of Water Resources (DWR). The mission of DWR is "to manage the water resources of California in cooperation with other agencies, to benefit the State's people, and to protect, restore, and enhance the natural and human environments." DWR is responsible for promoting California's general welfare by ensuring beneficial water use and development statewide.

Groundwater

Groundwater Management is outlined in the California Water Code, Division 6, Part 2.75, Chapters 1-5, Sections 10750 through 10755.4. The Groundwater Management Act was first introduced in 1992 as Assembly Bill (AB) 3030 and has since been modified by Senate Bill (SB) 1938 in 2002, AB 359 in 2011, and the Sustainable Groundwater Management Act (SB 1168, SB 1319, and AB 1739) in 2014. The intent of the Acts is to encourage local agencies to work cooperatively to manage groundwater resources within their jurisdictions and to provide a methodology for developing a Groundwater Management Plan. The Sustainable Groundwater Management Act of 2014 (SGMA) became law on January 1, 2015 and applies to all groundwater basins in the state (Water Code Section 10720.3). By enacting the SGMA, the legislature intended to provide local agencies with the authority and the technical and financial assistance necessary to sustainably manage groundwater within their jurisdiction (Water Code Section 10720.1)

3.9.1.3 Local

Nevada County General Plan

The following goals and policies from the Resource Conservation and Open Development element of the Nevada County General Plan related to hydrology and water quality are relevant to the proposed Project (Nevada County 1995). Those goals and policies that directly pertain to the proposed Project are discussed in the impact analysis below.

Objective 11.1 Promote and provide for conservation of domestic and agricultural water.

> **Policy 11.2** Encourage the protection of resources which produce water for domestic and agricultural consumption.

Objective 11.2 Preserve surface and sub-surface water quality and, where feasible, improve such quality.

Objective 11.3 Preserve and, where economically feasible, restore the density and diversity of water dependent species and continuous riparian habitats based on sound ecological principles.

Objective 11.4 Preserve the integrity and minimize the disruption of watersheds and identified critical water courses.

Objective 11.5 Support the acquisition, development, maintenance and restoration, where clearly consistent with General Plan policies, of habitat lands for wildlife enhancement.

> **Policy 11.10** Cooperate with State and Federal agencies and public and quasi-public organizations and agencies in the acquisition, restoration, and maintenance of habitat lands.
>
> **Policy 11.11** Cooperate with and encourage the USFS and Bureau of Land Management to restore/ maintain habitat areas on existing owned lands.

Nevada County Land Use and Development Code

Chapter II, Article 4, Section 3.10 – Floodplains

The Nevada County Land Use and Development Code, Section L-II 4.3.10, includes regulations to mitigate the impact of development on floodplains and to protect development and downstream users from the potential for hazards associated with flooding. This section requires all development within 100 feet of the 100-year floodplain to submit a Management Plan, prepared by a registered professional engineer and consistent with FEMA standards, that minimizes impacts to the floodplain. All development within the 100- year floodplain is required to obtain a use permit and comply with the standards of the Land Use and Development Code Chapter XII, Floodplain Management Regulations. Development within the 100-year floodplain also requires confirmation that applicable California Department Fish and Wildlife (CDFW) streambed alteration regulations have been satisfied.

Chapter V, Article 13 – Grading This section of the code outlines the requirements for obtaining a grading permit, including specific requirements for grading plans, soils engineering reports, engineering geology reports, and geotechnical investigations as well as restrictions on grading performed in the winter. This section also contains standards for cuts and fills, drainage, and terracing. In addition, this section contains standards for erosion and sediment control, including the preparation of erosion and sediment control plans and related inspection requirements.

Chapter XII, Article 1, Section L-XII – Provisions for Flood Hazard Reduction

As identified in Section L-XII 1.1, the purpose of Chapter XII (Floodplain Management Regulations) is for the County to promote public health, safety, and general welfare, and to minimize public and private losses due to flood conditions. The Chapter includes several provisions that restrict or prohibit certain uses due to flood hazards, require protections for uses vulnerable to flood damage, and controlling of development or alteration of floodplains which may cause flood damage. Section L-XII 1.5F of the code

specifically states that until a regulatory floodway is adopted, no new construction, substantial development, or other development (including fill) shall be permitted within Zones A1-30 and AE, unless is it demonstrated that the cumulative effect of the proposed development, when combined with all other development, will not increase the water surface elevation of the base flood more than one foot at any point within the County of Nevada.

3.9.2 ENVIRONMENTAL SETTING

For over a century, Van Norden Meadow has been modified by human influences, including grazing impacts, road construction, dam building, raising, and lowering, and other developments in Van Norden Meadow and within the sub watershed. These modifications have resulted in localized stream incision, wetland (hydrophytic) vegetation loss, hydrologic disconnection, partial conversion from wet to dry conditions and encroachment of lodgepole pine (Balance Hydrologics 2014, Hutchinson and Weisman 2021). Existing summer trails, county roads, and utility roads around the meadow have created flow impediments and sediment sources that can have water quality impacts on the meadow.

3.9.2.1 Hydrology

The 485-acre proposed Project is located in the Summit Valley within Van Norden Meadow at an elevation of approximately 6,775 feet above msl. Van Norden Meadow is one of the largest meadows on the west side of the Sierra Nevada and is located at the intersection of three headwater streams, Lytton Creek, Upper Castle Creek, and the Upper South Yuba. Van Norden Meadow marks the headwaters of the South Yuba River and is within the Yuba Watershed. The mean annual precipitation of the watershed ranges from 50 inches near the Sierra Crest to 60 inches near Van Norden Meadow (Balance Hydrologics, Inc. 2016a). The South Yuba River bed and bank downstream of the proposed Project area is comprised of primarily rock and boulders of varying sizes that provide scour protection for the channel.

3.9.2.2 Groundwater Hydrology

Bedrock underlies the upper watershed and the meadow with glacial deposits along the margin of the valley. Low-relief glacial deposits have low permeability and tend to force groundwater upwelling or perching. Water in the upper watershed that cannot permeate the bedrock of the surrounding mountains moves downgradient and collects in the Van Norden meadow and the Van Norden lakebed, which is the low point of the valley. Groundwater levels in the proposed Project area, have been monitored since 2013 through shallow groundwater monitoring wells. Based on groundwater level data collected from these monitoring wells, groundwater discharge appears to be the primary means of hydrologic support to the Van Norden meadow (i.e., proposed Project area). Water levels within the proposed Project area are controlled in part by groundwater, and groundwater levels fluctuate based on precipitation events and season (Ascent Environmental 2019, Balance Hydrologics, Inc. 2015, 2016b).

3.9.2.3 Water Quality

Surface Water Quality

Surface water in the South Yuba River is generally of high quality with potential impairments being associated with sedimentation, dissolution of naturally occurring minerals, and pathogenic bacteria. These impairments exist naturally, and may be elevated due to anthropogenic sources, such as erosion from logging activities and pathogens from poorly functioning septic systems (DSPUD 2017). The South Yuba River between Spaulding Reservoir and Englebright Reservoir is listed as impaired under Section 303(d) of the CWA for mercury and temperature (Nevada County 2019).

3.9.2.4 Groundwater Quality

Groundwater quality within the South Yuba Subbasin is generally good with total dissolved solids concentrations below 500 milligrams per liter throughout the entire subbasin. There are no documented impairments to groundwater quality in the subbasin (DWR 2004).

3.9.3 IMPACT ANALYSIS

IX. HYDROLOGY AND WATER QUALITY Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less than Significant Impact**	**No Impact**
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	—	**X**	—	—
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	—	—	**X**	—
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:	—	**X**	—	—
i) result in substantial erosion or siltation on- or off-site;	—	—	**X**	—
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	—	—	**X**	—
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	—	—	**X**	—
iv) impede or redirect flood flows?	—	—	**X**	—

IX. HYDROLOGY AND WATER QUALITY Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less than Significant Impact**	**No Impact**
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	—	—	—	**X**
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	—	—	—	**X**

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

Finding: Less than Significant with Mitigation Incorporated

The proposed Project would restore the historic riparian, aquatic, and wetland function of the meadow system within Van Norden Meadow and reduce non-point source sedimentation by eliminating incisions in the current channels and returning flows to their historic channels. The proposed Project has been designed to reduce water quality impacts as much as feasible during construction activities. The construction activities would potentially disturb approximately 56 acres.

Construction activities have the potential to create soil erosion and possibly increase sedimentation or degrade water quality from placement of unclean fill material. Construction activities could also increase the potential for accidental release of pollutants that could affect not only surface waters, but the beneficial uses associated with them. Such pollutants include oil and gas from machinery, chemicals associated with construction (e.g., lubricants, fuel, and waste material). Many construction-related pollutants have the potential to degrade water quality by increasing constituent levels in surface waters that could lead to an exceedance of water quality standards. Improper storage of hazardous materials on-site could pose a risk of release and result in the degradation of water quality. *MM HAZ-1 Develop or Use Current Spill Prevention Control and Countermeasure Plan* would be implemented to reduce the potential of a hazardous material release from construction. *MM HYDRO-1 Utilization of Clean Fill* would be implemented to further limit the potential for release of pollutants into waterways by ensuring fill material is free of contaminants.

Additionally, inadvertent erosion that results in increased sediment in streams or discharge of other materials into waterbodies because of proposed Project construction activities could result in adverse impacts to water quality. MM GEO-1, which includes sedimentation and erosion control measures, would be implemented during the construction phase to avoid and minimize potential adverse impacts to water quality from erosion and sedimentation. Further, construction practices associated with dewatering have the potential to generate sediment and turbidity. The various components of stream channel restoration are likely to occur during a period of up to 4.5 months per season and are scheduled for mid to late summer (after July 15). The South Yuba River commonly has standing pools but is limited to no flowing water during the planned construction period. Upper Castle Creek has perennial water, but instream work would be limited to BDAs and pole assisted log structures (PALS). Lytton Creek, implementation planned

for the second construction season, is anticipated to be dry during the construction period and no dewatering would be necessary. To reduce potential water quality impacts during dewatering activities, MM HYDRO-2 would be implemented by outlining specific steps for Nevada County to take to dewater using methods that minimize spikes in turbidity. These MMs would ensure that water quality standards are achieved, and thus reduce any impacts to a less than significant level.

Once construction is complete, the proposed Project would consist of a restored meadow habitat with improved hydrologic and ecosystem functions. One of the primary objectives of the proposed Project is to reduce erosion risks through channel restoration and surface roughness features. Therefore, the potential for operations of the proposed Project to violate any water quality standards or WDRs or otherwise substantially degrade water quality would be considered less than significant with the implementation of MM HAZ-1, MM GEO-1, MM HYDRO-1, and MM HYDRO-2.

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?

Finding: Less than Significant

The proposed Project construction activities have the potential to temporarily affect the current hydrologic functions of the area through movement of construction equipment and excavation in and around the proposed Project area. However, upon completion of the construction activates, the meadow system would be restored with improved hydrologic functions, thus allowing for improved groundwater supplies and recharge capability.

The proposed Project includes the restoration of the incised stream channels, which will recover surface and groundwater hydrologic processes, including prolonging and expanding meadow surface inundation, dispersing flow to more than a single high flow channel, delaying peak flows at the outlet, improving downstream water quality, and recharging groundwater to improve groundwater levels. The incised channels drain the adjoining meadow soils preventing any water storage early in the season when spring runoff occurs. The stream channel and restored floodplain processes would feed water to the adjoining meadow soils during spring snowmelt. This water would be seasonally stored in the meadow soils as shallow groundwater. When stream flow decreases later in the season this stored groundwater would be slowly released back to the stream channel as surface water, thus improving base flow conditions in the late season when direct precipitation and snowmelt water are at a minimum. Therefore, the potential for the proposed Project to substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there should be a net deficit in aquifer volume, or a lowering of the local groundwater table level would be considered 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?

Finding: Less than Significant with Mitigation Incorporated

Construction activities have the potential to create soil erosion and possibly increase sedimentation. However, as discussed above in Hydrology and Water Quality Impact (a), MM GEO-1, which includes sedimentation and erosion control measures, would be implemented during the construction phase to avoid and minimize potential adverse impacts to water quality from erosion and sedimentation. Therefore, the potential for the proposed Project to 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 would be considered less than significant with mitigation incorporated.

At present, spring runoff is primarily contained in the incised channels and moves quickly out of the system. Restoring the incised channels will improve water retention within the meadow and allow water to flow through an existing distributed channel network for a longer duration during the spring snowmelt period, which will prevent downstream erosion risks. In addition, surface roughness features will be added as part of the restoration design to further reduce potential for erosion. Therefore, since the purpose of the proposed Project is to reduce downstream erosion and sedimentation, operational impacts would be considered less than significant.

ii, iii, iv) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite; create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or impede or redirect flood flows?

