

DRAFT

**Initial Study and Mitigated Negative Declaration
Doty North Canal Siphon #1 Replacement Project**

February 2020

Lead Agency:



Nevada Irrigation District
1036 West Main Street
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DRAFT MITIGATED NEGATIVE DECLARATION DOTY NORTH CANAL SIPHON #1 REPLACEMENT PROJECT

Project Title:	Doty North Canal Siphon #1 Replacement Project
Lead Agency/Project Proponent:	Nevada Irrigation District
Project Location:	The Project is in southern Placer County north of Highway 193 adjacent to the Gold Hill Gardens Event Center at 2325 Gold Hill Road, Newcastle, California. The Project Site is situated northwest of the event center grounds and extends across Doty and Sailors ravines (see Figure 2.2-1. Project Location and Vicinity).

Project Description

The Doty North Canal Siphon #1 Replacement Project is located northwest of the Gold Hill Gardens Event Center at 2325 Gold Hill Road, Newcastle, in the foothills of western Placer County. The Project is proposed by the Nevada Irrigation District (NID) and involves replacement of an existing raw water transmission siphon that is in poor condition and has reached the end of its useful life. As part of the Project, the existing 24-inch raw water siphon crossing over Doty Ravine and Sailors Ravine would be removed and replaced with a new 350-foot long, 36-inch-diameter welded steel inverted siphon pipe. The new pipe would convey Doty Ravine North Canal raw water across Doty and Sailors Ravine consistent with the District's approved masterplan design flow rate of 34 cubic feet per second (cfs). System demands and operational constraints limit when the existing Siphon can be taken offline for replacement. This requires that construction occur during winter when water demands are lowest. As such, construction is currently planned to begin on or about October 15, 2020. Due to the flashy nature of the Doty Ravine Watershed and expected high flows during winter months, a temporary construction crossing at the Project site is not considered feasible. Primary construction access would be from the south following the existing Gold Hill Gardens paved driveway entrance off Gold Hill Road. North side construction access would be provided by a temporary easement extending approximately 1,300 feet southwesterly from Gold Hill Road. The northern access route includes a temporary crossing of Sailors Ravine and would extend through irrigated pasture and then follow an NID service road to the north side of Sailors Ravine and the Project site. Project construction is expected to take approximately six weeks and is scheduled to begin on or about October 15, 2020, or later depending on funding availability.

Public Review Period: February 20, 2020 – March 21, 2020

Environmental Commitments and Mitigation Measures

The Project would implement a variety of Best Management Practices (BMPs) and mitigation measures to avoid short- and long-term effects on the physical and human environment. These activities are considered part of the Project, would be included in contract specifications and implemented during

construction to ensure hazardous material, fire, traffic water quality, aquatic habitats, sensitive fish and wildlife species, agricultural, paleontological, cultural and tribal resources are protected consistent with regulatory standards. Listed below are the BMPs and mitigation measures that would be implemented as part of the Project.

Best Management Practices

BMP-1: Conduct Environmental Awareness Training for Construction Personnel

Before any work occurs in the project area, including grading, a Qualified Biologist will conduct mandatory contractor/worker awareness training. The awareness training will be provided to all construction personnel to brief them on the need to avoid impacts on biological resources and the penalties for non-compliance. If new construction personnel are added to the Project, the District will ensure that the personnel receive the mandatory training from the biologist before starting work.

BMP-2: Install Construction Barrier Fencing to Protect Environmentally Sensitive Areas

The Project contractor will install orange construction barrier fencing to identify site limits and environmentally sensitive areas. Environmentally sensitive areas in and adjacent to the construction area comprise mixed riparian forest, native oak trees greater than four inches diameter breast height (DBH), wetland drainages, and any trees that support migratory bird or raptor nests. Before construction, the District Engineer will work with a resource specialist to identify the locations for the barrier fencing and will place stakes around the ESAs to indicate these locations. The fencing will be installed before construction activities are initiated and will be maintained throughout the construction period. The following note will be included in the construction plans:

"The contractor's attention is directed to the areas designated as "environmentally sensitive areas" on the Project Site. These areas are protected, and no entry by the contractor for any purpose will be allowed unless specifically authorized in writing by the District's project manager. The District and contractor's project managers will take measures to ensure that the construction crew does not enter or disturb these areas, including giving written notice to crew members."

Temporary fences around the environmentally sensitive areas will be installed as the first order of work. Temporary fences will be furnished, constructed, maintained, and removed as directed by the project engineer. The fencing will be commercial-quality woven polypropylene, orange in color, and at least four feet high (Tensor Polygrid or equivalent).

BMP-3: Avoid and Minimize Disturbance of Doty and Sailors Ravines and Associated Aquatic Habitat and Restore all Temporarily Disturbed Areas

To the extent possible, the District and contractor will minimize impacts to Doty and Sailors Ravines and associated aquatic habitat by implementing the following:

- a. Prior to working within the Doty Ravine corridor, all heavy equipment will be checked by the District inspector and maintained daily to prevent leaks of materials that if introduced to water could be deleterious to aquatic life.

- b. Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances associated with project-related activities that could be hazardous to aquatic life will be prevented from contaminating the soil or entering the Doty ravine and Sailors ravine channels.
- c. During construction, the District will not dump any material in the stream channel. All such debris and waste will be picked up daily and properly disposed of at an appropriate site. All construction debris and associated materials will be removed from the work site upon completion of the project.
- d. Consistent with the Project's Stormwater Pollution Prevention Plan (SWPPP), sediment fences will be installed in appropriate locations to reduce the introduction of sediment into creeks during construction. Any overburden project material would not be side cast into the creek channel but will be stabilized onsite or stored offsite at approved disposal sites to preclude increased risk of sediment input to creeks.
- e. The District and contractor will establish a spill prevention and countermeasure plan before project construction begins; the plan will include on-site handling criteria to avoid input of contaminants to the waterway. A staging and storage area will be provided away from the waterway for equipment, construction materials, fuels, lubricants, solvents, and other possible contaminants. This plan will be approved by the District project manager prior to the start of construction.
- f. After construction, all temporarily disturbed work areas will be stabilized and restored. This will include application of the District's standard erosion control seed mix and installation of erosion and sediment controls consistent with the Project's approved SWPPP.
- g. All equipment maintenance materials (e.g., oils, grease, lubricants, antifreeze, and similar materials) will be stored offsite.

Precautions to minimize turbidity/siltation will be considered during project planning and implementation and memorialized in the Project's approved SWPPP. Such precautions may entail the placement of silt fencing, coir logs, coir rolls, straw bale dikes, or other siltation barriers so that silt and/or other deleterious materials are not allowed to pass to downstream reaches. Passage of sediment beyond the sediment barrier(s) is prohibited. If any sediment barrier fails to retain sediment, corrective measures will be taken. The sediment barrier(s) will be maintained in good operating condition throughout the construction period. Maintenance includes, but is not limited to, removal of accumulated silt and/or replacement of damaged silt fencing, coir logs, coir rolls, and/or straw bale dikes. Non-biodegradable silt barriers (such as plastic silt fencing) shall be removed after the disturbed areas have been stabilized with erosion control vegetation (usually after the first growing season).

BMP-4: Minimize Potential for the Long-Term Loss of Mixed Riparian Forest

To the extent possible, the District will minimize the potential for the long-term loss of riparian vegetation by trimming vegetation rather than removing entire shrubs. Shrubs that need to be trimmed will be cut at

least one foot above ground level to leave the root systems intact and allow for more rapid regeneration. Cutting will be limited to the minimum area necessary within the construction zone. Disturbance or removal of vegetation will not exceed the minimum necessary to complete operations. Except for the vegetation specifically identified for trimming and/or removal in the California Department of Fish and Wildlife (CDFW) 1602 notification, no native oak trees with a trunk diameter greater than six inches DBH will be removed or damaged without prior consultation and approval by the District. Using hand tools (e.g., clippers, chain saw), trees may be trimmed to the extent necessary to gain access to the work sites. All cleared material/vegetation will be removed out of the riparian/stream zone.

BMP-5: Construct Outside of Nesting Season or Conduct Pre-Construction Nesting Surveys

To avoid disturbance of raptor breeding and nesting activity, including nesting of sensitive raptors, project activities will be avoided during the typical raptor breeding season of March through August, to the extent feasible. If construction must take place during the typical nesting season, pre-construction surveys will be conducted by a Qualified Biologist no more than 15 days prior to initiation of proposed construction activities. Surveys will be conducted to determine if active nesting is occurring on or directly adjacent to the study area. If active nests are found on or immediately adjacent to the site, survey results will be submitted to CDFW and consultation will be initiated with CDFW to determine appropriate avoidance measures. If no nesting is found to occur, project activities may proceed.

BMP-6: Avoid the Introduction or Spread of Noxious Weeds in the project Area

To avoid the introduction or spread of noxious weeds into previously uninfected areas (especially within the riparian community along Doty Ravine), the District will revegetate disturbed areas immediately after construction is complete using certified weed-free native and nonnative mixes.

BMP-7: Proper Handling of Hazardous Materials

Construction documents will identify materials that are considered hazardous. The Project contractor will be required to develop a Health and Safety Plan that addresses release prevention measures; employee training, notification, and evacuation procedures; and emergency response protocols and cleanup procedures. The contractor will comply with the California Occupational Safety and Health Administration (Cal-OSHA) standards for the storage and handling of fuels, flammable materials, and common construction-related hazardous materials and for fire prevention. Cal-OSHA requirements can be found in California Labor Code, Division 5, Chapter 2.5.

BMP-8: Prepare and Implement a Fire Suppression and Control Plan

The District will require the construction contractor to coordinate with Placer County Fire to ensure a fire control plan is prepared and implemented to reduce the risk of fires during construction. The fire prevention and control plan will include requirements for onsite extinguishers; roles and responsibilities of NID, the contractor; specification for fire suppression equipment and other critical fire prevention and suppression items.

BMP-9: Prepare and Implement a Construction Traffic Management Plan

As necessary, the District will require the contractor(s) to prepare a Traffic Control Plan in accordance with Placer County requirements and professional engineering standards prior to construction. The Traffic Control Plan could include the following requirements:

- a. Identification of traffic controls required where the temporary northern access connects to Gold Hill Road.
- b. Emergency services access to local land use shall be maintained for the duration of construction activities.
- c. Access for local land uses including residential driveways, commercial properties, and agricultural lands during construction activities shall be maintained.
- d. Adequate provisions will be made for the protection of the traveling public. All traffic control, including devices and personnel requirements, will be consistent with the current State of California Manual of Traffic Controls for Construction and Maintenance Work Areas.

Mitigation Measures

Agriculture and Forestry Resources

Mitigation Measure AG-1: Obtain Temporary Easements and Minimize Disruption to Existing Agricultural Operations

NID shall obtain a temporary construction easement for the proposed northern access route. The temporary easement alignment shall be coordinated with the grazer and be located to minimize disruptions to grazing operations. All feasible conditions that serve to minimize agricultural/grazing conflicts shall be incorporated into the easement. The temporary access route shall be reseeded and stabilized following construction.

Biological Resources

Mitigation Measure BIO-1: Conduct Pre-Construction Special-Status Plant Surveys

A total of 10 special-status plants have potential to occur on the Project Site and/or along the proposed northern access route. These include Sanborn's onion, big-scale balsamroot, Brandegees clarkia, streambank spring beauty, stinkbells, Butte County fritillary, Ahart's dwarf rush, dubious pea, Humboldt lily, and oval-leaved viburnum. The following measures are recommended to reduce potential impacts to less than significant:

- Perform focused plant surveys according to guidelines promulgated by USFWS (USFWS 2000), CDFW (CDFG 2009), and CNPS (CNPS 2019). Surveys should be timed according to the blooming period for target species and known reference populations, if available, and/or local herbaria should be visited prior to surveys to confirm the appropriate phenological state of the target species.

- If any special-status plant species are found during surveys within the Project Site or along the northern access route, and avoidance of the species is not possible, seed collection, transplantation, and/or other mitigation measures may be developed in consultation with the lead agency and/or appropriate resource agencies to reduce impacts to special-status plant populations.
- If no special-status plants are found within the Project Site, no further measures pertaining to special-status plants are necessary.

Mitigation Measure BIO-2: Conduct Special-Status Amphibian Surveys

The following measures shall be implemented to minimize potential impacts to foothill yellow-legged frog:

- Conduct pre-construction surveys for foothill yellow-legged frog where construction occurs near potential habitat. If observed, consultation with CDFW prior to initiation of construction activities shall be required.
- During construction, where habitat for foothill yellow-legged frog is identified, no monofilament plastic mesh or line shall be used for erosion control to reduce the risk of entrapment.
- Silt fencing will be installed around suitable habitat for foothill yellow-legged frog that will not be disturbed, and fencing will be inspected daily to ensure no individuals are trapped along the fence.

Mitigation Measure BIO-3: Conduct Special-Status Reptile Surveys

The following measure shall be implemented to minimize potential impacts to northern western pond turtle:

- Conduct a pre-construction Northwestern pond turtle survey within 24 hours prior to the initiation of construction activities and retain a qualified biologist to survey immediately prior to ground-disturbing activities in suitable habitat. If Northwestern pond turtle is found, consultation with CDFW shall be required, as well as the development of a relocation plan for Northwestern pond turtles encountered during construction.
- If no special-status reptiles are detected during the surveys, no further measures are needed.

Mitigation Measures BIO-4: Conduct Special-Status Mammal Surveys

The Project Site and areas along the proposed construction access routes provides potential habitat for Ringtail and Townsend's big-eared bat. The following measures shall be implemented:

Ringtail

- A pre-construction survey for potential den sites (i.e., tree cavities, logs, snags) will be conducted within suitable habitat within the Project Site and along the construction access routes (i.e., large trees and riparian habitat). If potential den sites are located that will not be avoided by

construction, consultation with CDFW prior to initiation of construction activities shall be required. If no potential den sites are found during the survey, no further measures are necessary.

Townsend's Big-Eared Bat

- Prior to work within potentially suitable bat roosting habitat, a bat habitat assessment is recommended for all suitable roosting habitat (i.e., manmade structures and suitable trees, if present). If the assessment identifies moderate to highly suitable roosting habitat, a qualified biologist will conduct an evening bat emergence survey to determine bats presence. If Townsend's big-eared bats are found, consultation with CDFW prior to initiation of construction activities shall be required. If no suitable roosting habitat is found, or if no bats are not found during the emergence surveys, no further measures are necessary.

Mitigation Measure BIO-5: Compensate for the Loss of Riparian Communities

To compensate for the total loss of ± 0.002 acres of riparian habitat, prior to construction the District will purchase credits at an approved mitigation bank to ensure no net loss of riparian habitat functions and values. The District will purchase credits at a 3:1 ratio, which would require purchasing a total of approximately 0.006 acre of riparian habitat credits from an agency approved mitigation bank. This ratio and acreage will be confirmed during the review of future engineering drawings and may be modified during the CDFW Section 1602 permitting process (if actual increase or decrease) which will dictate the ultimate compensation. The District will provide written evidence to the resource agencies that compensation has been established through the purchase of mitigation credits. The amount to be paid will be the fee that is in effect at the time the fee is paid.

Cultural Resources

Mitigation Measure CUL-1: Protect P-34-3643 as an Environmentally Sensitive Area

P-31-3646 shall be designated an Environmentally Sensitive Area prior to construction activities. To accomplish this, high-visibility temporary exclusionary fencing shall be installed as shown on *Figure 4.5-1 Environmentally Sensitive Area Fencing for P-31-3646* (Note: *Figure 4.5-1 is confidential and may be requested from NID by qualified individuals on an as need to know basis*). No ground-disturbing activities shall be allowed northwest of the environmentally sensitive area fence line shown in *Figure 4.5-1*. Metal plates may be laid over that portion of the environmentally sensitive area located within the Project Site (see *Figure 4.5-1*), to accommodate vehicle travel only. Upon completion of the project, the metal plates will be directly lifted off the site and not dragged across the site.

Mitigation Measure CUL-2: Monitor Ground Disturbance and Stop Work if Cultural Resources or Human Remains are Detected

All ground-disturbing activities on the Project Site shall be monitored by an archaeological monitor under the supervision of a qualified professional archaeologist who meets the Secretary of the Interior's Professional Qualification Standards for pre-contact and historic archaeologist.

If subsurface deposits believed to be cultural or human in origin are discovered during construction by the monitor, all work must halt within 20 feet of the discovery. The monitor will notify the qualified professional archaeologist, who will evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.
- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify NID, which shall consult on a finding of eligibility. If the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines, appropriate treatment measures will be implemented. Work may not resume within the no-work radius until NID, through consultation as appropriate, determines that the site either: 1) is not a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines; or 2) that the treatment measures have been completed to its satisfaction.
- If the find includes human remains, or remains that are potentially human, he or she shall ensure reasonable protection measures are taken to protect the discovery from disturbance (Assembly Bill [AB] 2641). The archaeologist shall notify the Placer County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (§ 5097.94 of the PRC). If no agreement is reached, the NID must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until NID, through consultation as appropriate, determines that the treatment measures have been completed to its satisfaction.

Paleontological Resources

Mitigation Measure PALEO-1: Discovery of Unknown Resources

If any paleontological resources (i.e., fossils) are found during Project construction, construction shall be halted immediately in the subject area and the area shall be isolated using orange or yellow fencing until NID is notified and the area is cleared for future work. A qualified paleontologist shall be retained to evaluate the find and recommend appropriate treatment of the inadvertently discovered paleontological resources. If NID resumes work in a location where paleontological remains have been discovered and cleared, NID will have a paleontologist onsite to confirm that no additional paleontological resources are in the area.

Tribal Cultural Resources

Mitigation Measure CUL-1: Protect P-34-3643 as an Environmentally Sensitive Area

See Cultural Resources Mitigation Measures section above.

Mitigation Measure TCR-1: Worker Awareness Training

A consultant and construction worker tribal cultural resources awareness brochure and a one (1) hour in-field training program for all personnel involved in ground-disturbing activities will be developed and disseminated by a UAIC tribal representative to all operators of ground-disturbing equipment prior to construction commencing. The program will include relevant information regarding sensitive tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The worker tribal cultural resources awareness program will also describe appropriate avoidance and minimization measures for resources that have the potential to be located in the project area and will outline what to do and whom to contact if any potential tribal cultural resources or artifacts are encountered. The program will underscore the requirement for confidentiality and culturally appropriate treatment of any find of significance to Native Americans, and behaviors consistent with Native American tribal values. All ground-disturbing equipment operators shall be required to receive the training and sign a form that acknowledges receipt of the training. A copy of the form shall be provided to NID as proof of compliance.

Mitigation Measure TCR-2: Monitor Ground Disturbance to Avoid and Minimize Impacts to Known and Previously Unknown TCRs

One (1) tribal monitor shall be retained from UAIC to monitor the ground-disturbing activity associated with the installation of the temporary exclusion measures on site, and any or all ground disturbing construction activity associated with the siphon replacement on the north side of the creek. No later than five business days prior to the start of ground disturbing activities, the construction supervisor or their designee shall notify the UAIC of the construction schedule. Should the UAIC choose not to provide a tribal monitor, or if the monitor does not report to the project location at the scheduled time, or if the monitor is present but not actively observing activity, work may proceed without a monitor as long as the notification was made and documented.

The tribal monitor shall have the authority to temporarily pause ground disturbance within 20 feet of the discovery for a duration long enough to examine potential TCRs that may become unearthed during the activity. If no TCRs are identified, then construction activities shall proceed, and no agency notifications are required. In the event that a TCR is identified, the monitor shall flag off the discovery location and notify the NID immediately to consult on appropriate and respectful treatment.

Upon conclusion of the monitoring, the monitor shall submit a letter report to the NID to document the monitoring methods and results. If the find includes human remains, then NID shall immediately notify the Placer County Coroner and the procedures in Section 7050.5 of the California Health and Safety Code and, if applicable, Section 5097.98 of the Public Resources Code, shall be followed. If the discovery is reasonably associated with Native American culture, NID shall coordinate any necessary investigation of the discovery with a UAIC tribal representative and a qualified archaeologist approved by NID. As part of the site investigation and resource assessment, NID shall consult with appropriate parties to develop, document, and implement appropriate management recommendations, should potential impacts to the TCRs be found by NID to be significant. Nothing in this measure prohibits NID from considering any comments from other culturally affiliated Native American tribes that volunteer information to NID during its investigation. Possible management recommendations could include documentation, data recovery, or (if deemed feasible by NID) preservation in place. The contractor shall implement any measures deemed by NID, at its discretion, to be necessary and feasible to avoid, minimize, or mitigate significant effects to the TCRs.

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LIST OF ACRONYMS AND ABBREVIATIONS

AB	Assembly Bill
AG	Agriculture
AOU	American Ornithologist's Union
APE	Area of Potential Effects
BA	Biological Assessment
BLM	Bureau of Land Management
BMP	Best Management Practices
BO	Biological Opinion
BRA	Biological Resources Assessment
CAL FIRE	California Department of Forestry and Fire Protection
Cal-OSHA	California Occupational Safety and health Administration
CARB	California Air Resources Board
CCR	California Code of Regulations
CCRR	Central California Railroad
CDFG	California Department of Fish and Game
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
cfs	cubic feet per second
CGS	California Geological Survey
CHRIS	California Historical Resources Information System
CIWM	California Integrated Waste Management
CNDDDB	California Natural Diversity Database
CNPS	California Native Plant Society
CO	Carbon monoxide
CRHR	California Register of Historic Resources
CRPR	California Rare Plant Rank
CWA	Clean Water Act
DBH	Diameter at breast height
District	Nevada Irrigation District
DOC	Department of Conservation
DPM	Diesel particulate matter
DPS	Distinct Population Segment
DWR	Department of Water Resources
ECORP	ECORP Consulting, Inc.
EFH	Essential fish habitat
EIR	Environmental Impact Report

LIST OF ACRONYMS AND ABBREVIATIONS

ESA	Endangered Species Act
FHWA	Federal Highway Administration
FR	Federal Register
FTA	Federal Transit Administration
General Plan	Placer County General Plan
GHG	Greenhouse gas
GLO	General Land Office
GPS	Global Positioning System
HCP	Habitat Conservation Plan
JRP	JRP Consulting, Inc.
LOS	Level of Service
MBTA	Migratory Bird Treaty Act
MLD	Most Likely Descendent
MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zone
MSL	Mean sea level
MT	Metric ton
NAHC	Native American Historic Commission
NCIC	North Central Information Center
NID	Nevada Irrigation District
NMFS	National Marine Fisheries Service
NOA	Naturally Occurring Asbestos
NO _x	Nitrogen oxides
NPDES	National Pollution Discharge Elimination System
NPPA	Native Plant Protection Act
NPS	National Park Service
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
OHP	Office of Historic Preservation
Cal-OSHA	California Occupational Safety and Health Agency
PCAPCD	Placer County Air Pollution Control District
PCWA	Placer County Water Agency
PM	Particulate Matter
PPV	Peak Particle Velocity
PRC	Public Resources Code
Project, Proposed Project	The Doty North Canal Siphon #1 Replacement Project
RWQCB	Regional Water Quality Control Board
SCAQMD	South Coast Air Quality Management District

LIST OF ACRONYMS AND ABBREVIATIONS

Sheriff	Placer County Sheriff's Office
SIP	State Implementation Plan
Siphon	Doty North Canal Siphon #1
SMARA	Surface Mining and Reclamation Act
SO ₂	Sulfur dioxide
SRA	State Responsibility Area
SSC	Species of Special Concern
STP	Shovel test pit
SVAB	Sacramento Valley Air Basin
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminants
TCR	Tribal Cultural Resources
TRBL	Tricolor Blackbird
USACE	U.S. Army Corps of Engineers
USC	U.S. Code
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WBWG	Western Bat Working Group

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SECTION 1.0 BACKGROUND

1.1 Summary

Project Title/Purpose:	The Doty North Canal Siphon #1 Replacement Project (Proposed Project or Project) is a proposal by NID to replace an existing raw water transmission siphon that has reached the end of its useful life.
Lead Agency Name and Address:	Nevada Irrigation District (NID) 1036 West Main Street Grass Valley, California 95945
Contact Person and Phone Number:	Doug Roderick, Senior Engineer (530) 271-6866
Project Location:	The Project is in southern Placer County north of Highway 193 adjacent to the Gold Hill Gardens Event Center at 2325 Gold Hill Road, Newcastle, California (see Figure 2.2-1. Project Location and Vicinity). The Project Site is situated northwest of the event center grounds and extends across Doty ravine and Sailors ravine.
General Plan Designation:	Rural Residential 1-10 Acre Minimum
Zoning:	Agriculture (AG)

1.2 Introduction

Nevada Irrigation District (NID) is the Lead Agency for the Proposed Project and this Initial Study. The Initial Study has been prepared to identify and assess the anticipated environmental impacts of the Proposed Project. This document has been prepared to satisfy the California Environmental Quality Act (CEQA) (Public Resources Code, [PRC] Section 21000 et seq.) and State CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.). CEQA requires that all state and local government agencies consider the environmental consequences of Projects over which they have discretionary authority before acting on those Projects. A CEQA Initial Study is generally used to determine which CEQA document is appropriate for a Project (Negative Declaration [ND], Mitigated Negative Declaration [MND], or Environmental Impact Report [EIR]).

1.3 Environmental Setting

The Project is in rural Placer County at elevation 380 feet within the Sacramento Valley Air Basin (SVAB) where climate is characterized by hot, dry summers and cool, rainy winters. Project area terrain varies from relatively flat areas, to gently rolling hills and relatively steep hillsides. The Project site supports primarily annual grassland and valley foothill riparian communities. Surface waters include Doty Ravine and Sailors Ravine which generally flow east to west across the site. Doty Ravine is the primary drainage with a bank width of approximately 15 feet at the Project site. Sailors Ravine is a tributary to Doty Ravine with a bank width of approximately four feet and flows from a stock pond located north of the Project site. The confluence of Doty Ravine and Sailors Ravine occurs on the Project site just downstream of the existing siphon crossing. Doty Ravine is considered anadromous fish habitat.

The nearest existing use to the Project site is the Gold Hill Gardens Event Center, located immediately southeast of the Project site. The 38-acre event center property includes a scenic 11-acre garden and hosts special events (weddings/meetings/retreats) for up to 150 guests. The remaining surrounding lands support primarily rural residential with small scale agriculture and equestrian uses.

SECTION 2.0 PROJECT DESCRIPTION

2.1 Project Background

Formed in 1921, the Nevada Irrigation District (NID or District) is an independent special water district that operates water storage and distribution facilities in Nevada, Placer, Sierra and Yuba counties and provides water service to wide areas of Nevada and Placer counties. NID's service area covers ±287,000 acres and is one of the largest in the state. It is bounded by the Yuba River on the north, the Yuba/Nevada County Line on the west, the cities of Lincoln and Auburn on the south, and by a line extending north from Rollins Reservoir Dam on the east. The District supplies water for irrigation, municipal, domestic, and industrial uses through an extensive reservoir and canal system and network of water treatment plants. NID-treated water service areas are in and around Grass Valley and Nevada City, Banner Mountain, the Glenbrook Basin, Loma Rica, Alta Sierra, Lake of the Pines, Penn Valley, Lake Wildwood, Smartsville, East Lincoln and North Auburn.

Unique in many respects, NID collects water on 70,000 acres of high mountain watershed, produces hydroelectric energy and provides outdoor public recreation.

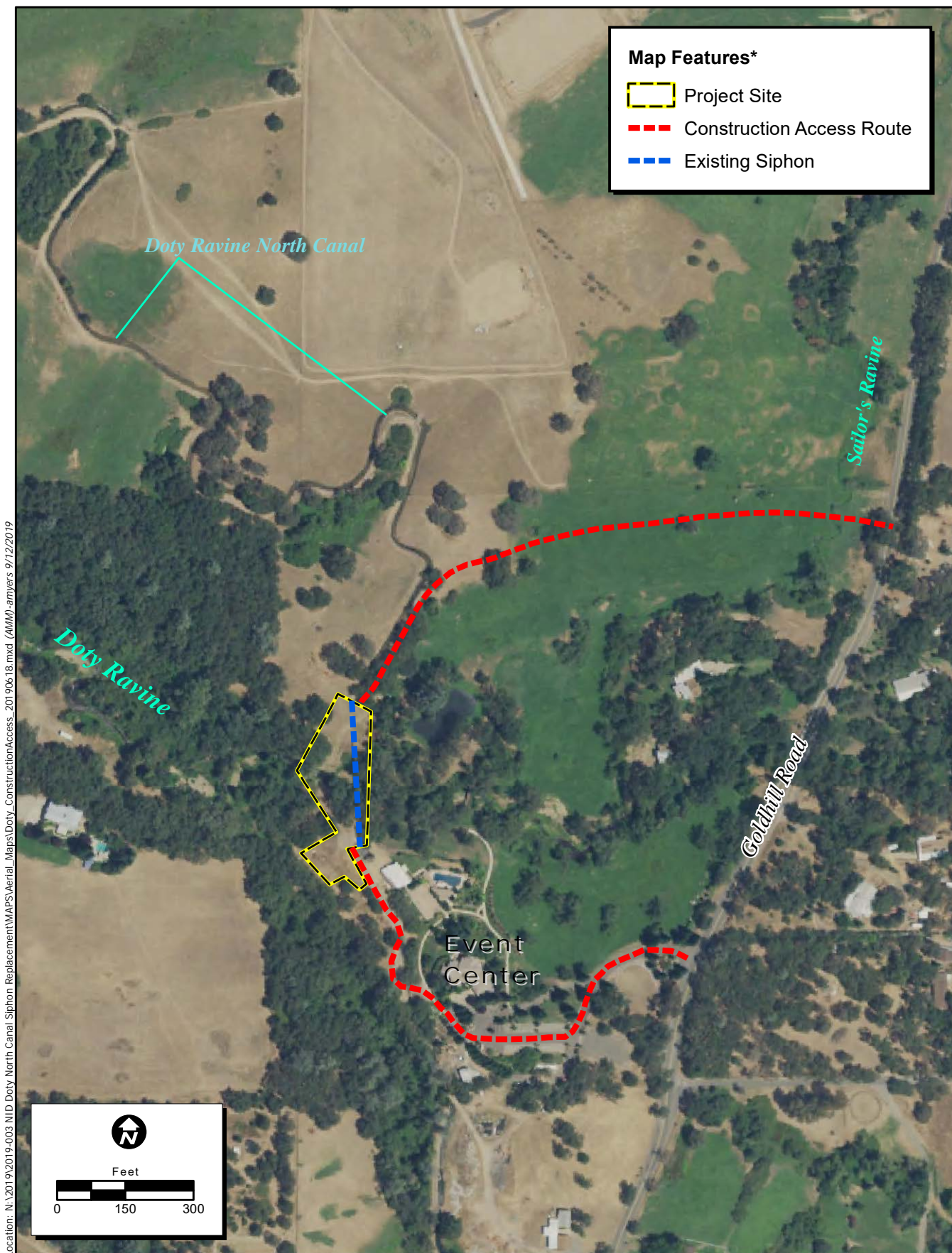
NID is headquartered on West Main Street in Grass Valley, operates a maintenance yard on Gold Hill Road near Lincoln and a Hydroelectric Department office near Colfax. NID is the Lead Agency for the proposed Project under the CEQA (PRC, § 21000 et seq.) and State CEQA Guidelines (14 CCR 15000 et seq.).

2.2 Proposed Project

The Doty North Canal Siphon #1 Replacement Project (Proposed Project or Project) is a proposal by NID to replace an existing raw water transmission siphon that is in poor condition and has reached the end of its useful life.

2.2.1 *Project Location and Access*

The Project is in southern Placer County, north of Highway 193, adjacent to the Gold Hill Gardens Event Center at 2325 Gold Hill Road, Newcastle, California (see **Figure 2.2-1. Project Location and Vicinity**). The Project site is situated northwest of the event center grounds and extends north and south across Doty and Sailors ravines. Existing site access is provided via a District easement that follows the Gold Hill Gardens Event Center driveway off Gold Hill Road, traverses through the Event Center parking lot, and then follows an existing service road to the south end of the Project Site. There is no existing improved access from Gold Hill Road to the Project Site on the north side of Doty Ravine. To provide equipment access to the north side of the Project site, a temporary construction access is proposed. The Project Site boundary, existing Doty Ravine North Canal, Siphon #1 and the proposed northern and southern construction access routes are shown in **Figure 2.2-2. Project Site and Construction Access**.



Location: N:\2019\2019-003 NID Doty North Canal Siphon Replacement\MAPS\Aerial_Maps\Doty_ConstructionAccess_20190618.mxd (MM)-amys.s 9/12/2019

Map Date: 9/12/2019
 Photo Source: NAIP, 2018
 *All features represent approximate locations for cartographic purposes

Figure 2.2-2. Project Site and Construction Access

2.2.2 Environmental Setting/Surrounding Land Uses

The Project is in rural Placer County at elevation 380 feet within the SVAB where climate is characterized by hot, dry summers and cool, rainy winters. Project area terrain varies from relatively flat areas, to gently rolling hills and relatively steep hillsides. The Project site supports primarily annual grassland and valley foothill riparian communities. Surface waters include Doty Ravine and Sailors Ravine, which generally flow east to west across the site. Doty Ravine is the primary drainage with a bank width of approximately 15 feet at the Project Site. Sailors Ravine is a tributary to Doty Ravine with a bank width of approximately four feet and flows from a stock pond located north of the Project site. The confluence of Doty Ravine and Sailors Ravine occurs on the Project site just downstream of the existing siphon crossing. Doty Ravine is considered anadromous fish habitat.

The nearest existing use to the Project site is the Gold Hill Gardens Event Center located immediately southeast of the Project site. The 38-acre event center property includes a scenic 11-acre garden and hosts special events (weddings/meetings/retreats) for up to 150 guests. The remaining surrounding lands support primarily rural residential with small scale agriculture and equestrian uses.

2.2.3 Existing Infrastructure and Operational Constraints

The existing Doty North Canal Siphon #1 (Siphon) was built in the 1940s and requires replacement to maintain raw water delivery reliability and meet the District's ultimate demands.

The existing Siphon conveys Doty North Canal raw water over Doty Ravine and Sailors Ravine via a 24-inch welded steel pipe supported by six steel bents anchored to concrete pier foundations. Steel grating and handrails are on top of the pipe, which is used by District staff as a pedestrian bridge/walkway to cross the ravine. On each side of the ravine the aboveground Siphon transitions to underground before tying into the existing canal. On the upstream or south end, the siphon pipe connects to a concrete inlet structure with steel trash rack. On the north side, the pipe connects to a concrete outlet structure where water is released back into the existing Doty North Canal.

The existing siphon is a point of flow restriction because it wasn't designed for future flows identified in NID's current Raw Water Masterplan (NID Water Master Plan Update 2005). As a result, the demand for raw water service downstream of the siphon is impacted due to a District imposed moratorium, in part due to flow restrictions caused by the existing Siphon. Finally, the aging nature of the facility also presents potential safety concerns for District operations staff.

Raw water demands served by the canal severely limit when the existing Siphon can be taken offline for Project construction. Based on the District's irrigation season demands, the siphon can only be taken offline between October 15 and April 15. This operational constraint is the primary driver for the proposed construction schedule.

2.2.4 Project Objectives

In recognition of the above operational issues and constraints, the Project objectives include the following:

1. Improve raw water delivery reliability by reducing the risk of failures due to aging infrastructure;

2. Protect Doty Ravine and Sailors Ravine ecology from potential structural failures;
3. Minimize construction impacts to riparian and aquatic habitats;
4. Increase the volume of raw water available to downstream District customers consistent with the Districts approved master plan; and,
5. Facilitate safe working conditions.

2.2.5 *Project Components*

The Proposed Project construction details are shown in **Figure 2.2-3. Improvement Plans** and described below.

2.2.5.1 Siphon Replacement

The existing 24-inch raw water siphon crossing over Doty Ravine and Sailors Ravine would be removed and replaced with a new 350-foot long, 36-inch-diameter welded steel inverted siphon pipe. The new pipe would convey raw water consistent with the District's approved masterplan design flow rate of 34 cubic feet per second (cfs). The new siphon would be welded steel pipe supported on each end by abutments and three new steel pipe supports anchored to two 5-x-5-feet and one 3-x-5-feet concrete footings. Existing Abutments are located on the north and south creek banks above the ordinary highwater mark. Two concrete footings would be similarly located in upland areas on each side of Doty Ravine. The center footing would be constructed on an upland area immediately above and between the Doty Ravine/Sailors Ravine confluence. The new siphon pipe would connect to the existing pipe just upstream of the existing siphon inlet and outlet structure on the north and south sides of the ravine.

2.2.5.2 Construction Access

Due to system operational constraints that limit when the Siphon can be taken offline for construction, and due to the flashy nature of the Doty Ravine Watershed and expected high flows during winter months, NID has determined that a temporary crossing during construction at the Project site is not feasible. Therefore, as shown on **Figure 2.2-2**, south side access would be provided via the existing Gold Hill Gardens driveway easement while access to the north side would be via a temporary construction easement across private property.

The south side access follows the existing Gold Hill Gardens driveway entrance off Gold Hill Road. The south side access is mostly paved driveway from Gold Hill Road until it leaves the event center parking lot on the west, where it transitions to a gravel service road leading to the Project site. The north side temporary easement would extend from Gold Hill Road, beginning at a point approximately 1,000 feet north of the existing Gold Hill Gardens Event Center driveway entrance. From that point, the north side access extends across Sailors Ravine and continues approximately 1,300 feet southwesterly through an irrigated pasture to the north side of the Project site.

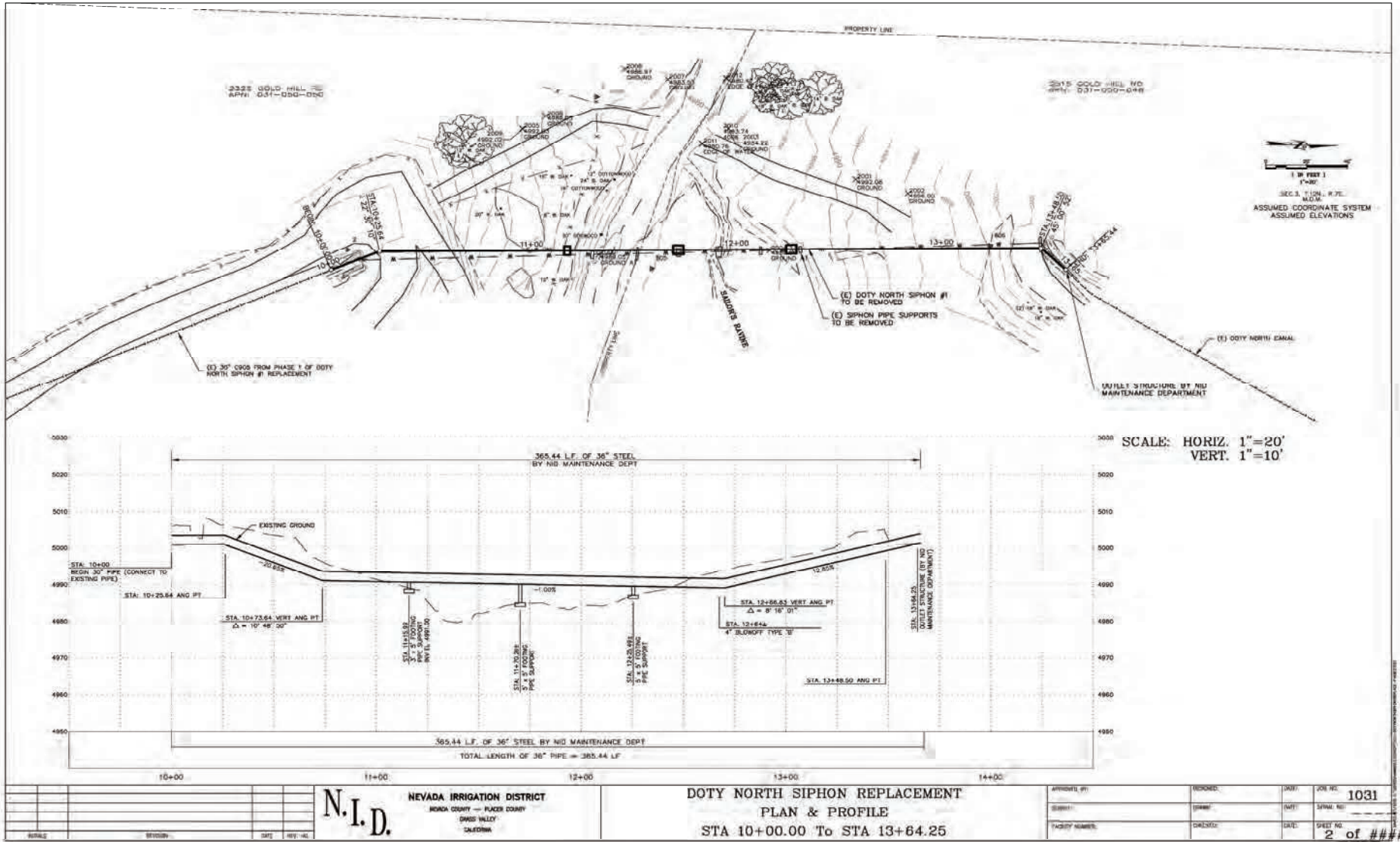


Figure 2.2-3. Improvement Plans

2019-003 Doty North Canal Siphon #1 Replacement

2.2.5.3 Siphon Operation

Once completed, the Project will operate similar to existing conditions. There will be no impacts beyond baseline conditions and the only activities would be continued occasional routine maintenance trips to the site.

2.2.6 Construction Approach/Techniques

The construction approach was designed to minimize impacts to cultural resources, riparian habitat, waters, wetlands and associated wildlife while adhering to system operational constraints discussed above. Project implementation would involve the following primary construction phases and activities.

2.2.6.1 Phase 1: Mobilization and Staging

During this phase, the contractor would move onsite, establish work limits, identify and protect (fence) environmentally sensitive areas, and establish access routes. **Figure 2.2-2** shows the proposed construction access routes and Project site construction limits. All construction staging (for heavy equipment, construction supplies and stockpiling) would be maintained within the Project site boundary as shown on **Figure 2.2-2**.

The northern access requires a temporary crossing of Sailors Ravine near Gold Hill Road. This would be accomplished by installing a crane mat that spans the creek using an excavator from the eastern bank. Installation timing would be based on weather forecasts. The crane mat would allow the construction crossing to be completed without temporary fills in Waters of the U.S. Because of potential for high flows on Sailors Ravine, once all necessary "north side" construction equipment has reached the Project Site, the temporary crossing would be removed until needed again.

2.2.6.2 Phase 2: Demolition

This phase includes demolition and removal of the existing above and below ground 24" siphon pipe and maintenance crossing. To accomplish this, the above ground pipe and crossing would be disassembled and removed in sections using excavators positioned on the north and south banks of the ravine. The below ground pipe would be exposed via trenching and removed using excavators. Temporary trenching soil stockpiles would be located immediately west of the southern trench and east of the northern trench. All demolition will be accomplished from creek bank upland areas and demolished materials would be removed from the site. Portions of the existing siphon support structure would be left in place temporarily to aid with concrete pumping during Phase 3 footing construction (as discussed below).

2.2.6.3 Phase 3: Support Footing Construction

This phase includes construction of 3 new concrete footings and associated piers to support the siphon crossing. All work for the footing foundations would be conducted in upland areas on the north and south sides of the ravine. The center foundation would be constructed on an upland area just above the Doty Ravine/Sailors Ravine confluence. Construction access to the center foundation would be over Sailors Ravine via temporarily placed trench plate installed from the northern creek bank using an excavator. The temporary Sailors Ravine crossing will allow access to the center foundation without temporary fills in waters or the need for US Army Corps of Engineer Section 404 Permitting.

Concrete trucks would use the southern access during construction of the abutments and center foundation. To facilitate concrete work for the northern abutment and center foundation, a concrete pump and hose would be used. To reach the northern abutment and center foundation, the concrete hose would be elevated over Doty and Sailors ravines using portions of the existing siphon support piers. Following construction of the new footings, the existing structure would then be removed, and the existing concrete foundations abandoned in place to avoid any unnecessary disturbance within the creek zone.

2.2.6.4 Phase 4: Pipe Placement and Tie In

The below ground portion of pipe would be placed in the trench using excavators, the new pipe would be connected to the abutments, and the trench backfilled.

Then one of two options would be used to install the above ground Siphon crossing:

- a. *Excavator Installation* – using this method, the siphon pipe sections would be placed and secured on the abutments using excavators; one located on the south side of the ravine and one on the north side positioned on the upland area located between Doty and Sailors ravines. During construction, if necessary, siphon pipe (and potentially other construction materials) could be moved from the staging area on the south side of the ravine to the north side by “passing” pipe sections over the ravine using heavy equipment positioned on each side without entering flowing water.
- b. *Cable Installation* – using this method, the siphon pipe section would be pulled into place from south to north using temporary cables and temporary cable supports strung between abutments. Once in place, the pipe would be secured to the abutments and temporary cables removed.

Once installed and secured to abutments and piers, the new siphon pipe would become operational and Doty North Canal flows restored.

2.2.6.5 Phase 5: Site Restoration and Demobilization

Once construction is complete and all equipment and construction materials have been removed from the site, all temporarily disturbed areas would be restored and the temporary crane mat crossing of Sailors Ravine would be removed.

2.2.7 Construction Equipment

The heavy-duty equipment expected to be used during project construction is provided below.

- 2 Excavators
- 1 Loader/Backhoe
- 1 Dump Truck
- 1 Flat Bed Truck
- 3 Service pickups for workers/tools

2.2.8 *Project Schedule*

Project construction is expected to take approximately six weeks and is scheduled to begin on or about October 15, 2020, or later depending on budget.

2.3 **Environmental Commitments**

The Project would implement a variety of Best Management Practices (BMPs) to avoid short- and long-term effects on the physical and human environment. These activities are considered part of the Project, would be included in contract specifications and implemented during construction to ensure water quality, aquatic habitats and sensitive fish and wildlife species are protected consistent with regulatory standards.

BMP-1: Conduct Environmental Awareness Training for Construction Personnel

Before any work occurs in the project area, including grading, a Qualified Biologist will conduct mandatory contractor/worker awareness training. The awareness training will be provided to all construction personnel to brief them on the need to avoid impacts on biological resources and the penalties for non-compliance. If new construction personnel are added to the Project, the District will ensure that the personnel receive the mandatory training from the biologist before starting work.

BMP-2: Install Construction Barrier Fencing to Protect Environmentally Sensitive Areas

The Project contractor will install orange construction barrier fencing to identify site limits and environmentally sensitive areas. Environmentally sensitive areas in and adjacent to the construction area comprise mixed riparian forest, native oak trees greater than four inches diameter breast height (DBH), wetland drainages, and any trees that support migratory bird or raptor nests. Before construction, the District Engineer will work with a resource specialist to identify the locations for the barrier fencing and will place stakes around the ESAs to indicate these locations. The fencing will be installed before construction activities are initiated and will be maintained throughout the construction period. The following note will be included in the construction plans:

“The contractor’s attention is directed to the areas designated as “environmentally sensitive areas” on the Project Site. These areas are protected, and no entry by the contractor for any purpose will be allowed unless specifically authorized in writing by the District’s project manager. The District and contractor’s project managers will take measures to ensure that the construction crew does not enter or disturb these areas, including giving written notice to crew members.”

Temporary fences around the environmentally sensitive areas will be installed as the first order of work. Temporary fences will be furnished, constructed, maintained, and removed as directed by the project engineer. The fencing will be commercial-quality woven polypropylene, orange in color, and at least four feet high (Tensor Polygrid or equivalent).

BMP-3: Avoid and Minimize Disturbance of Doty and Sailors Ravines and Associated Aquatic Habitat and Restore all Temporarily Disturbed Areas

To the extent possible, the District and contractor will minimize impacts to Doty and Sailors Ravines and associated aquatic habitat by implementing the following:

- a. Prior to working within the Doty Ravine corridor, all heavy equipment will be checked by the District inspector and maintained daily to prevent leaks of materials that if introduced to water could be deleterious to aquatic life.
- b. Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances associated with project-related activities that could be hazardous to aquatic life will be prevented from contaminating the soil or entering the Doty Ravine and Sailors Ravine channels.
- c. During construction, the District will not dump any material in the stream channel. All such debris and waste will be picked up daily and properly disposed of at an appropriate site. All construction debris and associated materials will be removed from the work site upon completion of the project.
- d. Consistent with the Project's Stormwater Pollution Prevention Plan (SWPPP), sediment fences will be installed in appropriate locations to reduce the introduction of sediment into creeks during construction. Any overburden project material would not be side cast into the creek channel, but will be stabilized onsite or stored offsite at approved disposal sites to preclude increased risk of sediment input to creeks.
- e. The District and contractor will establish a spill prevention and countermeasure plan before project construction begins; the plan will include on-site handling criteria to avoid input of contaminants to the waterway. A staging and storage area will be provided away from the waterway for equipment, construction materials, fuels, lubricants, solvents, and other possible contaminants. This plan will be approved by the District project manager prior to the start of construction.
- f. After construction, all temporarily disturbed work areas will be stabilized and restored. This will include application of the District's standard erosion control seed mix and installation of erosion and sediment controls consistent with the Project's approved SWPPP.
- g. All equipment maintenance materials (e.g., oils, grease, lubricants, antifreeze, and similar materials) will be stored offsite.

Precautions to minimize turbidity/siltation will be considered during project planning and implementation and memorialized in the Project's approved SWPPP. Such precautions may entail the placement of silt fencing, coir logs, coir rolls, straw bale dikes, or other siltation barriers so that silt and/or other deleterious materials are not allowed to pass to downstream reaches. Passage of sediment beyond the sediment barrier(s) is prohibited. If any sediment barrier fails to retain sediment, corrective measures will be taken. The sediment barrier(s) will be maintained in good operating condition throughout the construction period. Maintenance includes, but is not limited to, removal of accumulated silt and/or replacement of

damaged silt fencing, coir logs, coir rolls, and/or straw bale dikes. Non-biodegradable silt barriers (such as plastic silt fencing) shall be removed after the disturbed areas have been stabilized with erosion control vegetation (usually after the first growing season).

BMP-4: Minimize Potential for the Long-Term Loss of Mixed Riparian Forest

To the extent possible, the District will minimize the potential for the long-term loss of riparian vegetation by trimming vegetation rather than removing entire shrubs. Shrubs that need to be trimmed will be cut at least one foot above ground level to leave the root systems intact and allow for more rapid regeneration. Cutting will be limited to the minimum area necessary within the construction zone. Disturbance or removal of vegetation will not exceed the minimum necessary to complete operations. Except for the vegetation specifically identified for trimming and/or removal in the California Department of Fish and Wildlife (CDFW) 1602 notification, no native oak trees with a trunk diameter greater than six inches DBH will be removed or damaged without prior consultation and approval by the District. Using hand tools (e.g., clippers, chain saw), trees may be trimmed to the extent necessary to gain access to the work sites. All cleared material/vegetation will be removed out of the riparian/stream zone.

BMP-5: Construct Outside of Nesting Season or Conduct Pre-Construction Nesting Surveys

To avoid disturbance of raptor breeding and nesting activity, including nesting of sensitive raptors, project activities will be avoided during the typical raptor breeding season of March through August, to the extent feasible. If construction must take place during the typical nesting season, pre-construction surveys will be conducted by a Qualified Biologist no more than 15 days prior to initiation of proposed construction activities. Surveys will be conducted to determine if active nesting is occurring on or directly adjacent to the study area. If active nests are found on or immediately adjacent to the site, survey results will be submitted to CDFW and consultation will be initiated with CDFW to determine appropriate avoidance measures. If no nesting is found to occur, project activities may proceed.

BMP-6: Avoid the Introduction or Spread of Noxious Weeds in the Project Area

To avoid the introduction or spread of noxious weeds into previously uninfected areas (especially within the riparian community along Doty Ravine), the District will revegetate disturbed areas immediately after construction is complete using certified weed-free native and nonnative mixes.

BMP-7: Proper Handling of Hazardous Materials

Construction documents will identify materials that are considered hazardous. The Project contractor will be required to develop a Health and Safety Plan that addresses release prevention measures; employee training, notification, and evacuation procedures; and emergency response protocols and cleanup procedures. The contractor will comply with the California Occupational Safety and Health Administration (Cal-OSHA) standards for the storage and handling of fuels, flammable materials, and common construction-related hazardous materials and for fire prevention. Cal-OSHA requirements can be found in California Labor Code, Division 5, Chapter 2.5.

BMP-8: Prepare and Implement a Fire Suppression and Control Plan

The District will require the construction contractor to coordinate with Placer County Fire to ensure a fire control plan is prepared and implemented to reduce the risk of fires during construction. The fire

prevention and control plan will include requirements for onsite extinguishers; roles and responsibilities of NID, the contractor; specification for fire suppression equipment and other critical fire prevention and suppression items.