Finding: Less than Significant

The proposed Project would restore the incised stream channels, which will recover surface and groundwater hydrologic processes, including prolonging and expanding meadow surface inundation, dispersing flow to more than a single high flow channel, delaying peak flows at the outlet. Therefore, the proposed Project would decrease surface runoff and would better manage flood flows. In addition, the existing Sheep Pens trailhead would be relocated to restore the Lytton Creek alluvial fan connection, thereby reducing flooding issues associated with the road and trailhead parking area. No permanent structures would be placed within the proposed project site, and the Project would be designed to improve hydrologic functions, including water flows and groundwater recharge, thus reducing the potential for flooding. Therefore, impacts would be considered less than significant.

d) Would the Project expose people or structures to a significant risk of loss, injury or death as a result of inundation of seiche, tsunami, or mudflow?

Finding: No Impact

The proposed Project's inland and low-gradient mountain meadow location negates the risk of a seiche, tsunami or mudflow. The proposed Project would not create any housing or other structures and would not expose people or structures to impacts from inundation by seiche, tsunami, or mudflow. Therefore, there is no impact.

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

Finding: No Impact

The proposed Project is not located within an area regulated by a water quality control plan or sustainable groundwater management plan, Therefore, there would be no impact.

3.9.4 MITIGATION MEASURES

3.9.4.1 Mitigation Measure GEO-1: Sediment and Erosion Control Measures

See MM GEO-1, Section 3.6

3.9.4.2 Mitigation Measure HAZ-1: Develop or use current Spill Prevention Control and Countermeasure Plan

See MM HAZ-1, Section 3.7

3.9.4.3 Mitigation Measure HYDRO-1: Utilization of Clean Fill

Clean fill material shall be used. A soils characterization plan shall be developed by a California Professional Engineer or California Registered Geologist and implemented for evaluating all borrow material that has not previously undergone testing for contaminants. Only fill determined to be contaminant free shall be used.

Mitigation Measure HYDRO-1 Implementation

- **Responsible Party**: Nevada County.
- **Timing:** Prior to construction.
- **Monitoring and Reporting Program:** The California Professional Engineer or California Registered Geologist shall provide Nevada County with documentation of soils testing prior to fill placement. Nevada County shall provide documentation of soils testing to be kept on file at Central Valley Regional Water Quality Control Board.
- **Standards for Success:** Placement of clean fill.

3.9.4.4 Mitigation Measures HYDRO-2: Construction Dewatering Management Plan

Construction shall take place when there is no flow or very little flow in the South Yuba River, Upper Castle Creek, and Lytton Creek. However, in the event that flow is present or groundwater is encountered during construction, a construction dewatering plan shall be developed prior to project construction. Water generated by dewatering activities shall be used where possible for construction activities such as compaction and dust control. This would ensure that the water infiltrates rather than running into surface receiving waters. In order to reduce the potential for water from dewatering activities impacting the water quality of nearby waterways, Nevada County shall require that the selected contractor develop a dewatering management plan prior to construction to include the following measures.

Non-contaminated water shall be discharged to land for infiltration, when 1) the water contains sediment, but is not contaminated with other pollutants, 2) the water does not runoff from the land to creek beds (even if dry), or other surface waters, 3) the Central Valley RWQCB has been contacted and discharge is authorized or permitted, if applicable, and 4) details and MMs to address construction dewatering and stormwater inputs during construction would be required prior to issuance of a federal CWA section 401 WQC and water would be discharged according to the permit conditions.

The dewatering management plan shall outline a dewatering design specifications, schedule and water quality monitoring procedures. The plan shall include emergency contingency plans if unanticipated contaminants are observed in the discharge or flooding occurs resulting in cessation of water pumping.

Mitigation Measure HYDRO-2 Implementation

- **Responsible Party:** SYRCL's contractor shall implement the construction dewatering management plan.
- **Timing:** Prior to construction.
- **Monitoring and Reporting Program:** Nevada County shall review and approve of monitoring plan. Nevada County shall submit file copies of the plan and compliance incident reports to Central Valley Regional Water Quality Control Board.
- **Standards for Success:** Compliance with monitoring plan, dewatering permits, and prompt and complete incident reports to the Central Valley Regional Water Quality Control Board.

3.10 Land Use and Planning

3.10.1 REGULATORY SETTINGS

3.10.1.1 Federal

Forest Service Special-Uses Program

The Forest Service Special-Uses Program allows for businesses and individuals to gain authorization to use of NFS land for activities such as water transmission, agriculture, outfitting and guiding, recreation, telecommunication, research, photography and video productions, and granting road and utility rights-of-ways through the issuance of a permit, term permit, lease, or easement (USFS 2013). Applications for a special-use authorization must be filed with the Forest Service and must comply with all laws, regulations, orders, policies that pertain to NFS lands as well as all of the applicable State and local health and sanitation laws.

National Forest Management Act

The National Forest Management Act of 1976 requires that the USFS assess the nation's renewable resources to develop a program of use and subsequently develop an LMP for each National Forest. As such, the Tahoe National Forest Land and Resource Management Plan (LRMP 1990) as amended by the Sierra Nevada Forest Plan Amendment Record of Decision (SNFPA ROD) (USFS 2004) describes strategic direction at the broad program level for managing NFS lands and resources. The USFS uses the SNFPA to help guide the management of lands and resources (USFS 2004). The SNFPA includes guidance pertaining to various resource areas including forested ecosystems, aquatic, riparian, and meadow ecosystems and associated species, fire and fuels, noxious weeds, among others. The proposed Project must be designed to be consistent with management direction in the Tahoe National Forest Land and Resource Management Plan (LRMP 1990) as amended by the Sierra Nevada Forest Plan Amendment Record of Decision (SNFPA ROD 2004).

3.10.1.2 State

There are no State requirements related to land use that are applicable to the proposed Project.

3.10.1.3 Local

Nevada County General Plan

The following goals and policies from the Land Use Element related to land use and planning are relevant to the proposed Project (Nevada County 2020). The proposed Project area is designated as Forest (FOR) and Recreation (REC) under the Nevada County General Plan and resides within a Rural Region as defined by the General Plan. Those goals and policies that directly pertain to the proposed Project are discussed in the impact analysis below.

Goal 1.1. Promote and encourage growth in *Community Regions* while limiting growth in *Rural Regions*.

> **Policy 1.1.2.** The General Plan divides the County into *Community Regions* and *Rural Regions*. All of the land area of the County is placed in one of these regions. Within the *Rural Regions*, growth is limited to those types and densities of development which are consistent with the open, rural lifestyle, pastoral character and natural setting and surrounding land use patterns which exists in these areas. Within the *Community Regions*, balanced growth is encouraged to provide managed housing, community, located for convenience, efficiency and affordability.
>
> The General Plan Land Use Maps delineate specific boundaries for *Community Regions*. All portions of the County not within a *Community Region* shall be considered to be in a *Rural Region*.

Goal 1.3. Within Rural Regions, maintain and enhance the County's pastoral character, existing land use patterns, rural lifestyle, and economy in their natural setting.

> **Policy 1.3.1** Provide for a land use pattern compatible with preservation of character, environmental values and constraints, and the form and orderly development of *Rural Places*.

Nevada County Zoning Ordinance

The proposed Project area is primarily zoned as Forest (FR-40) and a small section in the northwestern portion of the Project area is zoned as Recreation (REC-SP). As described in the Nevada County Zoning Ordinance, the zoning designation for Forest is intended for the protection, production, and management of timber and timber supported uses. This designation also includes uses for equipment storage, temporary offices, as well as low intensity recreational uses and open space. The zoning designation for Recreation provides for a wide range of active and passive recreation uses and supporting services on the land (Nevada County 1972).

Soda Springs Area Plan

The Soda Springs Area Plan, adopted in 2016, is a land use and zoning plan that was developed for the community of Soda Springs. Specific goals and policies for this community were developed in conjunction with the Nevada County General Plan which are intended to provide long-term guidance for the area in order to support a healthy economy, environment, and social fabric for this area. The Soda Springs Area Plan supplements the Nevada County General Plan and provides a comprehensive framework for making land use decisions within the Soda Springs Rural Center and the surrounding Donner Summit geographic area. The portion of the Project area that is included in the Soda Springs Area sphere of influence includes a small area in the northwestern portion of Van Norden Meadow. This area is designated as REC land use under this Plan (Nevada County Planning Department 2016).

3.10.2 ENVIRONMENTAL SETTING

The proposed Project has taken the Nevada County General Plan, Zoning, and Forest Service Special-Uses Program goals, objectives, and regulations into consideration during the planning stages. The proposed Project would be located on land owned primarily by the USFS in Nevada and Placer Counties.

The General Plan and use designation for the proposed Project area is FOR and REC. The Forest land use designation is intended to provide for production and management of timber resources and the Recreation land use designation is intended to provide for a wide range of active and passive recreation uses (Nevada County 2020). The zoning designation for the Project area is Forest (FR-40) and REC-SP in Nevada County and both Forest (FR) and Water (W) in Placer County (Nevada County 2021, Placer County 2021). The proposed Project is located on Assessor's Parcel Numbers (APNs) 047-440-021, 47-440-022, 47-440-023, and 047-440-001 [Nevada County] and 069-020-076-000 [Placer County]. Pursuant to the Nevada County Zoning Regulations, the Forest District is intended to protect and support timber uses such as open space and recreational uses and the Recreation District is intended for recreational uses (Nevada County 1972).

3.10.3 IMPACT ANALYSIS

X. LAND USE AND PLANNING **Would the Project:**	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less than Significant Impact**	**No Impact**
a) Physically divide an established community?	—	—	—	**X**
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?	—	—	—	**X**

a) Would the Project physically divide an established community?

Finding: No Impact

The proposed Project includes restoring the Van Norden Meadow including the current South Yuba River channel and building a recreation trail around the meadow, which would not physically divide an established community. There are no residences within or near the proposed Project area and the land is designated as FOR and REC under the Nevada County General Plan and is also zoned as FR-40 and REC-SP under the Nevada County Zoning Regulations. There is currently no planned development for the area and the proposed Project would not have physically divide any established community. 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?

Finding: No Impact

The restoration and recreation activities associated with the proposed Project are intended to enhance the existing ecological function of the Project area and would not result in the alteration of existing land uses. Additionally, the proposed Project would not conflict with any land use plans, policies, or regulations that are applicable to the Project including those in the Nevada County General Plan, Nevada County

zoning ordinances, Soda Springs Area Plan, the Forest Service Special-Uses Program, and the Tahoe National Forest Land and Resource Management Plan as amended by the SNFPA ROD (USFS 2004) as they relate to the proposed Project area. Therefore, there would be no impact.

3.10.4 MITIGATION MEASURES

No mitigation is required.

3.11 Mineral Resources

3.11.1 REGULATORY SETTING

3.11.1.1 Federal

The Mining and Minerals Policy Act of 1970 (30 U.S.C 21(a))

The Mining and Minerals Policy Act of 1970 codified the importance of mining and mineral resources and recognized that public policy should evaluate these resources. It declared that it is in the national interest to foster and encourage private enterprise in the following ways:

- Development of economically sound and stable domestic mining and mineral related industries
- Orderly and economic development of mineral resources to satisfy industrial, security, and environmental needs
- Research to promote wise and efficient use of resources
- Research and development of mining and reclamation methods to lessen the impact of mining on the environment

This policy applies to National Forest System lands.

National Forest Management Act

USFS Land management planning, as mandated by the National Forest Management Act of 1976, is a principal tool for assuring that mineral resources are given proper consideration on National Forest System lands. Before plans are developed, specialists evaluate all resource activities including existing and potential mineral development. Planners and decision makers then formulate plans to minimize potential resource conflicts and maximize the various uses and values of National Forest System lands. As such, the Tahoe National Forest Land and Resource Management Plan (LRMP 1990) as amended by the SNFPA ROD (USFS 2004) describes strategic direction at the broad program level for managing NFS lands and resources. The USFS uses the SNFPA to help guide the management of lands and resources (USFS 2004). The SNFPA includes guidance pertaining to various resource areas including mining activities, among others. The mining aspects of the SNFPA primarily pertain to conditions for mining operations (USFS, 2004)

3.11.1.2 State

Surface Mining and Reclamation Act

The State of California enacted the Surface Mining and Reclamation Act (SMARA) in 1975 in part to identify the location of and preserve access to significant mineral deposits. The State geologist is required by SMARA to prepare maps that identify mineral resource zones (MRZs) including areas of presence or likely presence of significant mineral deposits, which are referred to as MRZ-2. Areas that may have

mineral resources, but where the presence cannot be determined from available information are identified as MRZ-3. Additionally, SMARA requires local governments to evaluate the presence of mineral resources in their general plans and when making land use decisions.

3.11.1.3 Local

Nevada County General Plan

The following goals and policies from the Mineral Management Element related to mineral resources are relevant to the proposed Project (Nevada County 1995). Those goals and policies that directly pertain to the proposed Project are discussed in the impact analysis below.

Goal 17.1: Recognize and protect valuable mineral resources for current and future generations in a manner that does not create land use conflicts.

> **Objective 17.1** Protect valuable mineral deposits from intrusion by incompatible land uses that will impede or preclude mineral extraction or processing. Promote the proper management of all mineral resource activities in the County and minimize the impact of extraction and processing on neighboring activities and the environment in general.

3.11.2 ENVIRONMENTAL SETTING

Significant mineral resources in the County include gold (in various forms), silver, copper, zinc, lead, chromite, tungsten, manganese, barite, quartz, limestone, asbestos, clay, mineral paint, sand, gravel, and rock (Nevada County 1995). The mineral resources are primarily concentrated in the western part of the County, with only a few areas of significant mineral resources in the eastern part of the County where the proposed Project is located.

The Nevada County General Plan specifies the terms and conditions of mining activities permitted in Nevada County (Nevada County 1995). Recreational mining activities are generally allowed in all zoning designations and do not require permits. Commercial mining activities are permitted only in areas zoned as a Mineral Extraction Combining District (Nevada County 1995). The proposed Project area is not located as a designated Mineral Extraction Combining District nor is it within a Mineral Rights land use area under the Nevada County and Placer County Zoning Ordinances and there are no Mineral Rights land use areas directly surrounding the proposed Project area (California Geological Survey 2018, DOC 2015). According to the Nevada County General Plan, there are no Mineral Resource Zones identified within 10 miles of the proposed Project area, with the closest mineral resources being sand and gravel deposits along the Truckee River east of the town of Truckee (Nevada County 1995).

3.11.3 IMPACT ANALYSIS

XI. MINERAL RESOURCES Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	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?	☐	☐	☐	☒

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?

Finding: No Impact

No mineral resources have been identified within the proposed Project area so implementation of the proposed Project would not result in the loss of availability of a known mineral resource. Additionally, the proposed Project activities would not alter the land in a way to make mineral resources less available. Therefore, 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?

Finding: No Impact

The proposed Project would not 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, including the SNFPA (USFS, 2004). According to the Nevada County General Plan (1995), Placer County General Plan (2013), and Nevada County and Placer County Zoning Ordinances, the proposed Project area is not located within or near an area of known important mineral resources (Nevada County 1972, Placer County 2021). Additionally, the proposed Project activities would not alter the land in a way to make mineral resources less available. Therefore, no impact would occur.

3.11.4 MITIGATION MEASURES

No mitigation is required.

3.12 Noise

3.12.1 REGULATORY SETTING

3.12.1.1 Federal

Federal OSHA defines potentially harmful noise exposure (the level at which hearing loss may occur from long-term exposure) as exposure to greater than 90 decibels (dB) averaged over eight hours. For noise greater than 90 dBA, the allowable exposure time is correspondingly shorter.

3.12.1.2 State

The State government sets noise standards for transportation noise sources such as automobiles, light trucks, and motorcycles. Noise sources associated with industrial, commercial, and construction activities are generally subject to local control through noise ordinances and general plan policies. Local general plans identify principles intended to guide and influence development plans.

The State of California General Plan Guidelines (Governor's OPR 2017) establishes guidelines for the preparation of local general plan noise elements, including a sound level/land use compatibility chart that categorizes, by land use, outdoor day-night average noise level (Ldn) ranges in four categories (normally acceptable, conditionally acceptable, normally unacceptable, and clearly unacceptable). For many land uses, the chart shows overlapping Ldn ranges for two or more compatibility categories.

The noise element guidelines identify the normally acceptable range of Ldn values for low-density residential uses as less than 60 dB and the conditionally acceptable range as 55–70 dB. These overlapping Ldn ranges are intended to indicate that local conditions (existing sound levels and community attitudes toward dominant sound sources) should be considered in evaluating land use compatibility at specific locations. When noise levels are in the conditionally acceptable range, new construction should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation requirements are included in the design.

3.12.1.3 Local

Nevada County General Plan

The following goals and policies from the Noise Element related to noise are relevant to the proposed Project (Nevada County 2014). Those goals and policies that directly pertain to the proposed Project are discussed in the impact analysis below.

Goal 9.1. Provide for the health, safety, and welfare of the people of Nevada County through a set of policies designed to encourage an environment free of unnecessary and annoying noise.

> **Policy 9.1.2**. The following noise standards contained in Table [Table 3-5] below, as performance standards and land use compatibility standards, shall apply to all discretionary and ministerial project excluding permitted residential (including tentative maps) land uses.

Table 3-5. Exterior Noise Limits

Land Use Category	Zoning District	Tim Period	Average or Equivalent Continuous Sound Level (Leq)	Maximum Level of a Noise Source (Lmax)
Rural	"A1" "TPZ" "AE" "OS" "FR" "IDR"	7 am – 7pm 7pm – 10 pm 10pm – 7am	55 dBA 50 dBA 40 dBA	75 dBA 65 dBA 55 dBA
Residential and Public	"RA" "R2" "R1" "R3" "P"	7am – 7pm 7pm – 10pm 10pm – 7am	55 dBA 50 dBA 45 dBA	75 dBA 65 dBA 60 dBA
Commercial and Recreation	"C1" "CH" "CS" "C2" "C3" "OP" "REC"	7am – 7pm 7pm – 7am	70 dBA 65 dBA	90 dBA 75 dBA
Business Park	"BP"	7am – 7pm 7pm – 7am	65 dBA 60 dBA	85 dBA 70 dBA
Industrial	"M1" "M2"	Anytime	80 dBA	90 dBA

f. The above standards shall not apply to those activities associated with the actual construction of a project or to those projects associated with the provision of emergency services or functions.

Policy 9.1.7: Encourage heavy truck traffic to those routes outside residential areas

3.12.2 ENVIRONMENTAL SETTING

Noise is commonly defined as unwanted sound in the environment. This definition reflects a subjective reaction to the characteristics of the physical phenomenon of noise. People judge the relative magnitude of sound sensation in subjective terms such as "noisiness" or "loudness." Although elevated noise levels can result in physiological damage and hearing loss, excessive noise in the environment more commonly impairs general human well-being by contributing to psychological stress and irritation. Such health effects can result when noise interferes with everyday human activities such as sleep, talking, recreation, relaxation, and tasks requiring concentration. When noise is either disturbing or annoying, whether by its pitch or loudness, it may be considered objectionable.

The overall noise level associated with a given noise environment is called the "ambient" noise level. Ambient noise can be generated by a number of sources, including mobile sources such as automobiles, trucks, trains, and airplanes, and stationary sources such as construction sites, machinery, and industrial operations. Other contributing noise sources, often referred to as "background" sources, can include the sound of birds, people talking, occasional vehicles passing by, or televisions and radios.

Sound pressure magnitude is measured and quantified using a logarithmic ratio of pressures, the scale of which gives the level of sound in dB. Environmental sound levels are usually measured in A-weighted decibels, or dBA, which is a method of taking into account the sensitivity of the human ear to various frequencies in the sound spectrum. In general, a difference of three decibels is barely perceptible to the

human ear, while a difference of 10 decibels is perceived as a doubling of loudness. A common statistical tool used to measure the ambient noise level is the average, or equivalent, sound level, which is the sound level corresponding to a steady-state, A-weighted sound level containing the same total energy as a time-varying signal over a given period (usually one hour).

Factors that affect the transmission of noise between the noise source and the receptor include:

- Line of sight: Barriers, such as topography, sound walls and other structures, between a noise source and recipient can provide varying degrees of noise attenuation, particularly when placed near the noise source; and
- Distance: A reduction in noise level of roughly 6 dBA occurs with each doubling of distance from a noise source, depending on the hardness of intervening surfaces.

The existing noise environment in the vicinity of the proposed Project area retains a natural, undeveloped quality, characteristic of a typical open meadow of the Sierra Nevada Mountains. Natural noises from chirping birds and other wildlife are the predominant soundscape within the meadow and the surrounding area. Manmade noise within the area is characterized by cars traveling along Interstate 80, Donner Pass Road, Soda Springs Road, Lake Van Norden Road, and Old Donner Road as well as recreationalists at the Soda Springs Mountain Ski Resort. The nearest sensitive receptors would include the recreationalists at the Ski Resort as well as a few residences north of the Project area along Donner Pass Road and motorists along the nearby roadways.

3.12.3 IMPACT ANALYSIS

XII. NOISE **Would the Project result in:**	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**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?	—	—	X	—
b) Generation of excessive groundborne vibration or groundborne noise levels?	—	—	X	—
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?	—	—	—	X

a) Would the Project result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

Finding: Less than Significant

The construction of the proposed Project would entail the use of construction related equipment including a backhoe, dump truck, excavators, etc. Construction would last up to three years and is scheduled for up to 4.5 months, starting after June 15th, each year. Noise impacts associated with the proposed Project construction would result in temporary or periodic increases in ambient noise levels. Construction noise would result from operation of machinery and equipment used in the construction process.

Noise from construction typically attenuates at a rate of 6 dB per doubling of distance. Additional attenuation of approximately 1-2 dB per doubling of distance also occurs where the ground is acoustically absorptive, where vegetation covers the ground. Assuming a nominal worst-case construction noise-level of 88 dBA at 50 feet for several pieces of equipment operating simultaneously, construction noise can be expected to be as high as the following levels at 50 feet from the construction activity:

Table 3-6. Federal Transit Authority Construction Equipment Noise Emission Levels

Equipment	Typical Noise Level (dBA) 50 ft from Source*
Air Compressor	81
Backhoe	80
Dozer	85
Generator	81
Grader	85
Loader	85
Truck	88

Source: Federal Transit Authority. 2006. Transit Noise and Vibration Impact Assessment
Key: dBA = A-weighted decibels

The nearest residences are approximately 0.38 to 0.55 miles north of the Project area and the Soda Springs Mountain Resort is approximately one mile to the west of the Project area. Additionally, there are a few scattered residences and rental homes approximately one mile southwest of the Project area. Van Norden Meadow itself is an unpopulated, open area with no structures or residences for human habitation. Therefore, the potential for the proposed Project to result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies, would be considered less than significant.

b) Would the Project result in exposure of persons to or generation of excessive ground borne vibration or ground borne noise levels?

Finding: Less than Significant

Human and structural response to different vibration levels is influenced by a number of factors, including ground type, distance between source and receptor, duration, and the number of perceived vibration events. Table 3.12-3, Guideline Vibration Annoyance Potential Criteria, summarizes the general threshold at which human annoyance could occur is noted as 0.1 in/sec peak particle velocity.

Table 3-7. Guideline Vibration Annoyance Potential Criteria Maximum Peak Particle Velocity (in/sec)

Human Response	Transient Sources	Continuous/Frequent Sources
Barely perceptible	0.04	0.01
Distinctly perceptible	0.24	0.04
Strongly perceptible	0.9	0.10
Severe	2.0	0.4

Notes: Transient sources create a single isolated vibration event, such as blasting or drop balls.
Continuous/frequent intermittent sources include impact pile drivers, pogo-stick compactors, crack-and-seat equipment, vibratory pile drivers, and vibratory compaction equipment.
Source: California Department of Transportation: Transportation and Construction Vibration Guidance Manual. (Caltrans 2013)

Sediment removal and replacement activities would include using an excavator or clam-shell bucket, and a dump truck to transport the sediment. While these activities would result in ground borne vibration, it would be expected that the vibrations would be less than significant due to their temporary nature, topography of the areas, and the distance to the nearest residential structures (0.38 to 0.55 miles north of the Project area). The proposed Project would not involve blasting as an excavation method. Therefore, the potential for the proposed Project to result in the generation of excessive ground borne vibration or ground borne noise levels would be considered less than significant.

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?

Finding: No Impact

The closest private airstrip to the proposed Project is the Tahoe Forest Hospital Heliport in Truckee, California. This private airstrip is located approximately 9 miles east from the Project area. Therefore, the proposed Project would not be located within the vicinity of a private airstrip and would not expose people residing or working on the Project area to excessive noise levels. Therefore, no impacts are anticipated.

3.12.4 MITIGATION MEASURES

No mitigation is required.

3.13 Population and Housing

3.13.1 REGULATORY SETTING

There are no applicable State, Federal, or local laws or policies related to the proposed Project regarding Population and Housing.

3.13.2 ENVIRONMENTAL SETTING

The proposed Project site is located in Nevada and Placer Counties approximately 10 miles west of Truckee (population 16,975) according to the 2020 U.S. Census Bureau. Grass Valley, Nevada City, and Truckee are the only incorporated areas within Nevada County. Additionally, Nevada County in its entirety has a population of approximately 102,241 people with the majority of the population concentrated in the community areas and incorporated cities. The proposed Project area and the surrounding region is considered to be an undeveloped, rural area with mixed recreation and public uses. The nearest residential area is the neighborhood of Soda Springs, located in unincorporated Placer County. The northern portion of the proposed Project is located within the Soda Springs area of Donner Summit. With approximately 81 year-round residents, Soda Springs is considered a small rural community. Just 0.5-mile south is the Serene Lakes residential community, the largest development on Donner Summit consisting of approximately 1,000 residential lots (Nevada County 2016). However, the population varies seasonally, and many homes are second homes. The proposed Project area is a forest and recreation use area and does not include any housing units (USCB 2020). The nearest residence is located approximately 500 feet northwest of the proposed Project area.

3.13.3 IMPACT ANALYSIS

XIII. POPULATION AND HOUSING: Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**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)?	—	—	—	**X**
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	—	—	—	**X**

a) Would the Project 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)?