BMP-9: Prepare and Implement a Construction Traffic Management Plan

As necessary, the District will require the contractor(s) to prepare a Traffic Control Plan in accordance with Placer County requirements and professional engineering standards prior to construction. The Traffic Control Plan could include the following requirements:

- a. Identification of traffic controls required where the temporary northern access connects to Gold Hill Road.
- b. Emergency services access to local land use shall be maintained for the duration of construction activities.
- c. Access for local land uses including residential driveways, commercial properties, and agricultural lands during construction activities shall be maintained.
- d. Adequate provisions will be made for the protection of the traveling public. All traffic control, including devices and personnel requirements, will be consistent with the current State of California Manual of Traffic Controls for Construction and Maintenance Work Areas.

2.4 Regulatory Requirements, Permits, and Approvals

The following permits and approvals are anticipated for the Proposed Project:

- CEQA Document Adoption and Project Approval - NID Board
- Streambed Alteration Agreement (California Fish and Game Code [CDFG] code Section 1602) – CDFW
- Temporary Construction Easement
- Storm Water Pollution Prevention Plan (SWPPP)

SECTION 3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED AND DETERMINATION

3.1 Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|--|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Hazards/Hazardous Materials | <input type="checkbox"/> Recreation |
| <input checked="" type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Air Quality | <input type="checkbox"/> Land Use and Planning | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input checked="" type="checkbox"/> Biological Resources | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Utilities and Service Systems |
| <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Noise | <input type="checkbox"/> Wildfire |
| <input type="checkbox"/> Energy | <input checked="" type="checkbox"/> Paleontological Resources | <input type="checkbox"/> Mandatory Findings of Significance |
| <input checked="" type="checkbox"/> Geology and Soils | <input type="checkbox"/> Population and Housing | |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Public Services | |

3.2 Determination

On the basis of this initial evaluation:

- I find that the Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- I find that although the 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 Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.
- I find that the 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 Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Project, nothing further is required.

AGENCY REP NAME
TITLE

Date

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SECTION 4.0 ENVIRONMENTAL CHECKLIST AND DISCUSSION

4.1 Aesthetics

The aesthetics section discusses the potential impacts of the Proposed Project to aesthetic resources within the Project area. Aesthetic resources refer to the natural and scenic viewsheds that define a region. The regulatory setting describes applicable laws and regulations administered by the local governing body that aim to preserve aesthetic resources. The environmental setting provides general information of the scenic and aesthetic resources of the proposed Project area, and finally, the impact analysis evaluates the potential impacts of the proposed Project on those resources.

4.1.1 *Environmental Setting/ Visual Characteristics of the Project Area*

The Project is in southern Placer County north of Highway 193 adjacent to the Gold Hill Gardens Event Center at 2325 Gold Hill Road, Newcastle, California (see **Figures 2.2-1 and 2.2-2**). The Project site is designated Rural Residential 1-10 acre minimum by the Placer County General Plan. Project area terrain varies from relatively flat areas, to gently rolling hills, and relatively steep hillsides. Views in the area are dominated by oak woodlands and rural residential properties that accommodate small scale agriculture and equestrian uses. The Project site supports primarily annual grassland and valley foothill riparian communities. Surface waters include Doty Ravine and Sailors Ravine.

The Gold Hill Gardens Event Center is located immediately southeast of the Project site. This 38-acre event center property includes a scenic 11-acre garden and hosts in and outdoor special events (weddings/meetings/retreats) for up to 150 guests.

Due to topography, vegetation and distance from roadways, the Project site is isolated and not visible from public viewing locations. The site is also not visible from the Gold Hill Gardens Event Center primary use areas.

4.1.2 *Regulatory Setting*

4.1.2.1 **Placer County General Plan**

As a jurisdiction with equal authority, NID is exempt from the following goals and policies of the Placer County General Plan (General Plan). However, NID strives to comply with applicable General Plan goals and policies when designing and constructing projects.

Following are relevant goals and policies identified by the General Plan (Placer County 2013) for visual resources, including scenic routes.

Goal 1.K: To protect the visual and scenic resources of Placer County as important quality-of-life amenities for County residents and a principal asset in the promotion of recreation and tourism.

Policy 1.K.1. The County shall require that new development in scenic areas (e.g., river canyons, lake watersheds, scenic highway corridors, ridgelines and steep

slopes) is planned and designed in a manner which employs design, construction, and maintenance techniques that:

- avoids locating structures along ridgelines and steep slopes;
- incorporates design and screening measures to minimize the visibility of structures and graded areas; and
- maintains the character and visual quality of the area.

Policy 1.K.5 The County shall require that new roads, parking, and utilities be designed to minimize visual impacts. Unless limited by geological or engineering constraints, utilities should be installed underground, and roadways and parking areas should be designed to fit the natural terrain.

Policy 1.L.3 The County shall protect and enhance scenic corridors through such means as design review, sign control, undergrounding utilities, scenic setbacks, density limitations, planned unit developments, grading and tree removal standards, open space easements, and land conservation contracts.

4.1.2.2 State Scenic Highways

The California Scenic Highway Program protects and enhances the scenic beauty of California’s highways and adjacent corridors. A highway can be designated as scenic based on how much natural beauty can be seen by users of the highway, the quality of the scenic landscape, and if development impacts the enjoyment of the view. In Placer County, portions of four State Highways (Highways 28, 49, 89 and 126) and one Interstate Highway (Interstate 80, I-80) are designated by Caltrans as Eligible State Scenic Highways; however, none are designated State Scenic Highways. The Proposed Project is not located along a designated State Scenic Highway.

4.1.3 Aesthetics (I) Environmental Checklist and Discussion

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

Based on review of the Caltrans State Scenic Highway List and the General Plan, no officially designated scenic vistas or scenic land units were identified within the Project site (Caltrans 2019, Placer County, 2013). Therefore, the Project would not have an impact on Scenic Vistas.

Draft Initial Study and Mitigated Negative Declaration
Doty North Canal Siphon #1 Replacement Project

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

As stated above, according to Caltrans' list of designated Scenic Highways and the General Plan, the Project site is not located near or within a state scenic highway and would not damage designated scenic resources, including but not limited to trees, outcroppings, and historic buildings within a state scenic highway. There would be no impact and no mitigation is required.

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

Construction of the Proposed Project would result in short-term impacts to the existing visual character and quality at the Project site. Construction activities would require the use of heavy equipment and storage of materials in staging areas. During construction, excavated areas, stockpiled soils, and other materials would temporarily contribute to degradation of the scenic quality/visual landscape at the site. The Project site is in a rural area situated in a low-lying ravine over 800 feet west of the nearest public road, Gold Hill Road. Due to its isolated nature, intervening vegetation and topography, there are no public views of the site. Furthermore, once construction is complete, all construction-related equipment and materials would be removed, and all temporarily disturbed areas restored consistent with **BMP-3**. Because this is a replacement project, following completion views of the site would be similar to existing views. There would be no impact to the visual character or quality of public views and no mitigation is required.

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Would the project create a new source of substantial light or glare, which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Project would replace an existing facility that is partly underground and would not create a new source of substantial light or glare. The above ground siphon pipe would be painted a “neutral color” and the Project does not include the addition of reflective surfaces. No night work or lighting is proposed as part of the Project. The Project would not create a new source of light or glare and there would be no impact. No mitigation is required.

4.1.4 Mitigation Measures

No significant impacts were identified, no mitigation is required.

4.2 Agriculture and Forestry Resources

4.2.1 Environmental Setting

According to the Placer County Agricultural Commission Office, the top five highest grossing agriculture sectors in Placer County in 2017 were cattle and calves (\$9.9M), nursery stock (\$8.4M), rice (\$8.3M), timber (\$5.8M) and walnuts (\$8.4M). The General Plan designates the Project area as Rural Residential 1-10 acre minimum. Due to rolling terrain and smaller parcel size, there is no large-scale rice or row crop production in the Project vicinity. Most agriculture in the area is comprised of small-scale farming, grazing and equestrian uses. There is no active agriculture on the Project site, however a few nearby parcels graze livestock and plant private crops.

As discussed in **Section 2.0 Project Description**, Project construction will require a temporary easement to access the north side of Doty Creek at the Project site. This easement will begin at Gold Hill Road at a point approximately 1,000 feet north of the existing Gold Hill Gardens Event Center driveway entrance. From that point, the easement extends approximately 1,300 feet southeasterly across Sailors Ravine and through pastureland to the Project site (see **Figure 2.2-2**). The land traversed by the northern access route is private property and supports irrigated pasture used for cattle grazing.

4.2.2 Regulatory Setting

4.2.2.1 California Important Farmland Inventory System and Farmland Mapping and Monitoring Program

The California Department of Conservation (DOC) sponsors the Farmland Mapping and Monitoring Program. Important Farmland maps classify land into one of eight categories, defined as follows (DOC 2019):

- **Prime Farmland** – land that has the best combination of features for the production of agricultural crops.
- **Farmland of Statewide Importance** – land other than Prime Farmland that has a good combination of physical and chemical features for the production of agricultural crops.
- **Unique Farmland** – land of lesser quality soils used for the production of the state’s leading agricultural cash crops.
- **Farmland of Local Importance** – land that is of importance to the local agricultural economy.
- **Grazing Land** – land with existing vegetation that is suitable for grazing.
- **Urban and Built-up Lands** – land occupied by structures with a density of at least one dwelling unit per 1.5 acres, or approximately 6 structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public utility structures, and other developed purposes.
- **Land Committed to Nonagricultural Use** – vacant areas; existing lands that have a permanent commitment to development but have an existing land use of agricultural or grazing lands.
- **Other Lands** – land that does not meet the criteria of the remaining categories.

According to the California Resources Agency Farmland Mapping and Monitoring Program website, the Project site and northern access route occur on lands designated as Farmland of Local Importance.

4.2.2.2 Williamson Act Contracts

The California Land Conservation Act of 1965, commonly known as the Williamson Act, enables local governments to enter into agreements with private landowners to restrict parcels for agricultural or related open space use. In return, landowners receive property tax assessments that are based on farming and open space uses instead of full market value. The Open Space Subvention Act of 1971 has historically provided local governments an annual subvention (subsidy) of forgone property tax revenues from the state; however, these payments have been suspended since 2009 due to revenue shortfalls in recent years. Williamson Act contract lands in Placer County are primarily in the western valley portion of the County where lands are flat and support rice or row crop operations.

The Project site and the irrigated pastureland crossed by the northern access route are not under Williamson Act contract.

4.2.3 Agriculture and Forestry Resources (II) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

According to the California Resources Agency Farmland Mapping and Monitoring Program website, the Project site and northern access route do not occur on lands designated as Prime, Unique, or Farmland of Statewide Importance (DOC 2018). The Project is limited to replacement of an existing siphon and would not result in long-term conversion of any existing agricultural use. There would be no permanent conversion impact. No mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Less than Significant with Mitigation Incorporated.

No agricultural use or Williamson Act contracts exist on the Project site. While the Project site is zoned Agriculture (AG), the Doty Ravine North Canal and Siphon #1 are allowed uses within the AG zone and the District holds easements for related facility operation and maintenance. There would be no impact to agricultural use or Williamson Act contracts at the Project Site.

The northern access route crosses approximately 1,000 feet of irrigated pastureland used for grazing. Following construction, the northern access route would be restored consistent with **BMP-3** (See **Section 2.4**). However, use of the northern access during construction could cause temporary grazing disruptions which is considered a potentially significant impact to existing agricultural zoning. Implementation of Mitigation Measure **AG-1** would reduce this impact to less than significant.

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Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Proposed Project involves replacement and upgrade of an existing use which is consistent with zoning. As such, the Project would not conflict with existing zoning codes. No impact would occur, and no mitigation is required.

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

There is no forest land on the Project site or along the Northern Access Route. See discussion under item c). No impact would occur.

Would the project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

See discussion under items a) and c), the Proposed Project would not result in the conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use. No impact would occur, and no mitigation is required.

4.2.4 *Mitigation Measures*

Mitigation Measure AG-1: Obtain Temporary Easements and Minimize Disruption to Existing Agricultural Operations

NID shall obtain a temporary construction easement for the proposed northern access route. The temporary easement alignment shall be coordinated with the grazer and be located to minimize disruptions to grazing operations. All feasible conditions that serve to minimize agricultural/grazing conflicts shall be incorporated into the easement. The temporary access route shall be reseeded and stabilized following construction.

4.3 Air Quality

4.3.1 *Environmental Setting*

The Project area is located in the western portion of Placer County, California, which is in the SVAB. The SVAB also comprises all of Butte, Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba counties and the eastern portion of Solano County. Ambient air quality is commonly characterized by climate conditions, the meteorological influences on air quality, and the quantity and type of pollutants released. The SVAB is subject to a combination of topographical and climatic factors that influence the potential for high levels of regional and local air pollutants.

The air basin is relatively flat, bordered by mountains to the east, west, and north and by the San Joaquin Valley to the south. Air flows into the SVAB through the Carquinez Strait, moving across the Sacramento Delta, and bringing with it pollutants from the heavily populated San Francisco Bay Area. The climate is characterized by hot, dry summers and cool, rainy winters. Characteristic of SVAB winter weather are periods of dense and persistent low-level fog, which are most prevalent between storm systems. From May to October, the region's intense heat and sunlight lead to high ozone pollutant concentrations. Summer inversions are strong and frequent but are less troublesome than those that occur in the fall. Autumn inversions, formed by warm air subsiding in a region of high pressure, have accompanying light winds that do not provide adequate dispersion of air pollutants.

Both the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants representing safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called "criteria" pollutants because the health and other effects of each pollutant are described in criteria documents. The six criteria pollutants are ozone, carbon monoxide (CO), particulate matter (PM), nitrogen oxides (NO_x), sulfur dioxide (SO₂), and lead. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The Project region is designated as a nonattainment area for the federal ozone standard and is also a nonattainment area for the state standards for ozone and PM₁₀ standards (CARB 2018).

4.3.2 Regulatory Setting

4.3.2.1 Placer County Air Pollution Control District

At the County level, air quality is managed through land use and development planning practices implemented by Placer County and through permitted source controls implemented by the Placer County Air Pollution Control District (PCAPCD). The PCAPCD is also the agency responsible for enforcing many federal and state air quality requirements and for establishing air quality rules and regulations. The PCAPCD attains and maintains air quality conditions in Placer County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The PCAPCD’s clean air strategy includes the preparation of plans for the attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. The PCAPCD also inspects stationary sources of air pollution and responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the federal Clean Air Act, the Clean Air Act Amendments of 1990, and the California Clean Air Act.

4.3.3 Air Quality (III) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

As part of its enforcement responsibilities, the USEPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the California Clean Air Act requires an air quality attainment plan to be prepared for areas designated as nonattainment with federal and state ambient air quality standards. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

The PCAPCD is the agency responsible for enforcing many federal and state air quality requirements and for establishing air quality rules and regulations. The PCAPCD attains and maintains air quality conditions in Placer County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. As part of this effort, the PCAPCD has developed input to the SIP, which is required under the federal Clean Air Act for areas that are out of attainment for air quality standards. The SIP includes the PCAPCD’s plans and control measures for attaining the ozone national ambient air quality standards.

The SIP plans and control measures are based on information derived from projected growth in Placer County in order to project future emissions and then determine strategies and regulatory controls for the reduction of emissions. Growth projections are based on the general plans developed by Placer County and the incorporated cities in the County. As such, projects that propose development consistent with the growth anticipated by the respective general plan of the jurisdiction in which the proposed development is located would be consistent with the SIP. In the event that a project would propose a development that is less dense than that associated with the general plan, the project would likewise be consistent with the SIP. If a project, however, proposes a development that is denser than that assumed in the General Plan, that project may be in conflict with the SIP and could therefore result in a significant impact on air quality.

The Project site has a General Plan designation of Rural Residential and is zoned Agriculture. The Project is proposing to replace the existing raw water transmission siphon that has reached the end of its useful life and replace it with new equipment that would be consistent with the approved masterplan design flow rate of 34 cfs. The Project would not be increasing development density and is therefore consistent with the County's growth projections. As such, no impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact.

4.3.3.1 Construction Impacts

Construction associated with the Proposed Project would generate short-term emissions of criteria air pollutants. The criteria pollutants of primary concern within the Project area include ozone-precursor pollutants (i.e., reactive organic gases and NO_x) and PM₁₀ and PM_{2.5}. Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the threshold of significance.

Construction results in the temporary generation of emissions resulting from demolition, site excavation and installation. Motor vehicle exhaust is associated with construction equipment and worker trips. Particulate matter is associated with the movement of construction equipment, especially on unpaved surfaces. Emissions of airborne PM are largely dependent on the amount of ground disturbance associated with site preparation activities as well as weather conditions and the appropriate application of water.

Predicted maximum daily construction-generated emissions for the Proposed Project are summarized in **Table 4.3-1**. Modeling data outputs are included in **Appendix A**.

Table 4.3-1. Construction-Related Emissions			
Construction Activity	Pounds Per Day		
	NO _x	PM ₁₀	PM _{2.5}
Construction	14.0	1.36	0.94
<i>Potentially Significant Impact Threshold</i>	<i>85</i>	<i>80</i>	<i>82</i>
Exceed Threshold?	No	No	No

Source: CalEEMod version 2016.3.2. Refer to **Appendix A** for Model Data Outputs.

As shown in **Table 4.3-1**, all criteria pollutant emissions would remain below their respective thresholds during Project construction. Therefore, criteria pollutant emissions generated during construction would not result in a violation of air quality standards. Therefore, construction emissions would result in a less than significant impact.

4.3.3.2 Operational Impacts

Operational emissions impacts are long-term air emissions impacts that are associated with any changes in permanent use of the Project site by onsite stationary and offsite mobile sources that substantially increase emissions. The Proposed Project will not include the provision of new permanent stationary or mobile sources of emissions, and therefore, by its very nature, will not generate quantifiable air quality emissions from Project operations. The Project proposes improvements to the existing water transmission siphon and would not change the permanent use of the Project site or contribute to on- or offsite emissions. No long-term operational emission impacts would occur as a result of the Project. This is a less than significant impact.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact.

Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

4.3.3.3 Construction-Generated Toxic Air Contaminants

Construction-related activities would result in temporary, short-term Project-generated emissions of diesel particulate matter (DPM) from the exhaust of off-road, heavy-duty diesel equipment for site preparation (e.g., excavation); soil hauling truck traffic; and other miscellaneous activities. For construction activity, DPM is the primary toxic air contaminant (TAC) of concern. Particulate exhaust emissions from diesel-fueled engines (i.e., DPM) were identified as a TAC by CARB in 1998. The potential cancer risk from the inhalation of DPM, as discussed below, outweighs the potential for all other health impacts (i.e., non-cancer chronic risk, short-term acute risk) and health impacts from other TACs. Accordingly, DPM is the focus of this discussion.

Based on the emission modeling conducted the maximum construction-related emissions of fine particulate matter (PM_{2.5}) exhaust, considered a surrogate for DPM, would be 0.94 pound in a single day (see **Appendix A**) during construction activity. (PM_{2.5} is considered a surrogate for DPM because more than 90 percent of DPM is less than 1 microgram in diameter and therefore is a subset of PM under 2.5 microns in diameter (i.e., PM_{2.5}), according to CARB. Most PM_{2.5} derives from combustion, such as use of gasoline and diesel fuels by motor vehicles.) Furthermore, even during the most intense week of construction, emissions of DPM would be generated from different locations on the Project site, rather than a single location.

The dose to which receptors are exposed is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for any exposed receptor. Thus, the risks estimated for an exposed individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment), health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-, 30-, or 9-year exposure period; however, such assessments should be limited to the period/duration of activities associated with the Proposed Project. Consequently, an important consideration is the fact that construction of the Proposed Project is anticipated to last approximately six weeks and thus would not span the minimum duration of exposure from which to calculate health risk.

Therefore, considering the relatively low mass of DPM emissions that would be generated during even the most intense season of construction, the fact that construction would not last as long as the minimum duration of exposure from which to calculate health risk, and the relatively short duration of construction, construction-related TAC emissions would not expose sensitive receptors to substantial amounts of air toxics. This is a less than significant impact.

4.3.3.4 Operational Air Contaminants

Operation of the Proposed Project would not result in the development of any substantial sources of air toxics. There are no stationary sources associated with the operations of the Project. Nor would the Project attract mobile sources that spend long periods queuing and idling at the site. Therefore, the

Project would not be a source of TACs and there would be no impact as a result of the Project during operations.

Carbon Monoxide Hot Spots

It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling at intersections. Concentrations of CO are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Under certain meteorological conditions, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Given the high traffic volume potential, areas of high CO concentrations, or "hot spots," are typically associated with intersections that are projected to operate at unacceptable levels of service during the peak commute hours. However, transport of this criteria pollutant is extremely limited, and CO disperses rapidly with distance from the source under normal meteorological conditions. Furthermore, vehicle emissions standards have become increasingly more stringent in the last 20 years. Currently, the CO standard in California is a maximum of 3.4 grams per mile for passenger cars (requirements for certain vehicles are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology on industrial facilities, CO concentrations in the Project vicinity have steadily declined.

Accordingly, with the steadily decreasing CO emissions from vehicles, even very busy intersections do not result in exceedances of the CO standard. Although not within Placer County, an analysis prepared for CO attainment in the South Coast Air Quality Management District (SCAQMD) 1992 Federal Attainment Plan for Carbon Monoxide in Los Angeles County can be used to demonstrate the potential for CO exceedances. The CO hot spot analysis was conducted for four busy intersections in Los Angeles County during the peak morning and afternoon time periods. The busiest intersection evaluated was at Wilshire Boulevard and Veteran Avenue, which has a traffic volume of approximately 100,000 vehicles per day. The Los Angeles County Metropolitan Transportation Authority evaluated the level of service (LOS) in the vicinity of the Wilshire Boulevard/Veteran Avenue intersection and found it to be LOS E at peak morning traffic and LOS F at peak afternoon traffic (LOS E and F are the two least efficient traffic LOS ratings). Even with the inefficient LOS and volume of traffic, the CO analysis concluded that there was no violation of CO standards (SCAQMD 1992).

The Project is not anticipated to generate any new trips following completion of the improvements to the water transmission siphon. Because the Proposed Project would not increase traffic volumes at any intersection to more than 100,000 vehicles per day, there is no likelihood of the Project traffic exceeding CO values. For the reasons stated, this impact is less than significant.

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Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact.

Typically, odors are regarded as an annoyance rather than a health hazard. However, manifestations of a person’s reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

With respect to odors, the human nose is the sole sensing device. The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals have the ability to smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; in fact, an odor that is offensive to one person (e.g., from a fast-food restaurant) may be perfectly acceptable to another. It is also important to note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word “strong” to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the detection or recognition of the odor is quite difficult. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

4.3.3.5 Construction

During construction, the Proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the site. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the construction area. Therefore, construction odors would result in a less than significant impact related to odor emissions.

4.3.3.6 Operations

Land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants,

composting facilities, refineries, landfills, dairies, and fiberglass molding. The Proposed Project does not include any uses identified as being associated with odors. Therefore, no impact would occur.

4.3.4 *Mitigation Measures*

No significant impacts were identified, no mitigation is required.

4.4 **Biological Resources**

This section summarizes results of the Biological Resources Assessment (BRA) prepared for the project by ECORP Consulting, Inc. in September 2019 (**Appendix B** to this document).

4.4.1 *Methods*

The BRA was prepared to assess the potential for occurrence of special-status plant and animal species or their habitat, and sensitive habitats such as wetlands within the Project Site. The assessment did not include determinate field surveys conducted according to agency-promulgated protocols. The conclusions and recommendations presented in the BRA and summarized here are based upon a review of the available literature and site reconnaissance.

For the purposes of this assessment, special-status species are defined as plants or animals that:

- are listed, proposed for listing, or candidates for future listing as threatened or endangered under the federal Endangered Species Act (ESA),
- are listed or candidates for future listing as threatened or endangered under the California ESA,
- meet the definitions of endangered or rare under Section 15380 of CEQA Guidelines,
- Are identified as a Species of Special Concern (SSC) by the CDFW;
- Are plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" (California Rare Plant Rank [CRPR] 1 and 2);
- Are plants listed by CNPS as species about which more information is needed to determine their status (CRPR 3), and plants of limited distribution (CRPR 4);
- Are plants listed as rare under the California Native Plant Protection Act (NPPA, California Fish and Game Code, § 1900 et seq.); or
- Are fully protected in California in accordance with the California Fish and Game Code, §§ 3511 (birds), 4700 (mammals), 5050 (amphibians and reptiles), and 5515 (fishes).

Only species that fall into one of the above-listed groups were considered.

4.4.2 *Literature Review*

The following resources were reviewed to determine the special-status species that have been documented within or in the vicinity of the Project Site. Results of the species searches are included as Attachment B to the BRA (**Appendix B** to this document).

- CDFW California Natural Diversity Database (CNDDDB) data for the “Gold Hill, California” 7.5-minute quadrangle as well as the eight surrounding U.S Geological Survey (USGS) quadrangles (CDFW 2019a);
- U.S. Fish and Wildlife Service (USFWS) Information, Planning, and Consultation System Resource Report List for the Project Area (USFWS 2019a);
- CNPS’ electronic Inventory of Rare and Endangered Plants of California was queried for the “Gold Hill, California” 7.5-minute quadrangles and the eight surrounding quadrangles (CNPS 2019);
- CDFW Biogeographic Information and Observation System query of range maps for potentially occurring special-status species (CDFW 2019b); and
- USFWS Threatened & Endangered Species Active Critical Habitat Report (USFWS 2019b).

Additional background information was reviewed regarding the documented or potential occurrence of special-status species within or near the Project Site from the following sources:

- The Status of Rare, Threatened, and Endangered Plants and Animals of California 2000-2004 (CDFG 2005);
- California Bird SSC (Shuford and Gardali 2008);
- Amphibian and Reptile SSC in California (Thompson et al. 2016);
- Mammalian SSC in California (Williams 1986);
- California’s Wildlife, Volumes I-III (Zeiner, et al. 1988, 1990a, 1990b); and
- A Guide to Wildlife Habitats of California (Mayer and Laudenslayer Jr., eds. 1988).

4.4.3 *Site Reconnaissance and Field Survey*

ECORP Biologists conducted the site reconnaissance visit on June 27, 2019. The Project Site was systematically surveyed on foot using an iPad, topographic maps, and aerial imagery to ensure total site coverage. Special attention was given to identifying those portions of the Project Site with the potential to support special-status species and sensitive habitats. During the field survey, biological communities occurring onsite were characterized and the following biological resource information was collected:

- Vegetation communities within the Project Area;
- Plant and animal species directly observed;
- Animal evidence (e.g., scat, tracks);
- Existing active raptor nest locations;
- Burrows and any other special habitat features;
- Representative Project Area photographs (see **Appendix B**, Attachment C)

In addition, soil types were identified using the Natural Resources Conservation Service (NRCS) Web Soil Survey (NRCS 2019).

4.4.4 *Environmental Setting*

The Project Site is located north of Highway 193 and just west of Gold Hill Road, about four miles northeast of the town of Newcastle in Placer County, California. The Project Site and surrounding areas are characterized by rural residential and agricultural properties characterized by flat and low hilly terrain. Elevation ranges from approximately 360-430 feet above mean sea level (MSL).

4.4.4.1 **Vegetation Communities and Land Cover Types**

As shown in **Figure 4.4-1. Habitat Map**, the Project Site and proposed access routes support four land cover types. These include irrigated pasture, riparian, disturbed/developed, and oak woodland/grassland. These land cover types are described below.

Irrigated Pasture

The northern construction access route can be characterized as irrigated pasture. It is predominantly composed of nonnative Dallas grass (*Paspalum dilatatum*). In addition, nonnative species such as Kentucky bluegrass (*Poa pratensis*) and white clover (*Trifolium repens*). Some umbrella nutsedge (*Cyperus eragrostis*), a native, was also scattered throughout the irrigated pasture.

Riparian

The riparian habitat is located in the southwestern portion of the Project Site and occur in the vicinity of the Doty Ravine/Sailor Ravine confluence. The overstory consists mostly of native oak trees such as interior live oak (*Quercus wislizeni*), valley oak (*Quercus lobata*), and blue oak (*Quercus douglasii*), as well as white alder (*Alnus rhombifolia*), and buckeye (*Aesculus californica*). The understory layer was dominated by Himalayan blackberry (*Rubus armeniacus*) and pokeweed (*Phytolacca decandra*).

Oak Woodland

This habitat type is found on the upper elevations of the Project Site on both sides of Doty Ravine. The Oak Woodland habitat type is predominantly composed of native oak trees in the over story layer such as live oak and blue oak, and weedy ruderal species such as mustard (*Brassica* sp.) and grassy species such as Mediterranean barley (*Hordeum murinum*) in the understory layer.

Disturbed/Developed

This cover is found along the southern construction access route which consists of an existing dirt road used to access the Project Site.



- Map Features**
- Project Site*
 - Construction Access Route*
- Vegetation Type**
- Disturbed/Developed - 0.03 ac.
 - Irrigated Pasture - 2.39 ac.
 - Oak Woodland - 1.21 ac.
 - Riparian - 1.06 ac.
- Non-Wetland Waters Identified During Stantec Preliminary Wetland Delineation**
- Perennial Stream - 0.102 ac.
 - Intermittent Channel - 0.003 ac.
- Non-Wetland Waters Identified During ECORP Preliminary Wetland Assessment**
- Intermittent Channel - 0.022 ac.

Table 1. Potential Waters of the U.S. within the Project Site	
Type	Acres ¹
Stantec Wetland Delineation²	
Non-Wetland Waters	
Intermittent Channel (Sailor Ravine)	0.003
Perennial Stream (Doty Ravine)	0.102
ECORP Preliminary Wetland Assessment³	
Non-Wetland Waters	
Intermittent Channel (Sailor Ravine)	0.022
Total	0.127

¹Acres represent a calculated estimation and are subject to modification following the USACE verification process.
²Wetland data taken from the Stantec Wetland Resources Delineation (Stantec 2018).
³Acres/Wetland data digitized after the June 2019 site visit and preliminary wetland assessment.
 *Features represent approximate locations for cartographic purposes
 Sources: NAIP 2018



ECORP - N:\2019\2019-003\NID\Doty North Canal Siphon Replacement\MAPS\Biological - Resources\Doty_Vegetation_20190715.mxd (KFT\AMM\ammyes 9/25/2019)

Map Date: 9/25/2019

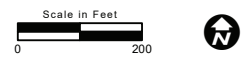


Figure 4.4-1. Habitat Map

Potential Waters of the U.S.

Figure 4.4-1 shows the location of Waters of the U.S. within the Project Site and along the proposed northern access route. Those waters shown on the Project Site are based on a U.S. Army Corps of Engineers (USACE) verified wetland delineation prepared by Stantec (May 9, 2018). According to the Stantec delineation, Project site waters include 0.003 acre of Intermittent Channel (Sailor Ravine) and 0.102 acre of Perennial Stream (Doty Ravine) for a total 0.105 acre of onsite waters (see **Table 4.4-1**).

Table 4.4-1. Potential Waters of the U.S..	
Type	Acres ¹
Project Site Non-Wetland Waters ²	
Intermittent Channel (Sailor Ravine)	0.003
Perennial Stream (Doty Ravine)	0.102
Northern Access Route Non-Wetland Waters ³	
Intermittent Channel (Sailor Ravine)	0.022
Total	0.127

¹Acres represent a calculated estimation and are subject to modification following the USACE verification process.

²Wetland data taken from the Stantec Wetland Resources Delineation (Stantec 2018).

³Acres/Wetland data digitized after the June 2019 site visit and preliminary wetland assessment.

A separate preliminary wetland assessment of the proposed access routes was conducted as part of the BRA by ECORP biologists on June 27, 2019. As shown in **Figure 4.4-1**, the proposed southern access follows an existing improved dirt service road and is free of wetland constraints. The northern access similarly utilizes an existing maintenance/service road on the west end; however, the eastern end would pass through unimproved irrigated pastureland. Because the eastern portion of the northern access route was undefined at the time of biological field surveys, a 100-foot wide corridor was surveyed for potential wetlands and biological constraints. This assessment identified a section of intermittent channel, a portion of Sailor Ravine, near the eastern end of the northern access route (see **Figure 4.4-1**). As shown in **Table 4.4-1**, a total of 0.022 acre of Intermittent Channel (Sailor Ravine) was identified within the northern access survey corridor.

Soils

According to the Soil Survey Geographic Database for Placer County, California (NRCS 2019), three soil units, or types, have been mapped in the project area (see **Figure 4.4-2. Natural Resources Conservation Service Soil Types**).

- 107 – Andregg coarse sandy loam, 9 to 15 percent slopes;
- 108 – Andregg coarse sandy loam, 15 to 30 percent slopes; and

- 194 – Xerofluvents, frequently flooded.

Xerofluvents, frequently flooded (194) is considered hydric. The remaining soil types do not contain hydric components (NRCS 2019b).

4.4.4.2 Wildlife

Habitats within the Project Area support a variety of common wildlife species such as red-shouldered hawk (*Buteo lineatus*), California quail (*Callipepla californica*), and acorn woodpecker (*Melanerpes formicivorus*), among others. A detailed list of wildlife species observed in the vicinity of the Project Site during the June 2019 site visit is included as Attachment E to the BRA (**Appendix B** to this document).

4.4.4.3 Evaluation of Species Identified in the Literature Search

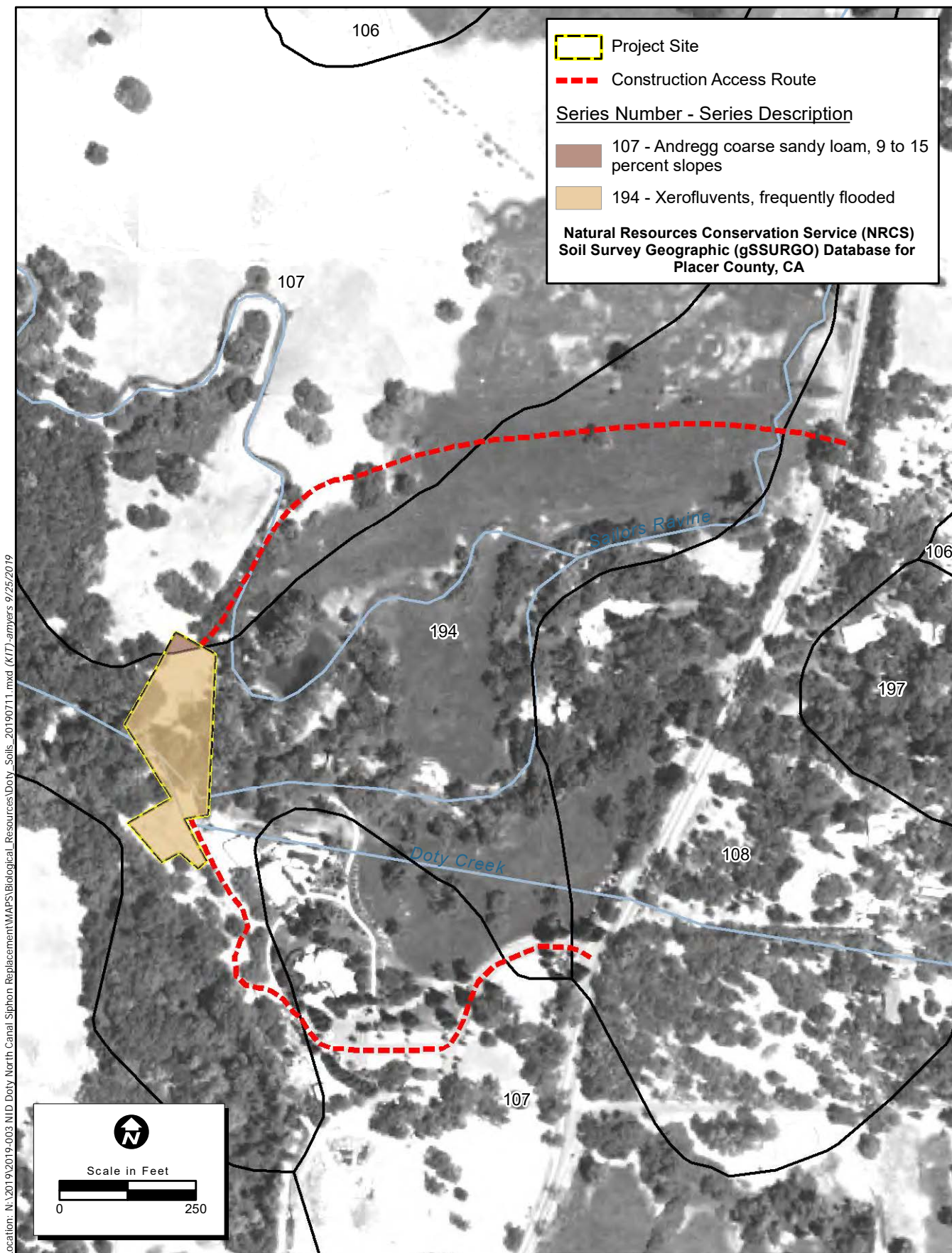
A list of all plant and wildlife species identified in the literature search as potentially occurring within the project area is provided in BRA Table 2 (see **Appendix B** to this document). This table includes the listing status for each species, a brief habitat description, and a determination on the potential to occur in the Project Area. Following is a brief description of each species with potential to occur. It should be noted that several species and sensitive habitat types came up in the database and literature searches but are not included in BRA Table 2. These species and habitat types were not included because the species have been formally delisted or are only tracked by the CNDDDB and possess no special-status, or because the identified sensitive habitats are not located within the Project Site. They are not discussed further in this report. One mammal species, ringtail (*Bassariscus astutus*), was added to the analysis. Ringtail has been added because it is known to occur in the area, but it does not typically appear in the database and literature searches.

4.4.4.4 Plants

There are 29 special-status vascular plant species that were identified as having the potential to occur in the Project area based on the literature review (see **Appendix B**, Table 2). Upon further analysis and after the site reconnaissance, 19 species were determined to be absent from the Project area due to the lack of suitable habitat, a lack of suitable soils present onsite, or being outside of the elevation range of that species. No further discussion of these species is provided in this analysis. A brief description of the remaining 10 species that have the potential to occur in the project area are presented below.

Sanborn's Onion

Sanborn's onion (*Allium sanbornii* var. *sanbornii*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is a bulbiferous, herbaceous perennial that occurs on serpentinite or gravelly soils on chaparral, cismontane woodlands, and lower montane coniferous forest (CNPS 2019). Sanborn's onion blooms from May through September and is known to occur at elevations ranging from 853 to 4,954 feet above MSL (CNPS 2019). The current range of this species in California includes Butte, Calaveras, El Dorado, Nevada, Placer, Plumas, Shasta, Tehama, Tuolumne, and Yuba counties (CNPS 2019).



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Map Date: 9/25/2019
Photo Source: 2018 NAIP

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Figure 4.4-2. Natural Resources Conservation Service Soil Types

There are no CNDDDB documented occurrences of Sanborn's onion within five miles of the Project Area (CDFW 2019a). The riparian community within the Project Area provides marginal suitable habitat for this species. Sanborn's onion has low potential to occur onsite.

Big-Scale Balsamroot

Big-scale balsamroot (*Balsamorhiza macrolepis*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous perennial that occurs in chaparral, cismontane woodlands, valley and foothill grassland, and occasionally on serpentinite soils (CNPS 2019). Big-scale balsamroot blooms from March through June and is known to occur at elevations ranging from 148 to 5,102 feet above MSL (CNPS 2019). Big-scale balsamroot is endemic to California; the current range of this species includes Alameda, Amador, Butte, Colusa, El Dorado, Lake, Mariposa, Napa, Placer, Santa Clara, Shasta, Solano, Sonoma, Tehama, and Tuolumne counties (CNPS 2019).

There is one CNDDDB documented occurrence of big-scale balsamroot within five miles of the Project Site (CDFW 2019a). The riparian community and irrigated pasture within the Project Site provide suitable habitat for this species. Big-scale balsamroot has potential to occur onsite.

Brandegee's Clarkia

Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeae*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 plant. This species is an herbaceous annual that occurs in chaparral, cismontane woodlands, and lower montane coniferous forest often along roadcuts (CNPS 2019). Brandegee's clarkia blooms from May through July and is known to occur at elevations ranging from 246 to 3,002 feet above MSL. Brandegee's clarkia is endemic to California, and the current range of this species includes Butte, El Dorado, Nevada, Placer, Sacramento, Sierra, and Yuba counties (CNPS 2019).

There are three CNDDDB documented occurrences of Brandegee's clarkia within five miles of the Project Site (CDFW 2019a). The riparian community within the Project Site provides suitable habitat for this species. Brandegee's clarkia has potential to occur onsite.

Streambank Spring Beauty

Streambank spring beauty (*Claytonia parviflora* ssp. *grandiflora*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is an herbaceous annual that occurs in rocky cismontane woodland (CNPS 2019). Streambank spring beauty blooms from February through May and is known to occur at elevations ranging from 820 to 3,937 feet above MSL (CNPS 2019). Streambank spring beauty is endemic to California; the current range of this species includes Amador, Butte, Calaveras, El Dorado, Fresno, Kern, Placer, Tulare, and Tuolumne counties (CNPS 2019).

There are no CNDDDB documented occurrences of streambank spring beauty within five miles of the Project Site (CDFW 2019a). However, the riparian community within the provides marginal suitable habitat for this species. Streambank spring beauty has low potential to occur onsite.

Stinkbells

Stinkbells (*Fritillaria agrestis*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is a perennial bulbiferous herb that occurs in clay, sometimes serpentine areas in chaparral, cismontane woodland, pinyon and juniper woodland, and valley and foothill grassland (CNPS 2019). Stinkbells bloom from March to June and is known to occur at elevations ranging from 33 to 5,102 feet above MSL (CNPS 2019). The current range of this species in California includes Alameda, Contra Costa, Fresno, Kern, Mendocino, Merced, Monterey, Mariposa, Placer, Sacramento, Santa Barbara, San Benito, Santa Clara, Santa Cruz, San Luis Obispo, San Mateo, Stanislaus, Tuolumne, Ventura, and Yuba counties, and is considered to be extirpated from Santa Cruz and San Mateo counties (CNPS 2019).

There is one CNDDDB documented occurrence of stinkbells within five miles of the Project Site (CDFW 2019a). The riparian and irrigated pasture communities within the Project Site provide marginal suitable habitat for this species. Stinkbells has low potential to occur onsite.

Butte County Fritillary

Butte County fritillary (*Fritillaria eastwoodiae*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 3.2 species. This species is an herbaceous bulbiferous perennial that occurs in chaparral, cismontane woodland, and lower montane coniferous forest and occasionally is found on serpentinite soils (CNPS 2019). Butte County fritillary blooms from March to June and is known to occur at elevations ranging from 164 to 4,921 feet above MSL (CNPS 2019). The current range of this species in California includes Butte, El Dorado, Nevada, Placer, Plumas, Shasta, Tehama, and Yuba counties (CNPS 2019).

There are no CNDDDB documented occurrences of Butte County fritillary within five miles of the Project Site (CDFW 2019a). However, the riparian community within the Project Area provides suitable habitat for this species. Butte County fritillary has potential to occur onsite.

Ahart's Dwarf Rush

Ahart's dwarf rush (*Juncus leiospermus* var. *ahartii*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual that occurs in mesic areas in valley and foothill grasslands (CNPS 2019). This species also appears to have an affinity for slight disturbance since it has been found on farmed fields and gopher turnings (USFWS 2005). Ahart's dwarf rush blooms from March through May and is known to occur at elevations ranging from 98 to 751 feet above MSL (CNPS 2019, USFWS 2005). Ahart's dwarf rush is endemic to California; the current range of this species includes Butte, Calaveras, Placer, Sacramento, Tehama, and Yuba counties (CNPS 2019).

There are no CNDDDB documented occurrences of Ahart's dwarf rush within five miles of the Project Site (CDFW 2019a). However, the irrigated pasture community within the Project Area provides marginal suitable habitat for this species. Ahart's dwarf rush has low potential to occur onsite.

There is no critical habitat for this species mapped within the Project Site.

Dubious Pea

Dubious pea (*Lathyrus sulphureus* var. *argillaceus*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 3 species. This species is an herbaceous perennial that occurs in cismontane woodland, lower montane coniferous forest and upper montane coniferous forest (CNPS 2019). Dubious pea blooms from April through May and is known to occur at elevations ranging from 492 to 3,051 feet above MSL (CNPS 2019). Dubious pea is endemic to California; the current range of this species includes Calaveras, El Dorado, Nevada, Placer, Shasta, and Tehama counties; distribution or identity is uncertain in Nevada County (CNPS 2019).

There are no CNDDDB documented occurrences of dubious pea within five miles of the Project Site (CDFW 2019a). However, riparian community within the Project Site provides suitable habitat for this species. Dubious pea has potential to occur onsite.

Humboldt Lily

Humboldt lily (*Lilium humboldtii* ssp. *humboldtii*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is a perennial bulbiferous herb that occurs in openings within chaparral, cismontane woodland, and lower montane coniferous forest (CNPS 2019). Humboldt lily blooms from May through August and is known to occur at elevations ranging from 295 to 4,199 feet above MSL (CNPS 2019). Humboldt lily is endemic to California; the current range of this species includes Amador, Butte, Calaveras, El Dorado, Fresno, Mariposa, Nevada, Placer, Tehama, Tuolumne, and Yuba counties (CNPS 2019).

There are no CNDDDB documented occurrences of Humboldt lily within five miles of the Project Site (CDFW 2019a). However, the riparian community provides suitable habitat for this species. Humboldt lily has potential to occur onsite.

Oval-Leaved Viburnum

Oval-leaved viburnum (*Viburnum ellipticum*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 2B.3 species. This species is a perennial deciduous shrub that occurs in chaparral, cismontane woodland, and lower montane coniferous forest communities. Oval-leaved viburnum blooms from May through June and is known to occur at elevations ranging from 705 to 4,593 feet above MSL (CNPS 2019). The current range of this species in California includes Alameda, Contra Costa, El Dorado, Fresno, Glenn, Humboldt, Lake, Mendocino, Mariposa, Napa, Placer, Shasta, Solano, Sonoma, and Tehama counties (CNPS 2019).

There are no CNDDDB documented occurrences of oval-leaved viburnum within five miles of the Project Site (CDFW 2019a). However, the riparian community provides suitable habitat for this species. Oval-leaved viburnum has potential to occur onsite.

4.4.4.5 Invertebrates

There are three special-status invertebrate species that were identified as having potential to occur within the Project Area based on the literature review (see **Appendix B**, Table 2). Upon further analysis and after the reconnaissance site visit, two species were determined to be absent from the Project Site due to lack

of suitable habitat. No further discussion of these species is provided in this analysis. The third species, Valley Elderberry longhorn beetle, is also considered to be absent from the Project Area as no elderberry shrubs were observed during the site visit. However, due to the density of the vegetation only the immediate Project Area was surveyed. If any changes to the Project Area boundary occur, it will be necessary to survey any added areas for new elderberry shrubs.

4.4.4.6 Fish

There are two special-status fish species that were identified as having potential to occur within the Project Site based on the literature review (see Initial Study **Appendix B**, Table 2). Upon further analysis and after the reconnaissance site visit, one species was determined to be absent from the Project Site due to it being outside of the geographical range of this species. No further discussion of this species is provided in this analysis. A brief description of the remaining species that has the potential to occur within the Project Site is presented below.

Steelhead (CA Central Valley Distinct Population Segment (DPS))

Central Valley DPS steelhead (*Oncorhynchus mykiss*), the anadromous form of rainbow trout, were listed as threatened under the ESA on March 19, 1998 (63 Federal Register [FR] 13347). Critical habitat was designated on September 2, 2005 (70 FR 52488) and includes the mainstem Sacramento and San Joaquin rivers below impassible dams and the major tributaries to these rivers. Doty Ravine at the Project location is within designated critical habitat for the DPS. Spawning takes place in shallow swift-moving riffles with small gravel and cobble as the primary substrate. Adult spawning migrations occur from August through March, with peak immigration occurring in January and February. Spawning generally occurs from January through April, and the majority of adult fish die following spawning; however, some portion of adults may return to the ocean and make subsequent spawning migrations in up to four consecutive years. Juvenile steelhead rear in their natal streams for 1 to 3 years prior to emigrating from the river to the ocean, although some fish may remain in their natal freshwater stream as resident rainbow trout for their entire life. Emigration of 1- to 3-year old, sub-adult steelhead occurs primarily from January through June.

There are two CNDDDB documented occurrences of steelhead within five miles of the Project Site (CDFW 2019a). Doty Ravine within the Project area provides suitable habitat for this species. Doty Ravine is designated Critical Habitat for Steelhead, and there is a small resident population of rainbow trout (*Oncorhynchus mykiss*) that is known to occur in Doty Ravine throughout the year. However, access to the Project Site by anadromous steelhead is likely precluded, or very difficult, under all but the highest flows due to a culvert located downstream on Garden Bar Road (Bailey Environmental and Buell and Associates 2005). It is likely that any *Oncorhynchus mykiss* occurring in Doty Ravine upstream of the culvert are comprised of resident, non-anadromous rainbow trout, with low potential for steelhead to occur.

4.4.4.7 Amphibians

There are three special-status amphibian species that were identified as having potential to occur within the Project Site based on the literature review (see **Appendix B**, Table 2). Upon further analysis and after the reconnaissance site visit, two species were determined to be absent from the Project Site due to being

outside of the known range of this species or for suitable habitat not being present. No further discussion of these species is provided in this analysis. A brief description of the remaining species that has the potential to occur within the Project Site is presented below.

Foothill Yellow-Legged Frog

The foothill yellow-legged frog (*Rana boylei*) has been proposed for listing as threatened under the California ESA and is a California SSC. It occurs in the Coast Ranges, from the Oregon border south to the Transverse Mountains in Los Angeles County, west of the Cascade crest in most of northern California, and in the Sierra Nevada foothills south to Kern County, from sea level to 6,000 feet (Stebbins, 1985).

Foothill yellow-legged frogs occupy rocky streams in valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadow plant communities. They are rarely found far from water and will often dive into water to take refuge under rocks or sediment when disturbed (Zeiner 1988).

There are no CNDDDB documented occurrences of foothill yellow-legged frog within five miles of the Project Site (CDFW 2019a). The riparian community as well as Doty Ravine and Sailor Ravine within the project area provide marginal suitable dispersal habitat for this species. Foothill yellow-legged frog has low potential to occur onsite.

4.4.4.8 Reptiles

There is one special-status reptile species that was identified as having potential to occur within the Project Site based on the literature review (see **Appendix B**, Table 2). A brief description of this species is provided below.

Northwestern Pond Turtle

The northwestern pond turtle (*Actinemys marmorata*) is not listed pursuant to either the California or federal Endangered Species Acts; however, it is designated as a CDFW SSC. Western pond turtles occur in a variety of fresh and brackish water habitats including marshes, lakes, ponds, and slow-moving streams (Jennings and Hayes 1994). This species is primarily aquatic; however, they typically leave aquatic habitats in the fall to reproduce and to overwinter (Jennings and Hayes 1994). Deep, still water with abundant emergent woody debris, overhanging vegetation, and rock outcrops is optimal for basking and thermoregulation. Although adults are habitat generalists, hatchlings and juveniles and hatchlings require shallow edgewater with relatively dense submergent or short emergent vegetation in which to forage.

Northwestern pond turtles are typically active between March and November. Mating generally occurs during late April and early May and eggs are deposited between late April and early August (Jennings and Hayes 1994). Eggs are deposited within excavated nests in upland areas, with substrates that typically have high clay or silt fractions (Jennings and Hayes 1994). The majority of nesting sites are located within 650 feet (200 meters) of the aquatic sites; however, nests have been documented as far as 1,310 feet (400 meters) from the aquatic habitat.

There are two CNDDDB documented occurrences of northwestern pond turtle within five miles of the Project Site (CDFW 2019a). Doty Ravine and Sailor Ravine within the Project area provide suitable habitat for this species. Northwestern pond turtle has potential to occur onsite.

4.4.4.9 Birds

There are 15 special-status bird species that were identified as having potential to occur within the Project Area based on the literature review (see **Appendix B**, Table 2). Upon further analysis and after the reconnaissance site visit, 10 species were considered to be absent from the Project Site due to the lack of suitable habitat. No further discussion of these species is provided in this analysis. A brief description of the remaining five special-status bird species that have the potential to occur within the Project Site is presented below.

White-Tailed Kite

White-tailed kite (*Elanus leucurus*) is not listed pursuant in either the California or federal Endangered Species Acts; however, the species is fully protected pursuant to Section 3511 of the California Fish and Game Code. This species is a common resident in the Central Valley and the entire length of the California coast, and all areas up to the Sierra Nevada foothills and southeastern deserts (Dunk 1995). In northern California, white-tailed kite nesting occurs from March through early August, with nesting activity peaking from March through June. Nesting occurs in trees within riparian, oak woodland, savannah, and agricultural communities that are near foraging areas such as low elevation grasslands, agricultural, meadows, farmlands, savannahs, and emergent wetlands (Dunk 1995).

There is one CNDDDB documented occurrence of white-tailed kite within five miles of the Project Site (CDFW 2019a). Trees in the riparian community within the project area provide suitable nesting habitat for this species. White-tailed kite has potential to occur onsite.