Finding: No Impact

The proposed Project area is neither developed with urban uses nor zoned for such uses. The proposed Project would consist of restoring the current South Yuba River channel and providing further recreation in the Van Norden Meadow area which does not include the addition of homes or businesses. Therefore, the proposed Project would not either directly or indirectly induce unplanned population growth in the proposed Project area.

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

Finding: No Impact

Implementation of the proposed Project would not displace any existing people or housing and would therefore not result in the necessity for the construction of replacement housing at an alternate location because there are no people living within the Project area and no housing or business would be constructed under the proposed Project. Therefore, no impact would result from Project development.

3.13.4 MITIGATION MEASURES

No mitigation is required.

3.14 Public Services

3.14.1 REGULATORY SETTING

3.14.1.1 Federal

There are no Federal regulations that pertain to the proposed Project regarding public services.

3.14.1.2 State

There are no State regulations that pertain to the proposed Project regarding public services.

3.14.1.3 Local

Nevada County Office of Emergency Services

The Nevada County OES is responsible for coordinating with their respective county departments, municipalities, key stakeholders, and special districts to mitigate against, prepare for, respond to, and recover from all disasters. OES designs and conducts simulated disaster response exercises, evaluates emergency staff training, creates evacuation strategies, and maintains the County Emergency Operations Center in a state of readiness. OES also educates the community on preparedness, facilitates stakeholder collaboration, and seeks additional funding through grants and strategic partnerships (Nevada County 2021b).

3.14.2 ENVIRONMENTAL SETTING

Public services and utilities are typically provided by fire districts, public utility districts, school districts, sewer districts, water districts, and other single purpose districts in addition to those provided by Nevada and Placer Counties and any State and Federal agencies, including the USFS.

Fire protection in the proposed Project area is provided by the Truckee Fire Protection District. Police protection in the Project area is under the jurisdiction of the Nevada County Sheriff's Office. Additionally, there are no schools or public utility infrastructure involving water or sewer systems within the proposed Project area. Electrical power near the proposed Project area is provided by the PG&E and Truckee Donner Public Utility District.

3.14.2.1 Fire Protection

The nearest fire station to the proposed Project area is approximately 1.4 miles away at Truckee Fire Protection District Station 97 which is located at 53823 Sherrit Lane, just off Interstate 80 at the Soda Springs exit. Also near the Project area is Station 98, Serene Lakes, which is a part-time station located at 7305 Short Street, in the Serene Lakes subdivision. Station 98 is approximately 1.5 miles away from the project area. The Truckee Fire Protection District would be responsible for any fire-related emergencies within the proposed Project area.

3.14.2.2 Police Protection

The Nevada County Sheriff's Office provides law enforcement and animal control services for the unincorporated areas of the county including the Soda Springs area. The closest Sheriff's Office to the proposed Project area is at 10879 Donner Pass Road in Truckee (approximately 9.5 miles to the east of the proposed Project area).

3.14.2.3 Schools

The closest school to the proposed Project area is Sugar Bowl Academy which is a college preparatory high school for competitive skiers. The school is located approximately 1.3 miles east of the proposed Project area. Donner Trail Elementary School (part of the Tahoe Truckee Unified School District) is the closest public school to the proposed Project and is located approximately 5 miles to the west of the proposed Project area. There are no bus routes through or near the proposed Project area.

3.14.2.4 Parks

The closest park to the proposed Project is 5.5 miles to the east of the proposed Project area adjacent to Donner Lake. This park is West End Beach, a 10-acre beach park offering a wide range of water activities with day-use picnic facilities on Donner Lake, operated by the Truckee Donner Parks and Recreation District. Donner Lake Memorial State Park is located 10 miles east of the proposed Project area; this park preserves the site of the Donner Camp where the ill-fated Donner Party was trapped (Nevada County 2016).

3.14.3 IMPACT ANALYSIS

XIV. PUBLIC SERVICES Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	—	—	—	**X**
Police protection?	—	—	—	**X**
Schools?	—	—	—	**X**
Parks?	—	—	—	**X**

a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services: Fire protection? Police protection? Schools? Parks?

Finding: No Impact

The proposed Project is not currently served by any public services (other than wildland fire protection), and the proposed Project would not create the need for or result in any public services being provided to the Project area. There are no schools within or adjacent to the Project area that would be affected by construction activities. Enhancement of the recreational opportunities has the potential to increase the recreation use of Van Norden Meadow and the surrounding area. This could impact local services if parking lots become overfilled and cause fire access restrictions or if people are injured on the trail, requiring local emergency response teams. Although it is possible that the increase in recreation use could put additional strain on the local public service, the proposed Project includes the installation of parking signage at trailheads and trail safety and etiquette information posted at trailhead kiosks. Restoration and enhancement of recreational opportunities would not result in a significant increase in demand for police protection, school, park, or other public facility services, relative to the existing conditions. Therefore, there would be no impact to public services resulting from the proposed Project.

3.14.4 MITIGATION MEASURES

No mitigation is required.

3.15 Recreation

3.15.1 REGULATORY SETTING

3.15.1.1 Federal

National Forest Management Act

The National Forest Management Act of 1976 requires that the USFS assess the nation's renewable resources to develop a program of use and subsequently develop an LMP for each National Forest. As such, the Tahoe National Forest Land and Resource Management Plan (LRMP 1990) as amended by the SNFPA ROD (USFS 2004) describes strategic direction at the broad program level for managing NFS lands and resources. The USFS uses the SNFPA to help guide the management of lands and resources (USFS 2004). The SNFPA includes guidance pertaining to various resource areas including recreation, among others.

Specifically, the SNFPA ROD reaffirms that providing recreation opportunities is one of the Forest Service's major missions in California, along with providing sustainable, healthy ecosystems. Many recreation experiences in the Sierra Nevada are provided under special use authorizations. Projected population growth in the United States and increasing tourism in this region, along with other factors, clearly contribute to increasing demand for recreation facilities and services throughout the Sierra Nevada national forests. Additionally, the SNFPA ROD reaffirms that "decisions for recreation activities will be made at the local level to reflect site-specific conditions".

Forest Service Special-Uses Program

The Forest Service Special-Uses Program allows for businesses and individuals to gain authorization to use of National Forest System (NFS) land for activities such as water transmission, agriculture, outfitting and guiding, recreation, telecommunication, research, photography and video productions, and granting road and utility rights-of-ways through the issuance of a permit, term permit, lease, or easement (USFS 2013). Applications for a special-use authorization must be filed with the Forest Service and must comply with all laws, regulations, orders, policies that pertain to NFS lands as well as all of the applicable State and local health and sanitation laws.

3.15.1.2 State

California Government Code Section 65560(b)

California Government Code Section 65560(b) defines "open space land" as any parcel or area of land or water that is unimproved and devoted to an open space use. State law requires that the Nevada County General Plan include a Parks and Recreation element to promote the retention of open space for recreational purposes.

California Recreational Trails Plan

Goal for Private Property Owners: Work to identify and resolve conflicts between property owners and trail users and advocates.

> **Action Guideline**: Encourage and support open and continuing dialogue among private property owners, community organizations, professional land use organizations such as farm and cattlemen associations, adjacent public property government entities, and trail expansion advocates regarding trail systems and needed links.

3.15.1.3 Local

Nevada County Zoning Ordinance

The proposed Project area is primarily zoned as Forest (FR-40) and a small section in the northwestern portion of the Project area is zoned as REC-SP. As described in the Nevada County Zoning Ordinance, the zoning designation for Forest is intended for the protection, production, and management of timber and timber supported uses. This designation also includes uses for equipment storage, temporary offices as well as low intensity recreational uses and open space. The zoning designation for Recreation provides for a wide range of active and passive recreation uses and supporting services on the land (Nevada County Zoning 2021).

Nevada County General Plan

The Nevada County General Plan (1995) contains the following policies and objective that are applicable to recreation for the proposed Project:

Policy 5.11 Cooperate with other public and private entities providing recreation activities to coordinate activities in the County and eliminate duplication of recreational services. The County shall encourage those agencies providing recreational programs and activities to continue those programs and activities.

Policy 5.13 Encourage cooperation among local, state and federal agencies to maximize the use of public land and facilities for public use and recreation.

> **Objective 5.7** Preserve and encourage water based recreational opportunities.

Policy 5.18 Cooperate with other public agencies to provide public access to the lakes and impoundments in the County, consistent with their ability to support water based recreation.

Policy 5.19 Cooperate with other public and private agencies to provide public access to the rivers in the County, with emphasis at road and highway bridges so as to assure access for police and emergency vehicles.

Policy 5.21 Recognize and protect the South Yuba River canyon as an important resource in terms of recreation, tourism, aesthetics, water resource, mineral resource, water quality, and wildlife habitat through the following actions: a. Designate publicly-owned lands physically adjoining the river as open

space in the General Plan land use maps. b. Encourage the recreation master planning and development activities by the State Department of Parks and Recreation. c. Discourage the placement of dams on the South Yuba River canyon. Other water storage techniques, such as off-stream storage, may be considered as long as significant impacts are sufficiently mitigated.

Donner Summit Association Draft Donner Summit Recreational Use and Trails Plan

The Donner Summit Association Draft Public Use, Trails and Recreation Facilities Plan (DSA Plan) was released to the public in 2021 at the Summit Summit III. The DSA Plan was developed in coordination with TDLT, Sugar Bowl Corp., Nevada County, Placer County. State Parks, and the USFS. The Plan reflects the interests of various individual residents and business owner stakeholders (via a stakeholder survey) and public participation process. The Draft DSA Plan also summarized and incorporates the primary objectives of multiple recreation and land use plans previously developed for the Donner Summit area. Given many trails on Donner Summit are on steep terrain, not accessible to all, a key finding in the Draft DSA Plan was the need for a relatively flat trail around Van Norden Meadow to diversify trail access.

3.15.2 ENVIRONMENTAL SETTING

3.15.2.1 Regional Recreation

Eastern Nevada County has one recreation and park district: the Truckee Donner Recreation and Park District (Recreation District). The Recreation District operates several park and recreational facilities that are primarily within the Town of Truckee (Nevada County 1995). The project area and project influence area are surrounded by national forest lands within the Tahoe National Forest. There are numerous recreational waterways within and near proposed Project area including the South Yuba River, Serene Lakes Recreational Area, Kilborn Lake, Kidd Lake, Cascade Lake, Palisade Lake, Long Lake, and Donner Lake. Recreational activities in eastern Nevada County are abundant and include hiking, biking, horseback riding, skiing, rock climbing, backpacking, camping, and fishing. Recreational facilities in the project vicinity include the Boreal, Donner Ski Ranch, Soda Springs, Royal Gorge, and Sugar Bowl ski resorts. The adjacent Tahoe National Forest has a trail system used by hikers, mountain bikers, and equestrians. Additionally, Nevada County recently approved funding to support the advancement of the environmental assessment process for the Pines to Mines Trail, which would connect Nevada City with Donner Summit.

3.15.2.2 Local Recreation

Van Norden Meadow is owned and managed by the USFS. The meadow is open to public use and is used by recreationists visiting the area. The meadow itself is a popular area in summer with users ranging from mountain bike enthusiasts, horseback riders, fishermen, school groups, and day hikers. Existing trails around the meadow are either user-created trails, county roads, or utility roads. No existing designated federal campgrounds or off-highway vehicle areas are located in the proposed Project area; however, currently many user-created trails and opportunistic camping are damaging both ecological and cultural resources. Additionally, there are two trailheads for people visiting the meadow: one is at the parking area off Soda Springs Road just beyond the railroad crossing and the other is the Sheep Pens

Trailhead accessed off Van Norden Lake Road. These trail heads are popular with hikers, mountain bikers and equestrians. Van Norden Meadow is also popular to cross country skiers in the winter season with over 11 miles of groomed cross-country ski trails managed by Sugar Bowl/Royal Gorge.

3.15.3 IMPACT ANALYSIS

XV. RECREATION Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	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?	—	—	**X**	—
b) Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	—	—	**X**	—

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?

Finding: Less than Significant

Van Norden Meadow is open to the public and is used by recreationists visiting the area throughout all seasons. However, no existing neighborhood or regional parks exist within the proposed Project area. Currently, the existing recreational facilities that exist include two parking areas: one at the parking area off Soda Springs Road just beyond the railroad crossing and the other at the Sheep Pens Trailhead accessed off Van Norden Lake Road. Additionally, there is a meadow bisect road that recreationists use to access trails south of the meadow.

As a part of the proposed Project, the trailheads and parking area would be reconstructed to accommodate a potential increase in recreational uses. Parking lot construction would include spaces for at least 20 vehicles, include a trailer turn-around, trailhead signage, and restroom facilities. The first trailhead, parking area would be located adjacent to the PG&E substation where the current dam berm and spillway exists. The existing berm would be decommissioned, and the material would be used as a fill source for meadow restoration. An additional trailhead and parking area would be constructed on the north side of the meadow near the old sheep pens area. This area is currently used as a parking area but in its current location disrupts Lytton Creek's hydrologic flows. Relocating the existing parking lot 0.10-mile to the east along the Van Norden Dam Road would reactivate the alluvial fan and meet the meadow restoration goals. The proposed Project also would decommission approximately 0.27 miles of road within the meadow (i.e., the meadow bisect road) and replace with a 120-foot bridge and 0.05 miles of road on the meadow to allow for hydrologic connectivity. Finally, the proposed project would re-align/construct 0.09 miles of road on the upland glacial moraine to retain connectivity with PG&E Road and trails system.