Song Sparrow "Modesto"

The song sparrow (*Melospiza melodia*) is considered one of the most polytypic songbirds in North America (Miller 1956 as cited in Arcese et al. 2002). The subspecies *Melospiza melodia heermanni* includes as synonyms *M. m. mailliardi* (the "Modesto song sparrow") and *M. m. cooperi* (Arcese et al. 2002). The "Modesto song sparrow" is not listed and protected pursuant to either the California or federal ESAs, but is considered a CDFW SSC. The subspecies *M. m. heermanni* can be found in central and southwestern California to northwestern Baja California (Arcese et al. 2002). Song sparrows in this group may have slight morphological differences but they are genetically indistinguishable from each other. The "Modesto song sparrow" occurs in the Central Valley from Colusa County south to Stanislaus County, and east of the Suisun Marshes (Grinnell and Miller 1944). Nesting habitat includes riparian thickets and freshwater marsh communities, with nesting occurring from April through June.

There are no CNDDDB documented occurrences of song sparrow within five miles of the Project Site (CDFW 2019a). The riparian community provides suitable nesting habitat for this species. Song sparrow has potential to occur onsite.

Tricolored Blackbird

The tricolored blackbird (TRBL, *Agelaius tricolor*) was granted emergency listing for protection under the California ESA in December 2014 but the listing status was not renewed in June 2015. After an extensive status review, the California Fish and Game Commission listed TRBLs as a threatened species in 2018. In addition, it is currently considered a USFWS bird of conservation concern and a CDFW SSC. This colonial nesting species is distributed widely throughout the Central Valley, Coast Range, and into Oregon, Washington, Nevada, and Baja California (Meese et al. 2014). TRBL nest in colonies that can range from several pairs to several thousand pairs, depending on prey availability, the presence of predators, or level of human disturbance. TRBL nesting habitat includes emergent marsh, riparian woodland/scrub, blackberry thickets, densely vegetated agricultural and idle fields (e.g. wheat, triticale, safflower, fava bean fields, thistle, mustard, cane, and fiddleneck), usually with some nearby standing water or ground saturation (Meese et al. 2014). They feed mainly on grasshoppers during the breeding season, but may also forage upon a variety of other insects, grains, and seeds in open grasslands, wetlands, feedlots, dairies, and agricultural fields (Meese et al. 2014). The nesting season is generally from March through August.

There are two CNDDDB documented occurrences of tricolored blackbird within five miles of the Project Site (CDFW 2019a). Riparian vegetation within the Project Site provides suitable nesting habitat for this species. Tricolored blackbird has potential to occur onsite.

Yellow Warbler

Yellow warbler (*Setophaga petechia*) is a CDFW SSC, but has no federal special status. Yellow warbler nest in from Baja California northward to Alaska and winter from southern California to South America (American Ornithologists' Union [AOU] 1983). Breeding occurs throughout much of California up to 8,000 feet elevation, except the Central Valley and southeastern deserts (Heath 2008). Breeding habitat includes riparian vegetation in close proximity to water along streams and wet meadows (Heath 2008). During migration, yellow warbler may occur in a wide variety of woodland habitats throughout California. The nesting season is May through August.

There are no CNDDDB documented occurrences of yellow warbler within five miles of the Project Site (CDFW 2019a). Although this species is a common migrant through the area, yellow warbler is not likely to breed in this area. Trees within the riparian community within the Project Area provides marginal suitable nesting habitat for this species. Yellow warbler has low potential to occur onsite.

Yellow-Breasted Chat

Yellow-breasted chat (*Icteria virens*) is a California Department of Fish and Wildlife species of special concern but has no federal special status. Yellow-breasted chat nest in North America and winter from southern Texas into Mexico and Guatemala (Comrack 2008). In California, the breeding range generally includes northern and northwestern California, the Sierra Nevada foothills south to Kern County, coastal valleys from Santa Clara County south to Baja California, scattered locations east of the Sierran crest, along the Colorado River. Yellow-breasted chat typically nests within early successional riparian habitat

with well-developed shrub layers and an open canopy along creeks, streams, sloughs, and rivers (Comrack 2008). Nesting occurs during May through August.

There are no CNDDDB documented occurrences of yellow-breasted chat within five miles of the Project Site (CDFW 2019a). Trees within the riparian community in the project area provide suitable nesting habitat for this species. Yellow-breasted chat has potential to occur onsite.

4.4.4.10 Mammals

There are two special-status mammal species that were identified as having potential to occur within the Project Area based on the literature review (see Initial Study **Appendix B**, Table 2). Upon further analysis and after the reconnaissance site visit, both species were considered to have some potential to occur within the Project Site. Brief descriptions of these species are presented below.

Ringtail

Ringtail (*Bassariscus astutus*) is not listed pursuant to the federal or California ESAs, but is designated as Fully Protected in California by CDFW. This is a smallish procyonid, related to the widespread raccoon (*Procyon lotor*) and neotropical white-nosed coati (*Nasua narica*). Ringtails are mesocarnivores of riparian areas, especially with abundant rocky outcrops, in low- to middle elevation drainages in blue oak woodlands, foothill pine/oak forests, chaparral, ponderosa pine woodlands, black oak woodlands, riparian deciduous forests, and mixed coniferous forest (Verner and Boss 1980). Highly nocturnal, ringtails consume small rodents, snakes, birds and their eggs, invertebrates, and some fruits, nuts, and carrion (Zeiner et al. 1990b).

This species is not tracked by the CNDDDB and so there are no CNDDDB documented occurrences of ringtail within five miles of the Project Site (CDFW 2019a). Large trees within the riparian community provide suitable habitat for this species. Ringtail has potential to occur onsite.

Townsend's Big-Eared Bat

The Townsend's big-eared bat (*Corynorhinus townsendii*) is not listed pursuant to either the California or federal Endangered Species Acts; however, this species is considered an SSC by CDFW. Townsend's big-eared bat is a fairly large bat with prominent bilateral nose leathers and large "rabbit-like" ears. This species occurs throughout the west and ranges from the southern portion of British Columbia south along the Pacific coast to central Mexico and east into the Great Plains. This species has been reported from a wide variety of habitat types and elevations from sea level to 10,827 feet. Habitats used include coniferous forests, mixed meso-phytic forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitat types. Its distribution is strongly associated with the availability of caves and cave-like roosting habitat including abandoned mines, buildings, bridges, rock crevices, and hollow trees. This species is readily detectable when roosting due to their habit of roosting pendant-like on open surfaces. Townsend's big-eared bat is a moth specialist with over 90% of its diet composed of Lepidoptera. Foraging habitat is generally edge habitats along streams adjacent to and within a variety of wooded habitats. This species often travels long distances when foraging and large home ranges have been documented in California (Western Bat Working Group [WBWG] 2019).

There is one CNDDDB documented occurrence of Townsend's big-eared bat within five miles of the Project Site (CDFW 2019a). Trees in the riparian community provide marginal suitable roosting habitat for this species. Townsend's big-eared bat has low potential to occur onsite.

4.4.4.11 Wildlife Movement/Corridors

The Project Area is largely undeveloped with several aquatic features scattered throughout. Wildlife likely use the riparian community as well as Doty Ravine and Sailor's Ravine for movement and dispersal. Wildlife species that may use the Project Site as a migratory or movement corridor include a wide variety of birds, mammal species such as coyote (*Canis latrans*) and raccoon are expected to occasionally move through the project area. One active red-tailed hawk (*Buteo jamaicensis*) nest was identified near Gold Hill Road in a large cottonwood.

4.4.5 Regulatory Setting

4.4.5.1 Federal Regulations

Federal Endangered Species Act

The ESA protects plants and animals that are listed as endangered or threatened by the USFWS and the National Marine Fisheries Service (NMFS). Section 9 of ESA prohibits the taking of listed wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct" (50 Code of Federal Regulations [CFR] 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law (16 U.S. Code [USC] 1538). Under Section 7 of ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion (BO), the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan (HCP) is developed.

Section 7

Section 7 of ESA mandates that all federal agencies consult with USFWS and/or NMFS to ensure that federal agencies' actions do not jeopardize the continued existence of a listed species or adversely modify Critical Habitat for listed species. If direct and/or indirect effects will occur to Critical Habitat that appreciably diminish the value of Critical Habitat for both the survival and recovery of a species, the adverse modifications will require formal consultation with USFWS or NMFS. If adverse effects are likely, the applicant must conduct a biological assessment (BA) for the purpose of analyzing the potential effects of the project on listed species and critical habitat to establish and justify an "effect determination." The federal agency reviews the BA; if it concludes that the project may adversely affect a listed species or its habitat, it prepares a BO. The BO may recommend "reasonable and prudent alternatives" to the project to avoid jeopardizing or adversely modifying habitat.

Section 10

When no discretionary action is being taken by a federal agency, but a project may result in the take of listed species, an incidental take permit under Section 10 of the ESA is necessary. The purpose of the incidental take permit is to authorize the take of federally listed species that may result from an otherwise lawful activity, not to authorize the activities themselves. In order to obtain an incidental take permit under Section 10, an application must be submitted that includes an HCP. In some instances, applicants, USFWS, and/or NMFS may determine that an HCP is necessary or prudent, even if a discretionary federal action will occur. The purpose of the HCP planning process associated with the permit application is to ensure that adequate minimization and mitigation for impacts to listed species and/or their habitat will occur.

Critical Habitat and Essential Habitat

Critical habitat is defined in Section 3 of ESA as (1) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features essential to the conservation of the species and that may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. For inclusion in a critical habitat designation, habitat within the geographical area occupied by the species at the time it was listed must first have features that are essential to the conservation of the species. Critical Habitat designations identify, to the extent known and using the best scientific data available, habitat areas that provide essential life cycle needs of the species (areas on which are found the primary constituent elements). Primary constituent elements are the physical and biological features that are essential to the conservation of the species and that may require special management considerations or protection. These include but are not limited to the following:

- Space for individual and population growth and for normal behavior;
- Food, water, air, light, minerals, or other nutritional or physiological requirements;
- Cover or shelter;
- Sites for breeding, reproduction, or rearing (or development) of offspring; or
- Habitats that are protected from disturbance or are representative of the historic, geographical, and ecological distributions of a species.

Excluded essential habitat is defined as areas that were found to be essential habitat for the survival of a species and assumed to contain at least one of the primary constituent elements for the species but were excluded from the critical habitat designation. The USFWS has stated that any action within the excluded essential habitat that triggers a federal nexus will be required to undergo the Section 7(a)(1) process, and the species covered under the specific critical habitat designation would be afforded protection under Section 7(a)(2) of ESA.

Essential Fish Habitat

In accordance with the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), federal agencies are required to consult with the NMFS for activities that may affect Essential Fish Habitat (EFH). EFH are the waters and substrate necessary for fish spawning, breeding, feeding, or growth to maturity, and include several important components: adequate substrate; water quality; water quantity, depth, and velocity; channel gradient and stability; food; cover and habitat complexity; space; access and passage; and habitat connectivity (Pacific Fishery Management Council 2000).

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

Federal Clean Water Act

The federal Clean Water Act's (CWA) purpose is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into "Waters of the United States" without a permit from the USACE. The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water 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 soil conditions" (33 CFR 328.3 7b). The USEPA also has authority over wetlands and may override a USACE permit.

Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

The alteration of a USACE federally authorized civil works project requires a permit pursuant to Section 408 (33 USC 408, Section 14 of the Rivers and Harbors Act of 1899). Projects with minimal impacts require approval by the USACE Sacramento District Construction Operations Group, however projects with more substantial impacts may require USACE Headquarters review. Coordination with the Central Valley Flood Protection Board, who serve as the Non-Federal Sponsor, is required as a part of the process of obtaining a Section 408 permit.

4.4.5.2 State or Local Regulations

California Fish and Game Code

California Endangered Species Act

The California ESA (California Fish and Game Code Sections 2050-2116) generally parallels the main provisions of ESA, but unlike its federal counterpart, the California ESA applies the take prohibitions to species proposed for listing (called “candidates” by the state). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the California Fish and Game Code as “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill.” The California ESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with CDFW to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered, threatened or candidate species or result in destruction or adverse modification of essential habitat.

Fully Protected Species

The State of California first began to designate species as “fully protected” prior to the creation of the federal and California ESAs. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under the federal and/or California ESAs. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code § 4700 for mammals, § 3511 for birds, § 5050 for reptiles and amphibians, and § 5515 for fish) provide that fully protected species may not be taken or possessed at any time. Furthermore, the CDFW prohibits any state agency from issuing incidental take permits for fully protected species. The CDFW will issue licenses or permits for take of these species for necessary scientific research or live capture and relocation pursuant to the permit.

Native Plant Protection Act

The NPPA of 1977 was created with the intent to “preserve, protect and enhance rare and endangered plants in this State.” The NPPA is administered by CDFW and provided in California Fish and Game Code §§ 1900-1913. The Fish and Wildlife Commission has the authority to designate native plants as “endangered” or “rare” and to protect endangered and rare plants from take. The California ESA of 1984 (California Fish and Game Code § 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

Birds of Prey

Sections 3800, 3513, and 3503 of the California Fish and Game Code specifically protect birds of prey. Section 3800 states that it is unlawful to take nongame birds, such as those occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the commission or a mitigation plan approved by CDFW for mining

operations. Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA.

Section 3503 of the California Fish and Game Code prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Additionally, Subsection 3503.5 prohibits the take, possession, or destruction of any birds and their nests in the orders Strigiformes (owls) or Falconiformes (hawks and eagles). These provisions, along with the federal MBTA, serve to protect nesting native birds.

Species of Special Concern

SSC are defined by CDFW as a species, subspecies, or distinct population of an animal native to California that are not legally protected under the federal or California ESAs or the California Fish and Game Code, but currently satisfy one or more of the following criteria:

- The species has been completely extirpated from the state or, as in the case of birds, it has been extirpated from its primary seasonal or breeding role;
- The species is listed as federally (but not state) threatened or endangered, or meets the state definition of threatened or endangered but has not formally been listed;
- The species has or is experiencing serious (nonscyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status;
- The species has naturally small populations that exhibit high susceptibility to risk from any factor that if realized, could lead to declines that would qualify it for state threatened or endangered status.

SSC are typically associated with habitats that are threatened. Project-related impacts to SSC, state-threatened, or endangered species are considered "significant" under CEQA.

California Rare Plant Ranks

The CNPS maintains the *Inventory of Rare and Endangered Plants of California* (CNPS 2019), which provides a list of plant species native to California that are threatened with extinction, have limited distributions, and/or low populations. Plant species meeting one of these criteria are assigned to one of six CRPRs. The rank system was developed in collaboration with government, academia, non-governmental organizations, and private sector botanists, and is jointly managed by CDFW and the CNPS. The CRPRs are currently recognized in the CNDDDB. The following are definitions of the CNPS CRPRs:

- Rare Plant Rank 1A – presumed extirpated in California and either rare or extinct elsewhere
- Rare Plant Rank 1B – rare, threatened, or endangered in California and elsewhere
- Rare Plant Rank 2A – presumed extirpated in California, but more common elsewhere
- Rare Plant Rank 2B – rare, threatened, or endangered in California but more common elsewhere
- Rare Plant Rank 3 – a review list of plants about which more information is needed

- Rare Plant Rank 4 – a watch list of plants of limited distribution

Additionally, the CNPS has defined Threat Ranks that are added to the CRPR as an extension. Threat Ranks designate the level of threat on a scale of 1 through 3, with 1 being the most threatened and 3 being the least threatened. Threat Ranks are generally present for all plants ranked 1B, 2B, or 4, and for the majority of plants ranked 3. Plant species ranked 1A and 2A (presumed extirpated in California), and some species ranked 3, which lack threat information, do not typically have a Threat Rank extension. The following are definitions of the CNPS Threat Ranks:

- Threat Rank 0.1 – Seriously threatened in California (more than 80 percent of occurrences threatened/high degree and immediacy of threat)
- Threat Rank 0.2 – Moderately threatened in California (20-80 percent occurrences threatened/moderate degree and immediacy of threat)
- Threat Rank 0.3 – Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known)

Factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Rank; and differences in Threat Ranks do not constitute additional or different protection (CNPS 2019). Depending on the policy of the lead agency, substantial impacts to plants ranked 1A, 1B, or 2 are typically considered significant under CEQA Guidelines § 15380. Significance under CEQA is typically evaluated on a case-by-case basis for plants ranked 3 or 4.

Porter-Cologne Water Quality Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of stormwater runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, with any region that could affect the water of the state” (Water Code 13260(a)). Waters of the State are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code 13050 I). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State, that are not regulated by USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of a Waste Discharge Requirements for these activities.

California Environmental Quality Act

In accordance with CEQA Guidelines § 15380, a species not protected on a federal or state list may be considered rare or endangered if the species meets certain specified criteria. These criteria follow the definitions in the federal and California ESAs and §§ 1900-1913 of the California Fish and Game Code, which deal with rare or endangered plants or animals. Section 15380 was included in the CEQA Guidelines

primarily to deal with situations where a project under review may have a significant effect on a species that has not yet been listed by either USFWS or CDFW.

4.4.5.3 Local Plans and Ordinances

The Project Site is located in Placer County; and the Project is subject to Placer County ordinances.

Placer County Tree Ordinance

The Placer County Tree Ordinance requires documentation of native trees with a dbh (diameter at breast height) of 6 inches or greater for single stemmed trees or 10 inches or greater for multiple stemmed trees, excluding grey pine (*Pinus sabiniana*) trees. They also require documentation of landmark trees and riparian zone (Article 12.16.020). The following are the definitions of the terms above:

- Landmark Tree: A tree or grove of trees designated by resolution of the board of supervisors to be of historical or cultural value, an outstanding specimen, and unusual species and/or of significant community benefit.
- Riparian zone: Any area within fifty feet from the centerline of a seasonal creek or stream, any area one hundred feet from the center of a year-round creek, stream, or river, and any area within one hundred feet from the shoreline of a pond, lake, or reservoir. (Note: All trees regardless of size within riparian areas as a part of any discretionary Project county-wide are subject to this article.)

A tree permit is not required for the removal of a protected tree under the following circumstances: (Except for subsection C, a landmark tree is not subject to the exemptions set forth below) (Article 12.16.050).

- D. When compliance would interfere with activities of a public utility necessary to comply with applicable safety regulations and/or necessary to repair or avoid the interruption of services provided by such a utility. Routine repair and maintenance of utilities would be exempt; new construction projects (i.e., the installation of high power, transmission line corridor) are subject to review.

As stated above, because the Project involves repair of an existing utility, it would be exempt from the County's Tree Ordinance. Regardless of the utility exemption, NID as a special district is not subject to local ordinances and therefore would not be required to comply with the County's Tree Ordinance (although NID attempts to accommodate local ordinances when feasible).

4.4.5.4 Best Management Practices

As discussed in Project Description **Section 1.3 Environmental Commitments**, the Project would implement a variety of BMPs to avoid potential impacts. These activities are considered part of the Project, would be included in contract specifications and implemented during construction to ensure water quality, aquatic habitats and sensitive fish and wildlife species are protected consistent with regulatory standards. Where applicable, the following BMPs are discussed as part of the biological resources impact analysis below.

BMP-1: Conduct Environmental Awareness Training for Construction Personnel

Before any work occurs in the Project area, including grading, a Qualified Biologist will conduct mandatory contractor/worker awareness training. The awareness training will be provided to all construction personnel to brief them on the need to avoid impacts on biological resources and the penalties for non-compliance. If new construction personnel are added to the project, the District will ensure that the personnel receive the mandatory training from the biologist before starting work.

BMP-2: Install Construction Barrier Fencing to Protect Environmentally Sensitive Areas

The Project contractor will install orange construction barrier fencing to identify site limits and environmentally sensitive areas. Environmentally sensitive areas in and adjacent to the construction area comprise mixed riparian forest, native oak trees greater than four inches DBH, wetland drainages, and any trees that support migratory bird or raptor nests. Before construction, the District Engineer will work with a resource specialist to identify the locations for the barrier fencing and will place stakes around the environmentally sensitive areas to indicate these locations. The fencing will be installed before construction activities are initiated and will be maintained throughout the construction period. The following note will be included in the construction plans:

“The contractor’s attention is directed to the areas designated as “environmentally sensitive areas” on the Project Site. These areas are protected, and no entry by the contractor for any purpose will be allowed unless specifically authorized in writing by the District’s project manager. The District and contractor’s project managers will take measures to ensure that construction crew do not enter or disturb these areas, including giving written notice to crew members.”

Temporary fences around the environmentally sensitive areas will be installed as the first order of work. Temporary fences will be furnished, constructed, maintained, and removed as directed by the project engineer. The fencing will be commercial-quality woven polypropylene, orange in color, and at least four feet high (Tensor Polygrid or equivalent).

BMP-3: Avoid and Minimize Disturbance of Doty and Sailors Ravines and Associated Aquatic Habitat and Restore all Temporarily Disturbed Areas

To the extent possible, the District and contractor will minimize impacts to Doty and Sailors ravines and associated aquatic habitat by implementing the following:

- a. Prior to working within the Doty Ravine corridor, all heavy equipment will be checked by the District inspector and maintained daily to prevent leaks of materials that if introduced to water could be deleterious to aquatic life.
- b. Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances associated with project-related activities that could be hazardous to aquatic life will be prevented from contaminating the soil or entering the Doty Ravine and Sailors Ravine channels.

- c. During construction, the District will not dump any material in the stream channel. All such debris and waste will be picked up daily and properly disposed of at an appropriate site. All construction debris and associated materials will be removed from the work site upon completion of the project.
- d. Consistent with the Project's Stormwater Pollution Prevention Plan (SWPPP), sediment fences will be installed in appropriate locations to reduce the introduction of sediment into creeks during construction. Any overburden project material would not be side cast into the creek channel, but will be stabilized on site or stored off site at approved disposal sites to preclude increased risk of sediment input to creeks.
- e. The District and contractor will establish spill prevention and countermeasure plan before project construction begins; the plan will include on-site handling criteria to avoid input of contaminants to the waterway. A staging and storage area will be provided away from the waterway for equipment, construction materials, fuels, lubricants, solvents, and other possible contaminants. This plan will be approved by the District project manager prior to the start of construction.
- f. After construction, all temporarily disturbed work areas will be stabilized and restored. This will include application of the District's standard erosion control seed mix and installation of erosion and sediment controls consistent with the Project's approved SWPPP.
- g. All equipment maintenance materials (e.g., oils, grease, lubricants, antifreeze, and similar materials) will be stored offsite.

Precautions to minimize turbidity/siltation will be considered during project planning and implementation and memorialized in the Project's approved SWPPP. Such precautions may entail the placement of silt fencing, coir logs, coir rolls, straw bale dikes, or other siltation barriers so that silt and/or other deleterious materials are not allowed to pass to downstream reaches. Passage of sediment beyond the sediment barrier(s) is prohibited. If any sediment barrier fails to retain sediment, corrective measures will be taken. The sediment barrier(s) will be maintained in good operating condition throughout the construction period. Maintenance includes, but is not limited to, removal of accumulated silt and/or replacement of damaged silt fencing, coir logs, coir rolls, and/or straw bale dikes. Non-biodegradable silt barriers (such as plastic silt fencing) shall be removed after the disturbed areas have been stabilized with erosion control vegetation (usually after the first growing season).

BMP-4: Minimize Potential for the Long-Term Loss of Mixed Riparian Forest

To the extent possible, the District will minimize the potential for the long-term loss of riparian vegetation by trimming vegetation rather than removing entire shrubs. Shrubs that need to be trimmed will be cut at least one foot above ground level to leave the root systems intact and allow for more rapid regeneration. Cutting will be limited to the minimum area necessary within the construction zone. Disturbance or removal of vegetation will not exceed the minimum necessary to complete operations. Except for the vegetation specifically identified for trimming and/or removal in the CDFW 1602 notification, no native oak trees with a trunk diameter greater than six inches DBH will be removed or damaged without prior consultation and approval by the District. Using hand tools (e.g., clippers, chain saw), trees may be

trimmed to the extent necessary to gain access to the work sites. All cleared material/vegetation will be removed out of the riparian/stream zone.

BMP-5: Construct Outside of Nesting Season or Conduct Pre-Construction Nesting Surveys

To avoid disturbance of raptor breeding and nesting activity, including nesting of sensitive raptors, Project activities will be avoided during the typical raptor breeding season of February 1 through August 31, to the extent feasible. If construction must take place during the typical nesting season, pre-construction surveys will be conducted by a Qualified Biologist no more than 15 days prior to initiation of proposed construction activities. Surveys will be conducted to determine if active nesting is occurring on or directly adjacent to the study area. If active nests are found on or immediately adjacent to the site, survey results will be submitted to CDFW and consultation will be initiated with CDFW to determine appropriate avoidance measures. If no nesting is found to occur, project activities may proceed.

BMP-6: Avoid the Introduction or Spread of Noxious Weeds in the Project Area

To avoid the introduction or spread of noxious weeds into previously uninfected areas (especially within the riparian community along Doty Ravine), the District will revegetate disturbed areas immediately after construction is complete using certified weed-free native and nonnative mixes.

4.4.5.5 CEQA Significance Criteria

Sections 15063-15065 of the CEQA Guidelines address how an impact is identified as significant, and are particularly relevant to SSC. Generally, impacts to listed (rare, threatened, or endangered) species are considered significant and require lead agencies to prepare an EIR to thoroughly analyze and evaluate the impacts. Assessment of "impact significance" to populations of non-listed species (e.g., SSC) usually considers the proportion of the species' range that will be affected by a project, impacts to habitat, and the regional and population level effects.

Specifically, § 15064.7 of CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines, which provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- have a substantial adverse effect on federally protected Waters of the U.S. including wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;

- 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;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- conflict with the provisions of an adopted HCP, Natural Community Conservation Plan, or other approved local, regional, or state HCP.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population-wide or region-wide basis.

4.4.4 Biological Resources (IV) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact with Mitigation.

4.4.4.1 Special-Status Birds and MBTA-Protected Birds

Because the Project involves replacement of an existing above and below ground siphon, most proposed construction will occur in previously disturbed areas. No tree removal is required to complete the Project however some tree trimming for construction vehicle access may be necessary. No nests were observed during Project Site surveys however suitable nesting habitat for five special-status birds (White-tailed kite, song sparrow "Modesto," tricolored blackbird, yellow warbler, yellow-breasted chat) is present within and adjacent the Project Site. Should special-status birds be present, construction or other work-related activities could result in harassment to nesting individuals and may temporarily disrupt foraging activities, which would be considered a potentially significant impact. Implementation of **BMP-5** would result in less-than-significant impacts to special-status birds and MBTA-protected birds.

In addition to the above-listed special-status birds, all native birds, including raptors, are protected under the California Fish and Game Code and the federal MBTA. Implementation of **BMP-5** would similarly ensure appropriate protections and potential impacts would remain less-than-significant.

4.4.4.2 Special-Status Plants

Project construction will require temporary ground disturbance through irrigated pasture and oak woodland along the northern access route. This pastureland is considered suitable habitat for Stinkbells and Ahart's Dwarf Rush. The southern access route follows an existing dirt service road and will not result in new ground disturbance.

Oak woodland and riparian habitats on the Project Site would be similarly be subject to temporary ground disturbance as a result of siphon replacement and related construction and staging activities. This will include modifications to the existing siphon abutments on the north and south sides of Doty Ravine to accommodate the new pipe and trenching through riparian and oak woodland habitat for underground pipe replacement. No special-status plants were observed on the Project Site during biological field surveys however onsite riparian habitat is suitable for the following ten special-status plants: Sanborn's Onion, Big-Scale balsamroot, Brandegees' Clarkia, Streambank spring beauty, Stinkbells, Butte County Fritillary, Ahart's Dwarf Rush, Dubious Pea, Humboldt lily, and Oval-Leaved Viburnum. Implementation of **BMP-4** and **BMP-6** in combination with Mitigation Measure **BIO-1** would reduce potential impacts to special-status plants to less than significant.

4.4.4.3 Special-Status Amphibians

Although there is low potential for occurrence, the Project site supports suitable habitat for one special-status amphibian, Foothill yellow-legged frog. The riparian community as well as Doty Ravine and Sailor Ravine within the Project Site provide marginal suitable dispersal habitat for this species. Therefore, impacts to Foothill yellow-legged frog are considered potentially significant impact. Implementation of Mitigation Measure **BIO-2**, in combination with **BMP-1** and **BMP-2**, would reduce potential impacts to special-status amphibians to less than significant.

4.4.4.4 Special-Status Reptiles

Doty Ravine and Sailor Ravine within the Project Site provide suitable habitat for Northwestern pond turtle. While no in water construction activities are proposed, because the Project Site contains suitable habitat for the species, direct and indirect impacts to northwestern pond turtle and its habitat are considered potentially significant. Implementation of mitigation measure **BIO-3** in combination with **BMPs 1 through 3**, would reduce this impact to less than significant.

4.4.4.5 Special-Status Mammals

The Project Site provides potential habitat for ringtail and Townsend's big-eared bat. No tree removal is anticipated, however tree and shrub trimming for construction access may be necessary. Direct and indirect impacts ringtail and Townsend's big-eared bat and their habitats is considered potentially significant. Implementation of **BIO-4** in combination with **BMPs 1** and **2** would reduce this impact to less than significant.

4.4.4.6 Special-Status Fish

The Project area provides habitat for the Central Valley DPS of steelhead, and the Project Site occurs within designated Critical Habitat for this species (Doty Ravine). However, access to the Project site by anadromous fishes such as Steelhead is blocked in all but the highest flows. Likely the population of *Oncorhynchus mykiss* in Doty Ravine above the Garden Bar Road culvert consists of resident, non-anadromous rainbow trout and not steelhead. Additionally, the Project proposes no in-water work. All onsite construction activities would be conducted in such a manner and location (e.g., outside the creek channel) that it will not impact the ravine, fish, or critical habitat. The northern access route will require a temporary crossing of Sailors Ravine; however, this would be accomplished by installing a crane mat spanning the ravine using an excavator from the east bank. The crane mat would allow the construction crossing to be completed without the need for in-water work or temporary fills in waters. In addition, the following BMPs would be implemented during construction and would ensure potential impacts to special-status fish remain less than significant: **BMPs 1 through 4**. No mitigation measures are required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact with Mitigation.

Temporary Impacts: The Project Site contains 0.105 acre of riparian habitat. The Project involves replacement of an existing facility and construction may require minor vegetation and/or tree trimming for construction access, however with exception of the minor permanent impacts described below, the complete removal of riparian vegetation or trees greater than four inches DBH is not anticipated. During construction, environmentally sensitive riparian areas would be protected consistent with **BMP-2**, and any necessary trimming of riparian vegetation would be conducted consistent with **BMP-4**. Following construction, all temporarily disturbed areas would be restored consistent with **BMP-3**. Therefore, with implementation of proposed BMPs, temporary impacts to riparian habitat would be considered less than significant.

Permanent Impacts: The above ground portion of the new siphon crossing of Doty Ravine would be in the same alignment as the existing pipe and supported on each end by the existing abutments (modified to accommodate the upsized pipe) and three new steel pipe supports anchored to concrete footings. While the abutments would be modified, the abutment footprint would remain unchanged, resulting in no new/increased riparian impact. The concrete footings (measuring two 5-x-5-feet and one 3-x-5-feet) however, would represent a new significant 65 square-foot (0.002-acre) permanent impact to riparian habitat. This impact can be mitigated to less than significant with implementation of Mitigation Measure **BIO-5**.

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Doty North Canal Siphon #1 Replacement Project

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

A total of 0.105 acre of aquatic features (Sailors and Doty ravines) were identified on the Project Site and 0.022 acre were identified within the study area for the northern access route (See **Table 4.4-1**). As discussed below, the Project design avoids wetlands consistent with a USACE-verified wetland delineation (Stantec 2018).

The proposed northern access route requires a temporary crossing of Sailors Ravine. This would be accomplished by installing a crane mat spanning the creek using an excavator from the eastern bank. The crane mat would allow the construction crossing to be completed without temporary fills in waters.

The new siphon crossing of Doty Ravine would be supported on each end by the existing abutments and three new steel pipe supports anchored to concrete footings. Existing abutments are located on the north and south creek banks above the OHWM. Two concrete footings would be similarly located in upland areas on each side of Doty Ravine. The center footing would be constructed on an upland area immediately above and between the Doty Ravine/Sailors Ravine confluence (see **Figure 2.2-3**). Therefore, there will be no direct impacts to state or federally protected wetlands/waters.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact.

Terrestrial and aquatic wildlife use portions of the Project Site for movement and dispersal, especially within riparian habitat and surface waters (i.e. Doty and Sailor Ravine). The Project includes replacement of an existing above- and below ground raw water siphon, and some ground disturbance and trenching will be required. However no in water work is proposed and therefore there would be no impact to aquatic wildlife movement. Project implementation could result in temporary disturbance to localized terrestrial wildlife use and movement. However related impacts would be less than significant because surrounding undeveloped and undisturbed lands provide adequate parallel movement opportunities, forage and

Draft Initial Study and Mitigated Negative Declaration
Doty North Canal Siphon #1 Replacement Project

cover. Potential Project impacts to wildlife movement would be less than significant. No mitigation measures are required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Less than Significant with Mitigation.

Although the Project Site includes riparian areas and native oak trees that are protected by the Placer County Tree Ordinance, no tree removal would occur as part of the Project. Even if tree removal was necessary, the Project involves routine maintenance of existing infrastructure by a public utility. Routine repair and maintenance of utilities is exempt by ordinance. Therefore, there would be no local policy or ordinance conflict. No impact would occur, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Proposed Project is not located in and area covered by an HCP, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan. Therefore, no impact would occur. No mitigation is required.

4.4.5 Mitigation Measures

Mitigation Measure BIO-1: Conduct Pre-Construction Special-Status Plant Surveys

A total of 10 special-status plants have potential to occur on the Project Site and/or along the proposed northern access route. These include Sanborn’s onion, big-scale balsamroot, Brandegee’s clarkia, streambank spring beauty, stinkbells, Butte County fritillary, Ahart’s dwarf rush, dubious pea, Humboldt lily, and oval-leaved viburnum. The following measures are recommended to reduce potential impacts to less than significant:

- Perform focused plant surveys according to guidelines promulgated by USFWS (USFWS 2000), CDFW (CDFG 2009), and CNPS (CNPS 2019). Surveys should be timed according to the blooming period for target species and known reference populations, if available, and/or local herbaria

should be visited prior to surveys to confirm the appropriate phenological state of the target species.

- If any special-status plant species are found during surveys within the Project Site or along the northern access route, and avoidance of the species is not possible, seed collection, transplantation, and/or other mitigation measures may be developed in consultation with the lead agency and/or appropriate resource agencies to reduce impacts to special-status plant populations.
- If no special-status plants are found within the Project Site, no further measures pertaining to special-status plants are necessary.

Mitigation Measure BIO-2: Conduct Special-Status Amphibian Surveys

The following measures shall be implemented to minimize potential impacts to foothill yellow-legged frog:

- Conduct pre-construction surveys for foothill yellow-legged frog where construction occurs near potential habitat. If observed, consultation with CDFW prior to initiation of construction activities shall be required.
- During construction, where habitat for foothill yellow-legged frog is identified, no monofilament plastic mesh or line shall be used for erosion control to reduce the risk of entrapment.
- Silt fencing will be installed around suitable habitat for foothill yellow-legged frog that will not be disturbed, and fencing will be inspected daily to ensure no individuals are trapped along the fence.

Mitigation Measure BIO-3: Conduct Special-Status Reptile Surveys

The following measure shall be implemented to minimize potential impacts to northern western pond turtle:

- Conduct a pre-construction Northwestern pond turtle survey within 24 hours prior to the initiation of construction activities and retain a qualified biologist to survey immediately prior to ground-disturbing activities in suitable habitat. If Northwestern pond turtle is found, consultation with CDFW shall be required, as well as the development of a relocation plan for Northwestern pond turtles encountered during construction.
- If no special-status reptiles are detected during the surveys, no further measures are needed.

Mitigation Measures BIO-4: Conduct Special-Status Mammal Surveys

The Project Site and areas along the proposed construction access routes provides potential habitat for Ringtail and Townsend's big-eared bat. The following measures shall be implemented:

Ringtail

- A pre-construction survey for potential den sites (i.e., tree cavities, logs, snags) will be conducted within suitable habitat within the Project Site and along the construction access routes (i.e., large trees and riparian habitat). If potential den sites are located that will not be avoided by construction, consultation with CDFW prior to initiation of construction activities shall be required. If no potential den sites are found during the survey, no further measures are necessary.

Townsend's Big-Eared Bat

- Prior to work within potentially suitable bat roosting habitat, a bat habitat assessment is recommended for all suitable roosting habitat (i.e., manmade structures and suitable trees, if present). If the assessment identifies moderate to highly suitable roosting habitat, a qualified biologist will conduct an evening bat emergence survey to determine bats presence. If Townsend's big-eared bats are found, consultation with CDFW prior to initiation of construction activities shall be required. If no suitable roosting habitat is found, or if no bats are not found during the emergence surveys, no further measures are necessary.

Mitigation Measure BIO-5: Compensate for the Loss of Riparian Communities

To compensate for the total loss of ± 0.002 acres of riparian habitat, prior to construction the District will purchase credits at an approved mitigation bank to ensure no net loss of riparian habitat functions and values. The District will purchase credits at a 3:1 ratio, which would require purchasing a total of approximately 0.006 acre of riparian habitat credits from an agency approved mitigation bank. This ratio and acreage will be confirmed during the review of future engineering drawings and may be modified during the CDFW Section 1602 permitting process (if actual increase or decrease) which will dictate the ultimate compensation. The District will provide written evidence to the resource agencies that compensation has been established through the purchase of mitigation credits. The amount to be paid will be the fee that is in effect at the time the fee is paid.

4.5 Cultural Resources

A confidential *Cultural Resources Inventory and Evaluation Report for the Doty North Canal Siphon Replacement Project* was prepared by ECORP Consulting, Inc. (2019a) for the Proposed Project to determine if cultural resources were present in or adjacent to the Project Site and to assess the sensitivity of the Project area for undiscovered or buried cultural resources. This section of the initial study is based on the findings of the Inventory and Evaluation Report which includes discussion of the cultural context of the Project area including regional and local prehistory, ethnography, and regional and Project area histories. The confidential report can be made available to qualified individuals on a need-to-know basis by contacting NID.

4.5.1 Environmental Setting

The Project Area is in Placer County, which was formed in 1851 from parts of Sutter and Yuba counties. The principal economic activity in much of the county at that time was placer mining, hence the name.

However, gold deposits were absent in the alluvial valley portion of western Placer County, and ranching (cattle and sheep) and agriculture (wheat cultivation) were the principal economic activities.

The lands of this portion of Placer County are primarily dry plains, cut by occasional rivers and drainages such as Bear River, Coon Creek, and Markham and Auburn ravines, and were found to be suitable for dry farming and raising livestock by early Euro-American residents. The lands along the major drainages were the first to be occupied, followed by settlement in the dry plains and on the lesser drainages in the 1860s. The lands near the Project vicinity were used for dry farming for crops, such as grain and hay, and for the grazing of livestock. Some of the ranchers seasonally moved their herds to other holdings at higher altitudes in the Sierra Nevada after the annual drying of their ranges following the cessation of the rains in May (Thompson and West 1882).

The Project Area is located approximately six miles northeast of downtown Lincoln. The City of Lincoln has long been an economic hub of activity for the westernmost portion of Placer County. Early connectivity to the railroad, a booming clay manufacturing plant, and rich agricultural fields spurred its early growth. Through this early development period, the lands east of Lincoln were used for mining, horticulture cultivation, dairy, and cattle ranching. Lincoln developed as a fast-growing suburban residential enclave in the late twentieth and early twenty-first centuries. The lands to the south and west, which were once agricultural fields, are increasingly characterized by dense residential and commercial growth (Thompson and West 1882).

The town of Lincoln was surveyed and platted in 1864 at the end of the line of the Central California Railroad (CCRR) from Roseville. The town was named after Charles Lincoln Wilson who had built the CCRR, which reached the town of Lincoln on October 31, 1861. During the next few years, the town prospered, climbing to approximately 500 residents, with several trains passing through daily. However, in 1866 the rail line was extended north to Wheatland, reducing the amount of shipping that Lincoln had previously received (Lardner, et al. 1924; Thompson and West 1882).

Although the amount of shipping and freight declined, fruit crops, dry land agriculture, and cattle ranching continued to comprise a large part of the early economy in Lincoln. In 1873, several coal beds were discovered, leading to such mines as the Lincoln Coal Mine and the Clipper Coal Mine. Large amounts of clay were found within the Lincoln Coal Mine and, when word spread, Charles Gladding, who was visiting from Chicago, took the clay back home to have it tested by ceramics experts. The clay was of such high quality that Gladding came back to Lincoln and started Gladding, McBean and Company, which eventually made and shipped sewer pipe throughout California. By the 1890s, the company was also making fire brick, ornamental pottery, chimney pipes, and world-renowned terra cotta facades (Gladding, McBean 2019). In recent times, Gladding, McBean has been a major contributor to the economy of Lincoln, along with Sierra Pacific Industries' sawmill, located just north of Lincoln.

The Project Area is located approximately 1.3 miles northwest of the town historically known as Gold Hill, which began in the 1850s as a settlement on Auburn Ravine near what is now the intersection of Virginiatown and Gold Hill Roads (Logan 2002). Virginiatown was another gold mining town located on Auburn Ravine beginning in the 1850s. Both towns were abandoned soon after 1860 when the town of Lincoln was developed.

During the 1930s, the gravels from Auburn Ravine and Doty Ravine yielded a considerable amount of gold by dragline dredging (Clark 2005). Most draglines used 50- to 60-foot booms and buckets of 1 to 1.5 cubic yard capacity. The dredge gravels were run through a revolving screen with the finer sands and gravels then being run through sluices (Logan 1936). According to Clark's *Gold Districts of California*, the Lincoln District had the most profitable dragline dredge fields in the state. The total area dredged measured about 1,200 acres and yielded 15 to 60 cents per yard. The gravels are underlain with a soft tuff and digging depths reached 5 to 20 feet (Clark 2005). At least five companies were operating draglines or bucket dredges at the mouth of the Doty and Auburn Ravines in 1935, and dredge operations in the district continued until the mid-1950s and 1960s (Logan 1936).

4.5.1.1 Irrigation and Water Conveyance

The following includes a general context of water conveyance systems in California and Placer County. The context is included to better understand the social and economic factors associated with water use and development, and how the resources fit within that context. Water conveyance systems are unique resources that can have an ever-changing purpose. The use of water conveyance systems can serve many purposes throughout time. For instance, the decline of the gold mining industry saw a rise in agriculture, an industry for which water was still crucial. At the turn of the twentieth century, the advent of hydroelectric power led to power companies seizing the opportunity to appropriate water systems.

From the 1850s until about 1865, mining operations in California moved towards large-scale production. The small placer deposits along rivers and streams were harder to find and prospectors were forced to look for gold away from flowing water sources. During this period, miners had only two simple methods for removing gold from the soil: washing or winnowing. Washing was used along rivers and streams, causing gold to sink away from the lighter sands and gravels (JRP Historical Consultants and Caltrans 2000). Winnowing was a similar method, but instead, used wind to blow the lighter material away. Soil was tossed in the air and then blown, forcing the lighter gravels away and leaving the heavier gold to drop. Washing was much more efficient than winnowing, but water was needed where there previously was none to continue using this method. These areas, where mining operations occurred but water was scarce, were known as "dry diggings."

The growth of Placer County was stimulated by the onset of the Gold Rush, but its expansion was sustained, as stated above, by agricultural production. Irrigation and water supply became high priorities in the area so that Placer County farmers could sustain the high production demands for orchard fruit crops such as plums, peaches, pears, and citrus. In addition, farmers continually battled California's recurring cycles of drought and flooding. Between the 1860s and 1890s, irrigated lands in Placer County and California began to steadily increase, particularly in areas where wheat production was in decline. The number of acres of irrigated land increased substantially in Placer County as a result of the work of private water companies and agricultural investors (Brock and Lardner 1924).

Among the easiest methods to transport water to the dry diggings was through hand-dug ditches, to divert the water from a nearby river or stream. This process was labor intensive and costly—often too much for a single miner. This forced miners to pool funds and effort, which led to the creation of small companies. These collaborations enhanced their mining operations and opened up several new markets

to California mining, including quartz, drift, and hydraulic mining. Some companies even focused on making profits from selling water from their ditches (Cooper 1968).

The first noted attempt to transport water for mining in California using a ditch system occurred at Coyote Hill in Nevada County in March 1850 (Paul 1947). Miners dug ditches along Coyote and Little Deer Creeks to carry water to long toms set up nearby. This 1.5-mile-long ditch was very successful, and as word spread, so did the networks of mining ditches.

Private investors started construction of large-scale canals and irrigation networks throughout California in the 1870s. In 1887, conflict over control of agricultural water supplies under California water laws led to the passage of the Wright Act. The Wright Act provided for the formation of irrigation districts to manage water supplies. The ultimate goal was to empower the formation of public corporations in order to issue bonds, condemn property, levy and collect taxes, and carry out the means necessary to maintain and operate a vast network of irrigation and water supply facilities. After approval of the Act, dozens of districts were formed in the following years. By the onset of World War I, the heavy demand for agricultural production led to another burst of increased formation of irrigation districts. In 1870 the quantity of irrigated land in California was 70,000 acres. By 1899 irrigated land in California had grown to 1,445,000 acres, by 1929 to 4,720,000 acres, and by 1950 to 6,599,000 acres (JRP and Caltrans 2000).

The NID was formed in 1921. The goal of the District was to provide 202,000 acres of agricultural land with a regulated supply of water through the means of irrigation systems. Eventually, in 1926, 66,500 acres of Placer County lands was added to NID-responsible lands. One of the first and most successful projects of the NID was the Yuba-Bear project, completed between 1963 and 1966, which brought power generation capability, new reservoirs and canal systems, and 145,000 acre-feet of water storage for district residents (Gittings 2014).

Techniques used to build, design, and construct irrigation networks and canals have varied widely depending largely on the period they were constructed, investors, and location in California. The earliest irrigation systems consisted of hand-dug earthen ditches that continued relatively short distances from seasonal water supplies such as rivers and streams. These supported minor agricultural operations but failed to support the high water demands of larger scale agricultural operations that were prominent throughout Placer County. In addition, small earthen ditches were subject to weathering and needed consistent maintenance and also relied too heavily on the use of gravity to move water.

Changes in canal construction methods and implementation of new engineering techniques led to several advances in irrigation and water conveyance system design through the later nineteenth and early twentieth centuries. Wealthy private investors, along with newly formed irrigation districts, helped irrigation systems in California transition from small earthen ditches to larger scale concrete-lined canals. These large-scale concrete-lined canals, though more expensive to construct, were very easy to maintain and could convey water from large storage reservoirs many miles throughout the agricultural regions of any county or district-held lands. Water could be easily diverted from these larger-scale canals into smaller earthen canals for transporting water locally and then, using diversion dams and/or pumps, into smaller individual irrigation networks in individual orchards and fields. In addition, the post-World War II economy greatly increased the demand for, and value of, agricultural products and, as a result, higher

quality materials, pumps, conduits, and systems were constructed along water conveyance systems to help keep the supply of water in line with demand (JRP 2000).

4.5.1.2 Roads

In the Project Area specifically, early roads provided access to mines and diggings. The majority of Gold Rush miners were transients, and they were on the move to find the next big strike at any camp, river, or stream. Early roads were no more than unimproved trails originally blazed by Native Americans and big game such as deer. These were inadequate for heavy traffic and wagons. This led to road improvements and bridge construction to clear a path to the mining camps, paid for by collecting tolls from travelers (Brower 2006).

4.5.1.3 Cultural Resources Analysis

The analysis of cultural resources was based on a records search completed at the North Central Information Center (NCIC) of the California Historical Resources Information System (CHRIS) at California State University-Sacramento on March 26, 2019 (NCIC search #SAC-13-1105). The purpose of the records search was to determine the extent of previous surveys within a 0.5-mile (800-meter) radius of the proposed Project Site, and whether previously documented pre-contact or historic archaeological sites, architectural resources, or traditional cultural properties exist within this area.

In addition to the official records and maps for archaeological sites and surveys in Placer County, the following historic references were also reviewed: Historic Property Data File for Placer County (Office of Historic Preservation [OHP] 2012); *The National Register Information System website* (National Park Service [NPS] 2019); *Office of Historic Preservation, California Historical Landmarks website* (OHP 2019); *California Historical Landmarks* (OHP 1996 and updates); *California Points of Historical Interest* (OHP 1992 and updates); *Directory of Properties in the Historical Resources Inventory* (1999); *Caltrans Local Bridge Survey* (Caltrans 2019); *Caltrans State Bridge Survey* (Caltrans 2018); and *Historic Spots in California* (Kyle 2002).

Other references examined include a RealQuest Property Search and historic General Land Office (GLO) land patent records (Bureau of Land Management [BLM] 2019). Historic maps reviewed include:

- 1856 BLM GLO Plat Map for Township 12 North, Range 7 East
- 1891 USGS Sacramento, California sheet (1:125,000 scale)
- 1944 US War Department Auburn, California (1:62,500 scale)
- 1954 USGS Gold Hill, California (7.5-minute scale)
- 1954 photo-revised 1973 USGS Gold Hill, California (7.5-minute scale)

Historic aerial photos taken in 1952 and 1993 to present were also reviewed for any indications of property usage and built environment. In addition, NID's Guidelines for Cultural Resources (NID May 11, 2015) was also reviewed and considered in the analysis.

In addition to the records search, ECORP contacted the California Native American Heritage Commission (NAHC) on March 26, 2019 to request a search of the Sacred Lands File for the area of potential effects

(APE). This search is used to determine whether or not Sacred Lands have been recorded by California Native American tribes within the APE, because the Sacred Lands File is populated by members of the Native American community who have knowledge about the locations of tribal resources. In requesting a search of the Sacred Lands File, ECORP solicited information from the Native American community regarding tribal cultural resources, but the responsibility to formally consult with the Native American community lies exclusively with the federal and local agencies under applicable state and federal law. ECORP was not delegated authority by the lead agencies to conduct tribal consultation.

ECORP also mailed a letter to the Placer County Historical Society on March 26, 2019 to solicit comments or obtain historical information that the repository might have regarding events, people, or resources of historical significance in the area.

On April 3, 2019 and July 5, 2019 ECORP archaeologists surveyed the proposed project area including staging areas, access routes, and excavation areas following the guidance of the *Secretary of the Interior's Standards for the Identification of Historic Properties* (NPS 1983) and using transects spaced 15 meters apart. ECORP expended two person-days in the field for the field survey. At that time, the ground surface was examined for indications of surface or subsurface cultural resources. The general morphological characteristics of the ground surface were inspected for indications of subsurface deposits that may be manifested on the surface, such as circular depressions or ditches. Whenever possible, the locations of subsurface exposures caused by such factors as rodent activity, water or soil erosion, or vegetation disturbances were examined for artifacts or for indications of buried deposits.

On July 5 the bedrock mortars associated with pre-contact site P-31-3646 were located and mapped. It was determined that the bedrock mortars are not in the Project Area. All other cultural resources encountered during the survey were recorded using Department of Parks and Recreation 523-series forms approved by the California OHP. The resources were photographed, mapped using a handheld Global Positioning System receiver, and sketched as necessary to document their presence.

On April 4, July 5, and July 19, 2019, ECORP conducted limited subsurface testing in and around the proposed project area to determine whether subsurface deposits associated with adjacent site P-31-3646 are present within the boundaries of the Project Area. This included fifteen shovel test pits (STPs) excavated by hand within the Project area near the mapped boundary of site P-31-3646.

All STPs were mapped using a Global Positioning System (GPS) receiver with sub-meter accuracy so that each STP could be appropriately referenced, and so there was both vertical and horizontal control. All distances, depth, and height information were recorded in metric units. Standardized field data collection forms were used for each subsurface effort. Upon completion of fieldwork, the work areas, back dirt piles, and physical settings of the sites were returned to a state similar to that which existed at the onset of the fieldwork. All flagging was removed.

4.5.2 Cultural Resources (V) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Less than significant with mitigation incorporated.

One pre-contact resource, P-31-3646 (a pre-contact midden and bedrock mortar site), has been previously recorded directly adjacent to the Project Site. In addition, one historic-period water conveyance system, the Doty North Canal and Siphon, was identified on the Project Site during the field survey and map review.

4.5.2.1 P-31-3646, Pre-Contact Archaeological Site

ECORP could not locate any information in the ethnographic literature or existing documentation to suggest that P-31-3646 is associated with any known important historic events or persons. Therefore, P-31-3646 does not meet the criteria to be eligible under National Register of Historic Places (NRHP) Criteria A and B or California Register of Historic Resources (CRHR) Criteria 1 and 2. P-31-3646 has no distinctive architectural or engineering characteristics and does not meet the criteria to be eligible under NRHP Criterion C or CRHR Criterion 3. Separate tribal consultation may inform the agencies' decisions on eligibility under NRHP A and B or CRHR 1 and 2, however.

The STP results from the southern part of P-31-3646 indicate that the site extends into the Project Site and has a sufficient number of types and quantity of artifacts to address research questions regarding site type and activities carried out at the site, lithic technology (from debitage analysis), and trade and exchange (from obsidian sourcing). It is likely that if additional STPs or units were excavated in the center of the site and near the bedrock mortars, material to address additional research questions would be found. Therefore, because the cultural material from P-31-3646 can be used to address research questions, it has the potential to yield information important in prehistory and is eligible under NRHP Criterion D and CRHR Criterion 4.

In addition, the artifacts documented within the cultural resource Study Area are likely associated with the bedrock mortars located adjacent to the Project Area. The lack of indications for previous ground disturbances observed during testing suggests that the site retains its integrity of location and materials, through the in situ and intact deposits of artifacts and midden soils. The archaeological deposits convey the significance of the site and therefore, the site retains sufficient integrity. Additional archaeological data recovery is likely to yield datable artifacts that would inform a period of significance. As such, site P-31-3646 is considered eligible for the CRHR (under Criterion 4) and is considered an Historical Resource as defined by CEQA. Because site P-31-3646 is partially located within the Project Site where ground disturbing construction activities would occur, disturbance of P-31-3646 would be considered a

potentially significant impact to an historical resource. Implementation of Mitigation Measures **CUL-1** and **CUL-2** would reduce this impact to less than significant.

4.5.2.2 Doty North Canal and Siphon (DOTY-001)

This historic-period resource consists of a segment of Doty North Canal including the siphon (pipe) that carries water from the canal across both Doty Ravine and Sailors Ravine.

Archival research did not provide any information suggesting this water conveyance canal and siphon are in any way tied to an important historical event or series of events. It was likely originally used as means of water conveyance for irrigation features to divert water through private property, likely for agricultural purposes. Although this may indicate that the canal and siphon are associated with the development of agriculture in Placer County, the canal and siphon were built in the 1940s, long past the initial development of agriculture in Placer County, which occurred in the second half of the nineteenth century. Thus, the canal and siphon do not hold any significance within these contexts. Further, they are typical minor water conveyance features that hold no demonstrable significance in the context of local water conveyance in general, for whatever purpose. Therefore, the canal and siphon do not meet the criteria to be eligible under NRHP Criterion A or CRHR Criterion 1.

Similarly, this resource is not associated with any person or group of people important in history. The siphon and canal traverse through multiple private lands outside the Project Area and cannot be demonstrably tied to any one property or parcel. Therefore, it cannot be tied to any particular landowners that can be said to have been historically important in the area, or important in the field of ditch or culvert building or water conveyance. The canal and siphon were constructed by NID; however, it was not the first or last water features constructed by the District. Therefore, the canal and siphon do not meet the criteria to be eligible under NRHP Criterion B or CRHR Criterion 2.

This water conveyance feature is of expedient and utilitarian construction and is not aesthetically or artistically designed. It does not embody the distinctive characteristics of a type, period, or method of construction. It is not known who built it, so it is very unlikely that it represents the work of a master. It does not represent a significant and distinguishable entity whose components lack individual distinction because they are single features and were not demonstrated to be part of a greater whole. Its design is functional and does not convey any particular concept of design or artistic ideal. Therefore, the canal and siphon do not meet the criteria to be eligible under NRHP Criterion C or CRHR Criterion 3.

This water conveyance feature is a utilitarian landscape feature that does not possess subsurface potential and was therefore not archaeologically tested. As an above-ground feature, all the information it can provide is visible and has been fully documented. Information about land ownership is available from archival research. Therefore, the canal and siphon do not have the potential to provide important information about history that is not already known, and do not meet the criteria to be eligible under NRHP Criterion D or CRHR Criterion 4.

The canal and siphon retain integrity of location because they are in the place where they were originally built in the 1940s, and there is no indication they have been moved since that time. The combination of elements that create the form, style, and function of the resources are expressed in their placement and

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construction on the landscape, as are the physical elements that were combined to create the water conveyance features. Thus, they retain integrity of design, materials, and workmanship. Because the property and surrounding rural landscape has likely not changed appreciably in at least the past 70 years, they likely retain integrity of setting and feeling. Their original association, other than water conveyance in general, is unknown; however, they do retain their association with water conveyance despite holding no significance within that context.

Regardless of integrity, Doty North Canal and Siphon are evaluated as not eligible for the NRHP or CRHR as individual properties and are not a contributor to any known or possible historic districts. Therefore, impacts related to removal and replacement of the existing siphon are considered less than significant. No mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Less than Significant with Mitigation Incorporated.

As discussed above, P-31-3646 is considered a significant historic resource under CEQA. It is also considered a significant archaeological resource pursuant to State CEQA Guidelines Section §15064.5. Subsurface testing performed at P-31-3646 confirmed that pre-contact subsurface cultural deposits are present on the Project Site. However subsurface testing did not detect cultural deposits within proposed excavation areas associated with siphon replacement. While STPs were conducted in an attempt to determine the limits of P-31-3646, a clear demarcation of the site was not possible, and it is highly likely that additional archaeological deposits will be encountered during ground-disturbing activities associated with the project. Such disturbance of the existing deposits would affect the site's integrity of location and materials which would be considered a potentially significant. Implementation of Mitigation Measures **CUL-1** and **CUL-2** would reduce this impact to less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Less than Significant with Mitigation Incorporated.

There are no known burial sites located within the Project area; however, there is always a potential that ground-disturbing activities will expose previously unknown human remains. Therefore, implementation of Mitigation Measure **CUL-2** would be required to reduce potential impacts to Less than Significant.

4.5.3 Mitigation Measures

Mitigation Measure CUL-1: Protect P-34-3643 as an Environmentally Sensitive Area

P-31-3646 shall be designated an Environmentally Sensitive Area prior to construction activities. To accomplish this, high-visibility temporary exclusionary fencing shall be installed as shown on *Figure 4.5-1 Environmentally Sensitive Area Fencing for P-31-3646* (Note: *Figure 4.5-1 is confidential and may be requested from NID by qualified individuals on an as need to know basis*). No ground-disturbing activities shall be allowed northwest of the environmentally sensitive area fence line shown in *Figure 4.5-1*. Metal plates may be laid over that portion of the environmentally sensitive area located within the Project Site (see *Figure 4.5-1*), to accommodate vehicle travel only. Upon completion of the project, the metal plates will be directly lifted off the site and not dragged across the site.

Mitigation Measure CUL-2: Monitor Ground Disturbance and Stop Work if Cultural Resources or Human Remains are Detected

All ground-disturbing activities on the Project Site shall be monitored by an archaeological monitor under the supervision of a qualified professional archaeologist who meets the Secretary of the Interior's Professional Qualification Standards for pre-contact and historic archaeologist.

If subsurface deposits believed to be cultural or human in origin are discovered during construction by the monitor, all work must halt within 20 feet of the discovery. The monitor will notify the qualified professional archaeologist, who will evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately, and no agency notifications are required.
- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify NID, which shall consult on a finding of eligibility. If the find is determined to be a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines, appropriate treatment measures will be implemented. Work may not resume within the no-work radius until NID, through consultation as appropriate, determines that the site either: 1) is not a Historical Resource under CEQA, as defined in Section 15064.5(a) of the CEQA Guidelines; or 2) that the treatment measures have been completed to its satisfaction.
- If the find includes human remains, or remains that are potentially human, he or she shall ensure reasonable protection measures are taken to protect the discovery from disturbance (Assembly Bill [AB] 2641). The archaeologist shall notify the Placer County Coroner (per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the project

(§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (§ 5097.94 of the PRC). If no agreement is reached, the NID must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate Information Center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until NID, through consultation as appropriate, determines that the treatment measures have been completed to its satisfaction.

4.6 Energy

Energy consumption is analyzed in this Initial Study due to the potential direct and indirect environmental impacts associated with the Project. Such impacts include the depletion of nonrenewable resources (i.e., oil, natural gas, coal) during the construction phases.

4.6.1 Environmental Setting

4.6.1.1 Energy Consumption

Electricity use is measured in kilowatt-hours (kWh), and natural gas use is measured in therms. Vehicle fuel use is typically measured in gallons (e.g., of gasoline or diesel fuel), although energy use for electric vehicles is measured in kWh. The energy source germane to the Proposed Project includes vehicle fuel necessary for construction activities.

Total equipment fuel consumption associated with off-road construction equipment in the Sacramento Valley portion of Placer County from 2015 to 2019 is shown in **Table 4.6-1**. As shown, off-road fuel consumption has increased in the County since 2015.

Year	Off-Road Fuel Consumption (gallons)
2015	1,501,162
2016	1,583,494
2017	1,655,873
2018	1,730,187
2019	1,811,370

Source: CARB 2014

4.6.2 Energy (VI) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact.

The impact analysis focuses on the source of energy relevant to the Proposed Project: the equipment-fuel necessary for Project construction. Addressing energy impacts requires an agency to make a determination as to what constitutes a significant impact. There are no established thresholds of significance, statewide or locally, for what constitutes a wasteful, inefficient, and unnecessary consumption of energy for a proposed land use project. For the purpose of this analysis, the amount of fuel necessary for Project construction is calculated and compared to that consumed in Placer County.

The amount of total construction-related fuel use was estimated using ratios provided in the Climate Registry’s General Reporting Protocol for the Voluntary Reporting Program, Version 2.1. Energy consumption associated with the Proposed Project is summarized in **Table 4.6-2**.

Table 4.6-2. Proposed Project Fuel Consumption		
Energy Type	Annual Energy Consumption (gallons)	Percentage Increase Countywide (%)
Off-Road Equipment Fuel Consumption		
Project Construction	1,745 gallons	0.09%

Source: Climate Registry 2016. See Appendix C.

As shown in **Table 4.6-2**, the Project’s gasoline fuel consumption during the construction period is estimated to be 1,745 gallons of fuel, which would increase the annual construction-related gasoline fuel use in the County by 0.09 percent. As such, Project construction would have a nominal effect on local and regional energy supplies, especially over the long term. Additionally, construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency combined with state regulations limiting engine idling times and requiring recycling of construction debris, would further reduce the amount of transportation fuel demand during Project construction. For these reasons, construction fuel consumption associated with the Project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature. This impact would be less than significant.

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Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

Placer County does not have a plan for renewable energy or energy efficiency. As discussed under Issue a) the energy and fuel consumption related to this Project would be minimal. For these reasons, this impact would be less than significant.

4.6.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.7 Geology and Soils

4.7.1 Environmental Setting

The Project site is within Placer County and is characterized by gently rolling topography which forms the western foothills of the Sierra Nevada. The Project site is located at elevation 380 feet above sea level.

4.7.1.1 Regional Seismicity and Fault Zones

Fault activity in the Project vicinity is minimal: the Giant Gap Fault, with evidence of late Quaternary movement (between 12,000 and 700,000 years ago), is located approximately 44 miles northeast of the Project area (California Geological Survey [CGS] 2019). Several other late Quaternary and older faults occur within approximately 40-60 miles of the Project area, including the Wolf Creek Fault Zone, Spenceville Fault, Deadman Fault, Bear Mountains Fault Zone, Maidu Fault, and several pre-Quaternary (greater than 1.6 million years ago) fault traces associated with these faults zones (CGS 2010). The Cleveland Hill Fault is the nearest principal fault with historic displacement, within the last 200 years, identified and mapped pursuant to the Alquist-Priolo Earthquake Zoning Act and is located approximately 59 miles northwest of the Project area.

Western Placer County is characterized as having a low level of earthquake hazard and is distant from known, active faults (CGS 2019).

Liquefaction, a process in which the soil behaves like a liquid, can damage buildings, roads, and pipelines through uneven settlement of the soil and the soils loss of structural support capabilities. In order for liquefaction to occur, there must be loose granular sediment that is saturated and there must be strong ground shaking. The low ground shaking potential of the site and well-drained cohesive soils over bedrock minimize the potential for liquefaction.

The risk of landslides in Placer County is generally low, and moderate at worst, due to the prevalence of igneous and metamorphic bedrock overlain by relatively shallow cohesive soils.

4.7.1.2 Soils

According to the Soil Survey Geographic Database for Placer County, California (NRCS 2019), three soil units, or types, have been mapped in the project area (see **Figure 4.4-2. Natural Resources Conservation Service Soil Types**).

- 107 – Andregg coarse sandy loam, 9 to 15 percent slopes;
- 108 – Andregg coarse sandy loam, 15 to 30 percent slopes; and
- 194 – Xerofluvents, frequently flooded.

Xerofluvents, frequently flooded (194) is considered hydric. The remaining soil types do not contain hydric components (NRCS 2019b).

4.7.2 Regulatory Setting

4.7.2.1 Placer County General Plan

Following are the relevant goals and policies identified by the Placer County General Plan (Placer County, 2013) for soils, geology, and seismicity.

Goal 8.A: To minimize the loss of life, injury, and property damage due to seismic and geological hazards.

Policy 8.A.1: The County shall require the preparation of a soils engineering and geologic-seismic analysis prior to permitting development in areas prone to geological or seismic hazards (i.e., ground shaking, landslides, liquefaction, critically expansive soils, avalanche).

Policy 8.A.4: The County shall ensure that areas of slope instability are adequately investigated and that any development in these areas incorporates appropriate design provisions to prevent landsliding.

Policy 8.A.5: In landslide hazard areas, the County shall prohibit avoidable alteration of land in a manner that could increase the hazard, including concentration of water through drainage, irrigation, or septic systems; removal of vegetative cover; and steepening of slopes and undercutting the bases of slopes.

Policy 8.A.9: The County shall require that the location and/or design of any new buildings, facilities, or other development in areas subject to earthquake activity minimize exposure to danger from fault rupture or creep.

Policy 8.A.10: The County shall require that new structures permitted in areas of high liquefaction potential be sited, designed, and constructed to minimize the dangers from damage due to earthquake-induced liquefaction.

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Policy 8.A.11: The County shall limit development in areas of steep or unstable slopes to minimize hazards caused by landslides or liquefaction.

4.7.3 Geology and Soils (VII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant.

- i) There are no Alquist-Priolo mapped zones or faults within the Project area. The closest active fault is approximately 59 miles northwest of the Project area. The Project does not include construction of structures for human occupancy and would not subject people or structures to adverse effects due to rupture of a known fault. The Foothills Fault system is approximately 10 miles north of the Project site; however, the fault has not been active in more than 130,000 years (CGS 2019). Therefore, impacts are considered less than significant.
- ii) The proposed Project area is susceptible to low ground shaking associated with a major earthquake on nearby active faults, in which slight to moderate damage to ordinary structures and negligible damage to well designed and constructed structures is possible. NID will consider any existing geotechnical survey information for the proposed Project area in design and construction of the facilities to withstand potential seismic ground shaking. Therefore, impacts are considered less than significant.
- iii) Soils underlying the facility are generally shallow (under six feet to bedrock), well-drained, sloped, and not likely susceptible to liquefaction. Furthermore, the site is not susceptible to strong ground shaking necessary for liquidation to occur. Therefore, impacts are considered to be less than significant.

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- iv) The proposed Project area is located in an area of Placer County where soils are generally shallow dense igneous and metamorphic bedrock, and the potential for landslides is low. Therefore, impacts are considered less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant.

BMPs will be included as part of the SWPPP prepared for the Project and would be implemented to manage erosion and the loss of topsoil during construction-related activities (see *Hydrology and Water Quality (4.10) Environmental Checklist and Discussion*). As a result, soil erosion impacts would be reduced to a less than significant impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact.

The proposed Project is located on relatively shallow and well-drained soils underlain by dense bedrock. These soils, and the bedrock, are inherently stable, generally not susceptible to landslide or lateral spreading, and are not likely susceptible to subsidence or liquefaction. Therefore, impacts are considered less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial direct or indirect risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact.

The proposed Project involves the construction of a replacement siphon pipe. Given that expansive soil material is encountered throughout California, they are generally addressed though standardized

foundation engineering practices. The proposed Project will be constructed in compliance with applicable Uniform Building Code regulation and other County and state requirements. Therefore, this impact is considered less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Project involves replacement of an existing siphon pipe. No wastewater will be produced as a part of the Project. Moreover, on-site wastewater treatment and disposal is not a necessary component of the Project. Therefore, no impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Less than significant with mitigation incorporated.

There are no known significant paleontological sites or deposits within the Project area (ECORP 2019b). Furthermore, because the project involves replacement of an existing facility, Project Site soils were previously disturbed making it unlikely the Project will encounter paleontological resources during construction. Nevertheless, the possibility of uncovering unknown resources exists. Therefore, Mitigation Measure **PALEO-1** is required to reduce impacts to a less than significant level.

4.7.4 Mitigation Measures

Mitigation Measure PALEO-1: Discovery of Unknown Resources

If any paleontological resources (i.e., fossils) are found during Project construction, construction shall be halted immediately in the subject area and the area shall be isolated using orange or yellow fencing until NID is notified and the area is cleared for future work. A qualified paleontologist shall be retained to evaluate the find and recommend appropriate treatment of the inadvertently discovered paleontological resources. If NID resumes work in a location where paleontological remains have been discovered and cleared, NID will have a paleontologist onsite to confirm that no additional paleontological resources are in the area.

4.8 Greenhouse Gas Emissions

4.8.1 Environmental Setting

Greenhouse gases (GHGs) are released as byproducts of fossil fuel combustion, waste disposal, energy use, land use changes, and other human activities. This release of gases, such as carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and chlorofluorocarbons, creates a blanket around the earth that allows light to pass through but traps heat at the surface, preventing its escape into space. While this is a naturally occurring process known as the greenhouse effect, human activities have accelerated the generation of GHGs beyond natural levels. The overabundance of GHGs in the atmosphere has led to an unexpected warming of the earth and has the potential to severely impact the earth’s climate system.

Each greenhouse gas (GHG) differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH₄ traps more than 25 times more heat per molecule than CO₂, and N₂O absorbs 298 times more heat per molecule than CO₂. Often, estimates of GHG emissions are presented in carbon dioxide equivalents (CO_{2e}). Expressing GHG emissions in CO_{2e} takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO₂ were being emitted.

4.8.2 Regulatory Setting

4.8.2.1 Placer County Air Pollution Control District

The Project is under the jurisdiction of the PCAPCD. To evaluate the impacts of a project on global climate change, the PCAPCD adopted a significance threshold of 10,000 metric tons of CO_{2e} per year (MT CO_{2e}/year). The GHG threshold is applied to land use project construction and operational phases for stationary and mobile sources. In general, GHG emissions from a project (either the construction or operational phase) that exceed 10,000 MT CO_{2e}/ year would be determined to have a cumulatively considerable contribution to global climate change.

4.8.3 Greenhouse Gas Emissions (VIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant.

4.8.3.1 Construction

Construction-related activities that would generate GHG emissions include worker commute trips, haul trucks carrying supplies and materials to and from the Project site, and off-road construction equipment

(e.g., dozers, loaders, excavators). **Table 4.8-1** illustrates the specific construction generated GHG emissions that would result from construction of the Project.

Emissions Source	CO ₂ e (Metric Tons/ Year)
Construction	18
Potentially Significant Impact Threshold	10,000
Exceed Significance Threshold?	No

Source: CalEEMod version 2016.3.2. Refer to **Appendix D** for Model Data Outputs.

As shown in **Table 4.8-1**, Project construction would result in the generation of approximately 18 metric tons of CO₂e over the course of construction. GHG emissions would remain below the annual significance threshold during Project construction. Once construction is complete, the generation of these GHG emissions would cease. This impact is less than significant.

4.8.3.2 Operations

In terms of operational GHG emissions, the Proposed Project involves improvements to an existing water transmission siphon. The Proposed Project will not include the provision of new permanent stationary or mobile sources of emissions, and therefore, by its very nature, will not generate quantifiable GHG emissions from Project operations. The Project does not propose any buildings and therefore no permanent source or stationary source emissions. Once the Project is completed, there will be no resultant increase in automobile trips to the area because the water pipeline will not require daily visits. While it is anticipated that the Project would require intermittent maintenance, such maintenance would be minimal and a continuation of existing activities resulting in a negligible amount of traffic trips on an annual basis. This impact is less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact.

Placer County does not currently have an applicable plan, policy, or regulation adopted for reducing GHG emissions. The Proposed Project would not conflict with any adopted plans, policies, or regulations adopted for reducing GHG emissions. As identified above, Project-generated GHG emissions would not surpass GHG significance thresholds, which were prepared to comply with California GHG reduction goals. Therefore, the Proposed Project would not conflict with California GHG reduction goals. This impact is less than significant.

4.8.4 *Mitigation Measures*

No significant impacts were identified, and no mitigation measures are required.

4.9 Hazards and Hazardous Materials

4.9.1 *Environmental Setting*

A hazardous material is defined by the California Environmental Protection Agency (CalEPA), Department of Toxic Substance Control, as a material that poses a significant 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 purpose of this section, hazardous materials include materials currently located onsite as a part of the natural environment or as a result of past activities.

4.9.1.1 **Federal Regulations**

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

4.9.1.2 **State Regulations**

California regulations are equal to or more stringent than federal regulations. The USEPA 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.

All hazardous materials are currently regulated and controlled by CalEPA in a manner that minimizes risks of spills or accidents. Any hazardous materials used in the construction, start-up, or operations of the proposed project, such as fuel for construction equipment, will be handled according to current best practices. The potential for construction and operation related impacts from hazardous materials are discussed below.

Naturally Occurring Asbestos

Asbestiform minerals belonging to the serpentine or amphibole mineral groups are found in many areas throughout California, are commonly exposed near faults, and are abundant in the Sierra foothills. Activity in areas with asbestos-containing rock or soil may create dust emissions containing asbestos fibers, especially when bedrock is exposed to the air. All types of asbestiform minerals are considered hazardous with no safe exposure level established for non-occupational exposures. Though exposure to low levels of asbestos for short periods of time is thought to pose minimal risk, asbestos fibers can penetrate body tissues and remain in the lung or abdominal areas for a long time (Placer County Air Pollution Control District 2014).

Naturally Occurring Asbestos (NOA) is known to be present in Placer County and **Figure 4.9-1. Naturally Occurring Asbestos Hazard** identifies those areas most likely to contain NOA hazards. According to the Placer County Air Pollution Control District (PCAPCD) web site, Placer County NOA deposits are most often found in ultramafic rock formations, and often NOA is found in serpentine rock. Geologic maps prepared by the California Geologic Survey (formerly the California Division of Mines and Geology) show areas of higher probability for asbestos-containing rock within the broad zone of faults that follows the low foothills and lay in a south-east to north-west band. The Placer County communities of Auburn, Colfax, Meadow Vista, and Foresthill are among those that are within this fault band. Generally, the areas in Placer County that lay to the west of Folsom Lake and to the south of Wise Road (including the Project site) are geologic areas that have a lower probability for the presence of NOA.

4.9.2 Hazards and Hazardous Materials (IX) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant.

Temporary construction activities associated with the proposed Project will involve the transport and use of limited quantities of miscellaneous hazardous substances including gasoline, diesel fuel, hydraulic fluid, solvents, and oils. These chemicals would be brought to the Project site, as well as transported along area 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. As discussed in the Project Description, **BMP-7** would be implemented by the contractor during construction to ensure chemicals required to be onsite will be handled in accordance with applicable federal, state, and local regulations for hazards substances. Therefore, potential impacts are considered less than significant.






Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Naturally Occurring Asbestos Hazard

AREAS OF RELATIVE LIKELIHOOD FOR THE PRESENCE OF NOA

The geologic diversity in Placer County characterized by a variety of igneous, metamorphic, and sedimentary rocks, many of which have been faulted or sheared, provides many settings that are favorable for the presence of NOA. Chrysotile asbestos and amphibole asbestos are known to be present in parts of Placer County.

This map divides the county into different areas based on the relative likelihood of encountering NOA in some geologic units. These areas are defined as: least likely, moderately likely, and most likely to contain NOA.

-  Area Least Likely to Contain NOA includes those metamorphic, igneous, and sedimentary rocks that are least likely to contain NOA.
-  Area Moderately Likely to Contain NOA includes those metamorphic and igneous rocks that are moderately likely to contain NOA.
-  Area Most Likely to Contain NOA includes ultramafic rock and serpentine rock (serpentine), and associated soils, which are most likely to contain NOA.
-  Areas of Faulting or Shearing are zones of faulted or sheared rock that may locally increase the likelihood for the presence of NOA where they exist in or adjacent to areas most or moderately likely to contain NOA.
-  Mapped Track of Fault or Shear Zone may locally increase the likelihood for the presence of NOA in areas least likely to contain NOA.

Area Least Likely to Contain NOA includes one or more of metamorphosed sedimentary and non-mafic volcanic rocks, granite rocks, volcanic rocks, alluvium, and glacial deposits. The presence of NOA in any of these geologic units in Placer County comprised partially or totally of metamorphic rock types was not indicated in the technical documents reviewed in the CGS map compilation. Small bodies of rock or soil with moderate to high likelihood for the presence of NOA may exist within some of these areas. However, based on available information, the relative likelihood for NOA in these areas is lower than in those areas identified as most or moderately likely to contain NOA.

Area Moderately Likely to Contain NOA contains one or more of metamorphosed mafic volcanic and mafic intrusive rocks, non-metamorphosed mafic intrusive rocks, and structurally complex groupings of interrelated metamorphic rocks of different origins. The geologic units in Placer County comprised partially or totally of these rock types generally have a lower likelihood for the presence of NOA than areas designated most likely to contain NOA. However, NOA is known to be present in these rock types in Placer and nearby counties – the most likely settings being in fault zones and shear zones that contain slices of serpentinite or high concentrations of the minerals talc and chlorite. Chrysotile asbestos and amphibole asbestos are known to occur in such environments.

Area Most Likely to Contain NOA includes ultramafic rock and serpentinite and their associated soils. Serpentinite and partially serpentinized ultramafic rock commonly include chrysotile asbestos, and may also contain amphibole asbestos. The associated "ultramafic-soil" or "serpentine soil" may also contain asbestos.

Areas of Faulting or Shearing are linear belts of highly fractured and deformed rocks which are potentially favorable environments for the presence of NOA. Placer County contains many mapped fault and shear zones highlighted by stippling on the map where they overlap areas most or moderately likely to contain NOA due to increased likelihood for the presence of NOA above that of unfaulted or unshattered zones. The widths of the stippled areas shown are not meant to indicate the actual width of a fault or shear zone. The width of a fault zone often varies along its length.

Site-specific investigation is required to determine whether bedrock or soil at a particular location contains naturally occurring asbestos.



USE AND LIMITATIONS OF MAP

This map, NATURALLY OCCURRING ASBESTOS HAZARD IN PLACER COUNTY is a derivative of the California Department of Conservation, California Geological Survey (CGS) 1:100,000-scale map, RELATIVE LIKELIHOOD FOR THE PRESENCE OF NATURALLY OCCURRING ASBESTOS IN PLACER COUNTY, CALIFORNIA. The 1:100,000-scale map's sources are identified in the map and its accompanying report, SPECIAL REPORT 150. Users are encouraged to consult that report for further mapping details.

The purpose of this map, NATURALLY OCCURRING ASBESTOS HAZARD IN PLACER COUNTY, is to provide information to government agencies and the public about the likelihood of encountering NOA within Placer County. This information includes mapped bedrock and soil zones, along with rock and soil types with potential for containing NOA.

Development of the parent map was based primarily on geologic information accumulated and interpreted from published and unpublished geologic and soil maps available at the time of its creation, and on field geologic data by staff of the CGS. The scale of this derivative map is per scale bar – an increase from the 1:100,000-scale parent map.

The boundaries of the NOA areas shown on the map were derived primarily from geologic boundaries shown on the geologic map used for the study. Consequently, the accuracy of the boundaries of the NOA areas is dependent on the accuracy of the previously mapped geologic boundaries. Critical, available information suggests that the accuracy of the boundaries of the areas of relative likelihood for the presence of NOA shown on the map is better than plus or minus 1,000 feet. The CGS map was intended for use and interpretation at a 1:100,000-scale and therefore the increase in scale per scale bar may introduce increased boundary inaccuracies. To counter this possibility, the boundaries of the "Area Most Likely to Contain NOA" that are depicted on the overall map have been processed with a 1:100,000-scale buffer.

Feasibility studies for the presence of asbestos (previously unassessed) areas of particular types of rocks, such as serpentinite, are possible also exist for areas currently mapped as particular rock types to have been investigated.

Site-specific investigation is required to determine whether bedrock or soil at a particular location contains naturally occurring asbestos.

- ### Legend
-  Interstate
 -  Highway
 -  Major Roads
 -  Major Streams
 -  City Limits
 -  Placer Boundary
 -  Lakes

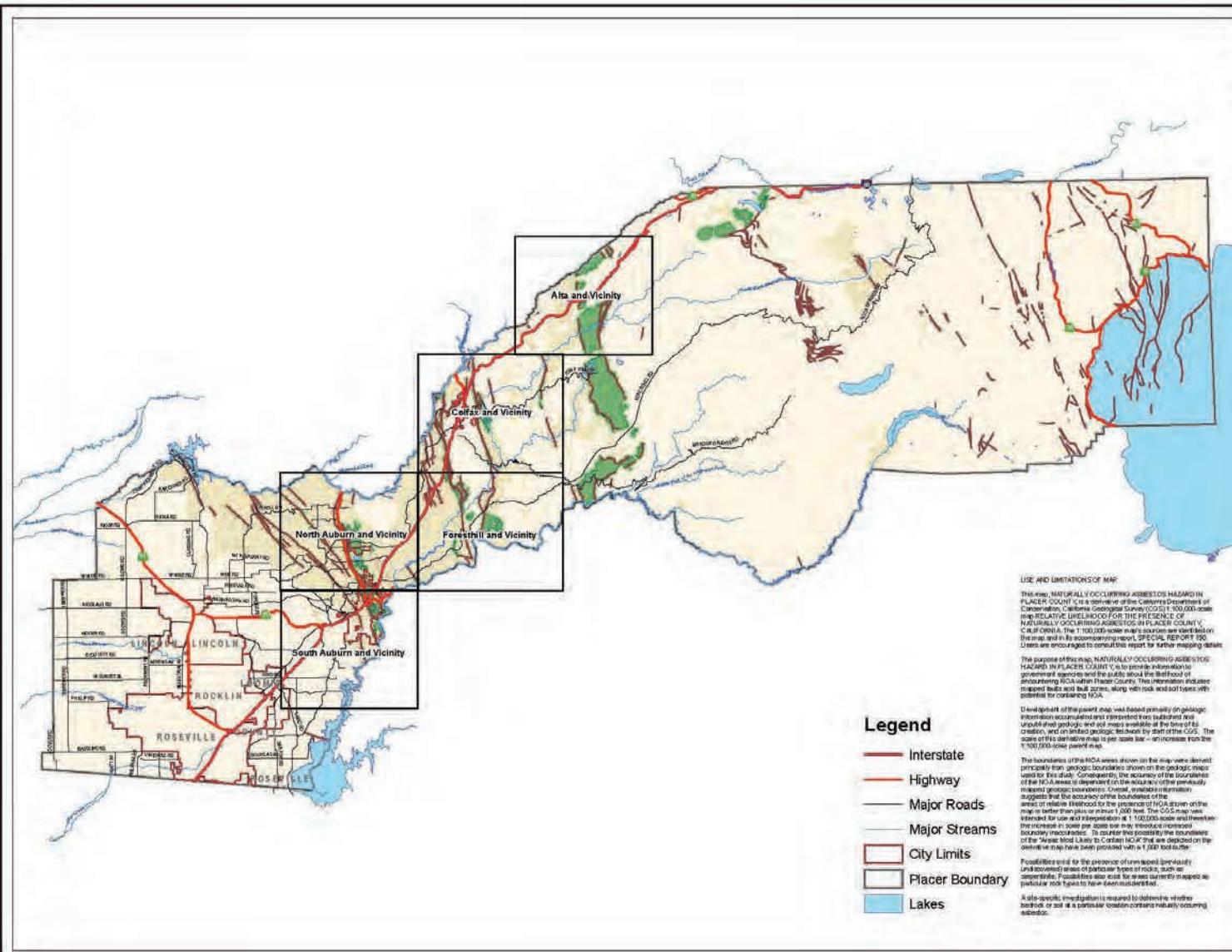


Figure 4.9-1. Naturally Occurring Asbestos Hazard

Less than Significant Impact.

Siphon operation would not require routine use of hazardous materials at the Project Site and the transport and use of hazardous materials as part of project construction is discussed in response a) above. Potential impacts related to these activities are considered less than significant.

As shown in **Figure 4.9-1**, the Project site is located within an area least likely to contain NOA. Areas least likely to contain NOA includes one or more of metamorphosed sedimentary and non-mafic volcanic rocks, granite rocks, volcanic rocks, alluvium, and glacial deposits. Small bodies of rock or soil with moderate or higher likelihood for the presence of NOA may exist within some of these areas. However, based on available information, the relative likelihood for NOA in these areas is lower than in those areas identified as most or moderately likely to contain NOA. In addition, trenching required to replace the siphon would occur in previously excavated areas with no known history of NOA. While considered unlikely, should NOA be encountered, **BMP-7** would be implemented by the contractor in accordance with applicable federal, state, and local regulations. Therefore, impacts involving the potential release of hazardous materials are considered less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The closest school to the Project site is Ophir Elementary School, located at 1373 Lozanos Road, Newcastle, approximately 3.1 miles from the Project site. Therefore, the proposed Project would not emit hazardous emissions or handle hazardous materials within 1/4 mile of an existing or proposed school. There would be no impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

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A review of the USEPA hazardous materials sites database did not identify the Project site as a known hazardous materials site. The nearest known site is located approximately 2.3 miles southeast of the Project Site on Fox Hill Road in Newcastle. Therefore, no impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Project site is located approximately 5 miles east of the Lincoln Regional Airport and approximately 6.15 miles west of the Auburn Municipal Airport. The Project site is not located within an airport land use plan area or within two miles of a public airport or public use airport. Therefore, no impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact.

The Project is somewhat isolated and contains an existing operational siphon. The new siphon will be constructed in the same location as existing and therefore is not expected to interfere with emergency access. Therefore, impact to emergency access is less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact.

Project area terrain varies from relatively flat areas, to gently rolling hills, and relatively steep hillsides. The Project Site supports primarily annual grassland and valley foothill riparian communities. According to the

California Department of Forestry and Fire Protection, Placer County Fire Hazards Zone Map (CAL FIRE, 2019), the Project is located within a "Moderate" risk fire zone.

The proposed Project is in the jurisdiction of the Placer County Fire Protection District. The closest station to the Project is the Fruitvale and Fowler Fire Station located 1.7 miles west of the Project Site at 4710 Fruitvale Road in Newcastle. The next closest station is the Placer County Fire Station 182 located 4.1 miles east of the Project Site at 9305 Wise Road in Auburn.

The risk of fire at the Project site is primarily a concern during the typically hot, dry summer season when heavy duty construction equipment and/or other construction related activities could generate a spark that could ignite dry vegetation and cause a wild land fire. The risk for fire caused by construction is significantly reduced by the proposed Project schedule which requires construction occur during the fall and winter months. Furthermore, NID will require that **BMP-8** be implemented to reduce construction wildland fire risk. Project operation would not pose a fire risk to people or structures. Therefore, the Project would not expose people or structures to wildland fire risks and impacts would be less than significant.

Mitigation Measures

None required.

4.10 Hydrology and Water Quality

4.10.1 Environmental Setting

4.10.1.1 Site Hydrology and On-Site Drainage

The California Department of Water Resources (DWR) does not have any data on the ground water quality in the sub-basin where the Proposed Project is located. Groundwater supplied from the fractured rock sources of the Sierra Nevada are highly variable in terms of water quantity and water quality due to the many confined and unconfined groundwater layers. The groundwater in the Sierra foothills has the potential for encountering uranium- and radon-bearing rock or sulfide mineral deposits containing heavy metals (DWR 2003).

The headwaters of Auburn Ravine and Coon Creek are in the western Sierra Nevada foothills near the City of Auburn. The Project site is on Doty Ravine which originates just west of the City of Auburn and is a tributary to the Coon Creek watershed. Water management practices in Auburn Ravine, Coon Creek, and Doty Ravine are different than most small East Side foothill tributary streams. Since these watersheds are relatively small, very little of the stream flow is from natural runoff. Most of the stream flow is water imported from the Yuba, Bear, and American River watersheds through various means to meet domestic and agricultural needs in western Placer County and southeastern Sutter County. While winter stream flows are dominated by discharges from wastewater treatment facilities and runoff from rainfall events, summer flows are dominated by irrigation water deliveries to farms, golf courses, and ranches on the valley floor. This is a unique situation for small foothill streams where the normal situation is for stream flows to gradually decline over the spring, summer, and early fall until the first rainstorms occur (Placer County 2002).

4.10.2 *Regulatory Setting*

4.10.2.1 **Clean Water Act**

The Clean Water Act (CWA) (33 USC § 1251-1376), as amended by the Water Quality Act of 1987, is the major Federal legislation governing water quality. The objective of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” Sections of the Act relevant to this Project are as follows:

- Sections 303 and 304 provide for water quality standards, criteria, and guidelines.
- Section 401 (Water Quality Certification) requires an applicant for any Federal permit that proposes an activity, which may result in a discharge to waters of the United States to obtain certification from the state that the discharge will comply with other provisions of the Act.
- Section 402 establishes the National Pollution Discharge Elimination System (NPDES), a permitting system for the discharge of any pollutant (except for dredged or fill material) into waters of the United States. This permit program is administered by the State Water Resources Control Board (SWRCB) and is discussed in detail below.
- Section 404 establishes a permit program for the discharge of dredged or fill material into waters of the United States. This permit program is jointly administered by the United States Army Corps of Engineers (Corps) and the United States Environmental Protection Agency (USEPA).

4.10.2.2 **Federal Anti-Degradation Policy**

The Federal Anti-Degradation Policy is part of the CWA (Section 303(d)) and is designed to protect water quality and water resources. The policy directs states to adopt a statewide policy that includes the following primary provisions: (1) existing in-stream uses and the water quality necessary to protect those uses shall be maintained and protected; (2) where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development; and (3) where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected.

4.10.2.3 **Porter Cologne Water Quality Control Act**

The State of California established the SWRCB, which oversees the nine RWQCBs, through the Porter-Cologne Water Quality Control Act (Porter-Cologne). 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 Waste Discharge Requirements (WDRs) for the discharge of waste, which may impact the waters of the State. Furthermore, the development of water quality control plans, or Basin Plans, are required by Porter-Cologne to protect water quality.

4.10.2.4 NPDES Program - Construction Activity

The NPDES program regulates municipal and industrial storm water discharges under the requirements of the CWA. California is authorized to implement a statewide storm water discharge permitting program, with the SWRCB as the permitting agency. This permit regulates discharges from construction sites and Linear Underground Projects (LUPs) that disturb one acre or more of total land area. By law, all storm water discharges associated with construction activity where clearing, grading, and excavation results in soil disturbance must comply with the provisions of this NPDES Construction General permit. The permitting process requires the development and implementation of an effective Storm Water Pollution Prevention Plan (SWPPP). The project applicant must submit a Notice of Intent to the SWRCB to be covered by a NPDES permit and prepare the SWPPP prior to the beginning of construction. The SWPPP must include best management practices (BMPs) to reduce pollutants to the maximum extent practicable. Implementation of the SWPPP starts with the commencement of construction and continues until the Project area is stabilized. Upon completion of the project, the applicant must submit a Notice of Termination to the SWRCB to indicate that construction is completed.

4.10.3 Hydrology and Water Quality (X) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact. Construction of the Proposed Project would result in soil disturbance that would temporarily increase the hazard of erosion and sedimentation. Additionally, maintenance of equipment entails the use of hazardous materials such as gasoline and engine oil, and if spilled could contaminate runoff and surface waters. Project construction would occur across and on the north and south banks of Doty Ravine. Discharge of sediment or hazardous material to surface waters during construction could result in degraded water quality and violation of water quality standards. However, as discussed in Project Description section 2.4 *Environmental Commitments*, NID would implement **BMP-3** consistent with the Project’s approved SWPPP. This BMP includes the following:

- Prior to working within the Doty Ravine corridor, all heavy equipment will be checked by the District inspector and maintained daily to prevent leaks of materials that if introduced to water could be deleterious to aquatic life;
- Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances associated with project-related activities that could be hazardous to aquatic life will be prevented from contaminating the soil or entering the Doty Ravine and Sailors Ravine channels;
- During construction, the District will not dump any material in the stream channel. All such debris and waste will be picked up daily and properly disposed of at an appropriate site. All construction

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debris and associated materials will be removed from the work site upon completion of the project;

- Sediment fences will be installed in appropriate locations to reduce the introduction of sediment into creeks during construction. Any overburden project material would not be sidecast into the creek channel, but will be stabilized or stored off site at approved disposal sites to preclude increased risk of sediment input to creeks;
- The District and contractor will establish spill prevention and countermeasure plan before project construction begins; the plan will include on-site handling criteria to avoid input of contaminants to the waterway. A staging and storage area will be provided away from the waterway for equipment, construction materials, fuels, lubricants, solvents, and other possible contaminants. This plan will be approved by the District project manager prior to the start of construction;
- After construction, all temporarily disturbed work areas will be stabilized and restored. This will include application of the District’s standard erosion control seed mix and installation of erosion and sediment controls consistent with the Project’s approved SWPPP.
- All equipment maintenance materials (e.g., oils, grease, lubricants, antifreeze, and similar materials) will be stored off-site; and
- During construction, all vehicles and equipment required on site will be parked or stored at the staging areas.

Precautions to minimize turbidity/siltation will be considered during project planning and implementation and memorialized in an approved SWPPP. Such precautions would include placement of silt fencing, coir logs, coir rolls, straw bale dikes, or other siltation barriers so that silt and/or other deleterious materials are not allowed to enter surface waters. With implementation of proposed **BMP-3**, the potential to violate water quality standards and/or degrade surface or ground water quality is considered less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact. The Project is limited to replacement of an existing raw water distribution system siphon. The project will have no impact on groundwater supplies, recharge or groundwater management. No mitigation is required.

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Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 that would:				
i) result in substantial erosion or siltation on- or off-site;	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
iv) impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than significant. The Project primarily replaces an existing facility and would not substantially alter the existing drainage pattern of the site or area. Earth work during project construction could temporarily alter the site's micro drainage patterns, however consistent with **BMP-3** (discussed under response a) above), all temporarily disturbed areas will be restored following construction.

The project includes a negligible amount of new impervious surface in the form of new support foundations for the siphon crossing. Site runoff flows directly to Doty Ravine and does not require use of a constructed storm drain system. The siphon crossing soffit would be set above the Doty Ravine 200-year stormwater elevation. The Project would not increase the rate or amount of surface runoff, contribute to the exceedance of any existing or planned drainage system, or impede or redirect flood flows. Related impacts would be less than significant, and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact. The proposed Project is not located in an area at risk for tsunami or seiche zones. Because the siphon transmits only raw water, should the project become inundated, there would be no risk of release of pollutants. There would be no impact and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact. The proposed Project could provide additional sources of polluted runoff during construction. However as discussed in response a) above, the Project would implement **BMP-3** which would minimize the potential for polluted runoff to reach surface waters. Furthermore, as discussed in response b) above, the Project would not use or interfere with groundwater or recharge. Therefore, the Project would no conflict with or obstruct implementation of any water quality control plan or sustainable groundwater management plan. Related impacts are less than significant, and no mitigation is required.

4.10.4 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.11 Land Use and Planning

4.11.1 Environmental Setting

Placer County covers approximately 1,500 square miles of diverse geography between Sacramento and the Nevada border. According to the Placer County General Plan, the Project site is in the central part of the County which consists of the Foothill region, and includes the cities of Auburn, Colfax, and the unincorporated communities of Foresthill, Penryn, Newcastle, Applegate, Weimar, Gold Run, Meadow Vista, Dutch Flat, Alta, and Baxter. The Project Site is situated north of Highway 193, northeast of the City of Lincoln and northwest of Newcastle in Doty Ravine approximately 850 feet west of Gold Hill Road (see **Figures 2.2-1 and 2.2-2**). According to the Placer County General Plan, the Project Site has a General Plan designation of Rural Residential 1-10 Acre Minimum and is zoned Agriculture (AG).

4.11.2 Regulatory Setting

As a jurisdiction with equal authority, NID is exempt from following goals and policies within the Placer County General Plan. However, NID strives to comply with those goals and policies outlined in the General Plan.

The Placer County General Plan sets goals and policies to guide development and protection of water infrastructure. According to the Placer County General Plan EIR Chapter 5, Non-County Infrastructure, the following General Plan Policy would apply to the proposed Project:

Policy 4.C.10: The County shall promote the development of surface water supplies for agricultural use in the western part of the county.

Consistent with the above policy, the proposed Project seeks to increase the reliability and efficiency of the Doty North Canal Siphon # 1 and thereby promote agricultural water supply in the western part of the County.

4.11.3 Land Use and Planning (XI) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact.

The Proposed Project consists of upgrade and replacement of an existing approximately 350-foot long, 24-inch diameter raw water siphon crossing over Doty and Sailors Ravines. The new siphon would include a 36-inch diameter pipe and would be placed in the same location as the existing siphon which is somewhat isolated and contained within an easement on private property west of Gold Hill Road. There are no public roads or trails on the Project Site. Given its location, the proposed Project would not physically divide an established community. A less than significant impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Less than Significant Impact.

The Proposed Project involves the replacement of an existing siphon which has no history of land use conflict. Therefore, the proposed Project would not conflict with any applicable land use plan, policy or regulation. No impact would occur, and no mitigation is required.

4.11.4 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.12 Mineral Resources

4.12.1 Environmental Setting

The Surface Mining and Reclamation Act (SMARA) of 1975 requires all cities and counties to incorporate the mapped mineral resource designations approved by the State Mining and Geology Board, in their

General Plans. These designations categorize land as Mineral Resource Zones (MRZ-1 through MRZ-4) and are defined below.

The State-mandated SMARA requires the identification and classification of mineral resources in areas within the state subject to urban development or other irreversible land uses that could otherwise prevent the extraction of mineral resources. MRZs are classified by the State Geologist by analyzing associated geologic and economic factors without regard to current land use or ownership. There are four general classifications (MRZ-1 through MRZ-4) based upon the State Geologist’s determination of identified mineral resource significance and are defined below:

- MRZ-1 “Areas of No Mineral Resource Significance”, wherein geologic information indicates no significant mineral deposits are present;
- MRZ-2 “Areas of Identified Mineral Resource Significance,” are areas that contain Identified mineral resources;
- MRZ-3 “Areas of Undetermined Mineral Resource Significance,” are areas of undetermined mineral resource significance; and
- MRZ-4 “Areas of Unknown Mineral Resource Significance”, are areas of unknown mineral resource potential.

There are numerous known mineral resources throughout Placer County including gold, copper, silver, lead, and iron, among others.

4.12.2 Mineral Resources (XII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact.

The Project site is classified as MRZ-1 by the Mineral Land Classification Map of Placer County (Lloyd 1995). As discussed above, MRZ-1 zones are “Areas of No Mineral Resource Significance,” wherein geologic information indicates no significant mineral deposits are present. Therefore, implementation of the Proposed Project would not result in the loss of availability of a known mineral resource. A less than significant impact would occur and no mitigation is required.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact.

The Proposed Project alignment is not located within a current locally important mineral resource recovery site. As described in item a), the Proposed Project alignment is classified as MRZ-1; in addition, it has not been delineated within the general plan or other land use plans as a locally important mineral resource recovery site. As such, a less than significant impact would occur. No mitigation is required.

4.12.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.13 Noise

4.13.1 Environmental Setting

4.13.1.1 Noise Fundamentals

Noise is generally defined as sound that is loud, disagreeable, or unexpected. The selection of a proper noise descriptor for a specific source is dependent on the spatial and temporal distribution, duration, and fluctuation of the noise. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise include the average hourly noise level (in L_{eq}) and the average daily noise levels (in L_{dn} /Community Noise Equivalent Level).

Noise can be generated by a number of sources, including mobile sources, such as automobiles, trucks, and airplanes, and stationary sources, such as construction sites, machinery, and industrial operations. The rate depends on the ground surface and the number or type of objects between the noise source and the receiver. Mobile transportation sources, such as highways, and hard and flat surfaces, such as concrete or asphalt, have an attenuation rate of 3.0 dBA per doubling of distance. Soft surfaces, such as uneven or vegetated terrain, have an attenuation rate of about 4.5 dBA per doubling of distance from the source. Noise generated by stationary sources typically attenuates at a rate of approximately 6.0 to 7.5 dBA per doubling of distance from the source (USEPA 1971).

Sound levels can be reduced by placing barriers between the noise source and the receiver. In general, barriers contribute to decreasing noise levels only when the structure breaks the "line of sight" between the source and the receiver. Buildings, concrete walls, and berms can all act as effective noise barriers. Wooden fences or broad areas of dense foliage can also reduce noise, but are less effective than solid barriers.

Ground Vibration

Ground vibration can be measured several ways to quantify the amplitude of vibration produced. This can be through peak particle velocity (PPV) or root mean square velocity. These velocity measurements measure maximum particle at one point or the average of the squared amplitude of the signal, respectively. Vibration impacts on people can be described as the level of annoyance and can vary depending on an individual's sensitivity. Generally, low-level vibrations may cause window rattling but do not pose any threats to the integrity of buildings or structures.

Sensitive Noise Receptors

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as parks, historic sites, cemeteries, and recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses. The Project site is in a rural area with the nearest sensitive noise receptors being a residence located approximately 200 feet southeast of the Project Site followed by the Gold Hill Gardens Events Center outdoor use area located approximately 300 feet southeast of the Project Site. The next nearest noise-sensitive land uses include single-family residences located approximately 300 feet to the west, northeast and southeast of the Project Site.

Existing Ambient Noise Environment

The noise environment in the Proposed Project area is impacted by various noise sources. Mobile sources of noise, especially cars and trucks traveling on Gold Hill Road, are the most common and significant noise in the Project area. Other sources of noise are the various surrounding land uses such as The Gold Hill Garden Event Center, that hosts weddings and special events, as well as the rural residences with small scale agricultural and equestrian uses that generate stationary-source noise. The Project Site is located outside of any airport land use plan. Furthermore, the Project site is located beyond two miles from any airport (the nearest airport is the Lincoln Airport located approximately 5 miles to the west; The Auburn Municipal Airport is located approximately 6.15 miles to the east).

4.13.2 Regulatory Setting

4.13.2.1 Placer County Code

The County's regulations with respect to noise are included in Article 9.36 of the Code. The County outlines sound level standards as presented in **Table 4.13-1**.

Table 4.13-1. Sounds Level Standards (On-site)		
Sound Level Descriptor	Daytime (7 am to 10 pm)	Nighttime (10 pm to 7 am)
Hourly Leq, dB	55	45
Maximum level (Lmax) dB	70	65

Source: Place County Code

Article 9.36 of the County Code exempts noise generated from construction activities (e.g., construction, alteration or repair activities) between the hours of 6:00 a.m. and 8:00 p.m. Monday through Friday, and between the hours of 8:00 a.m. and 8:00 p.m. Saturday and Sunday from numeric noise standards. However, all construction equipment shall be fitted with the factory installed muffling devices and be in good working order.

4.13.3 Noise (XIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact.

4.13.3.1 Construction Noise

Construction noise associated with the Proposed Project would be temporary and would vary depending on the nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for on-site construction activities as well as construction vehicle traffic on area roadways. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., land clearing, grading, excavation, paving). Noise generated by construction equipment, including earth movers, material handlers, and portable generators, can reach high levels. Typical operating cycles for these types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts). During construction, exterior noise levels could negatively affect noise sensitive uses in the vicinity of the Project Site.

Noise levels associated with individual construction equipment are summarized in **Table 4.13-2**.

Nearby noise-sensitive land uses include residences and the Gold Hill Gardens Events Center. The nearest residence is located approximately 300 feet west of the project site. The next three closest residences are

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located 730 feet and 1,175 feet to the east and 1,000 feet to the southeast of the Project Site. The Event Center outdoor use area is located approximately 225 feet to the east of the Project Site.

As depicted in **Table 4.13-2**, noise levels generated by individual pieces of construction equipment typically range from approximately 70.0 to 82.5 dBA L_{eq} at 50 feet. Considering an attenuation rate of 6.0 dBA per doubling of distance from the source (USEPA 1971), project generated temporary and intermittent construction noise at the nearest residence west of the site would range from approximately 54.4 to 66.9 dBA L_{eq} . Noise levels at the Gold Hill Gardens Event Center outdoor use area would range from approximately 56.9 to 69.4 dBA L_{eq} .

The County does not promulgate numeric thresholds pertaining to the noise associated with construction but instead limits the time that construction can take place. Specifically, Article 9.36 of the County's Municipal Code exempts noise generated from construction activities between the hours of 6:00 a.m. and 8:00 p.m. Monday through Friday, and between the hours of 8:00 a.m. and 8:00 p.m. Saturday and Sunday. It is typical to regulate construction noise in this manner since construction noise is temporary, short term, intermittent in nature, and would cease on completion of the Project. Therefore, noise generated during construction activities, as long as conducted within the permitted hours, would not exceed County noise standards. It should also be noted that project construction is scheduled for the winter months when the Gold Hills Gardens Event Center outdoor use area typically has limited use. This impact is less than significant.