These proposed construction activities would enhance the recreational facilities in the proposed Project area and elongate their use. Therefore, there would be a less than significant impact to the use of existing recreational facilities such that substantial physical deterioration of the facilities would occur or be accelerated.

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

Finding: Less than Significant

With increasing demand for year-round access to Van Norden meadow, actions are needed to protect and conserve public resources as well as promote safe and sustainable recreational opportunities on USFS lands. The proposed Project would include constructing a formalized network of trails that includes trailheads, parking areas, restroom facilities, interpretive panels, and viewing platforms that minimizes damage to resources, consistent with USFS design standards and priority projects defined in recent local recreational planning efforts (DSA, 2021).

The proposed Project includes the construction of a trail network to circumnavigate Van Norden meadow. New trail construction would connect portions of existing user created trails where the alignment does not impact meadow-related resources. User created trails not adopted into the new formalized system will be restored using native materials such as pine needles, rocks, and woody debris. The trail network would include two trailhead access points, one near the old dam and the other near the Sheep Pen area. Trail users would be able to walk, bike, or horseback ride along the north and east sides of the meadow and have three options to experience the south side of the meadow. They could choose a longer loop that builds in elevation to the ridge along the South side of the meadow, connecting to a proposed section of the Donner Lake Rim Trail/Memorial Overland Emigrant Trail, or a mid-slope red fir forest option with filtered views of the meadow, or choose a shorter, lower gradient route that follows the PG&E powerline road. Providing sustainable trail access to the southern ridge would reward visitors with an expansive view of the meadow and surrounding mountains. Where necessary, user-created trail will be improved to address existing issues associated with drainage and other resource damage. This would include construction of low water crossings, short sections of boardwalks, and bridges. Both minor and major trail bridges would be constructed to meet the USFS Trail Management Objectives developed for each trail. Bridges would be constructed using Forest Service standard trail bridge plans and built to meet snow load standards.

Therefore, while there would potentially be an increased use of recreation in the area, the construction would be designed to prevent the physical deterioration of the natural area. This proposed construction would technically expand the recreational facilities in the area but would consolidate the user-generated trails and prevent further adverse physical effects on the environment. This impact would be less than significant.

3.15.4 MITIGATION MEASURES

No mitigation is required.

3.16 Transportation

3.16.1 REGULATORY SETTING

3.16.1.1 Federal

No federal plans, policies, regulations, or laws related to transportation/traffic apply to the proposed Project.

3.16.1.2 State

California Department of Transportation

The California Department of Transportation (Caltrans) manages interregional transportation, including the management and construction of the California highway system. In addition, Caltrans is responsible for the permitting and regulation of State roadways and requires that permits be obtained for transportation of oversized loads and transportation of certain materials, and for construction-related traffic disturbance.

Senate Bill 743

SB 743, passed in 2013, required the California Governor's Office of Planning and Research (OPR) to develop new CEQA guidelines that address traffic metrics under CEQA. As stated in the Legislation, upon adoption of the new guidelines, "automobile delay, as described solely by level of service or similar measures of vehicular capacity or traffic congestion shall not be considered a significant impact on the environment pursuant to this division, except in locations specifically identified in the guidelines, if any. OPR proposed, and the California Natural Resources Agency certified and adopted, changes to the CEQA Guidelines that identify vehicle miles traveled as the most appropriate metric to evaluate a project's transportation impacts. With the California Natural Resources Agency's certification and adoption of the changes to the CEQA Guidelines, automobile delay, as measured by "level of service" and other similar metrics, generally no longer constitutes a significant environmental effect under CEQA (Pub. Resources Code, § 21099, subd. (b)(3)). As described in CEQA Guidelines § 15064.3(b)(1), projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less-than-significant transportation impact.

3.16.1.3 Local

Nevada County General Plan

The following goals and policies from the Circulation Element related to transportation and traffic are relevant to the proposed Project (Nevada County 2010). Those goals and policies that directly pertain to the proposed Project are discussed in the impact analysis below.

Policy MV-4.2.5: In the review of all discretionary permits, the County shall consider the effect of the proposed development on the area-wide transportation network and the effect of the proposed

development on the road network and other transportation facilities in the immediate vicinity of the project site.

Goal EP 4.1. Minimize adverse impacts to the circulation system on the natural and historic environment.

Policy EP 4.4.1. The County shall require environmentally sound practices for transportation facility construction and maintenance. New roads or improvements to the existing road system and all trails and pathways shall be located, constructed and maintained in a manner compatible with the environment.

3.16.2 ENVIRONMENTAL SETTING

3.16.2.1 Existing Roadway Network

The proposed Project is located in Nevada and Placer Counties off Donner Pass Road. The closest major roadway in the region is I-80. According to the Nevada County General Plan, the street system is composed of a combination of roadways, including interstate highways and freeways, arterials, collectors, local roadways, and emergency access roadways (Nevada County 2010).

The main roads on which the proposed Project construction equipment and truck trips would occur are the following:

- I-80 is a major collector and designated as an interstate highway.
- Donner Pass Road is an east-west major collector that spans from I-80 to the Truckee town limits. Near the proposed Project area, Donner Pass Road provides one travel lane in each direction and has a posted speed limit of 35 miles per hour. Additionally, turn-areas of approximately 200 feet in length exist along Donner Pass Road at its intersection with Soda Springs Road.
- Soda Springs Road is a two-lane minor collector that transverses south from Donner Pass Road through Placer County.
- Lake Van Norden Road is a dirt road that transverses east-west from Soda Springs Road to east of the proposed Project area where it becomes Old Donner Summit Road.

3.16.2.2 Bicycle/Pedestrian Facilities

There are existing hiking trails along the ridges north and south of the proposed Project area. There are no sidewalks or bicycle lanes along the roadways in the Project vicinity. Additionally, the Project area is not served by public transit.

3.16.3 IMPACT ANALYSIS

XVI. TRANSPORTATION Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	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?	—	—	X	—
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	—	—	X	—
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	—	—	—	X
d) Result in inadequate emergency access?	—	—	—	X

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

Finding: Less than Significant

Construction employees and equipment resulting from the construction of the proposed Project would use local roadways surrounding the proposed Project area (Donner Pass Road, Soda Springs Road, Lake Van Norden Road, and Old Donner Summit Road to other connecting roadways and Interstate 80) for the duration of construction. Truck trips could include worker commuter trips and transport of materials during construction. A total of approximately 20 daily worker trips and 100 total haul trips would occur. While truck trips would create a temporary increase of traffic on local roadways, it is not expected to conflict with any plan, ordinance, or policy related to effective circulation since the roads are very rural with low traffic volumes and Project activities would be temporary lasting 4.5 months per construction year (up to a total of 14 months). The proposed Project would not change the operation of any of the roadways or intersections and would not result in a permanent increase in travel on any roadways. While the proposed Project does include building a trail that would circumnavigate the meadow, the increase in traffic would be minimal as it is already used by recreationists. Additionally, this trail is consistent with recommended improvements included in the Draft Donner Summit Area Public Use and Recreation Plan (Donner Summit Association, 2021). Therefore, the proposed Project would not conflict with any program, plan, ordinance, or policy related to the circulatory system and there would be a less than significant impact.

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

Finding: Less than Significant

In accordance with SB 743, the CEQA Guidelines section 15064.3, subdivision (b) is primarily focused on projects within transit priority areas and shifts the focus from driver delay to reduction of greenhouse gas emissions, creation of multimodal networks, and promotes a mix of land uses. It also allows various approaches to consider a Project's transportation impacts, including qualitative analysis. As described in Impact a) above, the proposed Project would generate 20 daily worker trips and 100 total haul trips during the construction seasons (14 total months). The proposed Project would only increase vehicle traffic in the Project vicinity as the Project would not induce growth or result in land use changes. The proposed Project would, however, potentially increase traffic circulation locally as the new trail construction could bring more people to the area for recreational purposes. The area is already largely used for recreation so the potential increase in recreational users is not expected to be significant. Following the proposed Project construction, no additional maintenance would be required beyond what is already occurring. Therefore, the proposed Project would not conflict with CEQA Guidelines Section 15064.3; the impact would be less than significant.

c) Would the Project substantially increase hazards to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Finding: No Impact

The proposed Project does not include any new design features on roadways, and therefore, would not result in any associated hazards. The proposed Project would not change the geometry of the meadows access points along the road, nor would it introduce incompatible uses after construction. The trail would be used by recreationalists and visitors in the area, and no incompatible uses would interfere with trail use. Like other roadways in the area, snow removal may occur on access routes; however, snow removal equipment already exists in the area and new hazardous situations would not be created. Therefore, there would be no impact.

d) Would the Project result in inadequate emergency access?

Finding: No Impact

The proposed Project would not change access points to the Project area. During implementation of the proposed Project, the movement of construction equipment along Donner Pass Road, Soda Springs Road, Old Donner Summit Road, Lake Van Norden Road, and I-80 to other connecting roadways and arterials would be minimal. Emergency access would not be hindered. Therefore, there are no impacts to emergency access.

3.16.4 MITIGATION MEASURES

No mitigation is required.

3.17 Tribal Cultural Resources

This section was developed by Stantec Consulting pursuant to Section 15064.5 of CEQA. The purposes were to (1) identify listed or eligible resources for listing in the California Register of Historical Resources in the Project area; (2) identify resources defined as a place, cultural landscape that is geographically defined in terms of the size, or object with cultural value to a California Native American tribe.

3.17.1 REGULATORY SETTING

3.17.1.1 Federal

Traditional Cultural Properties and the Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act (NAGPRA 25) USC §3001 and its implementing regulations 43 CFR Part 10 presents a systematic process for determining the rights of lineal descendants and Indian tribes and Native Hawaiian organizations to certain Native American human remains, funerary objects, sacred objects, or objects of cultural patrimony with which they are affiliated. Federal regulation defines TCP as properties that have “association with cultural practices or beliefs of a living community that (a) are rooted in that community’s history, and (b) are important in maintaining the continuing cultural identity of the community” (Parker and King 1998). Complying with federal regulations such as NAGPRA and the identification of TCPs is the responsibility of the Tahoe National Forest.

3.17.1.2 State

CEQA and Assembly Bill 52

Pursuant to PRC Section 21084.1, a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. AB 52, signed by Governor Edmund G. Brown, Jr., in September of 2014, established a new class of resources under CEQA: “tribal cultural resources” (TCRs). Changes to Appendix G were approved by the Office of Administrative Law on September 27, 2016. Tribal Cultural Resources include sites, features, and places with cultural or sacred value to California Native American Tribes. See Section 3.5 for additional information regarding cultural resources.

Tribal Cultural Resources

“Tribal cultural resources” is a term defined in PRC Section 21074 as follows.

a) “Tribal cultural resources” are either of the following:

(1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

(A) Included or determined to be eligible for inclusion in the California Register of Historical Resources.

(B) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

(2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

b) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

c) A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a "nonunique archaeological resource" as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).

California Native American Tribe

"California Native American tribe" is defined in PRC Section 21073 as a Native American tribe located in California that is on the contact list maintained by the NAHC for the purposes of Chapter 905 of the Statutes of 2004. In addition, PRC Section 21080.3.1 states the following:

a) The Legislature finds and declares that California Native American tribes traditionally and culturally affiliated with a geographic area may have expertise concerning their tribal cultural resources.

b) Prior to the release of a negative declaration, mitigated negative declaration, or environmental impact report for a project, the lead agency shall begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if: (1) the California Native American tribe requested to the lead agency, in writing, to be informed by the lead agency through formal notification of proposed projects in the geographic area that is traditionally and culturally affiliated with the tribe, and (2) the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification, and requests the consultation. "Consultation" shall have the same meaning as provided in Section 65352.4 of the Government Code.

c) To expedite the requirements of this section, the Native American Heritage Commission shall assist the lead agency in identifying the California Native American tribes that are traditionally and culturally affiliated with the project area.

d) 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.

e) The lead agency shall begin the consultation process within 30 days of receiving a California Native American tribe's request for consultation.

3.17.1.3 Local

County of Nevada General Plan 2014

The following goals and policies from the County of Nevada General Plan related to cultural and tribal resources are relevant to the proposed Project (County of Nevada 1994; amended in 2014).

Goal 19.1. Identify and protect and where economically feasible restore significant archaeological and historic resources.

Objective 19.1. Encourage the inventory, protection and interpretation of the cultural heritage of Nevada County, including historical and archaeological landscapes, sites, buildings, features, artifacts.

Objective 19.2. Implement development standards, including the preservation of open space, to protect identified significant cultural sites.

Policy 19.4. Incorporate cultural and historic resource management standards in the Comprehensive Site Development Standards, for use in project review of all discretionary project permits. These standards shall provide for the use of clustering and restricted building sites as techniques for the preservation of significant cultural resources.