Table 4.13-2. Maximum Noise Levels Generated by Construction Equipment		
Type of Equipment	Maximum Noise (L_{max}) at 50 Feet (dBA)	Maximum 8-Hour Noise (L_{eq}) at 50 Feet (dBA)
Crane	80.6	72.6
Dozer	81.7	77.7
Excavator	80.7	76.7
Generator	80.6	77.6
Grader	85.0	81.0
Other Equipment (greater than 5 horsepower)	85.0	82.0
Paver	77.2	74.2
Roller	80.0	73.0
Tractor	84.0	80.0
Dump Truck	76.5	72.5
Concert Pump Truck	81.4	74.4
Welder	74.0	70.0

Source: Federal Highway Administration (FHWA), Roadway Construction Noise Model (FHWA-HEP-05-054), dated January 2008.
 Note: L_{eq} is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or night, L_{max} is the maximum and minimum A-weighted noise level during the measurement period.

4.13.3.2 Operational Noise

The Project proposes to replace the existing raw water transmission siphon that has reached the end of its useful life with new equipment that would be consistent with the approved masterplan design flow rate of 34 cfs. The water being transported is gravity-fed and does not use a pump of any kind. It would not be a source of mobile or stationary noise sources and thus would not be a source of operational noise. There is no impact from operational noise.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact.

4.13.3.3 Construction Vibration

Excessive groundborne vibration impacts result from continuously occurring vibration levels. Increases in groundborne vibration levels attributable to the Proposed Project would be primarily associated with short-term construction-related activities. Construction on the Project site would have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used and the operations involved. Ground vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance.

Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. It is noted that pile drivers would not be necessary during Project construction. Vibration decreases rapidly with distance and it is acknowledged that construction activities would occur throughout the Project site and would not be concentrated at the point closest to sensitive receptors. Groundborne vibration levels associated with construction equipment are summarized in **Table 4.13-3**.

Equipment Type	PPV at 20 Feet (inches per second)
Large Bulldozer	0.123
Caisson Drill	0.123
Loader Trucks	0.105
Rock Breaker	0.082
Jackhammer	0.048

Source: Federal Transit Administration (FTA) 2018; Caltrans 2004
PPV= Peak Particle Velocity

The County does not regulate vibrations associated with construction. However, a discussion of construction vibration is included for full disclosure purposes. For comparison purposes, the Caltrans'

(2004) recommended standard of 0.2 inches per-second PPV with respect to the prevention of structural damage for older residential buildings is used as a threshold. This is also the level at which vibrations may begin to annoy people in buildings.

It is acknowledged that construction activities would occur through the Project site and would not be concentrated at the point closest to the nearest structure. The nearest structures of concern to the construction site is the Gold Hill Garden Event Center and residence located approximately 170 feet to the southeast at the nearest. Based on vibration levels presented in **Table 4.13-3**, ground vibration generated by heavy-duty equipment would not be anticipated to exceed approximately 0.123 inch per second PPV at 20 feet. Thus, the structures located at 170 feet would not be negatively affected. Predicted vibration levels at the nearest structures would not exceed recommended criteria. A less than significant impact would occur.

4.13.3.4 Operational Vibration

Project operations would not include the use of any stationary equipment that would result in excessive groundborne vibration levels. No impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The nearest airports are the Lincoln Airport located approximately 5 miles west of the Project Site and the Auburn Municipal Airport located approximately 6.15 miles east of the Project Site. Implementation of the Proposed Project would not affect airport operations nor result in increased exposure of noise-sensitive receptors to aircraft noise. No impact would occur.

4.13.4 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.14 Population and Housing

4.14.1 Environmental Setting

According to the most recent U.S. census data, Placer County is the 22nd largest county in California with an estimated population of 385,565 and a growth rate of 1.65 percent in the past year. The census estimates 167,134 total housing units in the County as of July 2019.

4.14.2 Regulatory Setting

4.14.2.1 Placer County General Plan

The Placer County General Plan Housing Element (updated 2013) establishes the County's housing policies and is intended to ensure that decent, safe, affordable shelter is provided for all residents in unincorporated Placer County. According to the housing element, affordable housing refers to housing in which occupants pay no more than 30 percent of their incomes on the rent or mortgage payment. Affordable rental housing is typically targeted toward lower income households (those earning less than 80% of the area median income), while affordable owner-occupied housing is targeted toward low- or moderate-income households (those earning less than 120 percent of area median income). Based on federal guidelines for 2012, a Placer County family of three earning \$54,850 or less would be defined as low income. Monthly housing expenses of \$1,371 or less would be considered affordable for that household.

The Proposed Project involves the replacement of an existing siphon. The Project Site and surrounding area is designated Rural Residential 1-10 Acre Minimum with no existing residential uses located on or immediately adjacent the Project site.

4.14.3 Population and Housing (XIV) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

Consistent with the District's Master Plan, the Project would replace and upgrade an existing siphon that is part of NID's raw water transmission network. The Project does not propose new housing or extension of infrastructure into new or underserved areas. Because the siphon is existing, no new permanent employees would be hired due to Project operation. No impact would occur, and no mitigation is required.

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Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The project includes replacement of an existing siphon and would not displace any existing housing. There would be no impact.

4.14.4 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.15 Public Services

4.15.1 Environmental Setting

Public services typically include fire protection, police/sheriff services, schools, and parks provided by Placer County and any state and/or federal agencies.

4.15.1.1 Fire

The Project site is served by the Placer County Fire Department. Fire service is provided via a Cooperative Fire Protection Agreement with the CAL FIRE. This agreement integrates state and local firefighting resources, career and volunteer, into an effective combination fire department. Service is provided from eight career and five volunteer fire stations and includes all fire and emergency medical services to a 475-square-mile territory from the rural crest of the Sierra to the dense urban valley floor. The Placer County Fire department serves a population of 58,000 residents and businesses in unincorporated Placer County and protects \$6.7 billion in private property and infrastructure; responding to over 9,000 calls for service annually (CAL FIRE/Placer County Fire Department website 2019). The closest station to the Project site is the Fowler Fire Station located 1.7 miles west of the Project Site at 4710 Fruitvale Road in Newcastle. The next closest station is the Placer County Fire Station 182, located 4.1 miles east of the Project site at 9305 Wise Road in Auburn.

4.15.1.2 Police

The Placer County Sheriff's Office (Sheriff) provides law enforcement services to the unincorporated areas of Placer County, including the Project site. The nearest Sherriff's Station is in north Auburn at 2929 Richardson Drive, approximately 4.75 miles from the Project site. The next nearest city police stations are in the Cities of Lincoln and Auburn, located approximately 5.8 miles and 6.3 miles from the Project site respectively.

4.15.1.3 Schools

Western Placer Unified School District serves the Project area from its headquarters in Lincoln, California and is composed of seven elementary schools, two middle schools, and two high schools.

4.15.2 Regulatory Setting

The Proposed Project area lies within Placer County and, although NID is a jurisdiction with authority equal to Placer County and is not subject to Placer County General Plan requirements, NID strives to comply with such requirements, to the extent feasible.

The Placer County General Plan (May 2013) includes the following goals and policies that are applicable to the proposed Project as it relates to Public Services.

Goal 4.C: To ensure the availability of an adequate and safe water supply and the maintenance of high-quality water in water bodies and aquifers used as sources of domestic supply.

Policy 4.C.2: The County shall approve new development based on the following guidelines for water supply:

- a. Urban and suburban development should rely on public water systems using surface supply.
- b. Rural communities should rely on public water systems. In cases where parcels are larger than those defined as suburban and no public water system exists or can be extended to the property, individual wells may be permitted.
- c. Agricultural areas should rely on public water systems where available, otherwise individual water wells are acceptable.

Policy 4.C.4: The County shall require that water supplies serving new development meet state water quality standards.

Policy 4.C.6: The County shall promote efficient water use and reduced water demand by:

- d. Encouraging water-conserving agricultural irrigation practices.

Policy 4.C.10: The County shall promote the development of surface water supplies for agricultural use in the western part of the County.

Policy 4.C.11: The County shall protect the watersheds of all bodies of water associated with the storage and delivery of domestic water by limiting grading, construction of impervious surfaces, application of fertilizers, and development of septic systems within these watersheds.

4.15.3 Public Services (XV) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	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:	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Fire Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Police Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Other Public Facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant.

The Proposed Project involves installation of a replacement siphon. The Project would not result in the need for additional government facilities or utilities. The Project would increase available water for irrigation consistent with the District’s Master Plan. Therefore, the Project would have a less than significant impact on fire protection, police protection, schools, parks, or other public facilities in the proximity of the Project area. No public facilities would be made unavailable during construction activities. Related public service impacts are less than significant.

4.15.4 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.16 Recreation

4.16.1 Environmental Setting

The project is in southern Placer County north of Highway 193 adjacent to the Gold Hill Gardens Event Center at 2325 Gold Hill Road, Newcastle, California. Placer County provides an array of recreational opportunities, ranging from public parks with recreational facilities to uninhabited forest lands. Public parks and recreational facilities within the County include ski areas and resorts, golf courses, swimming and exercise facilities, off-road motor vehicle areas, and campgrounds. Recreational, non-motor trails are

found throughout the County and provide opportunities for hiking, mountain biking, and horseback riding. There are no recreational trails or other forms of public recreation on the Project site.

4.16.2 Recreation (XVI) Checklist

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Project area does not directly impact any parks or recreation facilities. The closest County recreational area is Hidden Falls Regional Park, located approximately 3.2 miles northeast of the Project site. Additional formal park sites are contained in the cities of Auburn and Lincoln. The Proposed Project would not increase the use of existing recreational areas, nor would it require the construction of recreational facilities. Therefore, no impacts would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Project does not involve recreational facilities or require the construction or expansion of recreational facilities. Therefore, no adverse physical effect on park and recreational facilities would result. No impact would occur.

4.16.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.17 Transportation

4.17.1 Environmental Setting

The Project is in a rural residential and small-scale agricultural area of western Placer County off Gold Hill Road. According to the County's General Plan Land Use and Circulation Element, the county road

classification system recognizes differences in roadway function and standards between urban/suburban areas and rural areas. The following paragraphs define the linkage and functions provided by each class.

Local streets provide direct access to abutting land, and access to the collector street system. The public uses these streets for local circulation. They carry little, if any, through traffic, and generally carry very low traffic volumes. These streets are not depicted on the County's General Plan Circulation Plan Diagram.

Collector roadways are intended to "collect" traffic from local streets and carry it to roadways higher in the street classification hierarchy (e.g., arterials). The public uses these roadways as secondary circulation routes, and they generally carry light to moderate traffic volumes. Access to abutting land is normally permitted but may be restricted to certain uses dependent upon future traffic volumes. The collector roadway system is depicted on the General Plan Circulation Plan Diagram. In urban/suburban areas, major collector roadways will generally carry higher traffic volumes than minor collectors and thus require more right-of-way and have more access restrictions.

Arterial roadways are fed by local and collector roadways and provide linkages to the state highway system as well as linkages to and between communities and major activity centers. The public uses these roadways as primary circulation routes for through traffic, and they carry higher volumes of traffic than local streets and collector roadways. In urban/suburban areas, major arterials will generally carry higher traffic volumes than minor arterials and thus require more right-of-way and have more access restrictions. Rural arterial roadways may or may not carry high traffic volumes but do provide primary access routes for through travel in rural areas of the county.

Thoroughfares are special arterial roadways with greater access control designed to carry high volumes of traffic with limited travel delay. Such roadways are used as primary circulation routes to carry longer distance, through-traffic.

Expressways are high-speed, high-capacity roadways with very limited access control whose main purpose is to serve through traffic over long distances.

Until a contractor is selected for the Project, it's not possible to know what roads will be used to access the Project site. However, the expressways (freeways/highways) most likely to carry Project construction equipment and truck trips include I-80 and State Highway 193. Local roads in the Project area could include: Sierra College Boulevard and Fowler Road, Fruitvale Road, and Gold Hill Road. Except for Sierra College Boulevard, these County roads are designated rural collector roads by the Placer County Circulation Element. Sierra College Boulevard is designated as an urban/suburban major arterial.

The Project is limited to replacement of an existing raw water siphon. Project related traffic would be limited to construction vehicles/activities and would normally occur on weekdays, excluding holidays, between 7:00 a.m. and 7:00 p.m.

4.17.2 Transportation (XVII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with a program plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact.

The Proposed Project would not permanently alter existing roadways, nor would it add a substantial number of trips to the current circulation system. In addition, the Project does not involve a change in land use or affect transportation policies. Construction of the Proposed Project would result in a temporary increase in truck trips on the local roads to deliver materials and machinery to the site. Additionally, there will be a limited number of vehicle trips from the work crew just outside of the construction work hours (between 7:00 a.m. and 7:00 p.m.). However, the temporary construction related trip increase is not expected to substantially affect the capacity or LOS of the local road system.

As shown in **Figure 2.2-2**, Project construction requires a temporary access easement for transport of equipment and materials to the north side of the Project Site and Doty Ravine. Access to the temporary easement would be from Gold Hill Road beginning at a point approximately 1,000 feet north of the existing Gold Hill Gardens Event Center driveway entrance. As part of establishing this temporary access, **BMP-9** would be implemented to ensure appropriate temporary signage and controls are placed consistent with Placer County requirements and professional engineering standards. Therefore, Project construction would be consistent with plans and polies addressing the circulation system and related impacts are less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Project would not generate new long-term vehicle trips or alter the transportation system in a way that would create additional vehicle miles traveled. There would be no impact.

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Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact.

The Project does not include permanent new design features on roadways and would not result in any increased hazards. While Project construction would require a temporary access from Gold Hill Road and transport of heavy machinery and use of light trucks on the roads described above, it would not substantially increase hazards along roadways and related impacts are less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Coordination with emergency service providers would occur prior to construction consistent with **BMP-9**. This would ensure adequate emergency access is maintained and related impacts are considered less than significant.

4.17.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.18 Tribal Cultural Resources

This section describes the affected environment and regulatory setting for Tribal Cultural Resources (TCRs) in the project area. The following analysis of the potential environmental impacts related to TCRs is derived primarily from the following sources:

- California Native American Heritage Commission Sacred Lands File Search, March 4, 2019
- Cultural Resources Inventory and Evaluation Doty North Canal Siphon Replacement Project Draft. ECORP Consulting, Inc. 2019
- Ethnographic overviews of the Nisenan (Beals 1933; Kroeber 1925; Littlejohn 1928; Wilson and Towne 1978)
- Confidential AB52 tribal coordination with the United Auburn Indian Community (UAIC) including meeting held on October 4, 2019.
- NID's Guidelines for Cultural Resources, May 11, 2015

4.18.1 *Environmental Setting*

4.18.1.1 **Ethnographic, Religious, And Cultural Context**

Ethnographically, the Project area is in the southwestern portion of the territory occupied by the Penutian-speaking Nisenan. Nisenan inhabited the drainages of the Yuba, Bear, and American rivers, and also the lower reaches of the Feather River, extending from the east banks of the Sacramento River on the west to the mid to high elevations of the western flank of the Sierra Nevada to the east (Wilson and Towne 1978). The territory extended from the area surrounding the current City of Oroville on the north to a few miles south of the American River in the south. The Sacramento River bounded the territory on the west, and in the east, it extended to a general area located within a few miles of Lake Tahoe.

As a language group, Nisenan (meaning "from among us" or "of our side") are members of the Maiduan Family of the Penutian stock and are generally divided into three groups based on dialect differences: the Northern Hill (mountain) Nisenan in the Yuba River drainage; the Valley Nisenan along the Sacramento River; and the Southern Hill (foothills) Nisenan along the American River (Beals 1933; Kroeber 1925; Wilson and Towne 1978).

The basic social and economic group for the Nisenan was the family or household unit. The nuclear and/or extended family formed a corporate unit, combined into distinct village or hamlet groups, each largely composed of consanguine relatives (Beals 1933; Littlejohn 1928). Lineage groups were important political and economic units that combined to form tribelets, which were the largest sociopolitical unit identified for Nisenan (Wilson and Towne 1978). Each tribelet had a chief or headman who exercised political control over all villages within it. Villages typically included family dwellings, acorn granaries, a sweathouse, and a dance house, owned by the chief. The role of chief seems to have been an advisory role with little direct authority (Beals 1933) but with the support of the shaman and the elders, the word of the chief became virtually the law (Wilson and Towne 1978). Tribelets assumed the name of the head village where the chief resided (Beals 1933; Levy 1978).

The office of tribelet chief was hereditary, with the chieftainship being the property of a single patrilineage within the tribelet. Tribelet populations of Valley Nisenan were as large as 500 persons (Wilson and Towne 1982:6), while foothill and mountain tribelets ranged between 100 and 300 persons (Littlejohn 1928:21; Levy 1978:410). Each tribelet owned a bounded tract of land and exercised control over its natural resources (Littlejohn 1928). Beals (1933:359) estimated that Nisenan tribelet territories averaged approximately 10 miles along each boundary, or 100 square miles, with foothill territories tending to encompass more area than mountain territories. Littlejohn (1928) noted that in many instances, these boundaries were indicated by piles of stones. Regardless, Nisenan groups tended to stay within their village areas except during the summer season when groups of people would sojourn into the mountains to hunt and gather (Littlejohn 1928).

Nisenan built residential dwellings, ceremonial structures, semi-subterranean sweat lodges, and menstruation huts (Wilson and Towne 1978). The typical hill and mountain dwelling was the conical bark house made by overlapping three or four layers of bark with no interior support. A thatched house was used at lower elevations, consisting of a conical framework of poles that was covered by brush, grass, or

tules. Semi-subterranean earth lodge roundhouses were also built by hill and mountain groups and used for ceremonial gatherings, assemblies, local feasts, and for housing visitors (Beals 1933; Levy 1978).

Nisenan practiced seasonal migration, a subsistence strategy involving moving from one area or elevation to another to harvest plants, fish, and hunt game across contrasting ecosystems that were in relatively close proximity to each other. Valley Nisenan generally did not range beyond the valley and lower foothills, while foothill and mountain groups ranged across a more extensive area that included jointly shared territory whose entry was subject to traditional understandings of priority of ownership and current relations between the groups (d'Azevedo 1963).

During most of the year, Nisenan usually lived in permanent villages located below about 2,500 feet that generally had a southern exposure, were surrounded by an open area, and were located above, but close to watercourses (Littlejohn 1928). Beals (1933) noted that permanent villages in the foothills and mountains were usually located on high ground between rivers. Valley villages were also usually located on raised areas to avoid flooding. Littlejohn (1928) stated that at one time or another there were settlements located on every small stream within Nisenan territory, but permanent villages were not located in steep, dark, narrow canyons of large rivers, or at altitudes where deep snows persisted throughout the winter. In fact, permanent occupation sites above 3,500 feet were only located in protected valleys (Littlejohn 1928).

Communally organized Nisenan task groups exploited a wide variety of resources. Communal hunting drives were undertaken to obtain deer, quail, rabbits, and grasshoppers. Bears were hunted in the winter when their hides were at their best condition. Runs of salmon in the spring and fall provided a regular supply of fish, while other fish such as suckers, pike, whitefish, and trout were obtained with snares, fish traps, or with various fish poisons such as soaproot (Beals 1933; Faye 1923; Wilson and Towne 1978). Birds were caught with nooses or large nets and were also occasionally shot with bow and arrow. Game was prepared by roasting, baking, or drying. In addition, salt was obtained from a spring near modern-day Rocklin (Wilson and Towne 1978).

Acorns were gathered in the fall and stored in granaries for use during the rest of the year. Although acorns were the staple of the Nisenan diet, they also harvested roots like wild onion and "Indian potato," which were eaten raw, steamed, baked, or dried and processed into flour cakes to be stored for winter use (Wilson and Towne 1978). Buckeye, pine nuts, hazelnuts, and other edible nuts further supplemented the diet. Key resources such as acorns, salmon, and deer were ritually managed through ceremonies to facilitate successful exploitation and equitable distribution of resources (Beals 1933; Swezey 1975; Swezey and Heizer 1977).

Trade was important with goods traveling from the coast and valleys up into the Sierra Nevada mountains and beyond to the east, and vice versa. Coastal items like shell beads, salmon, salt, and Foothill pine nuts were traded for resources from the mountains and farther inland, such as bows and arrows, deer skins, and sugar pine nuts. In addition, obsidian was imported from the north (Wilson and Towne 1978).

Flaked and ground stone tools were common among the Nisenan and included knives, arrow and spear points, club heads, arrow straighteners, scrapers, rough cobble and shaped pestles, bedrock mortars,

grinding stones (metates), pipes, charms, and short spears (Barrett 1917; Beals 1933; Voegelin 1942; Wilson and Towne 1978).

Wood was used for a variety of tools and weapons, including both simple and sinew-backed bows, arrow shafts and points, looped stirring sticks, flat-bladed mush paddles, pipes, and hide preparation tools (Wilson and Towne 1978). Cordage was made from plant material and was used to construct fishing nets and braided and twined tumplines. Soaproot brushes were commonly used during grinding activities to collect meal or flour. Specialized food processing and cooking techniques included the grinding and leaching of ground acorn and buckeye meal; burning of umbelliferae, a plant with cabbage-like leaves, to obtain salt; and roasting various foods in earth ovens (Wilson and Towne 1978; d'Azevedo 1986). Both hill and valley groups used the bedrock mortar and pestle (both rough cobble and shaped) to grind acorns, pine nuts, seeds, other plant foods, and meat. A soaproot brush was used to sweep ground meal into mortar cups and collect flour. Fist-sized, heated stones were used to cook or warm liquid-based foods such as acorn gruel and pine nut meal. Whole acorns were stored in granaries, and pine nuts were stored in large pine bough covered caches (Wilson and Towne 1978).

Nisenan groups managed many wild plants, primarily by controlled burning which removed underbrush and encouraged growth of edible grasses, seed producing plants, and other useful plant resources (e.g., basketry materials) (Blackburn and Anderson 1993). The use of fire for environmental modification and as an aid in hunting is frequently mentioned in the ethnographic literature relating to the Nisenan. Littlejohn (1928) noted that the lower foothills in the Valley oak zone were thickly covered with herbaceous vegetation that was annually burned by the Nisenan to remove and limit its growth while facilitating the growth of oaks for harvesting acorns. The annual fires destroyed seedlings but did not harm established oak trees. Beals (1933) also noted that the Nisenan regularly burned the land, primarily for the purpose of driving game, and consequently created much more open stands of timber than currently exist in the area. Beals (1933:363) informants stated that before their traditional burning regimes were halted by Euro-Americans, "it was often a mile or more between trees on the ridges." In addition to removing underbrush, improving travel conditions, and facilitating plant growth, burning may also have improved areas of deer forage, potentially altering migratory patterns of deer populations by lessening their need to seek fresh forage on a seasonal basis (Matson 1972).

Nisenan used baskets for a variety of tasks, including storage, cooking, serving and processing foods, traps, cradles, hats, cages, seed beaters, and winnowing trays. Basket manufacturing techniques included both twining and coiling, and baskets were decorated with a variety of materials and designs. Other woven artifacts include tule matting and netting made of milkweed, sage fibers, or wild hemp (Wilson and Towne 1978).

Like most indigenous cultures, Nisenan groups had a holistic epistemology; a theorem of holistic knowledge in which any subject is a composite of all other subjects, and every aspect of knowledge is interconnected. The Nisenan world contained many ineffable supernatural beings and spirits, and all-natural objects were endowed with potential supernatural powers (Beals 1933).

Stories about world creation and human origins vary amongst different ethnographic accounts as well as amongst different groups. Some expressed the idea that the world has always existed, but in different

forms; some told that everything was made by someone, and that all birds and animals were once human; others told of a flood that killed the first people because they were bad (Kroeber 1929). In creation stories there was a culture hero, usually who created earth, and Coyote the trickster who introduced death and conflict to a once utopian existence (Beals 1933; Kroeber 1929).

Ethnographic accounts of specific religious practices were stymied by several factors, including reluctance on behalf of Nisenan groups to discuss their religion, many variations in cultural practices, and disease epidemics during contact period. However, certain central themes were identified by Gifford (1927:220-223), who divided Nisenan religious ceremonies into three chronological strata: indigenous dances (early); northern-influenced dances of the *Kuksu* or god-impersonating cult performed in dance houses; and a *Kuksu* religious revival circa 1870 adapted to the Ghost Dance religion.

The *Kuksu* cult was the major religious system in Central California and was practiced by the Nisenan in various forms. Cult membership was reserved for initiated few, who danced disguised as the spirits of deities (Heizer 1962). Other religious ceremonies included a mourning ceremony, an annual ritual for the dead performed in the fall in which dancers covered their faces with ash and wailed and cried around a central brush pyre (Gifford 1927). This ceremony was observed and documented among mountain groups, but little is known about whether valley and foothills groups performed similar rites (Wilson and Towne 1978). Other ceremonial dances included a *Kamin* dance celebrated in late March to mark the beginning of spring; the *Weda* or Flower dance of late April; a *Dappe* or Coyote Dance; and a *Nemulsa* or "Big Festival" to which people came from a distance to celebrate (Gifford 1927:233-238).

The Nisenan had two types of doctors or shamans, curing and religious, both of whom performed their rituals publicly in the village dance house (Wilson and Towne 1978). The curing shamans could be of either sex and possessed certain charms and medicines. They diagnosed feeling and sucked out the area of pain to remove the offending object (such as dead fly, a small bone, a blood clot), which was displayed, and then buried immediately. Curing shamans were only paid if they cured the afflicted patient (Wilson and Towne 1978). The religious shaman, or *oshpe*, represented the supernatural and was a dominant figure in dance house rituals. He gained control over spirits by dreams or esoteric encounters, and it was believed he could conjure up spirits and voices of the deceased (Wilson and Towne 1978).

The Spanish arrived on the central California coast in 1769. Early contact with the first Spanish explorers to enter California was limited to the peripheries of Nisenan territory; they occurred mainly to the south on lands of the Miwok which had been explored by José Canizares in 1776, with only ephemeral explorations into Nisenan lands. There are no records of Nisenan groups being removed to the missions. They did, however, receive escapees from the missions, as well as pressure of displaced Miwok populations on their southern borders. The first known occupation by Euro-Americans was marked by American and Hudson Bay Company fur trappers in the late 1820s establishing camps in Nisenan territories. This occupation was thought to have been peaceful (Wilson and Towne 1978).

In 1833 a deadly epidemic (probably malaria) swept through the Sacramento Valley and had a devastating effect on Nisenan populations. Entire villages were lost and surviving Nisenan retreated into the hills. An estimated 75 percent of their population was wiped out, and only a handful were left to face the gold miners and settlers who were soon to follow (Cook 1955:322). Captain John Sutter settled in Nisenan

territory in 1839, and through force and persuasion he coerced most of the remaining Valley Nisenan to be on peaceful terms (Wilson and Towne 1978).

The mountain Nisenan groups encountered Europeans in their territory but were not adversely affected by the epidemics and early settlers. The discovery of gold, however, led to their territory being overrun within a matter of a few years. James Marshal's 1848 gold discovery was directly in the middle of Nisenan territory, and thousands of miners were soon living in the area. This dynamic led to widespread killing, destruction, and persecution of the Nisenan and their culture. The few survivors were relegated to working in agriculture, logging, ranching, or domestic pursuits (Wilson and Towne 1978). A native culture resurgence occurred around 1870 with influence from the Ghost Dance revival, but by 1890s the movement had all but ended in dissolution. By the time of the Great Depression, it was said that no living Nisenan could remember a time before White contact (Wilson and Towne 1978:396).

The turn of the century was fraught with deplorable conditions for the surviving Nisenan populations, marked by low educational attainment, high unemployment, poor housing and sanitation, and prevalence of alcoholism. The 1960 U.S. census (California State Advisory Commission of Indian Affairs 1966 as cited in Wilson and Towne 1978:396) reported 1,321 Native Americans resided in the counties originally held as Nisenan territory, but none had tribal affiliation. Sacramento County listed 802 Native Americans, of which only four were known descendants of the Valley Nisenan. El Dorado, Placer, Yuba, and Nevada counties had several Nisenan families in the 1970s who are descended from mountain groups and could speak the language and retained knowledge of traditional lifeways (Wilson and Towne 1978).

Some people still practiced Nisenan customs through the turn of the twenty-first century. Despite the hardships on their people through the past few centuries, many modern Native American populations participate in pan-Indian activities and celebrations. Nisenan descendants continue to be active in social movements and organizations that seek to improve the Native American situation within the dominant America culture.

4.18.2 *Regulatory Setting*

4.18.2.1 *Assembly Bill 52*

Effective July 1, 2015, AB 52 amended CEQA to require that: 1) a lead agency provide notice to those California Native American tribes that requested notice of projects proposed by the lead agency; and 2) for any tribe that responded to the notice within 30 days of receipt with a request for consultation, the lead agency must consult with the tribe. Topics that may be addressed during consultation include TCRs, the potential significance of project impacts, type of environmental document that should be prepared, and possible mitigation measures and project alternatives.

Pursuant to AB 52, Section 21073 of the PRC defines California Native American tribes 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." This includes both federally and non-federally recognized tribes.

Section 21074(a) of the PRC defines TCRs for the purpose of CEQA as:

- 1) Sites, features, places, cultural landscapes (geographically defined in terms of the size and scope), 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; and/or
 - b. included in a local register of historical resources as defined in subdivision (k) of Section 5020.1; and/or
 - c. 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.

Because criteria a and b also meet the definition of a Historical Resource under CEQA, a TCR may also require additional consideration as an Historical Resource. TCRs may or may not exhibit archaeological, cultural, or physical indicators.

Recognizing that California tribes are experts in their tribal cultural resources and heritage, AB 52 requires that CEQA lead agencies provide tribes that requested notification an opportunity to consult at the commencement of the CEQA process to identify TCRs. Furthermore, because a significant effect on a TCR is considered a significant impact on the environment under CEQA, consultation is used to develop appropriate avoidance, impact minimization, and mitigation measures.

4.18.2.2 Summary of Tribal Consultation

AB52 consultation requirements went into effect on July 1, 2015 for all projects that have not already published a Notice of Intent to Adopt a Negative Declaration or MND or published a Notice of Preparation of an EIR (Section 11 [c]). At the time the Nevada County Irrigation District (NID) was ready to initiate CEQA review, it had received written requests to receive project notices from three California Native American Tribes, who identified themselves as being traditionally and culturally affiliated with the lands subject to NID jurisdiction: Colfax Todds Valley Consolidated Tribe (September 28, 2017), Nevada City Rancheria (October 05, 2017), and the United Auburn Indian Community (UAIC) (December 04, 2015).

On August 10, 2019, NID determined that it had a complete project description and they were ready to begin review under CEQA. NID mailed notification letters to each of the three tribes on August 12, 2019. In accordance with PRC Section 21080.3.1(d) of the Public Resources Code (PRC), responses to the offer to consult were requested by September 13, 2019. No response was received from either Nevada City Rancheria or from Colfax Todds Valley Consolidated Tribe; therefore, no consultation occurred.

The UAIC responded via letter on August 19, 2019 requesting formal consultation. In the letter, UAIC requested the opportunity to visit the Project Area and discuss the environmental review and project alternatives; they also requested a copy of the environmental technical studies including archaeological reports and records searches. On September 11, 2019, NID responded to UAIC via email with a letter formally initiating consultation pursuant to PRC Section 21080.3.1 (e). NID also sent a copy of the letter

certified mail to UAIC. Consultation with UAIC was carried out within the context of compliance with AB52 and is discussed below.

NID's September 11, 2019 letter initiating consultation under AB52 was addressed to UAIC Cultural Regulatory Specialist Anna Starkey and included an invitation for a September 19, 2019 meeting. NID's representative, Doug Roderick, subsequently email Ms. Starkey requesting a new date for the meeting. Ms. Starkey responded on September 19, 2019 accepted an October 4, 2019 meeting date and requested a project site field visit in lieu of an office meeting.

On October 4, 2019 at 9am, a field meeting and site visit was held, which began at NID's maintenance yard at the corner of Fruitvale and Gold Hill roads. In attendance were Doug Roderick from NID, Mark Morse, Theadora Fuerstenberg, and Jeremy Adams from ECORP, and Ms. Starkey and Antonio Ruiz from UAIC. A tailgate was held at NID warehouse parking lot after which all parties drove to visit the Project site. Parties discussed the project, alternatives considered, and the cultural resources technical report, which identified a pre-contact era Native American archaeological site adjacent to the Project Area. Ms. Starkey and Mr. Ruiz were most interested in the archaeological site P-31-3636, a pre-contact habitation site with an artifact scatter and bedrock milling features, the boundaries of which slightly encroach into the Project Area. Ms. Furstenberg, Senior Archaeologist for ECORP and author of the cultural study, explained the nature of the archaeological site and the validity of the site boundary, which was informed by a subsurface archaeological testing program. Mr. Morse explained that the initial project was revised to avoid any impact to the boundaries of site P-31-3646 as much as possible, and briefly touched on the alternatives considered.

The cultural studies had identified site P-31-3646 as Historical Resource pursuant to CEQA and had already formulated measures to mitigate the effects to less than significant. Ms. Starkey and Mr. Ruiz, on behalf of UAIC, also identified site P-31-3646 as a TCR at this meeting, and verbally agreed that the mitigation measures developed for the archaeological site would be nearly identical in nature for the TCR. These mitigation measures included protection measures appropriate for the portion of the site within the project area to protect that portion of the site during construction and limiting any construction activity within the protected area. Also, one tribal monitor from UAIC should be invited to be present for all ground disturbing activity, and a worker awareness training should be given to all project construction personnel.

On November 05, 2019, ECORP sent an email to Ms. Starkey on behalf of NID with the sign-in roster from the October 4, 2019 meeting along with the proposed mitigation measures that were discussed and verbally agreed upon during the site visit. NID requested confirmation that the NID proposed mitigation measures were satisfactory and therefore could conclude consultation pursuant to PRC Sections 21080.3.1(b)(1) and 21082.3(d)(1). On November 05, 2019, Ms. Starkey responded with UAIC's preferred mitigation measures, which differed from the ones NID proposed, and asked for confirmation that NID would incorporate the preferred mitigation measures and coordinate with staffing agency 347 Group to negotiate a contract for a paid tribal monitor. Otherwise UAIC would assume NID was concluding consultation pursuant to Section 21080.3.2 (b)(2), without agreement. On January 23, 2020, NID and UAIC had a meeting at NID's offices in Grass Valley to discuss the specifics of mitigation measures. On February

12, 2020, NID sent an email with the revised mitigation measures they developed to Ms. Starkey at UAIC. Consultation is ongoing as of the date of this document.

4.18.2.3 TRIBAL CULTURAL RESOURCES

Information about potential impacts to TCRs was drawn from: 1) the results of a search of the Sacred Lands File of the NAHC; 2) existing ethnographic information about pre-contact lifeways and settlement patterns; 3) information on archaeological site records obtained from the California Historical Recourse Information System; and 4) tribal consultation with the UAIC.

Sacred Lands File Search

A search of the NAHC Sacred Lands File was requested on March 26, 2019. The NAHC responded on April 10 that the sacred lands file search was negative. The NAHC included a list of suggested tribal representatives to contact who may have more information. The UAIC and Colfax Todd's Valley were on the list of contacts, and these individual tribes were offered an opportunity for formal consultation. A summary of the consultation is provided above.

Ethnographic Information

The ethnographic information reviewed for the project, including ethnographic maps (Wilson and Towne 1978), identified the closest Nisenan settlement as *Bamuma* and *Piuhu*. Although the map depicting the location of these villages is small and difficult to discern exact scale, the *Bamuma* village appears to be located just east of the Town of Lincoln, approximately six miles southwest of the Project Area, and the *Piuhu* village appears to be located approximately five miles southeast of the Project Area. Neither are situated within the APE.

Archaeological Site Records

Approximately 35 percent of the area within a 0.5-mile radius surrounding the Project Area has been subject to cultural surveys and several pre-contact archaeological sites have been previously recorded in the vicinity, including P-31-3646 within the current Project Area. In addition, a complete survey, inventory, and subsurface testing program by ECORP Consulting (2019) resulted in confirmation that a portion of pre-contact site P-31-3646 exists within the project area. Additional information about cultural resources can be found in Chapter 4.5 of this CEQA document.

Tribal Consultation Results

Consultation with UAIC indicated that archaeological site P-31-3646 is a TCR within the Project Area. Although mitigation measures are currently being developed to reduce the impact of the Project on the TCR to less than significant, there still remains the possibility of inadvertent discovery of TCRs due to the Project Area's proximity to a known TCR and a waterway. The specifics of the mitigation measures in being worked out in ongoing consultation between NID and UAIC as of the preparation of this document.

In accordance with Section 21082.3(c)(1) of the Public Resources Code, "... information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the

environmental document or otherwise disclosed by the lead agency or any other public agency to the public, consistent with subdivision (r) of Section 6254 of, and Section 6254.10 of, the Government Code, and subdivision (d) of Section 15120 of Title 14 of the California Code of Regulations, without the prior consent of the tribe that provided the information.” Therefore, specific information about tribal cultural resources is not included in this CEQA document and remains within a confidential administrative record and not available for public disclosure without written permission from the tribe.

Conclusions

The searches of the Sacred Lands File by the NAHC did not identify TCRs or sacred lands within or immediately adjacent to the Project Area. The ethnographic record for the area indicates that all known village or settlements are at least several miles away from the Project area. Archaeological surveys did identify a pre-contact Native American archaeological site within the Project area. Consultation with UAIC identified a TCR, Native American archaeological site P-31-3646, within the Project Area. Consultation is ongoing concerning the mitigation measures that were developed by NID to reduce the impact to the TCR to less than significant.

4.18.3 Standards of Significance

4.18.3.1 Significance Criteria

AB 52 established that a substantial adverse change to a TCR has a significant effect on the environment. In assessing substantial adverse change, NID must determine whether or not the Project will adversely affect the qualities of the resource that convey its significance. The qualities are expressed through integrity. Integrity of a resource is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association [CCR Title 14, Section 4852(c)]. Impacts are significant if the resource is demolished or destroyed or if the characteristics that made the resource eligible are materially impaired [CCR Title 14, § 15064.5(a)]. Accordingly, impacts to a TCR would likely be significant if the Project negatively affects the qualities of integrity that made it significant in the first place. In making this determination, NID need only address the aspects of integrity that are important to the TCR’s significance.

4.18.4 Tribal Cultural Resources (XVIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in 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	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
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.	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Less than Significant with Mitigation Incorporated.

As discussed above, P-31-3646 is considered a TCR under CEQA. Subsurface testing performed at P-31-3646 confirmed that pre-contact subsurface cultural deposits are present in the Project Area. However, subsurface testing did not detect cultural deposits within proposed excavation areas associated with siphon replacement. While excavation was conducted in an attempt to determine the limits of P-31-3646, a clear demarcation of the site was not possible and it is highly likely that additional archaeological deposits, also considered TCRs, will be encountered during ground-disturbing activities associated with the project. Such disturbance of the existing deposits would affect the site's integrity of location and materials which would be considered a potentially significant. Implementation of Mitigation Measures **CUL-1, TCR-1** and **TCR-2** would reduce this impact to less than significant.

4.18.5 Mitigation Measures

The following mitigation measures would be implemented to reduce Tribal Cultural Resource impacts to less than significant:

Mitigation Measure CUL-1: Protect P-34-3643 as an Environmentally Sensitive Area

See *Section 4.5 Cultural Resources* for the full text of **Mitigation Measure CUL-1**.

Mitigation Measure TCR-1: Worker Awareness Training

A consultant and construction worker tribal cultural resources awareness brochure and a one (1) hour in-field training program for all personnel involved in ground-disturbing activities will be developed and disseminated by a UAIC tribal representative to all operators of ground-disturbing equipment prior to construction commencing. The program will include relevant information regarding sensitive tribal cultural resources, including applicable regulations, protocols for avoidance, and consequences of violating State laws and regulations. The worker tribal cultural resources awareness program will also describe appropriate avoidance and minimization measures for resources that have the potential to be located in the project area and will outline what to do and whom to contact if any potential tribal cultural resources or artifacts are encountered. The program will underscore the requirement for confidentiality and culturally appropriate treatment of any find of significance to Native Americans, and behaviors consistent with Native American tribal values. All ground-disturbing equipment operators shall be required to receive the training and sign a form that acknowledges receipt of the training. A copy of the form shall be provided to NID as proof of compliance.

Mitigation Measure TCR-2: Monitor Ground Disturbance to Avoid and Minimize Impacts to Known and Previously Unknown TCRs

One (1) tribal monitor shall be retained from UAIC to monitor the ground-disturbing activity associated with the installation of the temporary exclusion measures on site, and any or all ground disturbing construction activity associated with the siphon replacement on the north side of the creek. No later than five business days prior to the start of ground disturbing activities, the construction supervisor or their designee shall notify the UAIC of the construction schedule. Should the UAIC choose not to provide a tribal monitor, or if the monitor does not report to the project location at the scheduled time, or if the monitor is present but not actively observing activity, work may proceed without a monitor as long as the notification was made and documented.

The tribal monitor shall have the authority to temporarily pause ground disturbance within 20 feet of the discovery for a duration long enough to examine potential TCRs that may become unearthed during the activity. If no TCRs are identified, then construction activities shall proceed, and no agency notifications are required. In the event that a TCR is identified, the monitor shall flag off the discovery location and notify the NID immediately to consult on appropriate and respectful treatment.

Upon conclusion of the monitoring, the monitor shall submit a letter report to the NID to document the monitoring methods and results. If the find includes human remains, then NID shall immediately notify the Placer County Coroner and the procedures in Section 7050.5 of the California Health and Safety Code and, if applicable, Section 5097.98 of the Public Resources Code, shall be followed. If the discovery is reasonably associated with Native American culture, NID shall coordinate any necessary investigation of the discovery with a UAIC tribal representative and a qualified archaeologist approved by NID. As part of the site investigation and resource assessment, NID shall consult with appropriate parties to develop,

document, and implement appropriate management recommendations, should potential impacts to the TCRs be found by NID to be significant. Nothing in this measure prohibits NID from considering any comments from other culturally affiliated Native American tribes that volunteer information to NID during its investigation. Possible management recommendations could include documentation, data recovery, or (if deemed feasible by NID) preservation in place. The contractor shall implement any measures deemed by NID, at its discretion, to be necessary and feasible to avoid, minimize, or mitigate significant effects to the TCRs.

4.19 Utilities and Service Systems

4.19.1 Environmental Setting

4.19.1.1 Water Service

Residential, industrial, and commercial water in Western Placer County is primarily supplied by PCWA, NID, and incorporated cities. Outside of PCWA, NID and the cities' service areas, water needs are met through individual groundwater wells or small water systems.

4.19.1.2 Wastewater

In cooperation with the cities of Lincoln, Auburn and Roseville, wastewater services in Placer County is provided by the Placer County Environmental Engineering and Utilities Department. Sewer services provided by Placer County include the operation and maintenance of the following:

- 44 sewer pump stations
- five wastewater treatment facilities
- Almost 300 miles of sewer pipe
- More than 450 Septic Tank Effluent Pump systems

4.19.1.3 Solid Waste

The Placer County Environmental Utilities Division administers and manages the County-wide solid waste and recycling programs in eastern and western Placer County. County-owned facilities include the Eastern Regional Materials Recovery Facility in the Tahoe area, transfer stations in Meadow Vista and Foresthill, and four closed landfills. The Division also provides administrative support and management to the Western Placer Waste Management Authority which owns and operates the Western Regional Sanitary Landfill and Materials Recovery Facility located in unincorporated Placer County just north of the City of Roseville.

Electricity

Project area natural gas and electric service are provided by Pacific Gas and Electric Company (PG&E). Based in San Francisco, PG&E is one of the largest combined natural gas and electric energy companies in the United States. With approximately 24,000 employees the company provides natural gas and electric

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Doty North Canal Siphon #1 Replacement Project

service to approximately 16 million people throughout a 70,000-square-mile service area in northern and central California. The Project site is included within PG&E's electric and natural gas service area.

4.19.2 Utilities and Service Systems (XIX) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact.

The Proposed Project involves replacement of an existing raw water siphon. Construction does not require any new utility extensions or relocations and would not result in increased onsite electric demand and/or generation of wastewater or increase water treatment requirements. Therefore, impacts are less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

The Project is part of NID's existing water transmission infrastructure. The Project itself would not create a new demand on water supply. Therefore, there would be no impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

No Impact.

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As discussed under response b) above, the Project is part of NID’s existing water transmission infrastructure and would not create a new wastewater demand. There would be no impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact.

Construction activities associated with the Project are not expected to generate substantial amounts of solid waste. The existing steel pipe would either be recycled or disposed of at an appropriate solid waste handling facility along with any organic waste from grubbing or excavating. The relatively minimal amount of solid waste generated would not exceed the capacity of local infrastructure/landfills and would not impair the attainment of solid waste reduction goals. Related impacts are less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Less than Significant Impact.

The California Integrated Waste Management (CIWM) Act requires every county to adopt an Integrated Waste Management Plan that describes county objectives, policies, and programs relative to waste disposal, management, sources reduction, and recycling. Placer County has implemented a county-wide solid waste and recycling program and policy that is consistent with the CIWM Act. The disposal of solid waste due to construction activities will comply with all federal, state, and local statutes and regulations. Impacts to solid waste statutes and regulations will be less than significant.

4.19.3 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.20 Wildfire

4.20.1 Environmental Setting

Wildland and urban (structural) fire hazards in Placer County potentially threaten lives, property, and natural resources. Wildland fires result in the loss of commercial timber, may increase erosion on steep slopes, and degrade water quality in reservoirs.

There are 26 local fire districts providing structural and wildland fire protection in the county. Placer County contracts with CAL FIRE to provide structural and wildland fire protection to areas in the western County, along the I-80 corridor between Bowman Road and Emigrant Gap, and around Truckee.

The areas east of Auburn and Meadow Vista have been identified as very high fire hazard areas. High hazard areas have been identified between Hidden Valley and Nevada County-Placer County line from Virginiatown to just west of Auburn. The rest of the county is in a moderate fire hazard area.

Inadequate water supply infrastructure and water pressure, delayed response times, insufficient fire stations, inadequate signing, narrow roads, and dead-end roads all contribute to losses as a result of fires. Individual fire districts generally mandate adherence to the construction standards in the Uniform Building Code and/or the Uniform Fire Code or impose their own more stringent standards.

4.20.2 *Regulatory Setting*

The Placer County General Plan Section 8 Health and Safety Element identifies goals and polices addressing Fire Hazard. Below are the applicable wildfire goals policies:

Goal 8.C: To minimize the risk of loss of life, injury, and damage to property and watershed resources resulting from unwanted fires.

4.20.2.1 *Policies*

- Policy 8.C.1 The County shall ensure that development in high-fire-hazard areas is designed and constructed in a manner that minimizes the risk from fire hazards and meets all applicable state and County fire standards.
- Policy 8.C.3 The County shall require that new development meets state, County, and local fire district standards for fire protection.
- Policy 8.C.10 The County shall continue to implement state fire safety standards through enforcement of the applicable standards contained in the Placer County Land Development Manual.
- Policy 8.C.11 The County shall continue to work cooperatively with the California Department of Forestry and Fire Protection and local fire protection agencies in managing wildland fire hazards.

As shown on **Figure 4.20-1. Fire Hazard Severity Zones in SRA** maintained on the CAL FIRE website, the Project site is in an area considered to be a moderate risk of fire severity (CAL FIRE 2019).

4.20.3 Wildfire (XX) Environmental Checklist and Discussion

Is the Project:

Located in or near state responsibility areas or lands classified as high fire hazard severity zones?

Yes

No

Yes.

The Proposed Project is located near (within 6.5 miles) a State Responsibility Area (SRA) classified as High Risk.

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 Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
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?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

a) Less than Significant.

The Project is in an isolated area within Doty Ravine and would not substantially interfere with traffic flow or require road or lane closures during construction. Therefore, the Project is not expected to impair execution of any adopted emergency response or emergency evacuation plan. Related impacts are less than significant.

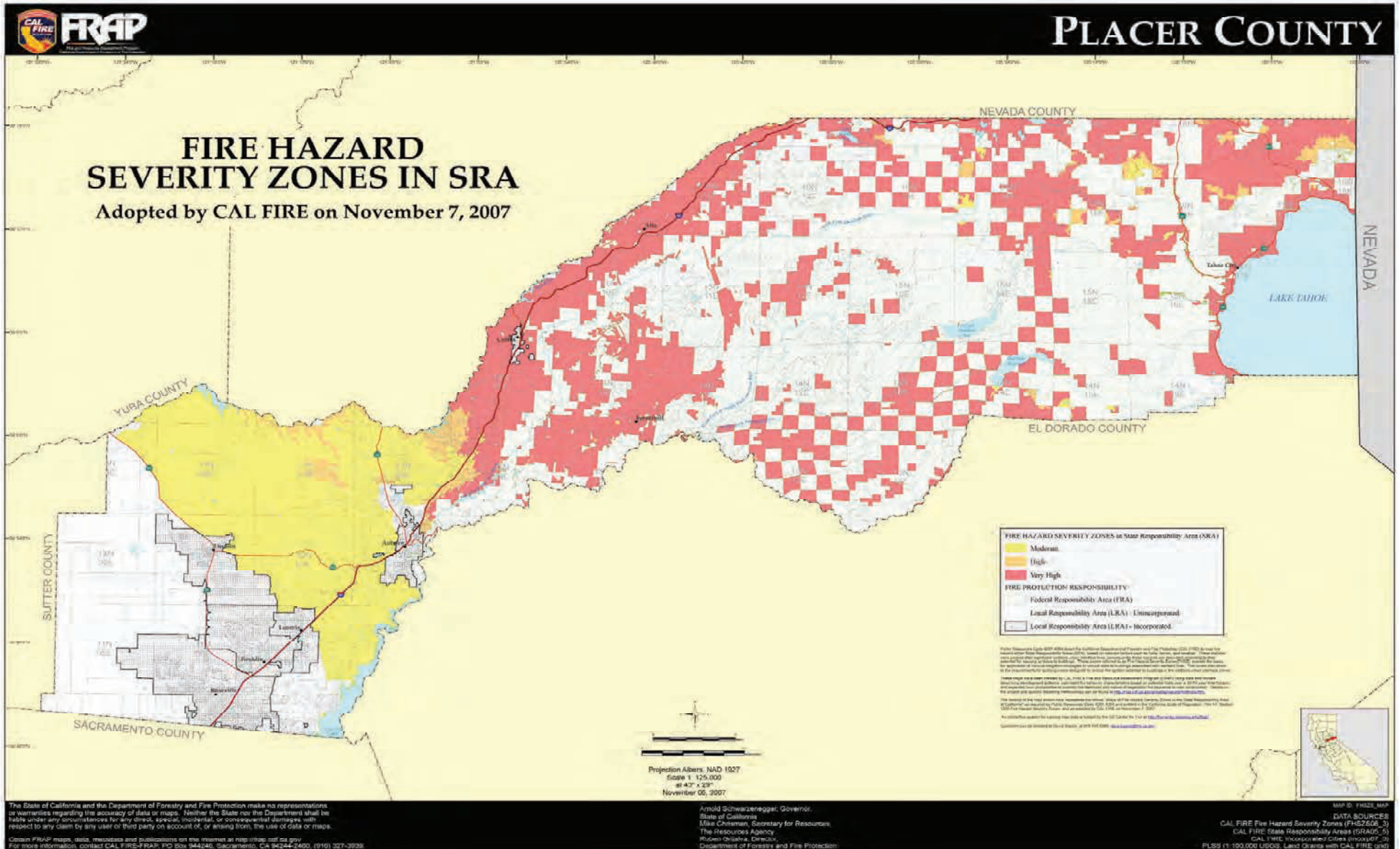


Figure 4.20-1. Fire Hazard Severity Zones in SRA

b-d) Less than Significant Impact/No Impact.

Although the Proposed Project is located in an SRA classified as Moderate, the Project is limited to replacement of an existing siphon and therefore it would not exacerbate existing conditions by the addition of new structures, machinery, people, or recreational opportunities that would encourage the use of flammable materials or create situations that could lead to increase fire risk. Furthermore, Project construction is scheduled to occur during the wet season which further minimizes potential for construction activity spark-caused fires. In addition, the Project contractor would implement **BMP-8**. Therefore, the Proposed Project would not exacerbate wildfire risks and impacts would be less than significant.

4.20.4 Mitigation Measures

No significant impacts were identified, and no mitigation measures are required.

4.21 Mandatory Findings of Significance

4.21.1 Mandatory Findings of Significance (XXI) Environmental Checklist and Discussion

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

As described in **Section 4.4 Biological Resources** of this document, biological resources on the site that could be affected by the Proposed Project include special-status plants and wildlife resources, oak trees and riparian habitat.

Recommended **BMPs 1 through 6** and biological resource Mitigation Measures **BIO-1 through BIO-5** would be implemented to ensure all potential impacts sensitive species and their habitats are mitigated to less than significant levels.

The Project will not cause a significant change to the quality of the environment because it is limited to replacement of an existing siphon. Project construction and staging areas will take place in previously disturbed areas for the most part. Potential impacts to surrounding biological resources will be primarily temporary and the Proposed Project will not significantly alter existing conditions. Additionally, no waters or wetlands are anticipated to be impacted by the Proposed Project area; however, to ensure that erosion

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Doty North Canal Siphon #1 Replacement Project

and sedimentation during storm events are minimized, BMPs would be installed during construction and left in place post construction until disturbed areas have re-established.

The Proposed Project will not substantially reduce fish habitat or wildlife species density. In addition, the Project will not substantially reduce wildlife habitat for species. Sediment control measure will be taken to minimize water quality impacts to Doty and Sailors ravines.

As indicated in **Section 4.5, Cultural Resources**, and **Section 4.18, Tribal Cultural Resources**, the Project is expected to avoid direct impacts to known cultural and tribal resources. Further, implementation of Mitigation Measures **CUL-1** and **CUL-2** and **TCR-1** and **TCR-2** will ensure onsite historic, cultural, and tribal resources are avoided and protected. Should any cultural or tribal resources or human remains be encountered during construction, all construction activities would be halted, and a professional archeologist consulted. Similarly, implementation of Mitigation Measure **PALEO-1** would ensure potential paleontological resource impacts are mitigated to less than significant.

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

All impacts were found to be less than significant, including air quality and greenhouse gas. The Project is limited to replacement of an existing facility. There would be no cumulative impacts.

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Potential impacts to human beings include increase in ambient noise during construction and increases in air emissions including PM (dust) during construction. These impacts were found to be temporary and less than significant. Implementation of the Project's Mitigation Monitoring Program will ensure compliance with related measures.

Project operation will not result in any changes compared to existing conditions. Direct and indirect impacts to human beings would be less than significant with the implementation of mitigation measures and BMPs listed in this Initial Study

SECTION 5.0 LIST OF PREPARERS

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SECTION 7.0 APPENDICES

Appendix A – Air Quality Model Data Outputs

Appendix B – Biological Resources Assessment

Appendix C – Total Construction-Related and Operational Gasoline Usage

Appendix D – Greenhouse Gas Model Data Outputs

Air Quality Model Data Outputs

Doty North Canal Siphon #1 Replacement

Newcastle, California

Prepared For:

Nevada Irrigation District
1036 West Main Street
Grass Valley, CA 95945

August 2019

Doty Ravine - Placer-Sacramento County, Summer

Doty Ravine
Placer-Sacramento County, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	5.40	1000sqft	0.12	5,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	74
Climate Zone	2			Operational Year	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Square feet calculated from Figure 2.2 in the Project Description provided.

Construction Phase - Construction time update to match that of the Project.

Off-road Equipment - Construciton equipment updated to match that of the project.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Construction equipment updted to match the project.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	24.00

Doty Ravine - Placer-Sacramento County, Summer

tblConstructionPhase	NumDays	10.00	7.00
tblConstructionPhase	PhaseEndDate	12/31/2010	11/29/2019
tblConstructionPhase	PhaseEndDate	12/31/2013	10/23/2019
tblConstructionPhase	PhaseEndDate	12/31/2010	10/28/2019
tblConstructionPhase	PhaseEndDate	12/31/2010	10/24/2019
tblConstructionPhase	PhaseStartDate	1/1/2011	10/29/2019
tblConstructionPhase	PhaseStartDate	1/1/2014	10/15/2019
tblConstructionPhase	PhaseStartDate	1/1/2011	10/25/2019
tblConstructionPhase	PhaseStartDate	1/1/2011	10/24/2019
tblOffRoadEquipment	HorsePower	158.00	81.00
tblOffRoadEquipment	LoadFactor	0.38	0.73
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblTripsAndVMT	WorkerTripNumber	25.00	20.00
tblTripsAndVMT	WorkerTripNumber	10.00	8.00

Doty Ravine - Placer-Sacramento County, Summer

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	1.5401	13.9183	13.9601	0.0214	0.8185	0.8601	1.3560	0.4312	0.8097	0.9441	0.0000	2,094.6979	2,094.6979	0.4680	0.0000	2,106.3985
Maximum	1.5401	13.9183	13.9601	0.0214	0.8185	0.8601	1.3560	0.4312	0.8097	0.9441	0.0000	2,094.6979	2,094.6979	0.4680	0.0000	2,106.3985

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	1.5401	13.9183	13.9601	0.0214	0.8185	0.8601	1.3560	0.4312	0.8097	0.9441	0.0000	2,094.6979	2,094.6979	0.4680	0.0000	2,106.3985
Maximum	1.5401	13.9183	13.9601	0.0214	0.8185	0.8601	1.3560	0.4312	0.8097	0.9441	0.0000	2,094.6979	2,094.6979	0.4680	0.0000	2,106.3985

Doty Ravine - Placer-Sacramento County, Summer

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3800e-003	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.1800e-003	1.1800e-003	0.0000		1.2600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	2.3800e-003	1.0000e-005	5.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		1.1800e-003	1.1800e-003	0.0000	0.0000	1.2600e-003

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3800e-003	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.1800e-003	1.1800e-003	0.0000		1.2600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	2.3800e-003	1.0000e-005	5.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		1.1800e-003	1.1800e-003	0.0000	0.0000	1.2600e-003

Doty Ravine - Placer-Sacramento County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/15/2019	10/23/2019	5	7	
2	Site Preparation	Site Preparation	10/24/2019	10/24/2019	5	1	
3	Grading	Grading	10/25/2019	10/28/2019	5	2	
4	Building Construction	Building Construction	10/29/2019	11/29/2019	5	24	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.12

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Doty Ravine - Placer-Sacramento County, Summer

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Dumpers/Tenders	1		16	0.38
Demolition	Excavators	2	8.00	81	0.73
Building Construction	Excavators	2		158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Site Preparation	Graders	1	8.00	187	0.41
Demolition	Off-Highway Trucks	4		402	0.38
Building Construction	Dumpers/Tenders	1		16	0.38
Building Construction	Off-Highway Trucks	4		402	0.38
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Demolition	Rubber Tired Dozers	1	1.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	10	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	2.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Doty Ravine - Placer-Sacramento County, Summer

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4553	13.8701	13.3084	0.0197		0.8591	0.8591		0.8087	0.8087		1,925.5651	1,925.5651	0.4634		1,937.1508
Total	1.4553	13.8701	13.3084	0.0197		0.8591	0.8591		0.8087	0.8087		1,925.5651	1,925.5651	0.4634		1,937.1508

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0848	0.0482	0.6518	1.7000e-003	0.1643	1.0700e-003	0.1654	0.0436	9.8000e-004	0.0446		169.1328	169.1328	4.6000e-003		169.2477
Total	0.0848	0.0482	0.6518	1.7000e-003	0.1643	1.0700e-003	0.1654	0.0436	9.8000e-004	0.0446		169.1328	169.1328	4.6000e-003		169.2477

Doty Ravine - Placer-Sacramento County, Summer

3.2 Demolition - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4553	13.8701	13.3084	0.0197		0.8591	0.8591		0.8087	0.8087	0.0000	1,925.5651	1,925.5651	0.4634		1,937.1508
Total	1.4553	13.8701	13.3084	0.0197		0.8591	0.8591		0.8087	0.8087	0.0000	1,925.5651	1,925.5651	0.4634		1,937.1508

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0848	0.0482	0.6518	1.7000e-003	0.1643	1.0700e-003	0.1654	0.0436	9.8000e-004	0.0446		169.1328	169.1328	4.6000e-003		169.2477
Total	0.0848	0.0482	0.6518	1.7000e-003	0.1643	1.0700e-003	0.1654	0.0436	9.8000e-004	0.0446		169.1328	169.1328	4.6000e-003		169.2477

Doty Ravine - Placer-Sacramento County, Summer

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.7195	8.9170	4.1407	9.7500e-003		0.3672	0.3672		0.3378	0.3378		965.1690	965.1690	0.3054		972.8032
Total	0.7195	8.9170	4.1407	9.7500e-003	0.5303	0.3672	0.8975	0.0573	0.3378	0.3951		965.1690	965.1690	0.3054		972.8032

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0212	0.0121	0.1630	4.2000e-004	0.0411	2.7000e-004	0.0413	0.0109	2.5000e-004	0.0111		42.2832	42.2832	1.1500e-003		42.3119
Total	0.0212	0.0121	0.1630	4.2000e-004	0.0411	2.7000e-004	0.0413	0.0109	2.5000e-004	0.0111		42.2832	42.2832	1.1500e-003		42.3119

Doty Ravine - Placer-Sacramento County, Summer

3.3 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.7195	8.9170	4.1407	9.7500e-003		0.3672	0.3672		0.3378	0.3378	0.0000	965.1690	965.1690	0.3054		972.8032
Total	0.7195	8.9170	4.1407	9.7500e-003	0.5303	0.3672	0.8975	0.0573	0.3378	0.3951	0.0000	965.1690	965.1690	0.3054		972.8032

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0212	0.0121	0.1630	4.2000e-004	0.0411	2.7000e-004	0.0413	0.0109	2.5000e-004	0.0111		42.2832	42.2832	1.1500e-003		42.3119
Total	0.0212	0.0121	0.1630	4.2000e-004	0.0411	2.7000e-004	0.0413	0.0109	2.5000e-004	0.0111		42.2832	42.2832	1.1500e-003		42.3119

Doty Ravine - Placer-Sacramento County, Summer

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.9530	8.6039	7.6917	0.0120		0.5371	0.5371		0.5125	0.5125		1,159.6570	1,159.6570	0.2211		1,165.1847
Total	0.9530	8.6039	7.6917	0.0120	0.7528	0.5371	1.2898	0.4138	0.5125	0.9263		1,159.6570	1,159.6570	0.2211		1,165.1847

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0339	0.0193	0.2607	6.8000e-004	0.0657	4.3000e-004	0.0661	0.0174	3.9000e-004	0.0178		67.6531	67.6531	1.8400e-003		67.6991
Total	0.0339	0.0193	0.2607	6.8000e-004	0.0657	4.3000e-004	0.0661	0.0174	3.9000e-004	0.0178		67.6531	67.6531	1.8400e-003		67.6991

Doty Ravine - Placer-Sacramento County, Summer

3.4 Grading - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.9530	8.6039	7.6917	0.0120		0.5371	0.5371		0.5125	0.5125	0.0000	1,159.6570	1,159.6570	0.2211		1,165.1847
Total	0.9530	8.6039	7.6917	0.0120	0.7528	0.5371	1.2898	0.4138	0.5125	0.9263	0.0000	1,159.6570	1,159.6570	0.2211		1,165.1847

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0339	0.0193	0.2607	6.8000e-004	0.0657	4.3000e-004	0.0661	0.0174	3.9000e-004	0.0178		67.6531	67.6531	1.8400e-003		67.6991
Total	0.0339	0.0193	0.2607	6.8000e-004	0.0657	4.3000e-004	0.0661	0.0174	3.9000e-004	0.0178		67.6531	67.6531	1.8400e-003		67.6991

Doty Ravine - Placer-Sacramento County, Summer

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7248	7.4833	5.2405	8.2800e-003		0.4493	0.4493		0.4134	0.4134		820.1278	820.1278	0.2595		826.6148
Total	0.7248	7.4833	5.2405	8.2800e-003		0.4493	0.4493		0.4134	0.4134		820.1278	820.1278	0.2595		826.6148

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	4.3300e-003	0.1267	0.0243	3.0000e-004	6.7700e-003	7.7000e-004	7.5500e-003	1.9500e-003	7.4000e-004	2.6900e-003		31.1021	31.1021	1.5300e-003		31.1403
Worker	8.4800e-003	4.8200e-003	0.0652	1.7000e-004	0.0164	1.1000e-004	0.0165	4.3600e-003	1.0000e-004	4.4600e-003		16.9133	16.9133	4.6000e-004		16.9248
Total	0.0128	0.1315	0.0895	4.7000e-004	0.0232	8.8000e-004	0.0241	6.3100e-003	8.4000e-004	7.1500e-003		48.0154	48.0154	1.9900e-003		48.0651

Doty Ravine - Placer-Sacramento County, Summer

3.5 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7248	7.4833	5.2405	8.2800e-003		0.4493	0.4493		0.4134	0.4134	0.0000	820.1278	820.1278	0.2595		826.6148
Total	0.7248	7.4833	5.2405	8.2800e-003		0.4493	0.4493		0.4134	0.4134	0.0000	820.1278	820.1278	0.2595		826.6148

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	4.3300e-003	0.1267	0.0243	3.0000e-004	6.7700e-003	7.7000e-004	7.5500e-003	1.9500e-003	7.4000e-004	2.6900e-003		31.1021	31.1021	1.5300e-003		31.1403
Worker	8.4800e-003	4.8200e-003	0.0652	1.7000e-004	0.0164	1.1000e-004	0.0165	4.3600e-003	1.0000e-004	4.4600e-003		16.9133	16.9133	4.6000e-004		16.9248
Total	0.0128	0.1315	0.0895	4.7000e-004	0.0232	8.8000e-004	0.0241	6.3100e-003	8.4000e-004	7.1500e-003		48.0154	48.0154	1.9900e-003		48.0651

4.0 Operational Detail - Mobile

Doty Ravine - Placer-Sacramento County, Summer

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.494811	0.040252	0.220236	0.128508	0.023782	0.006284	0.029295	0.046215	0.001446	0.001205	0.005961	0.000773	0.001232

Doty Ravine - Placer-Sacramento County, Summer

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Doty Ravine - Placer-Sacramento County, Summer

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

Doty Ravine - Placer-Sacramento County, Summer

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.3800e-003	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.1800e-003	1.1800e-003	0.0000		1.2600e-003
Unmitigated	2.3800e-003	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.1800e-003	1.1800e-003	0.0000		1.2600e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	4.1000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.9100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-005	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.1800e-003	1.1800e-003	0.0000		1.2600e-003
Total	2.3700e-003	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.1800e-003	1.1800e-003	0.0000		1.2600e-003

Doty Ravine - Placer-Sacramento County, Summer

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	4.1000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.9100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-005	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.1800e-003	1.1800e-003	0.0000		1.2600e-003
Total	2.3700e-003	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.1800e-003	1.1800e-003	0.0000		1.2600e-003

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Doty Ravine - Placer-Sacramento County, Summer

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation

Doty Ravine - Placer-Sacramento County, Winter

Doty Ravine
Placer-Sacramento County, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	5.40	1000sqft	0.12	5,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	74
Climate Zone	2			Operational Year	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Square feet calculated from Figure 2.2 in the Project Description provided.

Construction Phase - Construction time update to match that of the Project.

Off-road Equipment - Construciton equipment updated to match that of the project.

Off-road Equipment -

Off-road Equipment -

Off-road Equipment - Construction equipment updted to match the project.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	24.00

Doty Ravine - Placer-Sacramento County, Winter

tblConstructionPhase	NumDays	10.00	7.00
tblConstructionPhase	PhaseEndDate	12/31/2010	11/29/2019
tblConstructionPhase	PhaseEndDate	12/31/2013	10/23/2019
tblConstructionPhase	PhaseEndDate	12/31/2010	10/28/2019
tblConstructionPhase	PhaseEndDate	12/31/2010	10/24/2019
tblConstructionPhase	PhaseStartDate	1/1/2011	10/29/2019
tblConstructionPhase	PhaseStartDate	1/1/2014	10/15/2019
tblConstructionPhase	PhaseStartDate	1/1/2011	10/25/2019
tblConstructionPhase	PhaseStartDate	1/1/2011	10/24/2019
tblOffRoadEquipment	HorsePower	158.00	81.00
tblOffRoadEquipment	LoadFactor	0.38	0.73
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblTripsAndVMT	WorkerTripNumber	25.00	20.00
tblTripsAndVMT	WorkerTripNumber	10.00	8.00

Doty Ravine - Placer-Sacramento County, Winter

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	1.5373	13.9306	13.8970	0.0212	0.8185	0.8601	1.3560	0.4312	0.8097	0.9441	0.0000	2,076.146 3	2,076.146 3	0.4677	0.0000	2,087.837 4
Maximum	1.5373	13.9306	13.8970	0.0212	0.8185	0.8601	1.3560	0.4312	0.8097	0.9441	0.0000	2,076.146 3	2,076.146 3	0.4677	0.0000	2,087.837 4

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2019	1.5373	13.9306	13.8970	0.0212	0.8185	0.8601	1.3560	0.4312	0.8097	0.9441	0.0000	2,076.146 2	2,076.146 2	0.4677	0.0000	2,087.837 4
Maximum	1.5373	13.9306	13.8970	0.0212	0.8185	0.8601	1.3560	0.4312	0.8097	0.9441	0.0000	2,076.146 2	2,076.146 2	0.4677	0.0000	2,087.837 4

Doty Ravine - Placer-Sacramento County, Winter

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3800e-003	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.1800e-003	1.1800e-003	0.0000		1.2600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	2.3800e-003	1.0000e-005	5.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		1.1800e-003	1.1800e-003	0.0000	0.0000	1.2600e-003

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Area	2.3800e-003	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.1800e-003	1.1800e-003	0.0000		1.2600e-003
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Total	2.3800e-003	1.0000e-005	5.5000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		1.1800e-003	1.1800e-003	0.0000	0.0000	1.2600e-003

Doty Ravine - Placer-Sacramento County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/15/2019	10/23/2019	5	7	
2	Site Preparation	Site Preparation	10/24/2019	10/24/2019	5	1	
3	Grading	Grading	10/25/2019	10/28/2019	5	2	
4	Building Construction	Building Construction	10/29/2019	11/29/2019	5	24	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.12

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Doty Ravine - Placer-Sacramento County, Winter

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Dumpers/Tenders	1		16	0.38
Demolition	Excavators	2	8.00	81	0.73
Building Construction	Excavators	2		158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Site Preparation	Graders	1	8.00	187	0.41
Demolition	Off-Highway Trucks	4		402	0.38
Building Construction	Dumpers/Tenders	1		16	0.38
Building Construction	Off-Highway Trucks	4		402	0.38
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Demolition	Rubber Tired Dozers	1	1.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	10	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	2.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Doty Ravine - Placer-Sacramento County, Winter

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4553	13.8701	13.3084	0.0197		0.8591	0.8591		0.8087	0.8087		1,925.5651	1,925.5651	0.4634		1,937.1508
Total	1.4553	13.8701	13.3084	0.0197		0.8591	0.8591		0.8087	0.8087		1,925.5651	1,925.5651	0.4634		1,937.1508

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0820	0.0605	0.5887	1.5100e-003	0.1643	1.0700e-003	0.1654	0.0436	9.8000e-004	0.0446		150.5812	150.5812	4.2200e-003		150.6866
Total	0.0820	0.0605	0.5887	1.5100e-003	0.1643	1.0700e-003	0.1654	0.0436	9.8000e-004	0.0446		150.5812	150.5812	4.2200e-003		150.6866

Doty Ravine - Placer-Sacramento County, Winter

3.2 Demolition - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.4553	13.8701	13.3084	0.0197		0.8591	0.8591		0.8087	0.8087	0.0000	1,925.5651	1,925.5651	0.4634		1,937.1508
Total	1.4553	13.8701	13.3084	0.0197		0.8591	0.8591		0.8087	0.8087	0.0000	1,925.5651	1,925.5651	0.4634		1,937.1508

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0820	0.0605	0.5887	1.5100e-003	0.1643	1.0700e-003	0.1654	0.0436	9.8000e-004	0.0446		150.5812	150.5812	4.2200e-003		150.6866
Total	0.0820	0.0605	0.5887	1.5100e-003	0.1643	1.0700e-003	0.1654	0.0436	9.8000e-004	0.0446		150.5812	150.5812	4.2200e-003		150.6866

Doty Ravine - Placer-Sacramento County, Winter

3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.7195	8.9170	4.1407	9.7500e-003		0.3672	0.3672		0.3378	0.3378		965.1690	965.1690	0.3054		972.8032
Total	0.7195	8.9170	4.1407	9.7500e-003	0.5303	0.3672	0.8975	0.0573	0.3378	0.3951		965.1690	965.1690	0.3054		972.8032

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0205	0.0151	0.1472	3.8000e-004	0.0411	2.7000e-004	0.0413	0.0109	2.5000e-004	0.0111		37.6453	37.6453	1.0500e-003		37.6717
Total	0.0205	0.0151	0.1472	3.8000e-004	0.0411	2.7000e-004	0.0413	0.0109	2.5000e-004	0.0111		37.6453	37.6453	1.0500e-003		37.6717

Doty Ravine - Placer-Sacramento County, Winter

3.3 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.5303	0.0000	0.5303	0.0573	0.0000	0.0573			0.0000			0.0000
Off-Road	0.7195	8.9170	4.1407	9.7500e-003		0.3672	0.3672		0.3378	0.3378	0.0000	965.1690	965.1690	0.3054		972.8032
Total	0.7195	8.9170	4.1407	9.7500e-003	0.5303	0.3672	0.8975	0.0573	0.3378	0.3951	0.0000	965.1690	965.1690	0.3054		972.8032

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0205	0.0151	0.1472	3.8000e-004	0.0411	2.7000e-004	0.0413	0.0109	2.5000e-004	0.0111		37.6453	37.6453	1.0500e-003		37.6717
Total	0.0205	0.0151	0.1472	3.8000e-004	0.0411	2.7000e-004	0.0413	0.0109	2.5000e-004	0.0111		37.6453	37.6453	1.0500e-003		37.6717

Doty Ravine - Placer-Sacramento County, Winter

3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.9530	8.6039	7.6917	0.0120		0.5371	0.5371		0.5125	0.5125		1,159.6570	1,159.6570	0.2211		1,165.1847
Total	0.9530	8.6039	7.6917	0.0120	0.7528	0.5371	1.2898	0.4138	0.5125	0.9263		1,159.6570	1,159.6570	0.2211		1,165.1847

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0328	0.0242	0.2355	6.1000e-004	0.0657	4.3000e-004	0.0661	0.0174	3.9000e-004	0.0178		60.2325	60.2325	1.6900e-003		60.2746
Total	0.0328	0.0242	0.2355	6.1000e-004	0.0657	4.3000e-004	0.0661	0.0174	3.9000e-004	0.0178		60.2325	60.2325	1.6900e-003		60.2746

Doty Ravine - Placer-Sacramento County, Winter

3.4 Grading - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.7528	0.0000	0.7528	0.4138	0.0000	0.4138			0.0000			0.0000
Off-Road	0.9530	8.6039	7.6917	0.0120		0.5371	0.5371		0.5125	0.5125	0.0000	1,159.6570	1,159.6570	0.2211		1,165.1847
Total	0.9530	8.6039	7.6917	0.0120	0.7528	0.5371	1.2898	0.4138	0.5125	0.9263	0.0000	1,159.6570	1,159.6570	0.2211		1,165.1847

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Worker	0.0328	0.0242	0.2355	6.1000e-004	0.0657	4.3000e-004	0.0661	0.0174	3.9000e-004	0.0178		60.2325	60.2325	1.6900e-003		60.2746
Total	0.0328	0.0242	0.2355	6.1000e-004	0.0657	4.3000e-004	0.0661	0.0174	3.9000e-004	0.0178		60.2325	60.2325	1.6900e-003		60.2746

Doty Ravine - Placer-Sacramento County, Winter

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7248	7.4833	5.2405	8.2800e-003		0.4493	0.4493		0.4134	0.4134		820.1278	820.1278	0.2595		826.6148
Total	0.7248	7.4833	5.2405	8.2800e-003		0.4493	0.4493		0.4134	0.4134		820.1278	820.1278	0.2595		826.6148

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	4.5700e-003	0.1283	0.0294	2.9000e-004	6.7700e-003	7.9000e-004	7.5600e-003	1.9500e-003	7.6000e-004	2.7100e-003		30.0690	30.0690	1.7200e-003		30.1120
Worker	8.2000e-003	6.0500e-003	0.0589	1.5000e-004	0.0164	1.1000e-004	0.0165	4.3600e-003	1.0000e-004	4.4600e-003		15.0581	15.0581	4.2000e-004		15.0687
Total	0.0128	0.1344	0.0882	4.4000e-004	0.0232	9.0000e-004	0.0241	6.3100e-003	8.6000e-004	7.1700e-003		45.1271	45.1271	2.1400e-003		45.1807

Doty Ravine - Placer-Sacramento County, Winter

3.5 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.7248	7.4833	5.2405	8.2800e-003		0.4493	0.4493		0.4134	0.4134	0.0000	820.1278	820.1278	0.2595		826.6148
Total	0.7248	7.4833	5.2405	8.2800e-003		0.4493	0.4493		0.4134	0.4134	0.0000	820.1278	820.1278	0.2595		826.6148

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Vendor	4.5700e-003	0.1283	0.0294	2.9000e-004	6.7700e-003	7.9000e-004	7.5600e-003	1.9500e-003	7.6000e-004	2.7100e-003		30.0690	30.0690	1.7200e-003		30.1120
Worker	8.2000e-003	6.0500e-003	0.0589	1.5000e-004	0.0164	1.1000e-004	0.0165	4.3600e-003	1.0000e-004	4.4600e-003		15.0581	15.0581	4.2000e-004		15.0687
Total	0.0128	0.1344	0.0882	4.4000e-004	0.0232	9.0000e-004	0.0241	6.3100e-003	8.6000e-004	7.1700e-003		45.1271	45.1271	2.1400e-003		45.1807

4.0 Operational Detail - Mobile

Doty Ravine - Placer-Sacramento County, Winter

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000	0.0000		0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.494811	0.040252	0.220236	0.128508	0.023782	0.006284	0.029295	0.046215	0.001446	0.001205	0.005961	0.000773	0.001232

Doty Ravine - Placer-Sacramento County, Winter

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Doty Ravine - Placer-Sacramento County, Winter

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	lb/day										lb/day					
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

Doty Ravine - Placer-Sacramento County, Winter

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Mitigated	2.3800e-003	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.1800e-003	1.1800e-003	0.0000		1.2600e-003
Unmitigated	2.3800e-003	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.1800e-003	1.1800e-003	0.0000		1.2600e-003

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	4.1000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.9100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-005	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.1800e-003	1.1800e-003	0.0000		1.2600e-003
Total	2.3700e-003	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.1800e-003	1.1800e-003	0.0000		1.2600e-003

Doty Ravine - Placer-Sacramento County, Winter

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	lb/day										lb/day					
Architectural Coating	4.1000e-004					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Consumer Products	1.9100e-003					0.0000	0.0000		0.0000	0.0000			0.0000			0.0000
Landscaping	5.0000e-005	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.1800e-003	1.1800e-003	0.0000		1.2600e-003
Total	2.3700e-003	1.0000e-005	5.5000e-004	0.0000		0.0000	0.0000		0.0000	0.0000		1.1800e-003	1.1800e-003	0.0000		1.2600e-003

7.0 Water Detail

7.1 Mitigation Measures Water

8.0 Waste Detail

8.1 Mitigation Measures Waste

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	-----------	-------------	-------------	-----------

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Doty Ravine - Placer-Sacramento County, Winter

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
----------------	--------	-----------	------------	-------------	-------------	-----------

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
----------------	--------	----------------	-----------------	---------------	-----------

User Defined Equipment

Equipment Type	Number
----------------	--------

11.0 Vegetation

Biological Resources Assessment

Doty North Canal Siphon #1 Replacement Project

Placer County, California

Prepared for:

Nevada Irrigation District
1036 West Main Street
Grass Valley, CA 95945

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- Attachment A – Project Description
- Attachment B – Special-Status Species Searches
- Attachment C – Representative Site Photographs
- Attachment D – Stantec Wetland Delineation
- Attachment E – Wildlife Observed Onsite

LIST OF ACRONYMS AND ABBREVIATIONS

BA	Biological assessment
BCC	Birds of Conservation Concern
BIOS	Biogeographic Information and Observation System
BO	Biological opinion
BRA	Biological resources assessment
CDFG	California Department of Fish and Game
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
dbh	Diameter at breast height
DPS	Discreet Population Segment
EFH	Essential Fish Habitat
ESA	Endangered Species Act
HCP	Habitat conservation plan
MBTA	Migratory Bird Treaty Act
MSL	Mean sea level
NCCP	Natural Community Conservation Plan
NMFS	National Marine Fisheries Service
NPDES	National Pollutant Discharge Elimination System
NPPA	Native Plant Protection Act
NRCS	Natural Resources Conservation Service
Project	NID - Doty North Canal Siphon Replacement Project
RWQCB	Regional Water Quality Control Board
SAA	Streambed Alteration Agreement
Section 404 Permit	Section 404 of the federal CWA
SSC	Species of Special Concern
SSURGO	Soil Survey Geographic
USACE	U.S. Army Corps of Engineers
USC	U.S. Code

LIST OF ACRONYMS AND ABBREVIATIONS

USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey

1.0 INTRODUCTION

At the request of Nevada Irrigation District, ECORP Consulting, Inc. has conducted a biological resources assessment (BRA) for the proposed NID - Doty North Canal Siphon Replacement Project (Project) located in Placer County, California. The purpose of the assessment was to collect information on the biological resources present within the Project Area, and to determine potential biological constraints to Project activities.

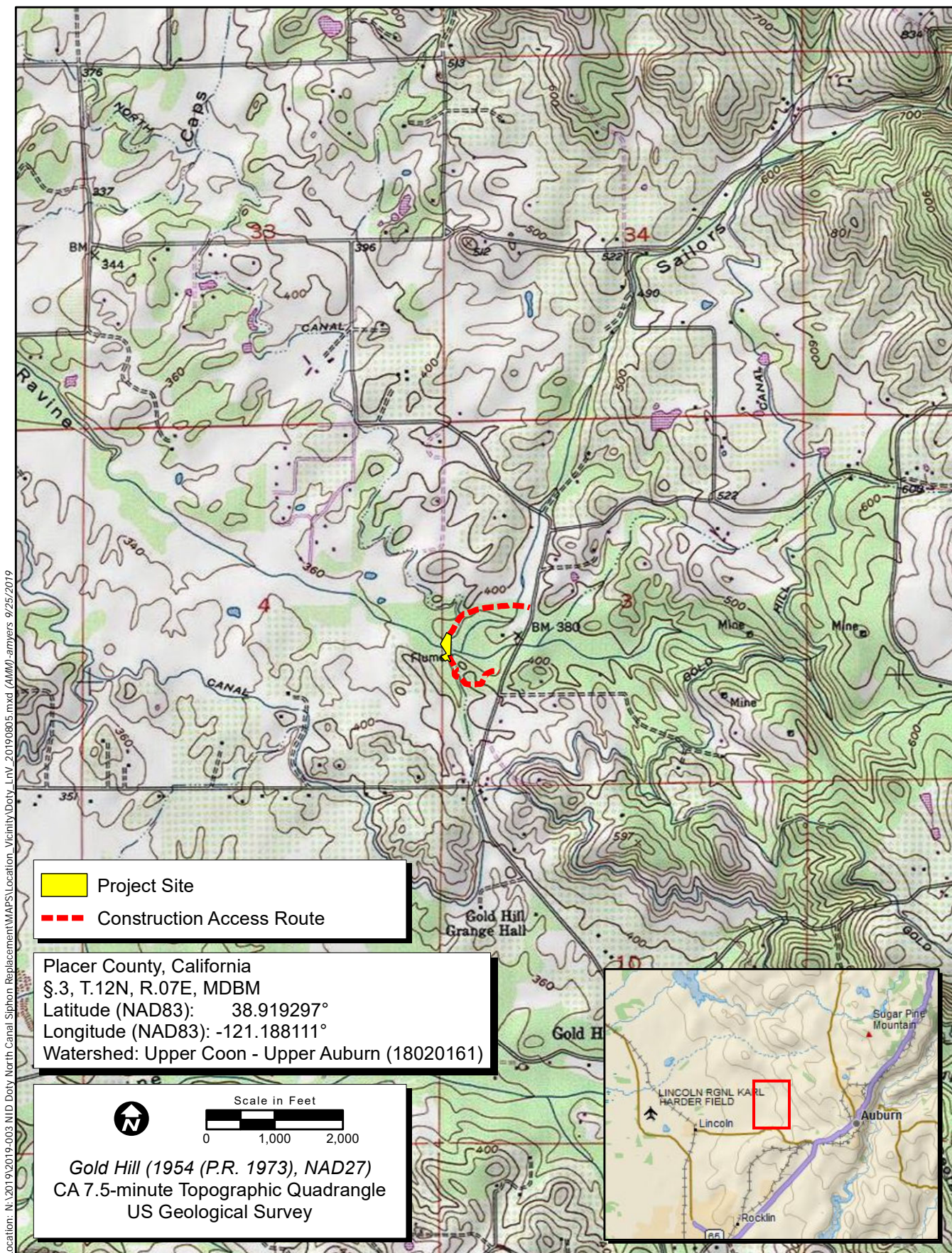
1.1 Project Area Location

The ±3.44-acre Project Area is located approximately four miles northwest of the town of Newcastle in Placer County, California. The Project Area corresponds to a portion of Section 3, Township 12 North, and Range 7 East (Mount Diablo Base and Meridian) of the "Gold Hill, California" 7.5-minute quadrangle (U.S. Geological Survey [USGS] 1954 revised 1973) (*Figure 1. Project Location and Vicinity*). The approximate center of the Project Area is located at 38.918883° and -121.189146° within the Upper Coon-Upper Auburn Watershed (Hydrologic Unit Code #18020161, Natural Resources Conservation Service [NRCS], USGS, and U.S. Environmental Protection Agency [USEPA] 2016).

1.2 Project Description and Project Area

The Doty North Canal Siphon #1 Replacement Project (Proposed Project) is a proposal by NID to replace an existing raw water transmission siphon that has reached the end of its useful life. A full Project Description can be found in Attachment A.

The Project Area includes the Project Site, Construction Access Route (northern and southern), and the location of the Existing Siphon as shown on (*Figure 2. Project Area Map*).



Location: N:\2019\2019-003_NID_Doty_North_Canal_Siphon_Replacement\MAPS\Location_Vicinity\Doty_Lrv_20190805.mxd (AMM)-amymers 9/25/2019

- Project Site
- Construction Access Route

Placer County, California
 §.3, T.12N, R.07E, MDBM
 Latitude (NAD83): 38.919297°
 Longitude (NAD83): -121.188111°
 Watershed: Upper Coon - Upper Auburn (18020161)

Scale in Feet

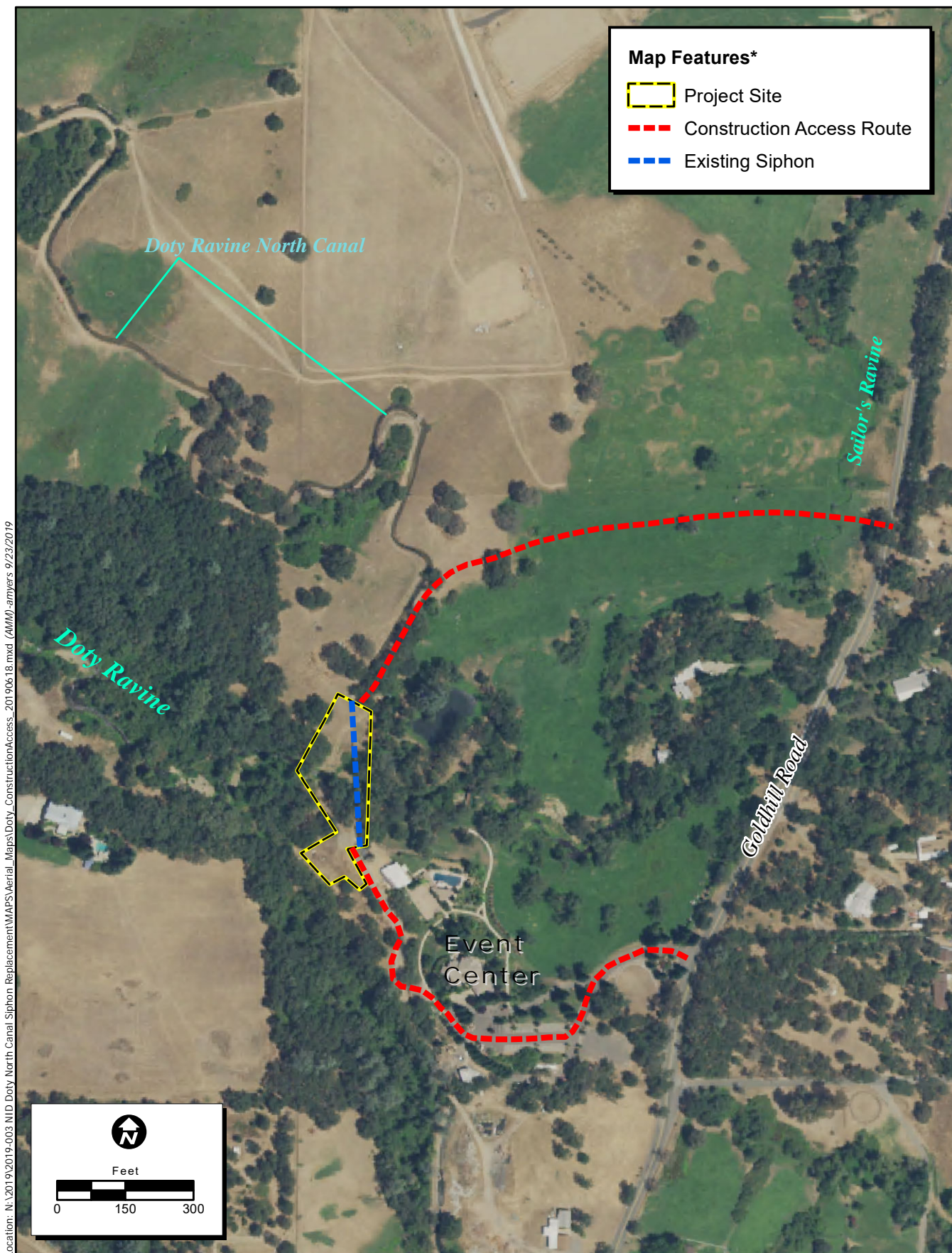
0 1,000 2,000

Gold Hill (1954 (P.R. 1973), NAD27)
 CA 7.5-minute Topographic Quadrangle
 US Geological Survey



Map Date: 9/25/2019
 iService Layer Credits: Copyright:© 2013 National Geographic Society, i-cubed
 Copyright:(c) 2018 Garmin

Figure 1. Project Location and Vicinity



Location: N:\2019\2019-003 NID Doty North Canal Siphon Replacement\MAPS\Aerial_Maps\Doty_ConstructionAccess_20190618.mxd (MM)-amyers 9/23/2019

Map Date: 9/12/2019
 Photo Source: NAIP, 2018
 *All features represent approximate locations for cartographic purposes

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Figure 2. Project Area

1.3 Purpose of this Biological Resources Assessment

The purpose of this BRA is to assess the potential for occurrence of special-status plant and animal species or their habitat, and sensitive habitats such as wetlands within the Project Area. This assessment does not include determinate field surveys conducted according to agency-promulgated protocols. The conclusions and recommendations presented in this report are based upon a review of the available literature and site reconnaissance.

For the purposes of this assessment, special-status species are defined as plants or animals that:

- Are listed, proposed for listing, or candidates for future listing as threatened or endangered under the federal Endangered Species Act (ESA);
- Are listed or candidates for future listing as threatened or endangered under the California ESA;
- Meet the definitions of endangered or rare under Section 15380 of the California Environmental Quality Act (CEQA) Guidelines;
- Are identified as a Species of Special Concern (SSC) by the California Department of Fish and Wildlife (CDFW);
- Are plants considered by the California Native Plant Society (CNPS) to be "rare, threatened, or endangered in California" (California Rare Plant Rank [CRPR] 1 and 2);
- Are plants listed by CNPS as species about which more information is needed to determine their status (CRPR 3), and plants of limited distribution (CRPR 4);
- Are plants listed as rare under the California Native Plant Protection Act (NPPA, California Fish and Game Code, § 1900 et seq.); or
- Are fully protected in California in accordance with the California Fish and Game Code, §§ 3511 (birds), 4700 (mammals), 5050 (amphibians and reptiles), and 5515 (fishes).

Only species that fall into one of the above-listed groups were considered for this assessment. Birds identified as Birds of Conservation Concern (BCC) by the U.S. Fish and Wildlife Service (USFWS), without other special status, were not included in this analysis. Other species without special status that are sometimes found in database or literature searches were not included within this analysis.

2.0 REGULATORY SETTING

2.1 Federal Regulations

2.1.1 *Federal Endangered Species Act*

ESA protects plants and animals that are listed as endangered or threatened by the USFWS and the National Marine Fisheries Service (NMFS). Section 9 of ESA prohibits the taking of listed wildlife, where take is defined as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to

engage in such conduct" (50CFR 17.3). For plants, this statute governs removing, possessing, maliciously damaging, or destroying any listed plant on federal land and removing, cutting, digging up, damaging, or destroying any listed plant on non-federal land in knowing violation of state law (16 USC 1538). Under Section 7 of ESA, federal agencies are required to consult with the USFWS if their actions, including permit approvals or funding, could adversely affect a listed (or proposed) species (including plants) or its critical habitat. Through consultation and the issuance of a biological opinion (BO), the USFWS may issue an incidental take statement allowing take of the species that is incidental to an otherwise authorized activity provided the activity will not jeopardize the continued existence of the species. Section 10 of ESA provides for issuance of incidental take permits where no other federal actions are necessary provided a habitat conservation plan (HCP) is developed.

2.1.1.1 Section 7

Section 7 of ESA mandates that all federal agencies consult with USFWS and/or NMFS to ensure that federal agencies' actions do not jeopardize the continued existence of a listed species or adversely modify Critical Habitat for listed species. If direct and/or indirect effects will occur to Critical Habitat that appreciably diminish the value of Critical Habitat for both the survival and recovery of a species, the adverse modifications will require formal consultation with USFWS or NMFS. If adverse effects are likely, the applicant must conduct a biological assessment (BA) for the purpose of analyzing the potential effects of the project on listed species and critical habitat to establish and justify an "effect determination." The federal agency reviews the BA; if it concludes that the project may adversely affect a listed species or its habitat, it prepares a BO. The BO may recommend "reasonable and prudent alternatives" to the project to avoid jeopardizing or adversely modifying habitat.

2.1.1.2 Section 10

When no discretionary action is being taken by a federal agency, but a project may result in the take of listed species, an incidental take permit under Section 10 of the ESA is necessary. The purpose of the incidental take permit is to authorize the take of federally listed species that may result from an otherwise lawful activity, not to authorize the activities themselves. In order to obtain an incidental take permit under Section 10, an application must be submitted that includes a HCP. In some instances, applicants, USFWS, and/or NMFS may determine that an HCP is necessary or prudent, even if a discretionary federal action will occur. The purpose of the HCP planning process associated with the permit application is to ensure that adequate minimization and mitigation for impacts to listed species and/or their habitat will occur.

2.1.1.3 Critical Habitat and Essential Habitat

Critical habitat is defined in Section 3 of ESA as (1) the specific areas within the geographical area occupied by a species, at the time it is listed in accordance with the ESA, on which are found those physical or biological features essential to the conservation of the species and that may require special management considerations or protection; and (2) specific areas outside the geographical area occupied by a species at the time it is listed, upon a determination that such areas are essential for the conservation of the species. For inclusion in a critical habitat designation, habitat within the geographical area occupied

by the species at the time it was listed must first have features that are essential to the conservation of the species. Critical Habitat designations identify, to the extent known and using the best scientific data available, habitat areas that provide essential life cycle needs of the species (areas on which are found the primary constituent elements). Primary constituent elements are the physical and biological features that are essential to the conservation of the species and that may require special management considerations or protection. These include but are not limited to the following:

- Space for individual and population growth and for normal behavior;
- Food, water, air, light, minerals, or other nutritional or physiological requirements;
- Cover or shelter;
- Sites for breeding, reproduction, or rearing (or development) of offspring; or
- Habitats that are protected from disturbance or are representative of the historic, geographical, and ecological distributions of a species.

Excluded essential habitat is defined as areas that were found to be essential habitat for the survival of a species and assumed to contain at least one of the primary constituent elements for the species but were excluded from the critical habitat designation. The USFWS has stated that any action within the excluded essential habitat that triggers a federal nexus will be required to undergo the Section 7(a)(1) process, and the species covered under the specific critical habitat designation would be afforded protection under Section 7(a)(2) of ESA.

2.1.1.4 Essential Fish Habitat

In accordance with the Magnuson-Stevens Fishery Conservation and Management Act, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), federal agencies are required to consult with the NMFS for activities that may affect Essential Fish Habitat (EFH). EFH are the waters and substrate necessary for fish spawning, breeding, feeding, or growth to maturity, and include several important components: adequate substrate; water quality; water quantity, depth, and velocity; channel gradient and stability; food; cover and habitat complexity; space; access and passage; and habitat connectivity (Pacific Fishery Management Council 2000).

2.1.2 Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) implements international treaties between the United States and other nations devised to protect migratory birds, any of their parts, eggs, and nests from activities such as hunting, pursuing, capturing, killing, selling, and shipping, unless expressly authorized in the regulations or by permit. As authorized by the MBTA, the USFWS issues permits to qualified applicants for the following types of activities: falconry, raptor propagation, scientific collecting, special purposes (rehabilitation, education, migratory game bird propagation, and salvage), take of depredating birds, taxidermy, and waterfowl sale and disposal. The regulations governing migratory bird permits can be found in 50 CFR part 13 General Permit Procedures and 50 CFR part 21 Migratory Bird Permits. The State

of California has incorporated the protection of birds of prey in Sections 3800, 3513, and 3503.5 of the California Fish and Game Code.

2.1.3 Federal Clean Water Act

The federal Clean Water Act's (CWA) purpose is to "restore and maintain the chemical, physical, and biological integrity of the nation's waters." Section 404 of the CWA prohibits the discharge of dredged or fill material into "Waters of the United States" without a permit from the U.S. Army Corps of Engineers (USACE). The definition of Waters of the U.S. includes rivers, streams, estuaries, the territorial seas, ponds, lakes, and wetlands. Wetlands are defined as those areas "that are inundated or saturated by surface or ground water 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 soil conditions" (33 CFR 328.3 7b). The USEPA also has authority over wetlands and may override a USACE permit.

Substantial impacts to wetlands may require an individual permit. Projects that only minimally affect wetlands may meet the conditions of one of the existing Nationwide Permits. A Water Quality Certification or waiver pursuant to Section 401 of the CWA is required for Section 404 permit actions; this certification or waiver is issued by the Regional Water Quality Control Board (RWQCB).

The alteration of a USACE federally authorized civil works project requires a permit pursuant to Section 408 (33 USC 408, Section 14 of the Rivers and Harbors Act of 1899). Projects with minimal impacts require approval by the USACE Sacramento District Construction Operations Group, however projects with more substantial impacts may require USACE Headquarters review. Coordination with the Central Valley Flood Protection Board, who serve as the Non-Federal Sponsor, is required as a part of the process of obtaining a Section 408 permit.

2.2 State or Local Regulations

2.2.1 California Fish and Game Code

2.2.1.1 California Endangered Species Act

The California ESA (California Fish and Game Code Sections 2050-2116) generally parallels the main provisions of ESA, but unlike its federal counterpart, CESA applies the take prohibitions to species proposed for listing (called "candidates" by the state). Section 2080 of the California Fish and Game Code prohibits the taking, possession, purchase, sale, and import or export of endangered, threatened, or candidate species, unless otherwise authorized by permit or in the regulations. Take is defined in Section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." CESA allows for take incidental to otherwise lawful development projects. State lead agencies are required to consult with CDFW to ensure that any action they undertake is not likely to jeopardize the continued existence of any endangered, threatened or candidate species or result in destruction or adverse modification of essential habitat.

2.2.1.2 Fully Protected Species

The State of California first began to designate species as “fully protected” prior to the creation of ESA and CESA. Lists of fully protected species were initially developed to provide protection to those animals that were rare or faced possible extinction and included fish, amphibians and reptiles, birds, and mammals. Most fully protected species have since been listed as threatened or endangered under CESA and/or ESA. The regulations that implement the Fully Protected Species Statute (California Fish and Game Code § 4700 for mammals, § 3511 for birds, § 5050 for reptiles and amphibians, and § 5515 for fish) provide that fully protected species may not be taken or possessed at any time. Furthermore, the CDFW prohibits any state agency from issuing incidental take permits for fully protected species. The CDFW will issue licenses or permits for take of these species for necessary scientific research or live capture and relocation pursuant to the permit.

2.2.1.3 Native Plant Protection Act

The NPPA of 1977 was created with the intent to “preserve, protect and enhance rare and endangered plants in this State.” The NPPA is administered by CDFW and provided in California Fish and Game Code §§ 1900-1913. The Fish and Wildlife Commission has the authority to designate native plants as “endangered” or “rare” and to protect endangered and rare plants from take. CESA of 1984 (California Fish and Game Code § 2050-2116) provided further protection for rare and endangered plant species, but the NPPA remains part of the California Fish and Game Code.

2.2.1.4 Birds of Prey

Sections 3800, 3513, and 3503 of the California Fish and Game Code specifically protect birds of prey. Section 3800 states that it is unlawful to take nongame birds, such as those occurring naturally in California that are not resident game birds, migratory game birds, or fully protected birds, except when in accordance with regulations of the commission or a mitigation plan approved by CDFW for mining operations. Section 3513 specifically prohibits the take or possession of any migratory nongame bird as designated in the MBTA.

Section 3503 of the California Fish and Game Code prohibits the take, possession, or needless destruction of the nest or eggs of any bird. Additionally, Subsection 3503.5 prohibits the take, possession, or destruction of any birds and their nests in the orders Strigiformes (owls) or Falconiformes (hawks and eagles). These provisions, along with the federal MBTA, serve to protect nesting native birds.

2.2.2 Species of Special Concern

SSC are defined by CDFW as a species, subspecies, or distinct population of an animal native to California that are not legally protected under the federal or California ESAs or the California Fish and Game Code, but currently satisfy one or more of the following criteria:

- The species has been completely extirpated from the state or, as in the case of birds, it has been extirpated from its primary seasonal or breeding role;

- The species is listed as federally (but not state) threatened or endangered, or meets the state definition of threatened or endangered but has not formally been listed;
- The species has or is experiencing serious (nonscyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status;
- The species has naturally small populations that exhibit high susceptibility to risk from any factor that if realized, could lead to declines that would qualify it for state threatened or endangered status.

SSC are typically associated with habitats that are threatened. Project-related impacts to SSC, state-threatened, or endangered species are considered “significant” under CEQA.

2.2.3 California Rare Plant Ranks

The CNPS maintains the *Inventory of Rare and Endangered Plants of California* (CNPS 2019), which provides a list of plant species native to California that are threatened with extinction, have limited distributions, and/or low populations. Plant species meeting one of these criteria are assigned to one of six CRPRs. The rank system was developed in collaboration with government, academia, non-governmental organizations, and private sector botanists, and is jointly managed by CDFW and the CNPS. The CRPRs are currently recognized in the California Natural Diversity Database (CNDDDB). The following are definitions of the CNPS CRPRs:

- Rare Plant Rank 1A – presumed extirpated in California and either rare or extinct elsewhere
- Rare Plant Rank 1B – rare, threatened, or endangered in California and elsewhere
- Rare Plant Rank 2A – presumed extirpated in California, but more common elsewhere
- Rare Plant Rank 2B – rare, threatened, or endangered in California but more common elsewhere
- Rare Plant Rank 3 – a review list of plants about which more information is needed
- Rare Plant Rank 4 – a watch list of plants of limited distribution

Additionally, the CNPS has defined Threat Ranks that are added to the CRPR as an extension. Threat Ranks designate the level of threat on a scale of 1 through 3, with 1 being the most threatened and 3 being the least threatened. Threat Ranks are generally present for all plants ranked 1B, 2B, or 4, and for the majority of plants ranked 3. Plant species ranked 1A and 2A (presumed extirpated in California), and some species ranked 3, which lack threat information, do not typically have a Threat Rank extension. The following are definitions of the CNPS Threat Ranks:

- Threat Rank 0.1 – Seriously threatened in California (more than 80 percent of occurrences threatened/high degree and immediacy of threat)
- Threat Rank 0.2 – Moderately threatened in California (20-80 percent occurrences threatened/moderate degree and immediacy of threat)

- Threat Rank 0.3 – Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known)

Factors, such as habitat vulnerability and specificity, distribution, and condition of occurrences, are considered in setting the Threat Rank; and differences in Threat Ranks do not constitute additional or different protection (CNPS 2019). Depending on the policy of the lead agency, substantial impacts to plants ranked 1A, 1B, or 2 are typically considered significant under CEQA Guidelines § 15380. Significance under CEQA is typically evaluated on a case-by-case basis for plants ranked 3 or 4.

2.2.4 Porter-Cologne Water Quality Act

The RWQCB implements water quality regulations under the federal CWA and the Porter-Cologne Water Quality Act. These regulations require compliance with the National Pollutant Discharge Elimination System (NPDES), including compliance with the California Storm Water NPDES General Construction Permit for discharges of stormwater runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan. Under the Porter-Cologne Water Quality Act, the RWQCB regulates actions that would involve “discharging waste, or proposing to discharge waste, with any region that could affect the water of the state” (Water Code 13260(a)). Waters of the State are defined as “any surface water or groundwater, including saline waters, within the boundaries of the state” (Water Code 13050 (e)). The RWQCB regulates all such activities, as well as dredging, filling, or discharging materials into Waters of the State, that are not regulated by USACE due to a lack of connectivity with a navigable water body. The RWQCB may require issuance of a Waste Discharge Requirements for these activities.