Policy 19.6. Require all applications for discretionary project permits, and all applications for ministerial project permits except single family residences on individual lots shall be accompanied by a Site Sensitivity Literature Review, prepared by a qualified archaeologist or entity such as the North Central Information Center, Department of Anthropology, California State University at Sacramento. Where review indicates significant archaeological or historical sites or artifacts are, or are likely, present, on-site field review shall be required. If a site or artifacts are discovered, the find shall be evaluated, and potential significance determined. If significant cultural resources may be directly or indirectly impacted by proposed development, appropriate mitigation shall be developed and implemented in accordance with California Environmental Quality Act standards, including Appendix K, prior to onset of ground disturbance. Avoidance of significant cultural resources shall be considered the mitigation priority. Excavation of such resources shall be considered only as a last resort when sufficient planning flexibility does not permit avoidance. On-site field review, evaluation of site significance, and development of MMs, as identified above, shall be performed by a qualified professional archaeologist.

Objective 19.3. Include in the development review process consideration of historic, cultural, and Native American concerns and values.

Policy 19.7. Cooperate with local historical societies and the Native American Indian community to protect significant historical, cultural and archaeological artifacts, improve access to and interpretation of unrestricted resources and archaeological history by involving them in the development review process.

County of Placer General Plan 2013

The following goals and policies from the County of Placer General Plan related to cultural and tribal resources are relevant to the proposed Project (County of Placer 2013). Those goals and policies that directly pertain to the proposed Project are discussed in the impact analysis below.

Goal 5.D. To identify, protect, and enhance Placer County's important historical, archaeological, paleontological, and cultural sites and their contributing environment.

Policy 5.D.1. The County shall assist the citizens of Placer County in becoming active guardians of their community's cultural resources.

Policy 5.D.2. The County shall solicit the cooperation of the owners of cultural and paleontological resources, encourage those owners to treat these resources as assets rather than liabilities, and encourage the support of the general public for the preservation and enhancement of these resources.

Policy 5.D.3. The County shall solicit the views of the Native American Heritage Commission, State Office of Historic Preservation, North Central Information Center, and/or the local Native American community in cases where development may result in disturbance to sites containing evidence of Native American activity and/or to sites of cultural importance.

Policy 5.D.4. The County shall coordinate with the cities and municipal advisory councils in the County to promote the preservation and maintenance of Placer County's paleontological and archaeological resources.

Policy 5.D.5. The County shall use, where feasible, incentive programs to assist private property owners in preserving and enhancing cultural resources.

Policy 5.D.6. The County shall require that discretionary development projects identify and protect from damage, destruction, and abuse, important historical, archaeological, paleontological, and cultural sites and their contributing environment. Such assessments shall be incorporated into a Countywide cultural resource data base, to be maintained by the Division of Museums.

Policy 5.D.7. The County shall require that discretionary development projects are designed to avoid potential impacts to significant paleontological or cultural resources whenever possible. Unavoidable impacts, whenever possible, shall be reduced to a less than significant level and/or shall be mitigated by extracting maximum recoverable data. Determinations of impacts, significance, and mitigation shall be made by qualified archaeological (in consultation with recognized local Native American groups), historical, or paleontological consultants, depending on the type of resource in question.

Policy 5.D.8. The County shall, within its power, maintain confidentiality regarding the locations of archaeological sites in order to preserve and protect these resources from vandalism and the unauthorized removal of artifacts.

Policy 5.D.9. The County shall use the State Historic Building Code to encourage the preservation of historic structures.

Policy 5.D.10. The County will use existing legislation and propose local legislation for the identification and protection of cultural resources and their contributing environment.

Policy 5.D.11. The County shall support the registration of cultural resources in appropriate landmark designations (i.e., National Register of Historic Places, California Historical Landmarks, Points of Historical Interest, or Local Landmark). The County shall assist private citizens seeking these designations for their property.

Policy 5.D.12. The County shall consider acquisition programs (i.e., Placer Legacy Open Space and Agricultural Conservation Program) as a means of preserving significant cultural resources that are not suitable for private development. Organizations that could provide assistance in this area include, but are not limited to, the Archaeological Conservancy, the Native American community, and local land trusts.

3.17.2 ENVIRONMENTAL SETTING

The following section describes the regional and local cultural setting for the proposed Project. The section includes the methodology used for establishing the contextual setting along with a summary of the ethnographic context.

3.17.2.1 Methodology for Establishing Setting

Records Search

Prior to the pedestrian archaeological survey conducted in 2018, a records search and literature review were conducted by Anthropological Studies Center, Sonoma State University (ASC) at the North Central Information Center (NCIC) at California State University in Sacramento, California, on 8 April 2016 (ASC 2018). The NCIC is part of the California Historical Resources Information System (CHRIS) that is the official state repository for records and reports on archaeological surveys, historical resources, and archaeological resources. Additionally, ASC conducted a records search with the Tahoe National Forest prior to conducting the pedestrian survey.

Using a ¼ mile buffer around the project area, the records search at the North Central Information Center for the proposed Project area identified 14 previously conducted cultural resources studies within or adjacent to it and 36 documented cultural resources within it, consisting of 18 prehistoric cultural resources, 10 historic-era cultural resources, and 8 multicomponent cultural resources containing both prehistoric and historic-era elements (see Tables 3.5-1 and 3.5-2 in Section 3.5 Cultural Resources). No traditional cultural properties were identified as part of the records search.

Pedestrian Survey Results

The initial survey of the project was by Anthropological Studies Center, Sonoma State University (ASC) (ASC 2018). Additional cultural resource identification efforts were completed in 2021 by Browning Cultural Resources, Inc. and Foothill Resources, Ltd. within a refined project area based on the current proposed action and purpose and need. BCR's scope of work entailed additional identification efforts and remapping of sites affiliated with Native American use. This effort resulted in refinement of site boundaries for 5 precontact sites within the project area (P-29-000442, P-29-000443, P-31-000449, P-31-000446, and Forest Service Site 05175700985). Tribal representative, Mr. Allan Wallace, participated in these identification efforts. Mr. Wallace was designated by the Washoe Tribe's Tribal Historic Preservation Officer, Mr. Darrel Cruz. Survey worked completed in support of PG&E transmission line upgrades in 2020 resulted in site boundary refinement of 5 additional precontact sites (P-29-000444, P-31-000440, P-31-000443, P-29-000446, P-31-000442) within and adjacent to the project area (BCR 2020). Additionally, Drews recorded an isolated bedrock milling station as P-29-004526 (Drews 2016).

Sacred Lands Search

The ASC contacted the NAHC on 7 April 2017, requesting a review of the Sacred Lands File for information on Native American cultural resources in the Project area. On 11 April 2017, the NAHC responded that the results of the search were negative and also provided a contact list of groups and individuals who may have knowledge of cultural resources at the Project area. In addition to the contact list of groups and individuals, the United Auburn Indian Community of the Auburn Rancheria, the Shingle Springs Band of Miwok Indians, the T'si Akim Tribal Council, and the Nevada City Rancheria California Native American have contacted the County to request consultation on discretionary projects reviewed by the County of Nevada. Extensive tribal consultation with the Washoe Tribe of Nevada and California has continued throughout project planning since 2017 with the meadow identified as located within the Washoe Tribe's traditional and ancestral territory. Tribal members identify the Summit Valley and Van Norden Meadow as *Yayalu Itdeh.*

Washoe

This overview and citations are from the ethnographic summary in Button and Browning 2021.

The Washoe people are the original people of the Summit Valley/ Van Norden area. The Washoe language was initially thought to be a unique, isolated language stock; however, linguists now classify it as a member of the widely dispersed Hokan language family. Other Hokan groups were also located in northern and southern California and along the California coast (Shipley 1978). At the time of "contact" (ca. 1840s), with the onset of Euro-American migration, the Van Norden Meadow area was frequented by the northern Washoe or *Welmelti*. These "northerners" occupied the northern Lake Tahoe Basin, Donner-Truckee Basins, Sierra Valley, and the eastern Sierran front north of Carson Valley, through Washoe Valley and north to Truckee Meadows (Reno). The Washoe have long tenure in their known area of historical occupation (d'Azevedo 1986:466, 471; Price 1962). They are part of an ancient Hokan-speaking population. Ethnographic settlements and resource areas are documented in the Truckee vicinity: Washoe consultants working with anthropologist Warren d'Azevedo identified an unusual

concentration of named settlements within the Truckee River watershed along the Truckee River between Donner Creek and the Little Truckee River (d'Azevedo 1956; Rucks 2005; Rucks in Lindström et al. 2007:12), suggesting there were permanent habitation camps in the area.

The Washoe generally inhabited the Summit Valley within which Van Norden Meadow is situated as well as inhabiting the greater Truckee Valley/Basin. Their core territory extended from montane valleys including Sierra Valley as well as the Truckee River watershed which encompasses the Project Area and vicinity (D'Azevedo 1986:468; Kroeber 1925: 569). The volume of archaeological sites in Van Norden Meadow and the vicinity reflect Washoe's intensive use of Summit Valley and higher elevation valleys in the Sierra Nevada. This intensive use is reflected in Martis Valley, Stampede Valley, Sardine Valley, all of which are situated in the greater Truckee area.

Tribal members identify the Summit Valley and Van Norden Meadow as *Yayalu Itdeh.* A nearby site in particular is associated with the quartz crystal healing medicine *oysik* (Personal Communication, with Washoe tribal members Darrel Cruz, Melba Rakow, and Alan Wallace, 2021). Major habitation centers were on the floors of large valleys with an average elevation of 4,500 feet; however, the Washoe did have some permeant, year-round settlements in places like the upper reaches of the Truckee River near Donner Lake where the elevation is around 5,500 feet (approximately 6 miles east of the current APE). According to Freed (1966:81), the junction of Donner Creek and the Truckee River was known as, *dewbeyulélbeti?,* meaning water forking together and/or water flowing down. Another name for this same place is *dat'sa sut ma'lam detde'yi'*, meaning porcupine + hides + lives there and/or mouth of stream + tributary + live there. This was a place used for fishing and hunting, as Donner Creek provided better fishing than the Truckee River because it was smaller and could be diverted.

Contemporary Washoe are very interested in preserving their traditional culture and protecting their traditional cultural properties. Washoe have an established tribal and political presence across their traditional lands, including the Project area, and take an active role in developing plans to address tribal concerns including maintaining Washoe cultural heritage.

Native American Consultation

ASC Staff Archaeologist Mark Selverston conducted the initial tribal consultation on behalf of South Yuba River Citizens League (SYRCL), with the primary tribe with ties to the project area, the Washoe Tribe of Nevada and California. Mr. Selverston and Rachel Hutchinson, representing South Yuba River Citizens League (SYRCL), discussed this project with Darrel Cruz, Tribal Historic Preservation Officer for the Washoe Tribe of Nevada and California, a federally recognized tribe, and Tribal elder Joanne Nevers, during a field visit to the Project area on 27 September 2017. The field trip was also attended by Carrie Smith, heritage program manager for the Tahoe National Forest, and Randy Westmoreland, US Forest Service hydrologist. The purpose of the meeting was to introduce the Project and the scope of the various restoration activities under consideration at that time. Cruz and Nevers discussed their familiarity with Summit Valley; Nevers recalled visiting the area with her family in her youth. Neither of them provided information on specific cultural resources at Van Norden nor identified any religious sites, sacred sites, traditional cultural properties, or other areas of tribal concern. They identified any site considered a prehistoric or precontact site as a tribal resource of concern and they should be protected from all project

related activities. Subsequent to the field meeting, Darrel Cruz replied to ASC's request for information with a letter received on 30 January 2018 in which he stated that he was aware of cultural resources in the APE, that his knowledge is the same as Tahoe National Forest and SYRCL, and that the Tribe would like to review the archaeological report when complete, offer comments, and continue to consult with SYRCL and the Forest Service.

Based on the letter received by the NAHC, a letter was submitted by ASC to Mr. Daniel Fonseca, Cultural Resource Director and Tribal Historic Preservation Officer for the Shingle Springs Band of Miwok Indians, a federally recognized tribe. Mr. Fonseca replied by letter to ASC received on 3 January 2018. The letter reported that the tribe is not aware of any cultural resources in the Project area, but requested they are kept apprised and provided with copies of any and all completed records searches and/or surveys including environmental, archaeological, and cultural reports. They also requested that they be notified if "new information or human remains are found" so they can go over their process to protect such resources.

Additionally, the United Auburn Indian Community (UAIC) is a federally recognized Tribe comprised of both Miwok and Maidu (Nisenan) Tribal members and are traditionally and culturally affiliated with the project area. The Tribe possess the expertise concerning Tribal cultural resources in their area of geographic and cultural affiliation and are contemporary stewards of their culture and the landscapes. The Tribal community represents a continuity and endurance of their ancestors by maintaining their connection to their history and culture. Based on the letter received by the NAHC, a letter was submitted by ASC to United Auburn Indian Community of the Auburn Rancheria. Cherilyn Neider, Administrative Assistant for the UAIC replied by email message on 2 February 2018. In the message, she requested all existing cultural resource assessments as well as requests for and results of any records searches that may have been conducted, GIS shapefiles for the proposed project's APE (though a project had not been proposed at the time of the letter), and requested the reply be made part of the record.

Gene Whitehouse, Chairman of the UAIC, replied by letter dated 8 January 2018 and received on 8 February 2018 to Mr. Selverston. The letter stated that the Tribe would like to consult on the project and requested copies of completed archaeological reports and environmental documents for the proposed project. Mr. Selverston submitted the final copy of the inventory report to UAIC.

Mr. Darrel Cruz, THPO for the Washoe Tribe, was provided copies of these responses based on the NAHC contact list. After staff changes at UAIC, Darrel Cruz spoke with UAIC Tribal Historic Preservation Officer Matt Moore to clarify the meadow was within Washoe territory and under Washoe consultation jurisdiction. Mr. Cruz in turn notified Mr. Selverston, Ms. Hutchinson, and Ms. Smith that the Washoe Tribe would be the primary tribe for future consultation on the restoration project.

In late 2017, the land was transferred to the USFS, Tahoe National Forest and tribal consultation with the Washoe Tribe continued. A field visit was held in September 2019 to provide Mr. Cruz information regarding the evolving nature of the restoration project and to review many of the recorded sites. Mr. Cruz stated the tribe supported the restoration efforts and wanted all tribal cultural sites protected.

As part of federal government to government tribal consultation under Section 106 of the National Historic Preservation Act of 1966 and implementing regulations at 36 CFR 800, and scoping under the National

Environmental Protection Act, Mr. Jonathan Cook-Fisher, District Ranger Tahoe Ranger District, Tahoe National Forest initiated tribal consultation with Mr. Serrel Smokey, Chairman of the Washoe Tribe of California and Nevada, a letter on 23 July 2021 to inform the tribe of the Project and request any information or concerns regarding the proposed action. In response, the USFS and SYRCL had a field visit to the meadow with Darrel Cruz, Tribal Historic Preservation Officer of the Washoe Tribe on 28 September 2021. During this site visit the USFS and SYRCL walked the meadow and reviewed restoration designs with Darrel Cruz to review planned actions including the proposed trail. Mr. Cruz indicated the specific watershed restoration plans, and the trail must avoid all cultural sites. Hand removal of vegetation and chipping were acceptable actions within Washoe resources of concern. As such, the design was updated to accommodate such cultural resource impact avoidance.

More recently, on February 9, 2022, the County provided the Project description and the records search results from the North Central Information Center and requested input from the Native American tribe contacts. In summary, Native American consultation identified that there are sensitive cultural resources in the Project area and that the tribes wish to continue consultation regarding the Project.

3.17.3 IMPACT ANALYSIS

XVII. TRIBAL CULTURAL RESOURCES Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less than Significant Impact**	**No Impact**
a) 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:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or	—	—	**X**	—
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth 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.	—	—	**X**	—

a) 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:

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

ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth 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.

Finding: Less than Significant Impact

Activities associated with the proposed Project are identified in Section 2.3, Project Methods. Sacred lands searches conducted by the NAHC and consultations with California Native American tribes conducted for the proposed Project identified tribal cultural resources within Project boundaries and in some cases near proposed Project activities. However, the proposed Project has been designed to avoid all known tribal cultural resources. The consultation process between the California Native American tribes and the USFS is ongoing and coordinated with Nevada County as provided in PRC Sections 21080.3.1 and 21080.3.2. Through this consultation process, the Project area was determined to fall within the areas identified by the UAIC, Washoe, Tsi Akim Maidu, Nevada City Rancheria Nisenan Tribe, and Shingle Springs Band of Miwok Indians as ancestral lands.

As noted above, the consultation is ongoing and while there are known resources in the proposed Project area, the design was updated to accommodate such cultural resource impact avoidance. Therefore, the Project would have a less than significant impact on tribal cultural resources.

3.17.4 MITIGATION MEASURES

No mitigation is required.

3.18 Utilities and Service Systems

3.18.1 REGULATORY SETTING

3.18.1.1 Federal

There are no Federal regulations that pertain to the proposed Project regarding utilities and service systems.

3.18.1.2 State

Assembly Bill 939

AB 939 (PRC 41780) was enacted to increase landfill life and conserve other resources through increased source reduction and recycling. AB 939 requires cities and counties to prepare Solid Waste Management Plans to implement AB 939's goals, particularly to divert approximately 50 percent of solid waste from landfills. AB 939 also requires cities and counties to prepare Source Reduction and Recycling Elements. These elements are designed to develop programs to achieve diversion goals, stimulate local recycling in manufacturing and stimulate the purchase of recycled products. PRC 41780, as amended April 22, 2009 (AB 479), requires 60 percent diversion from landfills by January 2015 through source reduction, recycling, and composting activities.

3.18.1.3 Local

The proposed Project does not provide for or directly impact utilities services and therefore there are no goals or policies in the Nevada County General Plan or the Soda Springs Area Plan that directly pertain to the proposed Project.

3.18.2 ENVIRONMENTAL SETTING

Utilities are typically provided by sewer districts, water districts, and other single purpose districts in addition to those provided by Nevada County and any State and Federal agencies.

There is no public utility infrastructure involving water or sewer systems within the proposed Project area. Electrical power near the Project area is provided by the PG&E and Truckee Donner Public Utility District.

3.18.2.1 Water

Water supply in area of the proposed Project area is provided by Donner Summit Public Utilities District (DSPUD) and the Sierra Lakes County Water District which serves the Serene Lakes Community just outside of Soda Springs. Lake Angela and Lake Mary, DSPUD-owned lakes, are the water source for the Soda Springs area. Van Norden Meadow is the headwaters of the South Yuba River. The South Yuba River flows into Lake Spaulding where portions of the outflow are distributed by the Nevada Irrigation District for downstream water use.

3.18.2.2 Wastewater

Wastewater services in the Soda Springs area are provided by DSPUD. The DSPUD is a bi-county special district formed in Nevada and Placer counties in 1948 (Donner Summit Public Utilities District 2018).

3.18.2.3 Solid Waste

Tahoe Truckee Sierra Disposal provides for the collection and transportation of solid waste to the dump/transfer station located at Highway 89 and Cabin Creek Road in Truckee. This includes waste from all residential, commercial, and industrial properties, including recycling material (Soda Springs Area Plan 2016).

3.18.2.4 Gas and Electricity

PG&E provides electrical transmission and distribution services to the Project vicinity. PG&E overhead electrical distribution lines parallel a majority of the Project area.

Kinder Morgan Energy Partners LP (Kinder Morgan) has a natural gas pipeline on the north side of Van Norden that parallels the meadow.

3.18.3 IMPACT ANALYSIS

XVIII. UTILITIES AND SERVICE SYSTEMS Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less than Significant Impact**	**No Impact**
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	—	—	—	**X**
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	—	—	—	**X**
c) 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?	—	—	**X**	—
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?	—	—	**X**	—

XVIII. UTILITIES AND SERVICE SYSTEMS Would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less than Significant Impact**	**No Impact**
e) Comply with Federal, State, and local management and reduction statutes and regulations related to solid waste?	—	—	—	**X**

a) Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?

Finding: No Impact

Implementation of the proposed Project would not involve the development of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities. During Phase 2 of the proposed Project, grading would be required on the existing path of Kinder Morgan's natural gas pipeline that is located on the north side of the meadow. There is potential for impacts to occur due to the grading work potentially interacting with the pipeline and could therefore potentially cause a significant environmental effects. However, with the implementation of MM UTI-1, impacts would be less than significant.

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

Finding: No Impact

The proposed Project would not substantially increase water demand during construction or operational activities. Although a nominal amount of water may be used during construction (e.g., for dust control), these activities would be minimal and temporary in nature and would have no impact on the area's overall water supplies. Additionally, restoration of Van Norden Meadow would restore the historic drainage patterns of the area and would improve the downstream water supply since the meadow would hold water longer through the dry season. No impact would occur.

c) 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?

Finding: Less than Significant

The proposed Project would include building two restroom facilities at each trailhead location. These facilities would marginally increase the demand on wastewater treatment facilities. However, due to the minimal impact that these facilities would have within the larger Project vicinity, there would be a less than significant impact on the capacity served by the wastewater treatment provider.

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?

Finding: Less than Significant

Construction would generate solid waste associated with construction materials, excavation spoils, vegetation and tree removal, and general refuse. Any material that cannot be used as fill material would be disposed of at a local landfill. Approximately 3.5 acres of the existing dam berm will be removed and brought to less than 3 feet above meadow grade. A gently sloping grade will be retained to the highest point to allow for trail construction. Dam material will be sorted, mixed with chips from tree removal efforts and utilized in the project as fill material. Any unusable material will be removed from the site as waste.

The closest landfill to the Project area is the Eastern Regional Landfill, located approximately 16 miles southeast at 900 Cabin Creek Rd in Truckee. Given the small amount of solid waste that would be generated by the proposed Project, it would be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs. The Project would not generate additional waste once completed. Impacts related to solid waste disposal would be less than significant.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Finding: No Impact

The proposed Project would comply with all applicable federal, State, and local statutes and regulations related to solid waste, including recycling programs. The proposed Project would not impair the Counties requirements under AB 939 for 50 percent landfill diversion. Once operational, the proposed Project would not result in an increase in the amount of solid waste produced from maintenance in the Project area. No impact would occur.

3.18.4 MITIGATION MEASURES

3.18.4.1 Mitigation Measure UTI-1: Kinder Morgan Natural Gas Pipeline Compliance

SYRCL shall work with Kinder Morgan to develop a safety plan to avoid the buried natural gas pipeline during grading in the vicinity of the pipeline. The safety plan shall include critical prevention and suppression items, and any other items or awareness measures recommended by Kinder Morgan.

Mitigation Measure UTI-1 Implementation

- **Responsible Party:** SYRCL's contractor shall coordinate with Kinder Morgan to ensure safety measures are in place during construction within the vicinity of the pipeline
- **Timing:** Coordination with Kinder Morgan shall take place prior to construction and implementation of the safety plan shall be implemented during construction in the vicinity of the pipeline.

- **Monitoring and Reporting**: The SYRCL inspector or other SYRCL personnel shall verify that coordination with Kinder Morgan took place and that proper responsibilities are being implemented on site during construction. Documentation shall be submitted by SYRCL to Nevada County to be kept on file at the Nevada County office.
- **Standard of Success**: Avoidance of the natural gas pipeline during construction activities for all contractors.

3.19 Wildfire

3.19.1 REGULATORY SETTING

3.19.1.1 Federal

The federal government pays for wildland fire protection on federal lands in California, and in certain circumstances, provides federal funding for fire suppression and relief lands on nonfederal lands.

Disaster Mitigation Act of 2000

The Federal Disaster Mitigation Act of 2000 enacted a number of changes to the Robert T. Stafford Disaster Relief and Emergency Assistance Act related to pre-disaster mitigation, streamlining the administration of disaster relief, and controlling the costs of federal disaster assistance. These changes have collectively brought greater focus on pre-disaster planning and activities as a means for reducing response and post-disaster costs. In accordance with the Act, local governments must have an LHMP that is reviewed by the State Mitigation Officer and then approved by FEMA as this is a required condition of receiving FEMA mitigation project assistance. These LHMPs must be revised, reviewed, and approved every 5 years.

Fire Safe Councils can play an important role in the development of LHMPs. The typical Council consists of state and federal fire agencies, local fire districts, businesses, local government, and local concerned citizens. Some Councils have also combined with neighboring fire safe councils to develop countywide wildfire hazard mitigation plans.

3.19.1.2 State

California Department of Forestry and Fire Protection

California Department of Forestry and Fire Protection (CAL FIRE) protects the people of California from fires, responds to emergencies, and protects and enhances forest, range, and watershed values providing social, economic, and environmental benefits to rural and urban citizens. CAL FIRE's firefighters, fire engines, and aircraft respond to an average of more than 5,600 wildland fires each year (CAL FIRE 2018).

The Office of the State Fire Marshal supports CAL FIRE's mission by focusing on fire prevention and provides support through a wide variety of fire safety responsibilities: regulating buildings in which people live, congregate, or are confined; controlling substances and products which may, in and of themselves, or by their misuse, cause injuries, death, and destruction by fire; providing statewide direction for fire prevention in wildland areas; regulating hazardous liquid pipelines; reviewing regulations and building standards; and providing training and education in fire protection methods and responsibilities.

Senate Bill 1241 (Kehoe, Statues of 2012)

To address the increasing risk of wildfire, SB 1241 revised the safety element requirements for State Responsibility Areas (SRAs) and very high Fire Hazard Severity Zones (FHSZ) (Government Code Sections 65302 and 65302.5). SB 1241 requires that the draft element or draft amendment to the safety element of a county or a city's general plan be submitted to the State Board of Forestry and Fire Protection and to every local agency that provides fire protection to territory in the city or county at least 90 days prior to either: 1) the adoption or amendment to the safety element of its general plan for each county that contains state responsibility areas; or 2) the adoption or amendment to the safety element of its general plan for each city or county that contains a very high FHSZ.