2.2.5 California Environmental Quality Act

In accordance with CEQA Guidelines § 15380, a species not protected on a federal or state list may be considered rare or endangered if the species meets certain specified criteria. These criteria follow the definitions in the federal and California ESAs and §§ 1900-1913 of the California Fish and Game Code, which deal with rare or endangered plants or animals. Section 15380 was included in the CEQA Guidelines primarily to deal with situations where a project under review may have a significant effect on a species that has not yet been listed by either USFWS or CDFW.

2.2.5.1 CEQA Significance Criteria

Sections 15063-15065 of the CEQA Guidelines address how an impact is identified as significant, and are particularly relevant to SSC. Generally, impacts to listed (rare, threatened, or endangered) species are considered significant and require lead agencies to prepare an Environmental Impact Report to thoroughly analyze and evaluate the impacts. Assessment of “impact significance” to populations of non-listed species (e.g., SSC) usually considers the proportion of the species’ range that will be affected by a project, impacts to habitat, and the regional and population level effects.

Specifically, § 15064.7 of CEQA Guidelines encourages local agencies to develop and publish the thresholds that the agency uses in determining the significance of environmental effects caused by

projects under its review. However, agencies may also rely upon the guidance provided by the expanded Initial Study checklist contained in Appendix G of the CEQA Guidelines. Appendix G provides examples of impacts that would normally be considered significant. Based on these examples, impacts to biological resources would normally be considered significant if the project would:

- have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFW or USFWS;
- have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by CDFW or USFWS;
- have a substantial adverse effect on federally protected Waters of the U.S. including wetlands as defined by Section 404 of the CWA (including, but not limited to, marsh, vernal pool, and coastal) through direct removal, filling, hydrological interruption, or other means;
- 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;
- conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- conflict with the provisions of an adopted HCP, Natural Community Conservation Plan (NCCP), or other approved local, regional, or state HCP.

An evaluation of whether or not an impact on biological resources would be substantial must consider both the resource itself and how that resource fits into a regional or local context. Substantial impacts would be those that would diminish, or result in the loss of, an important biological resource, or those that would obviously conflict with local, state, or federal resource conservation plans, goals, or regulations. Impacts are sometimes locally important but not significant according to CEQA. The reason for this is that although the impacts would result in an adverse alteration of existing conditions, they would not substantially diminish or result in the permanent loss of an important resource on a population-wide or region-wide basis.

2.2.6 Local Plans and Ordinances

2.2.7 Local Tree Ordinances

The Project Area is located in Placer County; and the Project is subject to Placer County ordinances.

2.2.7.1 Placer County Tree Ordinance

The Placer County Tree Ordinance requires documentation of native trees with a dbh (diameter at breast height) of 6 inches or greater for single stemmed trees or 10 inches or greater for multiple stemmed trees,

excluding grey pine (*Pinus sabiniana*) trees. They also require documentation of landmark trees and riparian zone (Article 12.16.020). The following are the definitions of the terms above:

- Landmark Tree: A tree or grove of trees designated by resolution of the board of supervisors to be of historical or cultural value, an outstanding specimen, and unusual species and/or of significant community benefit.
- Riparian zone: Any area within fifty feet from the centerline of a seasonal creek or stream, any area one hundred feet from the center of a year round creek, stream, or river, and any area within one hundred feet from the shoreline of a pond, lake, or reservoir. (Note: All trees regardless of size within riparian areas as a part of any discretionary project county-wide are subject to this article.)

A tree permit is not required for the removal of a protected tree under the following circumstances: (Except for subsection C, a landmark tree is not subject to the exemptions set forth below) (Article 12.16.050).

- D. When compliance would interfere with activities of a public utility necessary to comply with applicable safety regulations and/or necessary to repair or avoid the interruption of services provided by such a utility. Routine repair and maintenance of utilities would be exempt; new construction projects (i.e., the installation of high power, transmission line corridor) are subject to review.

3.0 METHODS

3.1 Literature Review

The following resources were reviewed to determine the special-status species that have been documented within or in the vicinity of the Project Area. Results of the species searches are included as Attachment B.

- CDFW CNDDDB data for the "Gold Hill, California" 7.5-minute quadrangle as well as the eight surrounding USGS quadrangles (CDFW 2019a);
- USFWS Information, Planning, and Consultation System Resource Report List for the Project Area (USFWS 2019a);
- CNPS' electronic Inventory of Rare and Endangered Plants of California was queried for the "Gold Hill, California" 7.5-minute quadrangles and the eight surrounding quadrangles (CNPS 2019);
- CDFW Biogeographic Information and Observation System (BIOS) query of range maps for potentially occurring special-status species (CDFW 2019b); and
- USFWS Threatened & Endangered Species Active Critical Habitat Report (USFWS 2019b).

Additional background information was reviewed regarding the documented or potential occurrence of special-status species within or near the Project Area from the following sources:

- The Status of Rare, Threatened, and Endangered Plants and Animals of California 2000-2004 (California Department of Fish and Game [CDFG] 2005);

- California Bird SSC (Shuford and Gardali 2008);
- Amphibian and Reptile SSC in California (Thompson et al. 2016);
- Mammalian SSC in California (Williams 1986);
- California's Wildlife, Volumes I-III (Zeiner, et al. 1988, 1990a, 1990b); and
- A Guide to Wildlife Habitats of California (Mayer and Laudenslayer Jr., eds. 1988).

3.2 Site Reconnaissance

ECORP Biologists Keith Kwan and Carly Rich conducted the site reconnaissance visit on June 27, 2019. The Project Area was systematically surveyed on foot using an ipad, topographic maps, and aerial imagery to ensure total site coverage. Special attention was given to identifying those portions of the Project Area with the potential to support special-status species and sensitive habitats. During the field survey, biological communities occurring onsite were characterized and the following biological resource information was collected:

- Vegetation communities within the Project Area;
- Plant and animal species directly observed;
- Animal evidence (e.g., scat, tracks);
- Existing active raptor nest locations;
- Burrows and any other special habitat features;
- Representative Project Area photographs (Attachment C)

In addition, soil types were identified using the NRCS Web Soil Survey (NRCS 2019a).

3.3 Additional Surveys Conducted

A wetland delineation was conducted for the Project Site (see *Figure 2*) by Stantec Inc. in 2018 (Stantec Inc. 2018). This biological resources assessment includes a preliminary wetland assessment of the northern portion of the Construction Access Route as well. A preliminary wetland assessment was not conducted for the southern portion of the Construction Access Route since this access is along an existing road.

3.4 Special-Status Species Considered for the Project

Based on species occurrence information from the literature review and observations in the field, a list of special-status plant and animal species that have the potential to occur within the Project Area was generated and is provided in Section 4.6. Only special-status species as defined in Section 1.3 were included in this analysis. Each of these species' potential to occur within the Project Area was assessed based on the following criteria:

- **Present** - Species was observed during the site visit or is known to occur within the Project Area based on documented occurrences within the CNDDDB or other literature.
- **Potential to Occur** - Habitat (including soils and elevation requirements) for the species occurs within the Project Area.
- **Low Potential to Occur** - Marginal or limited amounts of habitat occurs, and/or the species is not known to occur within the vicinity of the Project Area based on CNDDDB records and other available documentation.
- **Absent** - No suitable habitat (including soils and elevation requirements) and/or the species is not known to occur within the vicinity of the Project Area based on CNDDDB records and other documentation.

4.0 RESULTS

4.1 Site Characteristics and Land Use

The Project Area is located north of Highway 193 and just west of Gold Hill Road, about 4 miles northeast of the town of Newcastle in Placer County, California. The Project Area and surrounding areas are characterized by rural residential and agricultural properties and the property the site is located on is a wedding and event venue. The Project Area is composed of flat as well as low hilly terrain. Elevation ranges within the Project Area from approximately 360 to 430 feet above mean sea level (MSL).

4.2 Vegetation Communities and Land Cover Types

During the field visit, four land cover types were identified within the Project Area. These include irrigated pasture, riparian, disturbed/developed, and oak woodland/grassland. These land cover types are described below.

4.2.1 Irrigated Pasture

The northern portion of the Construction Access Route (see *Figure 2*) can be characterized as irrigated pasture. It is predominantly composed of non-native Dallas grass (*Paspalum dilatatum*). In addition, non-native species such as Kentucky bluegrass (*Poa pratensis*) and white clover (*Trifolium repens*). Some umbrella nutsedge (*Cyperus eragrostis*), a native, was also scattered throughout the irrigated pasture.

4.2.2 Riparian

The riparian portions of the site are located in the center of the Project Site, and occur in the vicinity of Doty Ravine/Sailor Ravine confluence. These overstory consists mostly of native oak trees such as interior live oak (*Quercus wislizeni*), valley oak (*Quercus lobata*), and blue oak (*Quercus douglasii*), as well as white alder (*Alnus rhombifolia*), and buckeye (*Aesculus californica*). The understory layer was dominated by Himalayan blackberry (*Rubus armeniacus*) and pokeweed (*Phytolacca decandra*).

4.2.3 Oak Woodland

This habitat type is found on the upper elevations of the Project Site to the north and south side of Doty Ravine. The Oak Woodland habitat type is predominantly composed of native oak trees in the over story layer such as live oak and blue oak, and weedy ruderal species such as mustard (*Brassica sp.*) and grassy species such as Mediterranean barley (*Hordeum murinum*) in the understory layer.

4.2.4 Disturbed/Developed

This cover is found in the southern portion of the Construction Access Route (see *Figure 2*) and consists of an existing dirt road which is used to access the Project Site.

4.3 Potential Waters of the U.S.

Figure 3. Habitat Map shows the location of Waters of the U.S. within the Project Site and along the northern portion of the Construction Access Route (within the Northern Access Route Survey Corridor). Those waters shown on the Project Site are based on a U.S. Army Corps of Engineers verified wetland delineation prepared by Stantec (May 9, 2018). According to the Stantec delineation, Project Site waters include 0.003 acres of Intermittent Channel (Sailor Ravine) and 0.102 acres of Perennial Stream (Doty Ravine) for a total 0.105 acres of onsite waters (see *Table 1 Potential Waters of the U.S. within the Project Area*).

A separate preliminary wetland assessment of the northern Construction Access Route was conducted for this BRA by ECORP biologists on June 27, 2019. As shown in (*Figure 3. Habitat Map*) the proposed southern access follows an existing improved dirt service/maintenance road and is free of wetland constraints. The northern access similarly utilizes an existing maintenance/service road on the west, however the eastern end would also pass through unimproved irrigated pasture land. Because the eastern portion of the northern access route was undefined at the time of BRA preparation, a 100-foot wide corridor was surveyed for potential wetlands and biological constraints. This assessment identified a section of intermittent channel, a portion of Sailor Ravine, near the eastern end of the northern access route (see *Figure 3. Habitat Map*). As shown in *Table 1*, a total of 0.022 acres of Intermittent Channel (Sailor Ravine) was identified within the northern Construction Access Route.

Table 1. Potential Waters of the U.S. within the Project Area.	
Type	Acres ¹
<u>Project Site</u>	
Non-Wetland Waters ²	
Intermittent Channel (Sailor Ravine)	0.003
Perennial Stream (Doty Ravine)	0.102
<u>Northern Construction Access Route</u>	
Non-Wetland Waters ³	
Intermittent Channel (Sailor Ravine)	0.022
Total	0.127

¹Acres represent a calculated estimation and are subject to modification following the USACE verification process.

²Wetland data taken from the Stantec Wetland Resources Delineation (Stantec 2018).

³Acres represent wetland data digitized after the June 2019 site visit and preliminary wetland assessment.

ECORP: N:\2019\2019-003 NID Doty North Canal Siphon Replacement\MAPS\Biological_Resources\Doty_Vegetation_20190715.mxd (KIT/AMM)-amymers 9/25/2019



Map Features

Project Site*

Construction Access Route*

Vegetation Type

Disturbed/Developed - 0.03 ac.

Irrigated Pasture - 2.39 ac.

Oak Woodland - 1.21 ac.

Riparian - 1.06 ac.

Non-Wetland Waters Identified During Stantec Preliminary Wetland Delineation

Perennial Stream - 0.102 ac.

Intermittent Channel - 0.003 ac.

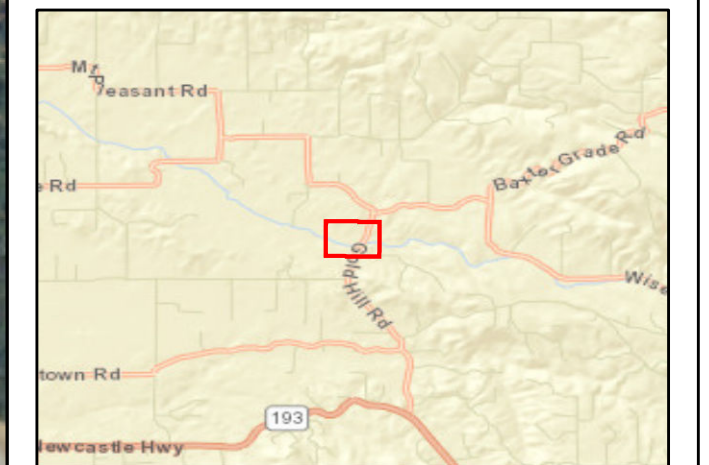
Non-Wetland Waters Identified During ECORP Preliminary Wetland Assessment

Intermittent Channel - 0.022 ac.

Table 1. Potential Waters of the U.S. within the Project Site

Type	Acres ¹
Stantec Wetland Delineation²	
Non-Wetland Waters	
Intermittent Channel (Sailor Ravine)	0.003
Perennial Stream (Doty Ravine)	0.102
ECORP Preliminary Wetland Assessment³	
Non-Wetland Waters	
Intermittent Channel (Sailor Ravine)	0.022
Total	0.127

¹Acres represent a calculated estimation and are subject to modification following the USACE verification process.
²Wetland data taken from the Stantec Wetland Resources Delineation (Stantec 2018).
³Acres/Wetland data digitized after the June 2019 site visit and preliminary wetland assessment.
 *Features represent approximate locations for cartographic purposes
 Sources: NAIP 2018

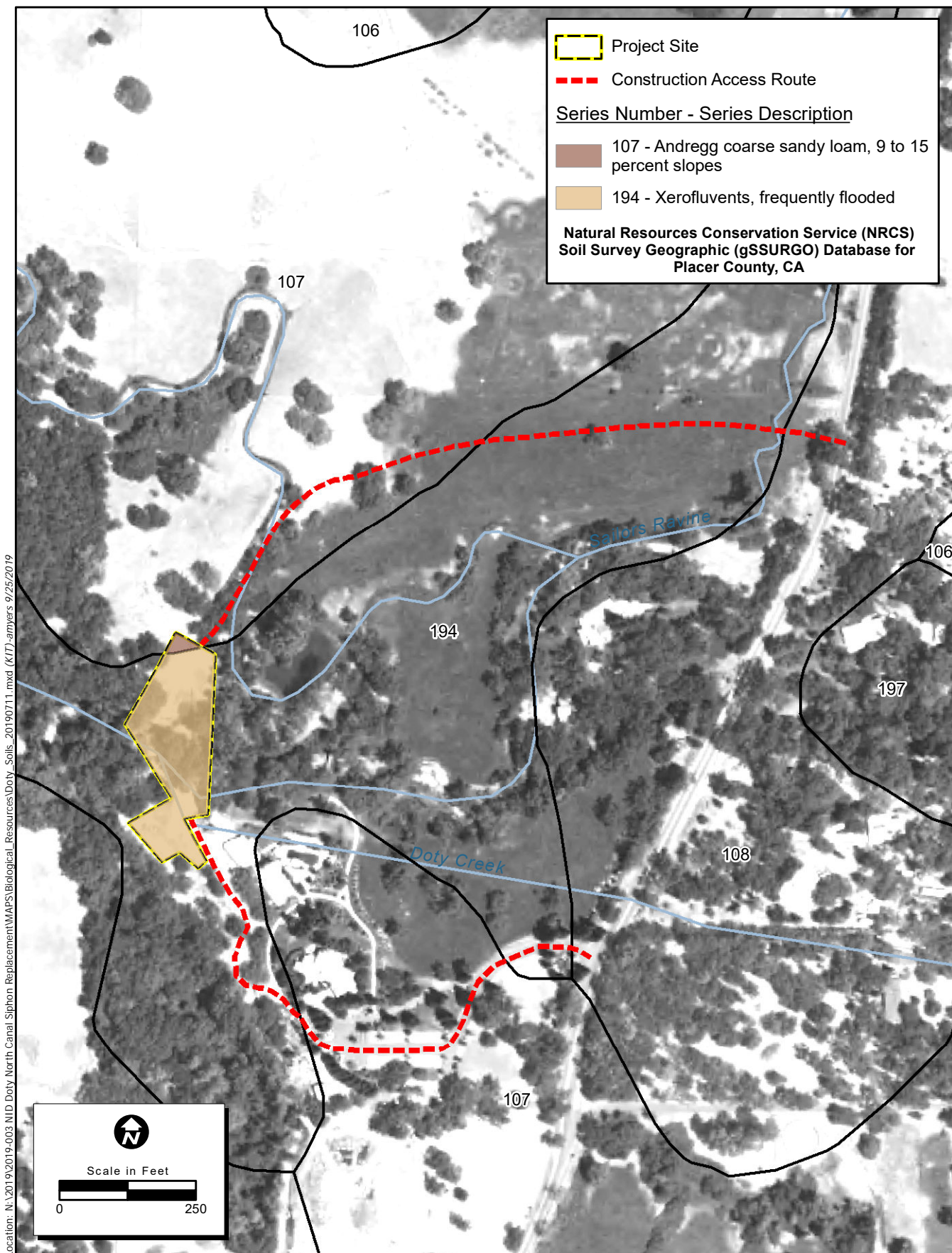


4.4 Soils

According to the Soil Survey Geographic (SSURGO) Database for Placer County, California (NRCS 2019a), three soil units, or types, have been mapped within the Project Area (*Figure 4. Natural Resources Conservation Service Soil Types*):

- 107 – Andregg coarse sandy loam, 9 to 15 percent slopes;
- 108 – Andregg coarse sandy loam, 15 to 30 percent slopes; and
- 194 – Xerofluvents, frequently flooded.

Xerofluvents, frequently flooded (194) is considered hydric. The remaining soil types do not contain hydric components (NRCS 2019b).



Location: N:\2019\2019-003 NID Doty North Canal Siphon Replacement\MAPS\Biological_Resources\Doty_Soils_20190711.mxd (KIT)-amyers 9/25/2019

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Figure 4. Natural Resources Conservation Service Soil Types

4.5 Wildlife

Habitats within the Project Area support a variety of common wildlife species such as red-shouldered hawk (*Buteo lineatus*), California quail (*Callipepla californica*), and acorn woodpecker (*Melanerpes formicivorus*), among others. A detailed list of wildlife species observed in the vicinity of the Project Area during the June 2019 site visit is included as Attachment E.

4.6 Evaluation of Species Identified in the Literature Search

A list of all of the plant and wildlife species identified in the literature search as potentially occurring within the Project Area is provided in *Table 2*. This table includes the listing status for each species, a brief habitat description, and a determination on the potential to occur in the Project Area. Following the table is a brief description of each species with potential to occur.

Several species and sensitive habitat types came up in the database and literature searches (Attachment B) but are not included in *Table 2*. These species and habitat types were not included in *Table 2* because the species have been formally delisted or are only tracked by the CNDDDB and possess no special-status, or because the identified sensitive habitats are not located within the Project Area. They are not discussed further in this report. One mammal species (ringtail [*Bassariscus astutus*]) was added to the analysis. Ringtail has been added because it is known to occur in the area, but it does not typically appear in the database and literature searches.

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
Plants						
Jepson's onion <i>(Allium jepsonii)</i>	-	-	1B.2	Serpentinite or volcanic soils in chaparral, cismontane woodland, and lower montane coniferous forests. (984'-4,331').	April–August	Absent. Outside of known elevation range for this species.
Sanborn's onion <i>(Allium sanbornii</i> var. <i>sanbornii)</i>	-	-	4.2	Chaparral, cismontane woodland, and lower montane coniferous forests, usually with gravelly, serpentinite soils (853'-4,954').	May–September	Low. Suitable habitat present but outside of known elevation range.
Mexican Mosquito Fern <i>(Azolla microphylla)</i>	-	-	4.2	Marshes and swamps, ponds or slow-moving bodies of water (98'-328').	August	Absent. No suitable habitat present onsite.
Big-scale balsamroot <i>(Balsamorhiza macrolepis</i> var. <i>macrolepis)</i>	-	-	1B.2	Chaparral, cismontane woodland, and valley and foothill grassland, sometimes on serpentinite soils (148'-5,102').	March–June	Potential to occur. Suitable habitat present onsite.
Valley brodiaea <i>(Brodiaea rosea</i> ssp. <i>vallicola)</i>	-	-	4.2	old alluvial terraces and silt, sandy, or gravelly soils in vernal pools within Valley and foothill grassland (33'-1,100')	April–June	Absent. No suitable habitat present onsite.
Stebbins' morning-glory <i>(Calystegia stebbinsii)</i>	FE	CE	1B.1	Gabbroic or serpentine soils in chaparral and cismontane woodland (607'-3,576').	April–July	Absent. No suitable soils present onsite.
Chaparral sedge <i>(Carex xerophila)</i>	-	-	1B.2	Serpentinite or gabbroic soils within chaparral, cismontane woodland, and lower montane coniferous forest (1,444'-2,526').	March–June	Absent. Outside of known species range.
Pine Hill ceanothus <i>(Ceanothus roderickii)</i>	FE	CR	1B.1	Rocky serpentinite or gabbroic soil in chaparral and cismontane woodland (804'-3,576').	April–June	Absent. No suitable soils present onsite.
Red Hills soaproot <i>(Chlorogalum grandiflorum)</i>	-	-	1B.2	Serpentinite or gabbroic soils in chaparral, cismontane woodland, and lower montane coniferous forest, occasionally on non-ultramafic soils (804'-5,545').	May–June	Absent. No suitable soils present onsite.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
Hispid Bird's-beak <i>(Chloropyron molle ssp. hispidum)</i>	-	-	1B.1	Alkaline soils in meadows and seeps, playas, and valley and foothill grasslands (3'-509').	June-September	Absent. No suitable habitat present onsite.
Brandegee's clarkia <i>(Clarkia biloba ssp. brandegeae)</i>	-	-	4.2	Chaparral, cismontane woodlands, and lower montane coniferous forest often along roadcuts (246'-3,002').	May-July	Potential to occur. Suitable habitat present onsite.
Streambank spring beauty <i>(Claytonia parviflora ssp. grandiflora)</i>	-	-	4.2	Occurs in rocky cismontane woodland. (820'-3,937').	February-May	Low. Marginal habitat and outside of known elevation range.
Bisbee Peak rush-rose <i>(Crocanthemum suffrutescens)</i>	-	-	3.2	Often gabbroic or lone soil or in burned or disturbed areas within chaparral (246'-2,198').	April-August	Absent. No suitable habitat present onsite.
Dwarf downingia <i>(Downingia pusilla)</i>	-	-	2B.2	Mesic areas in valley and foothill grassland, and vernal pools. Species appears to have an affinity for slight disturbance (i.e., scraped depressions, ditches, etc.) (Baldwin et al. 2012, CDFW 2018) (3'-1,460').	March-May	Absent. No suitable habitat present onsite.
Stinkbells <i>(Fritillaria agrestis)</i>	-	-	4.2	Clay and sometimes serpentinite soils in chaparral, cismontane woodland, Pinyon and juniper woodland, and valley and foothill grassland (33'-5,102').	March-June	Low potential to occur. Marginal habitat present onsite.
Butte County fritillary <i>(Fritillaria eastwoodiae)</i>	-	-	3.2	Chaparral, cismontane woodland, and openings in lower montane coniferous forest and occasionally is found on serpentinite soils (164'-4,921').	March-June	Potential to occur. Suitable habitat present onsite.
El Dorado bedstraw <i>(Galium californicum ssp. sierrae)</i>	FE	CR	1B.2	Gabbroic soil in chaparral, cismontane woodland and lower montane coniferous forest communities (328'-1,919').	May-June	Absent. No suitable soils present onsite.
Boggs Lake hedge-hyssop <i>(Gratiola heterosepala)</i>	-	CE	1B.2	Marshes, swamps, lake margins, and vernal pools (33'-7,792').	April-August	Absent. No suitable habitat present onsite.

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
Ahart's dwarf rush <i>(Juncus leiospermus var. ahartii)</i>	-	-	1B.2	Mesic areas in valley and foothill grassland. Species has an affinity for slight disturbance such as farmed fields (USFWS 2005) (98'-751').	March-May	Low potential to occur. Marginal habitat present onsite.
Red Bluff dwarf rush <i>(Juncus leiospermus var. leiospermus)</i>	-	-	1B.1	Vernally mesic areas in chaparral, cismontane woodland, meadows and seeps, valley and foothill grassland, and vernal pools (115'-4,101').	March-June	Absent. No suitable habitat present onsite.
Dubious Pea <i>(Lathyrus sulphureus var. argillaceus)</i>	-	-	3	Cismontane woodland, lower montane coniferous forest and upper montane coniferous forest. (492'-3,051').	April-May	Potential to occur. Suitable habitat present onsite.
Legenere <i>(Legenere limosa)</i>	-	-	1B.1	Various seasonally inundated areas including wetlands, wetland swales, marshes, vernal pools, artificial ponds, and floodplains of intermittent drainages (USFWS 2005) (3'-2,887').	April-June	Absent. No suitable habitat present onsite.
Humboldt Lily <i>(Lilium humboldtii ssp. humboldtii)</i>	-	-	4.2	Occurs in openings within chaparral, cismontane woodland, and lower montane coniferous forest (295'-4,199').	May-August	Potential to occur. Suitable habitat present onsite.
Pincushion navarretia <i>(Navarretia myersii ssp. myersii)</i>	-	-	1B.1	Often acidic soils in vernal pools (66'-1,083').	April-May	Absent. No suitable habitat present onsite.
Adobe navarretia <i>(Navarretia nigelliformis ssp. nigelliformis)</i>	-	-	4.2	Clay and sometimes serpentinite soils in vernal mesic valley and foothill grasslands and sometimes in vernal pools (328'-3,281').	April-June	Absent. No suitable habitat present onsite.
Layne's ragwort <i>(Packera layneae)</i>	FT	CR	1B.2	Rocky serpentinite or gabbroic soil in chaparral and cismontane woodland communities (656'-3,560').	April-August	Absent. No suitable soils present onsite.

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
Oval-leaved viburnum <i>(Viburnum ellipticum)</i>	-	-	2B.3	Chaparral, cismontane woodland, and lower montane coniferous forest communities (705'-4,593).	May-June	Potential to occur. Suitable habitat present onsite.
Brazilian watermeal <i>(Wolffia brasiliensis)</i>	-	-	2B.3	Assorted shallow freshwater marshes and swamps (66'-328').	April-December	Absent. No suitable habitat present onsite.
El Dorado County Mule Ears <i>(Wyethia reticulata)</i>	-	-	1B.2	Clay or gabbroic soils in chaparral, cismontane woodland, and lower montane coniferous forest communities (607'-2,067').	April-August	Absent. No suitable soils present onsite.
Invertebrates						
Valley elderberry longhorn beetle <i>(Desmocerus californicus dimorphus)</i>	FT	-	-	Elderberry shrubs.	Any season	Absent. No elderberry shrubs were observed during the site visit within the Project Area. However, if Project design changes any expansion of the Project Area will need to be surveyed.
Vernal pool fairy shrimp <i>(Branchinecta lynchi)</i>	FT	-	-	Vernal pools/wetlands.	November-April	Absent. No suitable habitat present onsite.
Vernal pool tadpole shrimp <i>(Lepidurus packardii)</i>	FE	-	-	Vernal pools/wetlands.	November-April	Absent. No suitable habitat present onsite.
Fish						
Delta smelt <i>(Hypomesus transpacificus)</i>	FT	CE	-	Sacramento-San Joaquin delta.	N/A	Absent. The Project Area is outside of the geographic range of this species.

Table 2. Special-Status Species Evaluated for the Study Area						
Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
Steelhead (CA Central Valley DPS) <i>(Oncorhynchus mykiss)</i>	FT	-	-	Undammed rivers, streams, creeks.	N/A	Low potential to occur. Access to the Project Area by anadromous fish is blocked in all but the highest of flows by a downstream culvert at Garden Bar Road.
Amphibians						
California red-legged frog <i>(Rana draytonii)</i>	FT	-	SSC	Lowlands or foothills at waters with dense shrubby or emergent riparian vegetation. Adults must have aestivation habitat to endure summer dry down.	May 1- November 1	Absent. The Project Study Area is outside of the known existing range of this species.
Foothill yellow-legged frog <i>(Rana boylei)</i>	-	CC	SSC	Foothill yellow-legged frogs can be active all year in warmer locations but may become inactive or hibernate in colder climates. At lower elevations, foothill yellow-legged frogs likely spend most of the year in or near streams. Adult frogs, primarily males, will gather along main-stem rivers during spring to breed.	May–October	Low potential to occur. Marginal suitable dispersal habitat present onsite.
Western spadefoot <i>(Spea hammondi)</i>	-	-	SSC	California endemic species of vernal pools, swales, wetlands and adjacent grasslands throughout the Central Valley.	March-May	Absent. No suitable habitat present onsite.
Reptiles						
Northwestern pond turtle <i>(Actinemys marmorata)</i>	-	-	SSC	Requires basking sites and upland habitats up to 0.5 km from water for egg laying. Uses ponds, streams, detention basins, and irrigation ditches.	April- September	Potential to occur. Suitable habitat present onsite.
Birds						

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
California black rail <i>(Laterallus jamaicensis coturniculus)</i>	-	CT	BCC, CFP	Salt marsh, shallow freshwater marsh, wet meadows, and flooded grassy vegetation. In California, primarily found in coastal and Bay-Delta communities, but also in Sierran foothills (Butte, Yuba, Nevada, Placer counties)	March-September (breeding)	Absent. No suitable nesting habitat present onsite.
Osprey <i>(Pandion haliaetus)</i>	-	-	CDFW WL	Nesting habitat requires close proximity to accessible fish, open nest site free of mammalian predators, and extended ice-free season. The nest in large trees, snags, cliffs, transmission/communication towers, artificial nest platforms, channel markers/buoys.	March-September	Absent. No suitable nesting habitat present onsite.
White-tailed kite <i>(Elanus leucurus)</i>	-	-	CFP	Nesting occurs within trees in low elevation grassland, agricultural, wetland, oak woodland, riparian, savannah, and urban habitats.	March-August	Potential to occur. Suitable habitat present onsite.
Bald eagle <i>(Haliaeetus leucocephalus)</i>	Delisted	CE	CFP, BCC	Typically nests in forested areas near large bodies of water in the northern half of California; nest in trees and rarely on cliffs; wintering habitat includes forest and woodland communities near water bodies (e.g. rivers, lakes), wetlands, flooded agricultural fields, open grasslands	February – September (nesting); October-March (wintering)	Absent. No suitable nesting/foraging habitat present onsite.
Northern harrier <i>(Circus hudsonius)</i>	-	-	SSC	Nests on the ground in open wetlands, marshy meadows, wet/lightly grazed pastures, (rarely) freshwater/brackish marshes, tundra, grasslands, prairies, croplands, desert, shrub-steppe, and (rarely) riparian woodland communities.	April-September	Absent. No suitable nesting habitat present onsite.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
Swainson's hawk <i>(Buteo swainsoni)</i>	-	CT	BCC	Nesting occurs in trees in agricultural, riparian, oak woodland, scrub, and urban landscapes. Forages over grassland, agricultural lands, particularly during disking/harvesting, irrigated pastures	March-August	Absent. Outside of known nesting range of this species.
Burrowing owl <i>(Athene cunicularia)</i>	-	-	BCC, SSC	Nests in burrows or burrow surrogates in open, treeless, areas within grassland, steppe, and desert biomes. Often with other burrowing mammals (e.g. prairie dogs, California ground squirrels). May also use human-made habitat such as agricultural fields, golf courses, cemeteries, roadside, airports, vacant urban lots, and fairgrounds.	February-August	Absent. No suitable nesting habitat present onsite.
American peregrine falcon <i>(Falco peregrinus anatum)</i>	Delisted	Delisted	BCC, CFP	In California, breeds in coastal region, northern California, and Sierra Nevada. Nesting habitat includes cliff ledges and human-made ledges on towers and buildings. Wintering habitat includes areas where there are large concentrations of shorebirds, waterfowl, pigeons or doves.	CA Residents nest in February-June	Absent. No suitable nesting/foraging habitat present onsite.
Purple martin <i>(Progne subis)</i>	-	-	SSC	In California, breeds along coast range, Cascade-northern Sierra Nevada region and isolated population in Sacramento. Nesting habitat includes montane forests, Pacific lowlands with dead snags; the isolated Sacramento population nests in weep holes under elevated highways/bridges. Winters in South America.	May-August	Absent. No suitable nesting habitat present onsite.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
Bank swallow (<i>Riparia riparia</i>)	-	CT	-	Nests colonially along coasts, rivers, streams, lakes, reservoirs, and wetlands in vertical banks, cliffs, and bluffs in alluvial, friable soils. May also nest in sand, gravel quarries and road cuts. In California, breeding range includes northern and central California.	May-July	Absent. No suitable nesting habitat present onsite.
Grasshopper sparrow (<i>Ammodramus savannarum</i>)	-	-	SSC	In California, breeding range includes most coastal counties south to Baja California; western Sacramento Valley and western edge of Sierra Nevada region. Nests in moderately open grasslands and prairies with patchy bare ground. Avoids grasslands with extensive shrub cover; more likely to occupy large tracts of habitat than small fragments; removal of grass cover by grazing often detrimental.	May-August	Absent. No suitable nesting habitat present onsite.
Song sparrow "Modesto" (<i>Melospiza melodia heermanni</i>)	-	-	BCC, SSC	Resident in central and southwest California, including Central Valley; nests in marsh, scrub habitat	April-June	Potential to occur. Suitable habitat present onsite.
Tricolored blackbird (<i>Agelaius tricolor</i>)	-	CT	BCC, SSC	Breeds locally west of Cascade-Sierra Nevada and southeastern deserts from Humboldt and Shasta Cos south to San Bernardino, Riverside and San Diego Counties. Central California, Sierra Nevada foothills and Central Valley, Siskiyou, Modoc and Lassen Counties. Nests colonially in freshwater marsh, blackberry bramble, milk thistle, triticale fields, weedy (mustard, mallow) fields, giant cane, safflower, stinging nettles, tamarisk, riparian scrublands and forests, fiddleneck and fava bean fields.	March-August	Potential to occur. Suitable habitat present onsite.

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
Yellow warbler (<i>Setophaga petechia</i>)	-	-	SSC, BCC	Breeding range includes most of California, except Central Valley (isolated breeding locales on Valley floor, Stanislaus, Colusa, and Butte counties), Sierra Nevada range above tree line, and southeastern deserts. Nesting habitat includes riparian vegetation near streams and meadows. Winters in Mexico south to South America.	May-August	Low potential to occur. Suitable habitat present onsite and this species is a common migrant but is not likely to nest in this area.
Yellow-breasted chat (<i>Icteria virens</i>)	-	-	SSC	In California, breeds in Klamath Mountains, inner Northern Coast Range south to San Francisco Bay, locally distributed from Santa Clara Co. south to San Diego Co. Sacramento and San Joaquin Valleys, along west slope of Sierra Nevada from the Feather River to Kern River, Mono and Inyo Cos. In the west, nesting habitat includes dense riparian and shrubby.	May-August	Potential to occur. Suitable habitat present onsite.
Mammals						
Ringtail (<i>Bassariscus astutus</i>)	-	CFP	-	Most often found in riparian corridors in forested, shrubby habitats. Dens in rock outcrops, hollow trees and snags at low to middle elevations. Its range includes the North and South Coast Ranges, Sierra Nevada, Cascades, and the mountainous areas of the Mojave Desert.	Any season	Potential to occur. Suitable habitat present onsite.
Townsend's big-eared bat (<i>Corynorhinus townsendii</i>)	-	-	SSC	Caves, mines, buildings, rock crevices, trees.	April-September	Low potential to occur. Marginal habitat present onsite.

Status Codes:

- ESA Endangered Species Act
- CESA California Endangered Species Act
- FE ESA listed, Endangered.
- FT ESA listed, Threatened.

Table 2. Special-Status Species Evaluated for the Study Area

Common Name (Scientific Name)	Status			Habitat Description	Survey Period	Potential To Occur Onsite
	ESA	CESA	Other			
BCC	USFWS Bird of Conservation Concern					
CFP	California Fish and Game Code Fully Protected Species					
CE	CESA or NPPA listed, Endangered.					
CT	CESA or NPPA listed, Threatened.					
CC	Candidate for CESA listing as Endangered or Threatened.					
CR	CESA- or NPPA-listed, Rare.					
CDFW WL	CDFW Watch List					
SSC	CDFW Species of Special Concern					
1B	California Rare Plant Ranks (CRPRs)/Rare or Endangered in California and elsewhere.					
2B	CRPR /Rare or Endangered in California, more common elsewhere.					
4	CRPR /Plants of Limited Distribution - A Watch List.					
0.1	Threat Rank/Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)					
0.2	Threat Rank/Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)					
0.3	Threat Rank/Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)					

4.6.1 Plants

There are 29 special-status vascular plant species that were identified as having the potential to occur within the Project Area based on the literature review (Table 2). Upon further analysis and after the reconnaissance site visit, 19 species were determined to be absent from the Project Area due to the lack of suitable habitat, a lack of suitable soils present onsite, or being outside of the elevation range of that species (Table 2). No further discussion of these species is provided in this analysis. A brief description of the remaining 10 species that have the potential to occur within the Project Area are presented below.

4.6.1.1 Sanborn’s Onion

Sanborn’s onion (*Allium sanbornii* var. *sanbornii*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is a bulbiferous, herbaceous perennial that occurs on serpentinite or gravelly soils on chaparral, cismontane woodlands, and lower montane coniferous forest (CNPS 2019). Sanborn’s onion blooms from May through September and is known to occur at elevations ranging from 853 to 4,954 feet above MSL (CNPS 2019). The current range of this species in California includes Butte, Calaveras, El Dorado, Nevada, Placer, Plumas, Shasta, Tehama, Tuolumne, and Yuba counties (CNPS 2019).

There are no CNDDDB documented occurrences of Sanborn’s onion within five miles of the Project Area (CDFW 2019a). The riparian community within the Project Area provides marginal suitable habitat for this species. Sanborn’s onion has low potential to occur onsite.

4.6.1.2 Big-Scale Balsamroot

Big-scale balsamroot (*Balsamorhiza macrolepis*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous perennial that occurs in chaparral, cismontane woodlands, valley and foothill grassland, and occasionally on serpentinite soils (CNPS 2019). Big-scale balsamroot blooms from March through June and is known to occur at elevations ranging from 148 to 5,102 feet above MSL (CNPS 2019). Big-scale balsamroot is endemic to California; the current range of this species includes Alameda, Amador, Butte, Colusa, El Dorado, Lake, Mariposa, Napa, Placer, Santa Clara, Shasta, Solano, Sonoma, Tehama, and Tuolumne counties (CNPS 2019).

There is one CNDDDB documented occurrence of big-scale balsamroot within five miles of the Project Area (CDFW 2019a). The riparian community and irrigated pasture within the Project Area provide suitable habitat for this species. Big-scale balsamroot has potential to occur onsite.

4.6.1.3 Brandegee's Clarkia

Brandegee's clarkia (*Clarkia biloba* ssp. *brandegeae*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 plant. This species is an herbaceous annual that occurs in chaparral, cismontane woodlands, and lower montane coniferous forest often along roadcuts (CNPS 2019). Brandegee's clarkia blooms from May through July and is known to occur at elevations ranging from 246 to 3,002 feet above MSL. Brandegee's clarkia is endemic to California, and the current range of this species includes Butte, El Dorado, Nevada, Placer, Sacramento, Sierra, and Yuba counties (CNPS 2019).

There are three CNDDDB documented occurrences of Brandegee's clarkia within five miles of the Project Area (CDFW 2019a). The riparian community within the Project Area provides suitable habitat for this species. Brandegee's clarkia has potential to occur onsite.

4.6.1.4 Streambank Spring Beauty

Streambank spring beauty (*Claytonia parviflora* ssp. *grandiflora*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is an herbaceous annual that occurs in rocky cismontane woodland (CNPS 2019). Streambank spring beauty blooms from February through May and is known to occur at elevations ranging from 820 to 3,937 feet above MSL (CNPS 2019). Streambank spring beauty is endemic to California; the current range of this species includes Amador, Butte, Calaveras, El Dorado, Fresno, Kern, Placer, Tulare, and Tuolumne counties (CNPS 2019).

There are no CNDDDB documented occurrences of streambank spring beauty within five miles of the Project Area (CDFW 2019a). However, the riparian community within the Project Area provides marginal suitable habitat for this species. Streambank spring beauty has low potential to occur onsite.

4.6.1.5 Stinkbells

Stinkbells (*Fritillaria agrestis*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is a perennial bulbiferous herb that occurs in clay, sometimes serpentine areas in chaparral, cismontane woodland, pinyon and juniper woodland, and valley and foothill grassland (CNPS 2019). Stinkbells bloom from March to June and is known to occur at

elevations ranging from 33 to 5,102 feet above MSL (CNPS 2019). The current range of this species in California includes Alameda, Contra Costa, Fresno, Kern, Mendocino, Merced, Monterey, Mariposa, Placer, Sacramento, Santa Barbara, San Benito, Santa Clara, Santa Cruz, San Luis Obispo, San Mateo, Stanislaus, Tuolumne, Ventura, and Yuba counties, and is considered to be extirpated from Santa Cruz and San Mateo counties (CNPS 2019).

There is one CNDDDB documented occurrence of stinkbells within five miles of the Project Area (CDFW 2019a). The riparian and irrigated pasture communities within the Project Area provide marginal suitable habitat for this species. Stinkbells has low potential to occur onsite.

4.6.1.6 Butte County Fritillary

Butte County fritillary (*Fritillaria eastwoodiae*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 3.2 species. This species is an herbaceous bulbiferous perennial that occurs in chaparral, cismontane woodland, and lower montane coniferous forest and occasionally is found on serpentinite soils (CNPS 2019). Butte County fritillary blooms from March to June and is known to occur at elevations ranging from 164 to 4,921 feet above MSL (CNPS 2019). The current range of this species in California includes Butte, El Dorado, Nevada, Placer, Plumas, Shasta, Tehama, and Yuba counties (CNPS 2019).

There are no CNDDDB documented occurrences of Butte County fritillary within five miles of the Project Area (CDFW 2019a). However, the riparian community within the Project Area provides suitable habitat for this species. Butte County fritillary has potential to occur onsite.

4.6.1.7 Ahart's Dwarf Rush

Ahart's dwarf rush (*Juncus leiospermus* var. *aharti*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 1B.2 species. This species is an herbaceous annual that occurs in mesic areas in valley and foothill grasslands (CNPS 2019). This species also appears to have an affinity for slight disturbance since it has been found on farmed fields and gopher turnings (USFWS 2005). Ahart's dwarf rush blooms from March through May and is known to occur at elevations ranging from 98 to 751 feet above MSL (CNPS 2019, USFWS 2005). Ahart's dwarf rush is endemic to California; the current range of this species includes Butte, Calaveras, Placer, Sacramento, Tehama, and Yuba counties (CNPS 2019).

There are no CNDDDB documented occurrences of Ahart's dwarf rush within five miles of the Project Area (CDFW 2019a). However, the irrigated pasture community within the Project Area provides marginal suitable habitat for this species. Ahart's dwarf rush has low potential to occur onsite.

There is no critical habitat for this species mapped within the Project Area.

4.6.1.8 Dubious Pea

Dubious pea (*Lathyrus sulphureus* var. *argillaceus*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 3 species. This species is an herbaceous perennial that occurs in cismontane woodland, lower montane coniferous forest and upper montane coniferous forest (CNPS 2019). Dubious pea blooms from April through May and is known to occur at elevations ranging from 492

to 3,051 feet above MSL (CNPS 2019). Dubious pea is endemic to California; the current range of this species includes Calaveras, El Dorado, Nevada, Placer, Shasta, and Tehama counties; distribution or identity is uncertain in Nevada County (CNPS 2019).

There are no CNDDDB documented occurrences of dubious pea within five miles of the Project Area (CDFW 2019a). However, riparian community within the Project Area provides suitable habitat for this species. Dubious pea has potential to occur onsite.

4.6.1.9 Humboldt Lily

Humboldt lily (*Lilium humboldtii* ssp. *humboldtii*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 4.2 species. This species is a perennial bulbiferous herb that occurs in openings within chaparral, cismontane woodland, and lower montane coniferous forest (CNPS 2019). Humboldt lily blooms from May through August and is known to occur at elevations ranging from 295 to 4,199 feet above MSL (CNPS 2019). Humboldt lily is endemic to California; the current range of this species includes Amador, Butte, Calaveras, El Dorado, Fresno, Mariposa, Nevada, Placer, Tehama, Tuolumne, and Yuba counties (CNPS 2019).

There are no CNDDDB documented occurrences of Humboldt lily within five miles of the Project Area (CDFW 2019a). However, the riparian community within the Project Area provides suitable habitat for this species. Humboldt lily has potential to occur onsite.

4.6.1.10 Oval-Leaved Viburnum

Oval-leaved viburnum (*Viburnum ellipticum*) is not listed pursuant to either the federal or California ESAs, but is designated as a CRPR 2B.3 species. This species is a perennial deciduous shrub that occurs in chaparral, cismontane woodland, and lower montane coniferous forest communities. Oval-leaved viburnum blooms from May through June and is known to occur at elevations ranging from 705 to 4,593 feet above MSL (CNPS 2019). The current range of this species in California includes Alameda, Contra Costa, El Dorado, Fresno, Glenn, Humboldt, Lake, Mendocino, Mariposa, Napa, Placer, Shasta, Solano, Sonoma, and Tehama counties (CNPS 2019).

There are no CNDDDB documented occurrences of oval-leaved viburnum within five miles of the Project Area (CDFW 2019a). However, the riparian community within the Project Area provides suitable habitat for this species. Oval-leaved viburnum has potential to occur onsite.

4.6.2 Invertebrates

There are three special-status invertebrate species that were identified as having potential to occur within the Project Area based on the literature review (*Table 2*). Upon further analysis and after the reconnaissance site visit, two species were determined to be absent from the Project Area due to lack of suitable habitat. No further discussion of these species are provided in this analysis. The third species, Valley Elderberry longhorn beetle, is also considered to be absent from the Project Area as no elderberry shrubs were observed during the site visit. However, due to the density of the vegetation only the

immediate Project Area was surveyed. If any changes to the Project Area boundary occur, it will be necessary to survey any added areas for new elderberry shrubs.

4.6.3 Fish

There are two special-status fish species that were identified as having potential to occur within the Project Area based on the literature review (*Table 2*). Upon further analysis and after the reconnaissance site visit, one species was determined to be absent from the Project Area due to Project Area being outside of the geographical range of this species (*Table 2*). No further discussion of this species are provided in this analysis. A brief description of the remaining species that has the potential to occur within the Project Area is presented below.

4.6.3.1 Steelhead (CA Central Valley DPS)

Central Valley distinct population segment (DPS) steelhead (*Oncorhynchus mykiss*), the anadromous form of rainbow trout, were listed as threatened under the FESA on March 19, 1998 (63 FR 13347). Critical habitat was designated on September 2, 2005 (70 FR 52488) and includes the mainstem Sacramento and San Joaquin rivers below impassible dams and the major tributaries to these rivers. Doty Ravine at the Project location is within designated critical habitat for the DPS. Spawning takes place in shallow swift-moving riffles with small gravel and cobble as the primary substrate. Adult spawning migrations occur from August through March, with peak immigration occurring in January and February. Spawning generally occurs from January through April, and the majority of adult fish die following spawning; however, some portion of adults may return to the ocean and make subsequent spawning migrations in up to four consecutive years. Juvenile steelhead rear in their natal streams for 1 to 3 years prior to emigrating from the river to the ocean, although some fish may remain in their natal freshwater stream as resident rainbow trout for their entire life. Emigration of 1- to 3-year old, sub-adult steelhead occurs primarily from January through June.

There are two CNDDDB documented occurrences of steelhead within five miles of the Project Area (CDFW 2019a). Doty Ravine within the Project area provides suitable habitat for this species. Doty Ravine is designated Critical Habitat for Steelhead, and there is a small resident population of rainbow trout (*Oncorhynchus mykiss*) that is known to occur in Doty Ravine throughout the year. However, access to the Project Area by anadromous steelhead is likely precluded, or very difficult, under all but the highest flows by a culvert located downstream on Garden Bar Road (Bailey Environmental and Buell and Associates 2005). It is likely that any *Oncorhynchus mykiss* occurring in Doty Ravine upstream of the culvert are comprised of resident, non-anadromous rainbow trout, with low potential for steelhead to occur.

4.6.4 Amphibians

There are three special-status amphibian species that were identified as having potential to occur within the Project Area based on the literature review (*Table 2*). Upon further analysis and after the reconnaissance site visit, two species were determined to be absent from the Project Area due to Project Area being outside of the known range of this species or for suitable habitat not being present (*Table 2*).

No further discussion of these species are provided in this analysis. A brief description of the remaining species that has the potential to occur within the Project Area is presented below.

4.6.4.1 Foothill Yellow-Legged Frog

The foothill yellow-legged frog (*Rana boylei*) has been proposed for listing as threatened under California's Endangered Species Act (ESA) (California Fish and Game Commission 2017) and is a California species of special concern (SSC). It occurs in the Coast Ranges, from the Oregon border south to the Transverse Mountains in Los Angeles County, west of the Cascade crest in most of northern California, and in the Sierra Nevada foothills south to Kern County, from sea level to 6,000 feet (Stebbins, 1985).

Foothill yellow-legged frogs occupy rocky streams in valley-foothill hardwood, valley-foothill hardwood-conifer, valley-foothill riparian, ponderosa pine, mixed conifer, coastal scrub, mixed chaparral, and wet meadow plant communities. They are rarely found far from water and will often dive into water to take refuge under rocks or sediment when disturbed (Zeiner et al., 1988).

There are no CNDDDB documented occurrences of foothill yellow-legged frog within five miles of the Project Area (CDFW 2019a). The riparian community as well as Doty Ravine and Sailor Ravine within the Project Area provide marginal suitable dispersal habitat for this species. Foothill yellow-legged frog has low potential to occur onsite.

4.6.5 Reptiles

There is one special-status reptile species that was identified as having potential to occur within the Project Area based on the literature review (*Table 2*). A brief description of this species is provided below.

4.6.5.1 Northwestern Pond Turtle

The northwestern pond turtle (*Actinemys marmorata*) is not listed pursuant to either the California or federal Endangered Species Acts; however, it is designated as a CDFW species of special concern (SSC). Western pond turtles occur in a variety of fresh and brackish water habitats including marshes, lakes, ponds, and slow moving streams (Jennings and Hayes 1994). This species is primarily aquatic; however, they typically leave aquatic habitats in the fall to reproduce and to overwinter (Jennings and Hayes 1994). Deep, still water with abundant emergent woody debris, overhanging vegetation, and rock outcrops is optimal for basking and thermoregulation. Although adults are habitat generalists, hatchlings and juveniles and hatchlings require shallow edgewater with relatively dense submergent or short emergent vegetation in which to forage.

Northwestern pond turtles are typically active between March and November. Mating generally occurs during late April and early May and eggs are deposited between late April and early August (Jennings and Hayes 1994). Eggs are deposited within excavated nests in upland areas, with substrates that typically have high clay or silt fractions (Jennings and Hayes 1994). The majority of nesting sites are located within 650 ft (200 m) of the aquatic sites; however, nests have been documented as far as 1,310 ft (400 m) from the aquatic habitat.

There are two CNDDDB documented occurrences of northwestern pond turtle within five miles of the Project Area (CDFW 2019a). Doty Ravine and Sailor Ravine within the Project area provide suitable habitat for this species. Northwestern pond turtle has potential to occur onsite.

4.6.6 Birds

There are 15 special-status bird species that were identified as having potential to occur within the Project Area based on the literature review (*Table 2*). Upon further analysis and after the reconnaissance site visit, 10 species were considered to be absent from the Project Area due to the lack of suitable habitat (*Table 2*). No further discussion of these species is provided in this analysis. A brief description of the remaining five special-status bird species that have the potential to occur within the Project Area is presented below.

4.6.6.1 White-Tailed Kite

White-tailed kite (*Elanus leucurus*) is not listed pursuant to either the California or federal Endangered Species Acts; however, the species is fully protected pursuant to Section 3511 of the California Fish and Game Code. This species is a common resident in the Central Valley and the entire length of the California coast, and all areas up to the Sierra Nevada foothills and southeastern deserts (Dunk 1995). In northern California, white-tailed kite nesting occurs from March through early August, with nesting activity peaking from March through June. Nesting occurs in trees within riparian, oak woodland, savannah, and agricultural communities that are near foraging areas such as low elevation grasslands, agricultural, meadows, farmlands, savannahs, and emergent wetlands (Dunk 1995).