Cities and counties are required to adopt a general plan to guide major land use decisions. Each plan includes seven mandatory elements: land use, circulation, housing, conservation, open space, noise, and safety. SB 1241 requires cities and counties to review and update their safety elements to address fire risks on SRA lands and very high FHSZs.

A set of feasible implementation measures designed to carry out the goals, policies and objectives of the general plan must include measures designed to minimize fire risk if a project falls within a SRA or very high FHSZ, including:

1. Avoiding or minimizing the wildfire hazards associated with new uses of land.
2. Locating, whenever feasible, new essential public facilities (i.e., hospitals and health care facilities, emergency shelters, etc.) outside an SRA or a very high FHSZ. If a facility must be placed within SRAs or very high FHSZs, construction and operation methods must be implemented to minimize potential damage of wildland fire.
3. Designing adequate infrastructure for new developments, including safe access for emergency response vehicles, visible street signs, and water supplies for structural fire suppression.
4. Working cooperatively with public agencies with responsibility for fire protection.

Government Code Section 66474.02, as added by SB 1241, requires that a legislative body of a county make three findings before approving a tentative map or parcel map, for an area located in an SRA or very high FHSZ. These findings must include evidence that 1) the design and location of each lot in the subdivision is consistent with any applicable regulations adopted by the State Board of Forestry and Fire Protection; 2) structural fire protection and suppression services will be available for the subdivision from a) the county, or b) the CAL FIRE by contract; and 3) ingress and egress for the subdivision meets the regulations regarding road standards for fire equipment.

3.19.1.3 Local

Per federal and state regulations, the following fire hazard planning requirements are implemented on a local government basis:

- Local governments must adopt a LHMP, and then review and revise that plan every 5 years in order to be eligible for FEMA mitigation project funding.
- Local governments may develop Community Wildfire Protection Plans in order to influence where and how federal agencies implement fuel reduction projects on federal land, as well as how additional federal funds may be distributed for projects on non-federal lands.

Community Wildfire Protection Plans

Community Wildfire Protection Plans (CWPPs) are generally developed by local governments with assistance from state and federal agencies and other interested partners. This provides communities with an opportunity to influence where and how federal agencies implement fuel reduction projects on federal land, as well as how additional federal funds may be distributed for projects on non-federal lands.

Nevada County

A CWPP for Nevada County was initially developed in 2006 and was updated in April 2016 (Fire Safe Council of Nevada County 2016). The primary goal of the Nevada County CWPP is to protect human life, private property, essential infrastructure, and natural resources through the implementation of fire prevention projects that work to increase public awareness, improve forest health, sustain local wildlife, and preserve the natural beauty of the area through a shared responsibility concept.

Nevada County Office of Emergency Services

The Nevada County OES is responsible for coordinating with their respective county departments, municipalities, key stakeholders, and special districts to mitigate against, prepare for, respond to, and recover from all disasters. OES designs and conducts simulated disaster response exercises, evaluates emergency staff training, creates evacuation strategies, and maintains the County Emergency Operations Center in a state of readiness. OES also educates the community on preparedness, facilitates stakeholder collaboration, and seeks additional funding through grants and strategic partnerships (Nevada County 2021b).

3.19.2 ENVIRONMENTAL SETTING

The State of California and Nevada County FHSZ maps are based on an evaluation of fire history, existing and potential fuel, flame length, blowing embers, terrain, weather, and the likelihood of buildings igniting. CAL FIRE maintains FHSZ maps for Local Responsibility Areas and SRAs. Fire hazard is a way to measure physical fire behavior so that people can predict the damage a fire is likely to cause. CAL FIRE analyzes potential fire hazard zones using the Fire and Resource Assessment Program, which takes into account fuels, terrain, weather, and other relevant factors. The proposed Project area is located in an SRA in the northwestern portion and is designated as a ‘very high’ fire severity zone. However, the majority of the proposed Project area (in the meadow) is located in a federal responsibility area (FRA) and is indicated as a ‘moderate’ fire severity zone (CAL FIRE 2021). Because a majority of the proposed Project area is in a FRA, the USFS is responsible for containment of wildland fires. For the areas adjacent

to the FRA, CAL FIRE may provide, when available and to the extent that it does not require additional funds, rescue, first aid, and other emergency services to the public in SRAs (PRC Section 4114).

3.19.3 IMPACT ANALYSIS

XIX. WILDFIRE: If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	**Potentially Significant Impact**	**Less Than Significant with Mitigation Incorporation**	**Less than Significant Impact**	**No Impact**
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	—	—	—	**X**
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?	—	**X**	—	—
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?	—	—	—	**X**
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?	—	**X**	—	—

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

Finding: No Impact

The activities associated with the proposed Project would not result in any changes that would impair an adopted emergency response plan or emergency evacuation plan, as they would not create a long-term increase in traffic, block any roadways, or increase any urban uses. Therefore, there would be no impact.

b) Due to slope, prevailing winds, and other factors, would the Project exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?

Finding: Less than Significant with Mitigation

Proposed Project activities would occur in relatively flat portions of the Project area and would thus not immediately exacerbate wildfire risks related to slope, would not have any affects related to prevailing winds, would not require the installation or maintenance of any infrastructure, nor involve the construction of any habitable structures that would expose the structures or any people to significant risks. Additionally, by completing the proposed Project and restoring the health of Van Norden Meadow, the

proposed Project would reduce the fuel load (i.e., conifer treatment/thinning) in the area surrounding the meadow, reducing fire risk and then should reduce the dry vegetation in the meadow. However, the presence of construction equipment in the proposed Project area during the summer months could increase the risk of wildfires created by the equipment. The proposed Project area is also surrounded by upslope forest habitats which could potentially exacerbate wildfire risks if sparked during construction and spread to the upland area. PAL, which is a system that informs fire protection measures during construction, will be applied throughout the proposed Project duration. Implementation of Mitigation Measure FIRE-1, Fire Suppression and Control, would decrease the potential significant impact to a less than significant level.

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?

Finding: No Impact

The proposed Project would not require any changes to infrastructure (i.e., roads, fuel breaks, emergency water sources, power lines, or other utilities) so it would not exacerbate fire risk nor result in temporary or on-going impacts on the environment. Furthermore, the proposed Project includes forest treatments (including conifer thinning and removal) that are intended to improve forest health by removing small and dying trees to reduce fuel load and minimize the potential for catastrophic fire over the long term. Therefore, the proposed Project would have no impact related to increased risk due to installation or maintenance of associated infrastructure.

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?

Finding: Less than Significant with Mitigation

The proposed Project is surrounded by upslope forest habitats, which poses an increased risk for the rapid spread and severity of wildfire if sparked during construction. Loss of vegetation as a result of severe fire could, in turn, increase the risk for slope instability and landslides during the rainy season post-fire. However, there are no residences within or near the proposed Project area. There would likely be an increase in recreation in the proposed Project area, which could have the potential to expose people to post-fire slope instability. Overall, the proposed Project poses minimal risk to residential structures from flooding, slope instability, or landslides. To further minimize any potential for significant risks, the implementation of MM HAZ-2 (as noted in Section 3.8, Hazards and Hazardous Materials) would minimize the risk of ignition of wildfire during construction. Therefore, with implementation of mitigation, the risk of exposure of people or structures from flooding or landslides as a result of runoff, post-fire slope instability, or drainage changes is less than significant.

3.19.4 MITIGATION MEASURES

3.19.4.1 Mitigation Measure HAZ-2: Fire Suppression and Control

See MM HAZ-2, Section 3.8

3.20 Mandatory Findings of Significance

3.20.1 IMPACT ANALYSIS

MANDATORY FINDINGS OF SIGNIFICANCE Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less than Significant Impact	No Impact
a) Does the Project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	—	X	—	—
b) Does the Project have impacts that are individually limited, but cumulative considerable? ("Cumulative 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)?	—	—	X	—
c) Does the Project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	—	—	X	—

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?

Finding: Less than Significant with Mitigation Incorporated

3.20.1.1 Biological Resources

While the proposed Project would result in potentially significant impacts on biological resources, implementation of applicable biological BMPs and MMs as proposed in this IS/MND would ensure that the proposed Project would not substantially degrade the quality of the environment; substantially reduce the habitat, population, or range of a plant or animal species; cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community; or reduce the number or restrict the range or a rare or endangered plant or animal.

As disclosed in Section 3.4 of this document, biological resources that may occur in the proposed Project area that may be affected by the proposed Project include potential special status plant species and/or wildlife. However, with the implementation of MM BIO-1 though BIO-6, the proposed Project is not expected to significantly impact any local, State, or Federal listed rare and endangered species (See Section 3.4.3 and Table 3-5). Additionally, the proposed Project phases would not substantially reduce habitat in the watershed as the proposed Project would allow the current channels, as well as the associated meadow system, to be restored to its historical capacity with improved erosion control and water quality functions. Sediment control measures would be taken to minimize impacts to surrounding waterways and drainages.

Overall, the proposed Project would improve the quality of the meadow and the overall ecosystem within Van Norden Meadow. Construction impacts would be limited in size, temporary, and minimized by implementing erosion control BMPs and a SWPPP.

3.20.1.2 Cultural Resources

Tribes in the area were contacted by letter on July 23, 2021 to inform the tribe of the proposed Project and request any information or concerns regarding it. The Washoe Tribe requested a field visit that was conducted on September 28, 2021. As disclosed in Section 3.5 and Section 3.18 of this document, the cultural resources survey identified some of the sites in the proposed Project area that may meet the criteria of a historical resource and the proposed Project could cause a substantial adverse change in the significance of these potential historical resources. None of the known archaeological sites within the Project area have been evaluated for the NRHP or CRHR and given the history of the meadow, the proposed Project area has a high sensitivity for the presence of undiscovered precontact and historic sites. Consequently, the proposed Project could cause a substantial adverse change in the significance of an archaeological resource. Project plans, however, are being designed in coordination with Native American tribal representatives to avoid all known precontact and historic sites and implementation of MM CUL-1 and CUL-2 (i.e., cultural resources sensitivity training and implementation of an inadvertent discovery plan) would reduce any potential proposed Project impacts to less than significant.

Therefore, with the implementation of above mitigation, the proposed Project would not eliminate important examples of the major periods of California history or prehistory and impacts are considered less than significant.

b) Does the Project have impacts that are individually limited, but cumulative considerable? ("Cumulative 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)?

Finding: Less than Significant

As defined by Section 15344(b) of the CEQA Guidelines "the change in the environment which results from the incremental impact of the Project when added to other closely related past, present, and reasonable [sic] foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time." In addition to Project-specific

impacts, this evaluation considered the proposed Project's potential for incremental effects that are cumulatively considerable.

Although the proposed Project has the potential to impact the environment, those potential impacts, in addition to being fully mitigated, are related to temporary construction associated with meadow restoration which would have beneficial impact to the environment.

Based on a search of the Placer County, Nevada County, Caltrans, and Town of Truckee webpages, there are three projects which partially overlap and/or could be completed in the same timeframe. Nevada County completed the Van Norden Dam Spillway Modification Project in 2019 which included modifications to the dam spillway to lower the spillway to allow unrestricted flow of water (Nevada County 2021a), which is partially located on the west side of the proposed Project area. Nevada County is also currently completing improvements to Donner Pass Road approximately 250-500 feet north of the proposed Project area. This project consists of road rehabilitation and shoulder widening on 6.5 miles of Donner Pass Road beginning at the Soda Springs exit and ending at the Truckee town limit east of the summit (Nevada County 2021b). The Nevada County Department of Public Works recently (summer 2021) replaced the existing South Yuba River at Soda Springs Road Bridge (Nevada County 2021c). This project is adjacent to the proposed Project on the west side.

These projects, when viewed in conjunction with the proposed Project could have temporary cumulative impacts related to aesthetics, air quality, hydrology and water quality, noise, and recreation. However, the proposed Project construction time is minimal (approximately 4.5 months per construction season, totaling 14 months) and any projects in the area would require mitigation that would facilitate a further reduction in potential cumulative impacts. Additionally, while the Van Norden Meadow Spillway Modification Project drew down Van Norden Lake, the proposed Project aims to re-establish connections between the stream and meadow environment, potentially re-wetting the meadow in areas. Therefore, impacts from the proposed Project would cumulatively and beneficially further advance the meadow restoration begun with the Spillway Modification. The proposed Project impacts are not cumulatively considerable when viewed in connection with the effects of past, current, or probable future projects. The proposed Project impacts are less than significant with incorporation of MMs discussed above.

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

Finding: Less than Significant

As discussed in the various sections throughout this IS/MND, the proposed Project construction and operation would not include uses, such as increased demand for utilities or increases in transportation which would result in substantial adverse effects on human beings. All potential impacts are considered either less than significant with mitigation, less than significant, or resulting in no impact. MMs and BMPs described in the sections above would be incorporated by Nevada County (the CEQA Lead Agency) and would ensure all potential effects on human beings are less than significant. Additionally, the purpose of the proposed Project is to restore Van Norden meadow. As such, the proposed Project would not cause any adverse effects to the environment. Therefore, the proposed Project would not have environmental effects with substantial adverse direct or indirect effects on human beings.

3.20.2 MITIGATION MEASURES

No mitigation is required.

4 Report Preparation

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