There is one CNDDDB documented occurrence of white-tailed kite within five miles of the Project Area (CDFW 2019a). Trees in the riparian community within the Project area provide suitable nesting habitat for this species. White-tailed kite has potential to occur onsite.

4.6.6.2 Song Sparrow "Modesto"

The song sparrow (*Melospiza melodia*) is considered one of the most polytypic songbirds in North America (Miller 1956 as cited in Arcese et al. 2002)). The subspecies *Melospiza melodia heermanni* includes as synonyms *M. m. mailliardi* (the "Modesto song sparrow") and *M. m. cooperi* (Arcese et al. 2002). The "Modesto song sparrow" is not listed and protected pursuant to either the California or federal Endangered Species Acts, but is considered a CDFW species of special concern. The subspecies *M. m. heermanni* can be found in central and southwestern California to northwestern Baja California (Arcese et al. 2002). Song sparrows in this group may have slight morphological differences but they are genetically indistinguishable from each other. The "Modesto song sparrow" occurs in the Central Valley from Colusa County south to Stanislaus County, and east of the Suisun Marshes (Grinnell and Miller 1944). Nesting habitat includes riparian thickets and freshwater marsh communities, with nesting occurring from April through June.

There are no CNDDDB documented occurrences of song sparrow within five miles of the Project Area (CDFW 2019a). The riparian community within the Project Area provides suitable nesting habitat for this species. Song sparrow has potential to occur onsite.

4.6.6.3 Tricolored Blackbird

The tricolored blackbird (TRBL, *Agelaius tricolor*) was granted emergency listing for protection under the California Endangered Species Act (CESA) in December 2014 but the listing status was not renewed in June 2015. After an extensive status review, the California Fish and Game Commission listed tricolored blackbirds as a threatened species in 2018. In addition, it is currently considered a USFWS bird of conservation concern and a CDFW species of special concern. This colonial nesting species is distributed widely throughout the Central Valley, Coast Range, and into Oregon, Washington, Nevada, and Baja California (Meese et al. 2014). Tricolored blackbirds nest in colonies that can range from several pairs to several thousand pairs, depending on prey availability, the presence of predators, or level of human disturbance. TRBL nesting habitat includes emergent marsh, riparian woodland/scrub, blackberry thickets, densely vegetated agricultural and idle fields (e.g. wheat, triticale, safflower, fava bean fields, thistle, mustard, cane, and fiddleneck), usually with some nearby standing water or ground saturation (Meese et al. 2014). They feed mainly on grasshoppers during the breeding season, but may also forage upon a variety of other insects, grains, and seeds in open grasslands, wetlands, feedlots, dairies, and agricultural fields (Meese et al. 2014). The nesting season is generally from March through August.

There are two CNDDDB documented occurrences of tricolored blackbird within five miles of the Project Area (CDFW 2019a). Riparian vegetation within the Project area provides suitable nesting habitat for this species. Tricolored blackbird has potential to occur onsite.

4.6.6.4 Yellow Warbler

Yellow warbler (*Setophaga petechia*) is a California Department of Fish and Wildlife species of special concern but has no federal special status. Yellow warbler nest in from Baja California northward to Alaska and winter from southern California to South America (AOU 1983). Breeding occurs throughout much of California up to 8,000 feet elevation, except the Central Valley and southeastern deserts (Heath 2008). Breeding habitat includes riparian vegetation in close proximity to water along streams and wet meadows (Heath 2008). During migration, yellow warbler may occur in a wide variety of woodland habitats throughout California. The nesting season is May through August.

There are no CNDDDB documented occurrences of yellow warbler within five miles of the Project Area (CDFW 2019a). Although this species is a common migrant through the area, yellow warbler is not likely to breed in this area. Trees within the riparian community within the Project Area provides marginal suitable nesting habitat for this species. Yellow warbler has low potential to occur onsite.

4.6.6.5 Yellow-Breasted Chat

Yellow-breasted chat (*Icteria virens*) is a California Department of Fish and Wildlife species of special concern but has no federal special status. Yellow-breasted chat nest in North America and winter from southern Texas into Mexico and Guatemala (Comrack 2008). In California, the breeding range generally includes northern and northwestern California, the Sierra Nevada foothills south to Kern County, coastal valleys from Santa Clara County south to Baja California, scattered locations east of the Sierran crest, along the Colorado River. Yellow-breasted chat typically nests within early successional riparian habitat

with well-developed shrub layers and an open canopy along creeks, streams, sloughs, and rivers (Comrack 2008). Nesting occurs during May through August.

There are no CNDDDB documented occurrences of yellow-breasted chat within five miles of the Project Area (CDFW 2019a). Trees within the riparian community within the Project Area provide suitable nesting habitat for this species. Yellow-breasted chat has potential to occur onsite.

4.6.7 Mammals

There are two special-status mammal species that were identified as having potential to occur within the Project Area based on the literature review (*Table 2*). Upon further analysis and after the reconnaissance site visit, both species were considered to have some potential to occur within the Project Area. Brief descriptions of these species are presented below.

4.6.7.1 Ringtail

Ringtail (*Bassariscus astutus*) is not listed pursuant to the federal or California ESAs, but is designated as Fully Protected in California by CDFW. This is a smallish procyonid, related to the widespread raccoon (*Procyon lotor*) and neotropical white-nosed coati (*Nasua narica*). Ringtails are mesocarnivores of riparian areas, especially with abundant rocky outcrops, in low- to middle elevation drainages in blue oak woodlands, foothill pine/oak forests, chaparral, ponderosa pine woodlands, black oak woodlands, riparian deciduous forests, and mixed coniferous forest (Verner and Boss 1980). Highly nocturnal, ringtails consume small rodents, snakes, birds and their eggs, invertebrates, and some fruits, nuts, and carrion (Zeiner et al. 1990b).

This species is not tracked by the CNDDDB and so there are no CNDDDB documented occurrences of ringtail within five miles of the Project Area (CDFW 2019a). Large trees within the riparian community provide suitable habitat for this species. Ringtail has potential to occur onsite.

4.6.7.2 Townsend's Big-Eared Bat

The Townsend's big-eared bat (*Corynorhinus townsendii*) is not listed pursuant to either the California or federal Endangered Species Acts; however, this species is considered a species of special concern by CDFW. Townsend's big-eared bat is a fairly large bat with prominent bilateral nose bumps and large "rabbit-like" ears. This species occurs throughout the west and ranges from the southern portion of British Columbia south along the Pacific coast to central Mexico and east into the Great Plains. This species has been reported from a wide variety of habitat types and elevations from sea level to 10,827 feet. Habitats used include coniferous forests, mixed meso-phytic forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitat types. Its distribution is strongly associated with the availability of caves and cave-like roosting habitat including abandoned mines, buildings, bridges, rock crevices, and hollow trees. This species is readily detectable when roosting due to their habit of roosting pendant-like on open surfaces. Townsend's big-eared bat is a moth specialist with over 90% of its diet composed of Lepidoptera. Foraging habitat is generally edge habitats along streams adjacent to and within a variety of wooded habitats. This species often travels long distances when foraging and large home ranges have been documented in California (WBWG 2019).

There is one CNDDDB documented occurrence of Townsend's big-eared bat within five miles of the Project Area (CDFW 2019a). Trees in the riparian community within the Project Area provide marginal suitable roosting habitat for this species. Townsend's big-eared bat has low potential to occur onsite.

4.7 Wildlife Movement/Corridors

The Project Area is largely undeveloped with several aquatic features scattered throughout. Wildlife likely use the riparian community as well as Doty Ravine and Sailor's Ravine for movement and dispersal. Wildlife species that may use the Project Area as a migratory or movement corridor include a wide variety of birds, mammal species such as coyote (*Canis latrans*) and raccoon (*Procyon lotor*) are expected to occasionally move through the Project Area. One active red-tailed hawk (*Buteo jamaicensis*) nest was identified near Gold Hill Road in a large cottonwood.

5.0 RECOMMENDATIONS

5.1 Waters of the U.S. and State

Approximately 1.07 acres of potential Waters of the U.S./wetlands are located within the Project Area (Figure 2, Attachment C). Features that may be subject to CDFW Section 1602 jurisdiction were identified within the Project Area (e.g., ephemeral streams). The following measures are recommended to minimize potential impacts to the bed, bank, or channel of rivers, streams, or lakes within the Project Area:

- Prepare aquatic resources delineation for the Project area according to USACE minimum standards and submit to USACE for verification. If it is determined that there are Waters of the U.S. impacts, obtain a Clean Water Act Section 404 permit through the USACE nationwide permit or individual permit process. Provide a mitigation plan for agency approval that includes wetland creation and/or purchase of wetland mitigation credits from an agency approved mitigation bank to ensure no net loss consistent with agency requirements.
- A Streambed Alteration Agreement (SAA) pursuant to Section 1602 of the California Fish and Game Code must be obtained for any activity that will impact the bed, bank, or channel of any river, stream, or lake. Mitigation measures will be developed during consultation with CDFW as part of the SAA permit process to ensure protections for affected fish and wildlife resources.

5.2 Trees

Although the Project Area includes riparian areas and trees that are generally protected by the Placer County Tree Ordinance, the Project activities are the routine maintenance of a public utility company on existing infrastructure. Routine repair and maintenance of utilities is exempt, and so no measures are recommended.

5.3 Special-Status Species

5.3.1 Plants

A total of 10 special-status plants have potential to occur within the Project Area. These include Sanborn's onion, big-scale balsamroot, Brandegees clarkia, streambank spring beauty, stinkbells, Butte County fritillary, Ahart's dwarf rush, dubious pea, Humboldt lily, and oval-leaved viburnum. Guideline-level special-status plant surveys (early and late season) have not been conducted within the Project Area (CDFW 2019a). The following measures are recommended:

- Perform focused plant surveys according to guidelines promulgated by USFWS (USFWS 2000), CDFW (CDFG 2009), and CNPS (CNPS 2019). Surveys should be timed according to the blooming period for target species and known reference populations, if available, and/or local herbaria should be visited prior to surveys to confirm the appropriate phenological state of the target species. If the plant survey is conducted in May, only one survey would be necessary because the bloom time of all species with potential to occur overlap in May.
- If any special-status plant species are found during surveys within the Project and avoidance of the species is not possible, seed collection, transplantation, and/or other mitigation measures may be developed in consultation with the Lead Agency and/or appropriate resource agencies to reduce impacts to special-status plant populations.
- If no special-status plants are found within the Project Area, no further measures pertaining to special-status plants are necessary.

5.3.2 Invertebrates

The Project Area does not provide suitable habitat for any special-status invertebrate species. No measures are recommended for special-status invertebrate species unless the Project Area boundary changes. If this occurs, a survey of the additional areas for new elderberry shrubs will be necessary.

5.3.3 Fish

The Project Area provides habitat for the Central Valley DPS of steelhead, and occurs within designated Critical Habitat for this species (Doty Creek). However, access to the Project Area is blocked in all but the highest of flows to anadromous fishes such as Steelhead. Likely the population of *Oncorhynchus mykiss* in Doty Creek above the Garden Bar Road culvert consists of resident, non-anadromous rainbow trout and not steelhead. Additionally, no in-water work is proposed for the Project and all work will be conducted in such a manner and location (e.g. outside the creek channel) that it will not impact the ravine, fish, or critical habitat. Therefore, no mitigation measures are recommended.

5.3.4 Amphibians

The Project Area provides potential habitat for foothill yellow-legged frog, a CDFW SSC species and a candidate species for state listing. The following measures are recommended:

5.3.4.1 Foothill yellow-legged frog

- Conduct pre-construction surveys for foothill yellow-legged frog where construction occurs near potential habitat. If either species are observed, consultation with CDFW prior to initiation of construction activities may be required.
- During construction, where habitat for foothill yellow-legged frog is identified, no monofilament plastic mesh or line would be used for erosion control to reduce the risk of entrapment.
- Silt fencing will be installed around suitable habitat for foothill yellow-legged frog that will not be disturbed, and fencing will be inspected daily to ensure no individuals are trapped along the fence.

5.3.5 Reptiles

The Project Area provides suitable habitat for Northwestern pond turtle which is a CDFW SSC species. The following measure is recommended:

5.3.5.1 Northwestern Pond Turtle

- Conduct a pre-construction Northwestern pond turtle within 24 hours prior to the initiation of construction activities, and retain a qualified biologist to survey immediately prior to ground-disturbing activities in suitable habitat. If Northwestern pond turtle is found, consultation with CDFW may be required, as well as the development of a relocation plan for Northwestern pond turtles encountered during construction.

5.3.6 Special-Status Birds and MBTA Protected Birds (including Raptors)

Suitable nesting and/or wintering and foraging habitat for white-tailed kite, song sparrow "Modesto", tricolored blackbird, yellow warbler, and, yellow-breasted chat is present on the Project Area. If nesting individuals are present during construction, the Project could result in harassment to nesting individuals and may temporarily disrupt foraging activities.

In addition to the above-listed special-status birds, all native birds, including raptors, are protected under the California Fish and Game Code and the federal MBTA. As such, to ensure that there are no impacts to active nests, the following mitigation measures are recommended:

- Conduct a pre-construction nesting bird, including raptor, survey of all suitable habitat within the Project Area within 14 days of the commencement of construction during the nesting season (typically February 1 – August 31). In addition, surveys should be conducted in all publicly accessible areas within 300 feet of the Project Area for nesting raptors, including white-tailed kite, and 100 feet of the Project Area for other birds protected under the MBTA. Should construction occur outside of the nesting season, nesting bird surveys would not be required.
- If active nests are found, a no-disturbance buffer around the nest shall be established. The buffer distance shall be established by a qualified biologist in consultation with CDFW. If an active white-tailed kite, song sparrow, tricolored blackbird, yellow warbler, or, yellow-breasted chat nest is

found, the no-disturbance buffer shall be determined through consultation with CDFW. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest tree, to be determined by a qualified biologist. Once the young are independent of the nest, no further measures are necessary.

5.3.7 Mammals

The Project Area provides potential habitat for ringtail and Townsend's big-eared bat. The following measures are recommended.

5.3.7.1 Ringtail

- A pre-construction survey for potential den sites (i.e. tree cavities, logs, snags) will be conducted within suitable habitat within the Project Area (i.e. large trees and riparian habitat). If potential den sites are located that will not be avoided by construction, consultation with CDFW prior to initiation of construction activities may be required. If no potential den sites are found during the survey, no further measures are necessary.

5.3.7.2 Townsend's Big-Eared Bat

- Prior to work within potentially suitable bat roosting habitat, a bat habitat assessment is recommended for all suitable roosting habitat (i.e., manmade structures and suitable trees, if present). If the assessment identifies moderate to highly suitable roosting habitat, a qualified biologist will conduct an evening bat emergence survey to determine whether or not bats are present. If Townsend's big-eared bats are found, consultation with CDFW prior to initiation of construction activities may be required. If no suitable roosting habitat is found, or if no bats are not found during the emergence surveys, no further measures are necessary.

5.4 Wildlife Movement/Corridors

Wildlife have potential to use the Project Area for movement and dispersal, especially the riparian habitat and channels (i.e. Doty and Sailor Ravine). The Project constitutes the replacement of an above and below ground raw water siphon, and some ground disturbance and trenching will be required. Implementation of the Project could result in temporary disturbances to localized wildlife use and movements. However, the surrounding undeveloped and undisturbed lands should provide sufficient forage and cover during these temporary disturbances. No measures are recommended.

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LIST OF ATTACHMENTS

Attachment A – Project Description

Attachment B – Special-Status Species Searches

Attachment C – Representative Site Photographs

Attachment D – Stantec Wetland Delineation

Attachment E – Wildlife Observed Onsite

ATTACHMENT A

Project Description

THE DOTY NORTH CANAL SIPHON #1 REPLACEMENT PROJECT

SUMMARY

Project Title/Purpose: The Doty North Canal Siphon #1 Replacement Project (Proposed Project or Project) is a proposal by NID to replace an existing raw water transmission siphon that has reached the end of its useful life.

Lead Agency Name and Address: Nevada Irrigation District (NID)
1036 West Main Street
Grass Valley, CA 95945

Contact Person and Phone Number: Doug Roderick, Senior Engineer
(530) 271-6866

Project Location: The project is in southern Placer County north of Highway 193 adjacent to the Gold Hill Gardens Event Center at 2325 Gold Hill Road, Newcastle, California (see **Figure 1-1: Project Location and Vicinity**). The project site is situated northwest of the event center grounds and extends across Doty and Sailors Ravines.

General Plan Designation: Rural Residential 1-10 Acre Minimum

Zoning: Agriculture (AG)

Introduction

Nevada Irrigation District (NID) is the Lead Agency for the Proposed Project and this Initial Study. The Initial Study has been prepared to identify and assess the anticipated environmental impacts of the Proposed Project. This document has been prepared to satisfy the CEQA (Public Resources Code, [PRC] Section 21000 et seq.) and State CEQA Guidelines (14 CCR 15000 et seq.). CEQA requires that all state and local government agencies consider the environmental consequences of Projects over which they have discretionary authority before acting on those Projects. A CEQA Initial Study is generally used to determine which CEQA document is appropriate for a Project (Negative Declaration, Mitigated Negative Declaration [MND], or Environmental Impact Report [EIR]).

Environmental Setting

The project is in rural Placer County at elevation 380 ft within the Sacramento Valley Air Basin where climate is characterized by hot, dry summers and cool, rainy winters. Project area terrain varies from relatively flat areas, to gently rolling hills and relatively steep hillsides. The Project site supports primarily annual grassland and valley foothill riparian communities. Surface waters include Doty Ravine and Sailors Ravine which generally flow east to west across the site. Doty Ravine is the primary drainage with a bank width of approximately 15 feet at the project site. Sailors Ravine is a tributary to Doty Ravine with a bank width of approximately 4 feet and flows from a stock pond located north of the project site. The confluence of Doty Ravine and Sailors Ravine occurs on the project site just downstream of the existing siphon crossing. Doty Ravine is considered anadromous fish habitat.

The nearest existing use to the project site is the Gold Hill Gardens Event Center located immediately southeast of the project site. The 38-acre event center property includes a scenic 11-acre garden and hosts special events (weddings/meetings/retreats) for up to 150 guests. The remaining surrounding lands support primarily rural residential with small scale agriculture and equestrian uses.

SECTION 1.0 PROJECT DESCRIPTION

1.1 Project Background

Formed in 1921, the Nevada Irrigation District (NID or District) is an independent special water district that operates water storage and distribution facilities in Sierra and Yuba Counties and provides water service to wide areas of Nevada and Placer Counties. NID's service area covers approximately 287,000 acres and is one of the largest in the state. It is bounded by the Yuba River on the north, the Yuba/Nevada County Line on the west, the cities of Lincoln and Auburn on the south, and by a line extending north from Rollins Reservoir Dam on the east. The District supplies water for irrigation, municipal, domestic, and industrial uses through an extensive reservoir and canal system and network of WTPs. NID-treated water service areas are in and around Grass Valley and Nevada City, Banner Mountain, the Glenbrook Basin, Loma Rica, Alta Sierra, Lake of the Pines, Penn Valley, Lake Wildwood, Smartsville, and North Auburn.

Unique in many respects, NID collects water on 70,000 acres of high mountain watershed, produces hydroelectric energy and provides outdoor public recreation.

NID is headquartered on West Main Street in Grass Valley, operates a maintenance yard on Gold Hill Road near Lincoln and a Hydroelectric Department office near Colfax. NID is the Lead Agency for the proposed Project under the California Environmental Quality Act (CEQA) (Pub. Res. Code, Section 21000 *et seq.*) and State CEQA Guidelines (14 CCR 15000 *et seq.*).

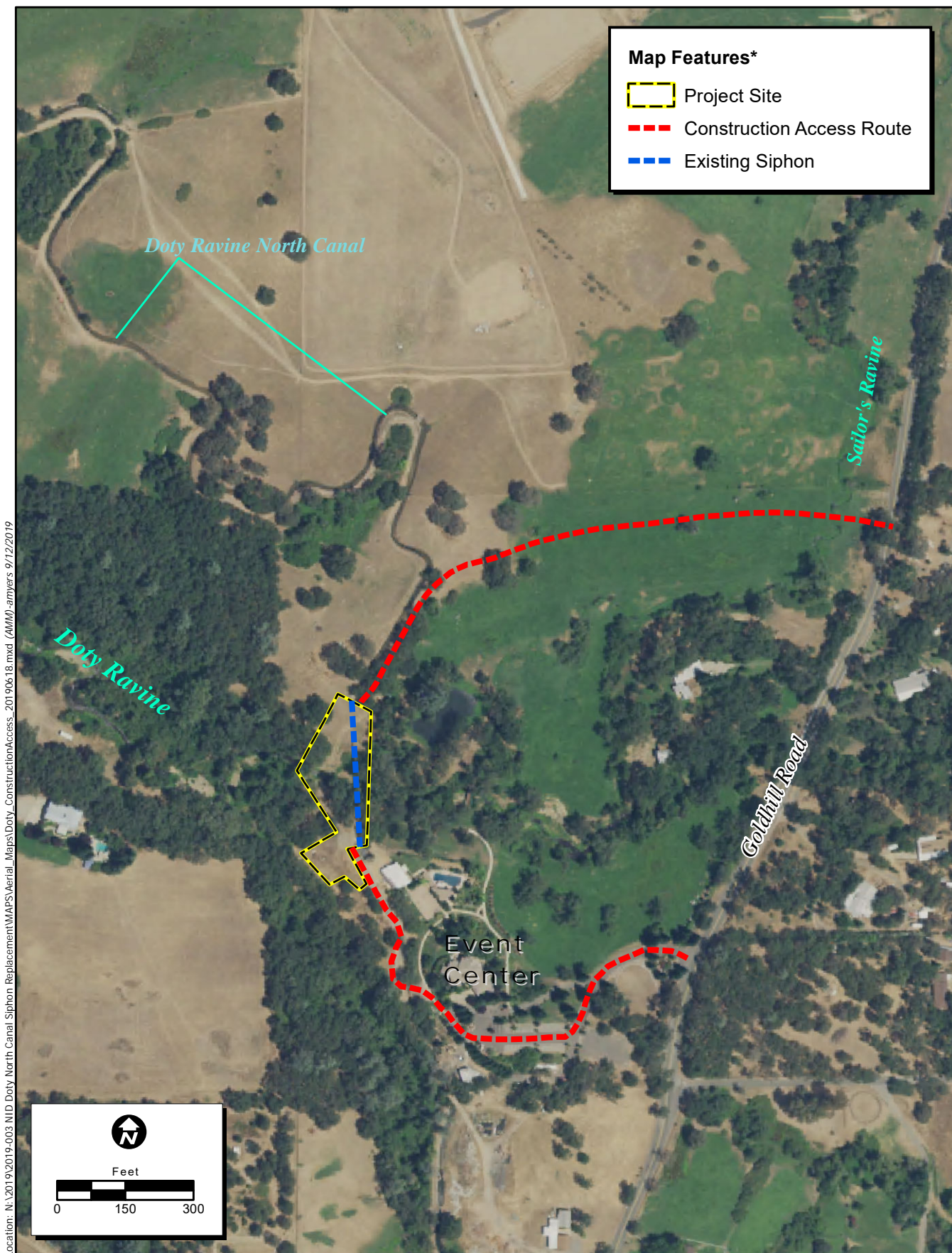
1.2 Proposed Project

The Doty North Canal Siphon #1 Replacement Project (Proposed Project or Project) is a proposal by NID to replace an existing raw water transmission siphon that has reached the end of its useful life.

1.2.1 *Project Location and Access*

The project is in southern Placer County north of Highway 193 adjacent to the Gold Hill Gardens Event Center at 2325 Gold Hill Road, Newcastle, California (see **Figure 1-1: Project Location and Vicinity**). The project site is situated northwest of the event center grounds and extends north and south across Doty and Sailors Ravines. Existing site access is provided via a District easement that follows the Gold Hill Gardens Event Center driveway off Gold Hill Road, traverses through the Event Center parking lot, and then follows an existing service road to the south end of the Project Site. There is no existing improved access from Gold Hill Road to the project site on the north side of Doty Ravine. To provide equipment access to the north side of the project site, a temporary construction access is proposed. The Project Site boundary, existing Doty Ravine North Canal, Siphon #1 and the proposed northern and southern construction access routes are shown in **Figure 1-2: Project Site and Construction Access**.

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Location: N:\2019\2019-003 NID Doty North Canal Siphon Replacement\MAPS\Aerial_Maps\Doty_ConstructionAccess_20190618.mxd (MM)-amyers 9/12/2019

Map Date: 9/12/2019
 Photo Source: NAIP, 2018

*All features represent approximate locations for cartographic purposes.

DRAFT

ECORP Consulting, Inc.
 ENVIRONMENTAL CONSULTANTS

Figure 1-2: Project Site and Construction Access

2019-003 Doty North Canal Siphon #1 Replacement

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Environmental Setting/Surrounding Land Uses

The project is in rural Placer County at elevation 380 ft within the Sacramento Valley Air Basin where climate is characterized by hot, dry summers and cool, rainy winters. Project area terrain varies from relatively flat areas, to gently rolling hills and relatively steep hillsides. The Project site supports primarily annual grassland and valley foothill riparian communities. Surface waters include Doty Ravine and Sailors Ravine which generally flow east to west across the site. Doty Ravine is the primary drainage with a bank width of approximately 15 feet at the project site. Sailors Ravine is a tributary to Doty Ravine with a bank width of approximately 4 feet and flows from a stock pond located north of the project site. The confluence of Doty Ravine and Sailors Ravine occurs on the project site just downstream of the existing siphon crossing. Doty Ravine is considered anadromous fish habitat.

The nearest existing use to the project site is the Gold Hill Gardens Event Center located immediately southeast of the project site. The 38-acre event center property includes a scenic 11-acre garden and hosts special events (weddings/meetings/retreats) for up to 150 guests. The remaining surrounding lands support primarily rural residential with small scale agriculture and equestrian uses.

1.2.2 Existing Infrastructure and Operational Constraints

The existing Doty North Canal Siphon #1 (Siphon) was built in the 1940's and requires replacement to maintain raw water delivery reliability meet the District's ultimate demands.

The existing Siphon conveys Doty North Canal raw water over Doty Ravine and Sailors Ravine via a 24-inch welded steel pipe supported by 6 steel bents anchored to concrete pier foundations. Steel grating and handrails are on top of the pipe which is used by District staff as a pedestrian bridge/walkway to cross the ravine. On each side of the ravine the above ground Siphon transitions to underground before tying into the existing canal. On the upstream or south end, the siphon pipe connects to a concrete inlet structure with steel trash rack. On the north side, the pipe connects to a concrete outlet structure where siphoned water is released back into the existing Doty North Canal.

The existing siphon is a point of flow restriction because it wasn't designed for future flows identified in NID's current Raw Water Masterplan (NID Water Master Plan Update, 2005). As a result, the demand for raw water service downstream of the siphon is impacted due to a District imposed moratorium, in part due to flow restrictions caused by the existing Siphon. Finally, the aging nature of the facility also presents potential safety concerns for District operations staff.

Raw water demands served by the canal severely limit when the existing Siphon can be taken off line for project construction. Based on the District's irrigation season demands, the siphon can only be taken off line between October 15 and April 15. This operational constraint is the primary driver for the proposed construction schedule.

1.2.3 Project Objectives

In recognition of the above operational issues and constraints, the project objectives include:

1. Improve raw water delivery reliability by reducing the risk of failures due to aging infrastructure;
2. Protect Doty Ravine and Sailors Ravine ecology from potential structural failures;
3. Minimize construction impacts to riparian and aquatic habitats;

4. Increase the volume of raw water available to downstream District customers consistent with the Districts approved master plan; and,
5. Facilitate safe working conditions.

1.2.4 *Project Components*

The Proposed Project construction details are shown in **Figure 1-3: Improvement Plans** and described below.

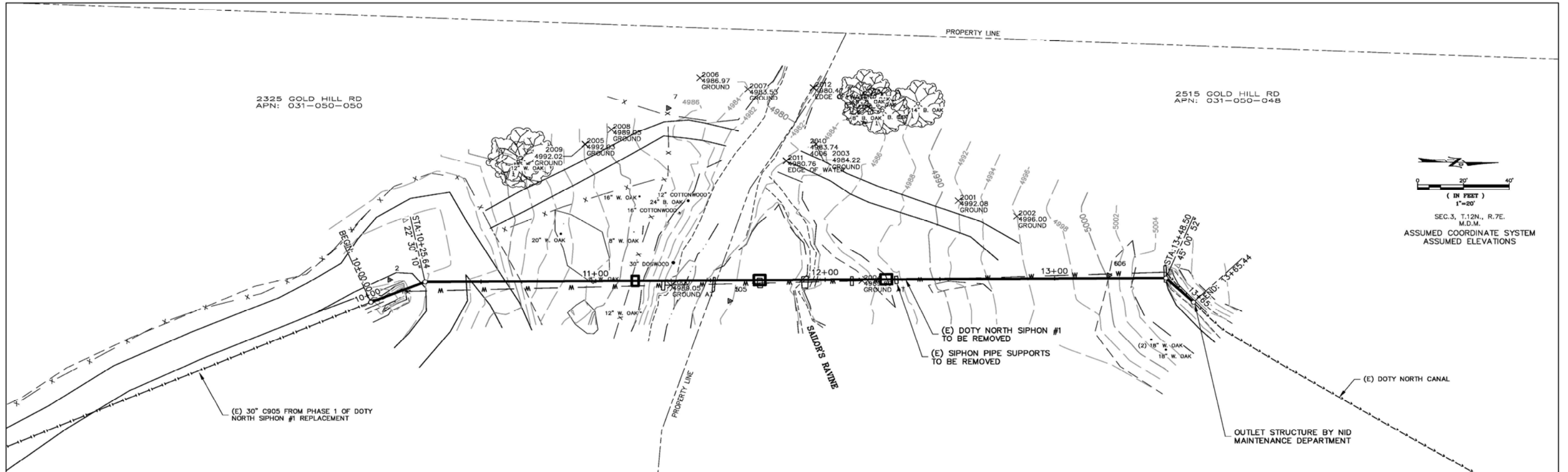
Siphon Replacement

The existing 24-inch raw water siphon crossing over Doty Ravine and Sailors Ravine would be removed and replaced with a new 350-foot long, 30-inch diameter siphon pipe. The new pipe would convey raw water consistent with the District's approved masterplan design flow rate of 34 cfs. The new siphon would be welded steel pipe supported on each end by abutments and 3 new steel pipe supports anchored to two 5'x5' foot and one 3'x5' concrete footings. Existing Abutments are located on the north and south creek banks above the ordinary highwater mark. The existing abutments would be modified to accommodate the new pipe diameter. Two concrete footings would be similarly located in upland areas on each side of Doty ravine. The center footing would be constructed on an upland area immediately above and between the Doty Ravine/Sailors Ravine confluence. The new siphon pipe would connect to the modified abutments and inlet and outlet structures on the north and south sides of the ravine.

Construction Access

Due to system operational constraints that limit when the Siphon can be taken off line for construction, and due to the flashy nature of the Doty Ravine Watershed and expected high flows during winter months, NID has determined that a temporary crossing during construction at the project site is not feasible. Therefore, as shown on **Figure 1-2: Project Site and Construction Access**, south side access would be provided via the existing Gold Hill Gardens driveway easement while access to the north side would be via a temporary construction easement across private property.

The south side access follows the existing Gold Hill Gardens driveway entrance off Gold Hill Road. The south side access is mostly paved driveway from Gold Hill Road until it leaves the event center parking lot on the west where it transitions to a gravel service road leading to the project site. The north side temporary easement would extend from Gold Hill Road beginning at a point approximately 1000 feet north of the existing Gold Hill Gardens Event Center driveway entrance. From that point, the north side access extends across Sailors Ravine and continues approximately 1300 feet southwesterly through an irrigated pasture to the north side of the project site.



(IN FEET)

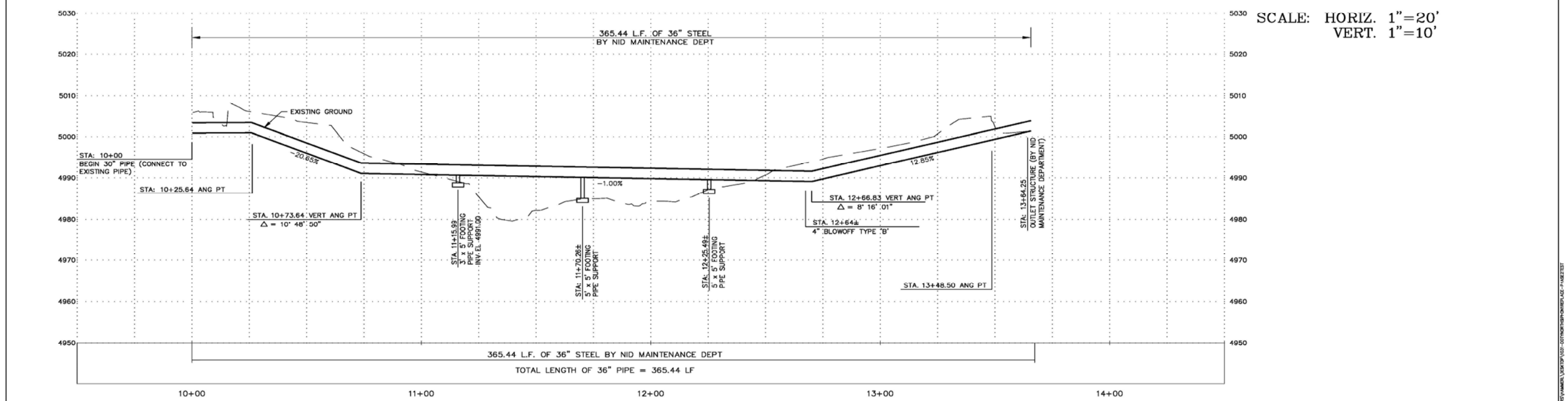
 1"=20'

 SEC. 3, T. 12N., R. 7E.

 M.D.M.

 ASSUMED COORDINATE SYSTEM

 ASSUMED ELEVATIONS



SCALE: HORIZ. 1"=20'

 VERT. 1"=10'

INITIALS	REVISION	DATE	REV. NO.

N.I.D.

NEVADA IRRIGATION DISTRICT

 NEVADA COUNTY -- PLACER COUNTY

 GRASS VALLEY

 CALIFORNIA

DOTY NORTH SIPHON REPLACEMENT

PLAN & PROFILE

 STA 10+00.00 To STA 13+64.25

APPROVED BY:	DESIGNED:	DATE:	JOB NO. 1031
SURVEY:	DRAWN:	DATE:	SERIAL NO. ---
FACILITY NUMBER:	CHECKED:	DATE:	SHEET NO. 2 of ###

Figure 1-3: Improvement Plans

 2019-003 Doty North Canal Siphon #1 Replacement

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Siphon Operation

Once completed, the project will operate similar to existing conditions. There will be no impacts beyond baseline conditions and the only activities would be continued occasional routine maintenance trips to the site.

1.2.5 Construction Approach/Techniques

The construction approach was designed to minimize impacts to riparian habitat, waters, wetlands and associated wildlife while adhering to system operational constraints discussed above. Project implementation would involve the following primary construction phases and activities.

Phase 1: Mobilization and Staging

During this phase the contractor would move on site, establish work limits, identify and protect (fence) environmentally sensitive areas, and establish staging locations and access routes. The location of proposed access routes and staging areas are shown on **Figure 1-2: Project Site and Construction Access**.

The northern access requires a temporary crossing of Sailors Ravine. This would be accomplished by installing a crane mat that spans the creek using an excavator from the eastern bank. Installation timing would be based on weather forecasts. The crane mat would allow the construction crossing to be completed without temporary fills in waters. Because of potential for high flows on Sailors Ravine, once all necessary "north side" construction equipment has reached the project site, the temporary crossing would be removed until needed again.

Phase 2: Demolition

This phase includes demolition and removal of the existing 24" pipe and maintenance crossing. All demolition will be accomplished from creek bank upland areas and demolished materials would be removed from the site. Portions of the existing structure would be left in place temporarily to aid with concrete pumping during Phase 3 foundation construction (as discussed below).

Phase 3: Foundation/Support Footing Construction

This phase includes construction of 3 new concrete footings and associated piers which would support the siphon crossing. All work for abutment foundations would be conducted in upland areas on the north and south sides of the ravine. The center foundation would be constructed on an upland area just above the Doty Ravine/Sailors Ravine confluence. Construction access to the center foundation would be over Sailors Ravine via temporarily placed trench plate installed from the northern creek bank using an excavator. The temporary Sailors Ravine crossing will allow access to the center foundation without temporary fills in waters or the need for US Army Corps of Engineer Section 404 Permitting.

Concrete trucks would use the southern access during construction of the abutments and center foundation. To facilitate concrete work for the northern abutment and center foundation, a concrete

pump and hose would be used. To reach the northern abutment and center foundation, the concrete hose would be elevated over Doty Ravine and Sailors Ravine using portions of the existing siphon support piers. Following construction of the new footings, the existing structure would then be removed, and the existing concrete foundations abandoned in place to avoid any unnecessary disturbance within the creek zone.

Phase 4: Pipe Placement and Tie In

Once the abutments are in place and support footings and piers erected, one of two options would be used to install the Siphon crossing:

- a. Excavator Installation – using this method, the siphon pipe sections would be placed and secured on the abutments using excavators; one located on the south side of the ravine and positioned on the upland area located between Doty Ravine and Sailors Ravine. During construction, if necessary siphon pipe (and potentially other construction materials) could be moved from the staging area on the south side of the ravine to the north side by “passing” pipe sections over the ravine using heavy equipment positioned on each side without entering flowing water.
- b. Cable Installation – using this method, the siphon pipe section would be pulled into place from south to north using temporary cables and temporary cable supports strung between abutments. Once in place, the pipe would be secured to the abutments and temporary cables removed.

Once installed and secured to abutments and piers, the new siphon pipe would be tied into the existing Doty North Canal and flows restored.

Phase 5: Site Restoration and Demobilization

Once construction is complete and all equipment and construction materials have been removed from the site, all temporarily disturbed areas would be restored and the temporary crane mat crossing of Sailors Ravine would be removed.

1.2.6 Construction Equipment

The heavy-duty equipment expected to be used during project construction is provided below.

- 2 Excavators
- 1 Loader/Back hoe
- 1 Dump Truck
- 1 Flat Bed Truck
- 3 Service pickups for workers/tools

1.2.7 Project Schedule

Project construction is expected to take approximately 6 weeks and is scheduled to begin on or about October 15, 2019.

1.3 Environmental Commitments

The project would implement a variety of Best Management Practices (BMPs) to avoid short- and long-term effects on the physical and human environment. These activities are considered part of the Project, would be included in contract specifications and implemented during construction to ensure water quality, aquatic habitats and sensitive fish and wildlife species are protected consistent with regulatory standards.

BMP-1: Conduct Environmental Awareness Training for Construction Personnel

Before any work occurs in the project area, including grading, a Qualified Biologist will conduct mandatory contractor/worker awareness training. The awareness training will be provided to all construction personnel to brief them on the need to avoid impacts on biological resources and the penalties for non-compliance. If new construction personnel are added to the project, the District will ensure that the personnel receive the mandatory training from the biologist before starting work.

BMP-2: Install Construction Barrier Fencing to Protect Environmentally Sensitive Areas

The project contractor will install orange construction barrier fencing to identify site limits and environmentally sensitive areas (ESAs). ESAs in and adjacent to the construction area comprise mixed riparian forest, native oak trees greater than 4 inches diameter breast height (DBH), wetland drainages, and any trees that support migratory bird or raptor nests. Before construction, the District Engineer will work with a resource specialist to identify the locations for the barrier fencing and will place stakes around the ESAs to indicate these locations. The fencing will be installed before construction activities are initiated and will be maintained throughout the construction period. The following note will be included in the construction plans:

"The contractor's attention is directed to the areas designated as "environmentally sensitive areas" on the Project Site. These areas are protected, and no entry by the contractor for any purpose will be allowed unless specifically authorized in writing by the District's project manager. The District and contractor's project managers will take measures to ensure that construction crew do not enter or disturb these areas, including giving written notice to crew members."

Temporary fences around the ESAs will be installed as the first order of work. Temporary fences will be furnished, constructed, maintained, and removed as directed by the project engineer. The fencing will be commercial-quality woven polypropylene, orange in color, and at least four feet high (Tensor Polygrid or equivalent).

BMP-3: Avoid and Minimize Disturbance of Doty and Sailors Ravines and Associated Aquatic Habitat and Restore all Temporarily Disturbed Areas

To the extent possible, the District and contractor will minimize impacts to Doty and Sailors Ravines and associated aquatic habitat by implementing the following:

- c. Prior to working within the Doty Ravine corridor, all heavy equipment will be checked by the District inspector and maintained daily to prevent leaks of materials that if introduced to water could be deleterious to aquatic life.

- d. Raw cement/concrete or washings thereof, asphalt, paint or other coating material, oil or other petroleum products, or any other substances associated with project-related activities that could be hazardous to aquatic life will be prevented from contaminating the soil or entering the Doty Ravine and Sailors Ravine channels.
- e. During construction, the District will not dump any material in the stream channel. All such debris and waste will be picked up daily and properly disposed of at an appropriate site. All construction debris and associated materials will be removed from the work site upon completion of the project.
- f. Sediment fences will be installed in appropriate locations to reduce the introduction of sediment into creeks during construction. Any overburden project material would not be side cast into the creek channel, but will be stabilized on site or stored off site at approved disposal sites to preclude increased risk of sediment input to creeks.
- g. The District and contractor will establish spill prevention and countermeasure plan before project construction begins; the plan will include on-site handling criteria to avoid input of contaminants to the waterway. A staging and storage area will be provided away from the waterway for equipment, construction materials, fuels, lubricants, solvents, and other possible contaminants. This plan will be approved by the District project manager prior to the start of construction.
- h. After construction, all temporarily disturbed work areas will be stabilized and restored. This will include application of the District's standard erosion control seed mix and installation of erosion and sediment controls consistent with the Project's approved Stormwater Pollution Prevention Plan (SWPPP).
- i. All equipment maintenance materials (e.g., oils, grease, lubricants, antifreeze, and similar materials) will be stored off-site.

Precautions to minimize turbidity/siltation will be considered during project planning and implementation and memorialized in the Project's approved SWPPP. Such precautions may entail the placement of silt fencing, coir logs, coir rolls, straw bale dikes, or other siltation barriers so that silt and/or other deleterious materials are not allowed to pass to downstream reaches. Passage of sediment beyond the sediment barrier(s) is prohibited. If any sediment barrier fails to retain sediment, corrective measures will be taken. The sediment barrier(s) will be maintained in good operating condition throughout the construction period. Maintenance includes, but is not limited to, removal of accumulated silt and/or replacement of damaged silt fencing, coir logs, coir rolls, and/or straw bale dikes. Non-biodegradable silt barriers (such as plastic silt fencing) shall be removed after the disturbed areas have been stabilized with erosion control vegetation (usually after the first growing season).

BMP-4: Minimize Potential for the Long-Term Loss of Mixed Riparian Forest

To the extent possible, the District will minimize the potential for the long-term loss of riparian vegetation by trimming vegetation rather than removing entire shrubs. Shrubs that need to be trimmed will be cut at least 1 foot above ground level to leave the root systems intact and allow for more rapid regeneration. Cutting will be limited to the minimum area necessary within the construction zone. Disturbance or removal of vegetation will not exceed the minimum necessary to complete operations. Except for the vegetation specifically identified for trimming and/or removal in the CDFW 1602 notification, no native

oak trees with a trunk diameter greater than 4 inches DBH will be removed or damaged without prior consultation and approval by the District. Using hand tools (e.g., clippers, chain saw), trees may be trimmed to the extent necessary to gain access to the work sites. All cleared material/vegetation will be removed out of the riparian/stream zone.

BMP-5: Construct Outside of Nesting Season or Conduct Pre-Construction Nesting Surveys

To avoid disturbance of raptor breeding and nesting activity, including nesting of sensitive raptors, project activities will be avoided during the typical raptor breeding season of March through August, to the extent feasible. If construction must take place during the typical nesting season, pre-construction surveys will be conducted by a Qualified Biologist no more than 15 days prior to initiation of proposed construction activities. Surveys will be conducted to determine if active nesting is occurring on or directly adjacent to the study area. If active nests are found on or immediately adjacent to the site, survey results will be submitted to CDFW and consultation will be initiated with CDFW to determine appropriate avoidance measures. If no nesting is found to occur, project activities may proceed.

BMP-6: Avoid the Introduction or Spread of Noxious Weeds in the project Area

To avoid the introduction or spread of noxious weeds into previously uninfected areas (especially within the riparian community along Doty Ravine), the District will revegetate disturbed areas immediately after construction is complete using certified weed-free native and nonnative mixes.

BMP-7: Proper Handling of Hazardous Materials

Construction documents will identify materials that are considered hazardous. The project contractor will be required to develop a Health and Safety Plan that addresses release prevention measures; employee training, notification, and evacuation procedures; and emergency response protocols and cleanup procedures. The contractor will comply with the California Occupational Safety and health Administration (Cal-OSHA) standards for the storage and handling of fuels, flammable materials, and common construction-related hazardous materials and for fire prevention. Cal-OSHA requirements can be found in California Labor Code, Division 5, Chapter 2.5.

BMP-8: Prepare and Implement a Fire Suppression and Control Plan

The District will require the construction contractor to coordinate with Placer County Fire to ensure a fire control plan is prepared and implemented to reduce the risk of fires during construction. The fire prevention and control plan will include requirements for onsite extinguishers; roles and responsibilities of NID, the contractor; specification for fire suppression equipment and other critical fire prevention and suppression items.

BMP-9: Prepare and Implement a Construction Traffic Management Plan

As necessary, the District will require the contractor(s) to prepare a Traffic Control Plan in accordance with Placer County requirements and professional engineering standards prior to construction. The Traffic Control Plan could include the following requirements:

- a. Identification of traffic controls required where the temporary northern access connects to Gold Hill Road.
- b. Emergency services access to local land use shall be maintained for the duration of construction activities.
- c. Access for local land uses including residential driveways, commercial properties, and agricultural lands during construction activities shall be maintained.
- d. Adequate provisions will be made for the protection of the traveling public. All traffic control, including devices and personnel requirements, will be consistent with the current State of California Manual of Traffic Controls for Construction and Maintenance Work Areas.

1.4 Regulatory Requirements, Permits, and Approvals

The following permits and approvals are anticipated for the proposed Project:

- CEQA Document Adoption and Project Approval - Nevada Irrigation District Board
- Streambed Alteration Agreement (CDFG code Section 1602) - California Department of Fish and Wildlife

ATTACHMENT B

Special-Status Species Searches



United States Department of the Interior



FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To:

June 26, 2019

Consultation Code: 08ESMF00-2019-SLI-2306

Event Code: 08ESMF00-2019-E-07373

Project Name: NID - Doty North Canal Siphon Replacement

Subject: List of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2) (c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

<http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF>

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 *et seq.*), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (<http://www.fws.gov/windenergy/>) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm>; <http://www.towerkill.com>; and <http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html>.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office

Federal Building

2800 Cottage Way, Room W-2605

Sacramento, CA 95825-1846

(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2019-SLI-2306

Event Code: 08ESMF00-2019-E-07373

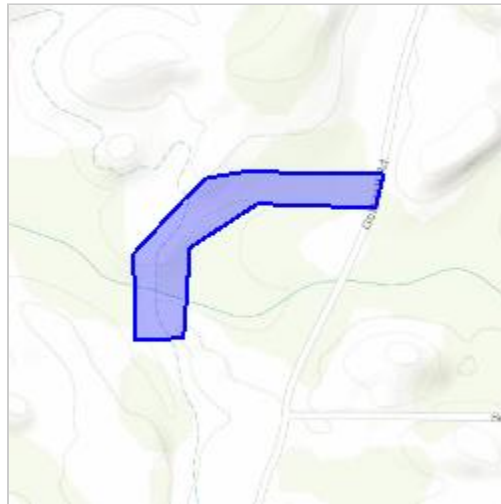
Project Name: NID - Doty North Canal Siphon Replacement

Project Type: WATER SUPPLY / DELIVERY

Project Description: Replacement of NID Doty North Canal Siphon

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/place/38.91827695885566N121.19071093993264W>



Counties: Placer, CA

Endangered Species Act Species

There is a total of 5 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries¹, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

-
1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened

Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850 Habitat assessment guidelines: https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> There is final critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.



Selected Elements by Scientific Name

California Department of Fish and Wildlife

California Natural Diversity Database



Query Criteria: Quad (Camp Far West (3912113) OR Wolf (3912112) OR Lake Combie (3912111) OR Lincoln (3812183) OR Gold Hill (3812182) OR Auburn (3812181) OR Roseville (3812173) OR Rocklin (3812172) OR Pilot Hill (3812171))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Agelaius tricolor</i> tricolored blackbird	ABPBXB0020	None	Threatened	G2G3	S1S2	SSC
<i>Alkali Meadow</i> Alkali Meadow	CTT45310CA	None	None	G3	S2.1	
<i>Alkali Seep</i> Alkali Seep	CTT45320CA	None	None	G3	S2.1	
<i>Allium jepsonii</i> Jepson's onion	PMLIL022V0	None	None	G2	S2	1B.2
<i>Ammodramus savannarum</i> grasshopper sparrow	ABPBXA0020	None	None	G5	S3	SSC
<i>Ammonitella yatesii</i> tight coin (=Yates' snail)	IMGASB0010	None	None	G1	S1	
<i>Andrena subapasta</i> An andrenid bee	IIHYM35210	None	None	G1G2	S1S2	
<i>Ardea herodias</i> great blue heron	ABNGA04010	None	None	G5	S4	
<i>Athene cunicularia</i> burrowing owl	ABNSB10010	None	None	G4	S3	SSC
<i>Balsamorhiza macrolepis</i> big-scale balsamroot	PDAST11061	None	None	G2	S2	1B.2
<i>Banksula californica</i> Alabaster Cave harvestman	ILARA14020	None	None	GH	SH	
<i>Banksula galilei</i> Galile's cave harvestman	ILARA14040	None	None	G1	S1	
<i>Bombus morrisoni</i> Morrison bumble bee	IIHYM24460	None	None	G4G5	S1S2	
<i>Bombus occidentalis</i> western bumble bee	IIHYM24250	None	None	G2G3	S1	
<i>Branchinecta lynchi</i> vernal pool fairy shrimp	ICBRA03030	Threatened	None	G3	S3	
<i>Buteo swainsoni</i> Swainson's hawk	ABNKC19070	None	Threatened	G5	S3	
<i>Calystegia stebbinsii</i> Stebbins' morning-glory	PDCON040H0	Endangered	Endangered	G1	S1	1B.1
<i>Carex xerophila</i> chaparral sedge	PMCYP03M60	None	None	G2	S2	1B.2
<i>Ceanothus roderickii</i> Pine Hill ceanothus	PDRHA04190	Endangered	Rare	G1	S1	1B.1



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Chlorogalum grandiflorum</i> Red Hills soaproot	PMLIL0G020	None	None	G3	S3	1B.2
<i>Chloropyron molle ssp. hispidum</i> hispid salty bird's-beak	PDSCR0J0D1	None	None	G2T1	S1	1B.1
<i>Circus hudsonius</i> northern harrier	ABNKC11011	None	None	G5	S3	SSC
<i>Clarkia biloba ssp. brandegeae</i> Brandegee's clarkia	PDONA05053	None	None	G4G5T4	S4	4.2
<i>Corynorhinus townsendii</i> Townsend's big-eared bat	AMACC08010	None	None	G3G4	S2	SSC
<i>Cosumnoperla hypocreana</i> Cosumnes stripetail	IIPLE23020	None	None	G2	S2	
<i>Crocانthemum suffrutescens</i> Bisbee Peak rush-rose	PDCIS020F0	None	None	G2?Q	S2?	3.2
<i>Desmocerus californicus dimorphus</i> valley elderberry longhorn beetle	IICOL48011	Threatened	None	G3T2	S2	
<i>Downingia pusilla</i> dwarf downingia	PDCAM060C0	None	None	GU	S2	2B.2
<i>Elanus leucurus</i> white-tailed kite	ABNKC06010	None	None	G5	S3S4	FP
<i>Emys marmorata</i> western pond turtle	ARAAD02030	None	None	G3G4	S3	SSC
<i>Falco peregrinus anatum</i> American peregrine falcon	ABNKD06071	Delisted	Delisted	G4T4	S3S4	FP
<i>Fritillaria eastwoodiae</i> Butte County fritillary	PMLIL0V060	None	None	G3Q	S3	3.2
<i>Galium californicum ssp. sierrae</i> El Dorado bedstraw	PDRUB0N0E7	Endangered	Rare	G5T1	S1	1B.2
<i>Gratiola heterosepala</i> Boggs Lake hedge-hyssop	PDSCR0R060	None	Endangered	G2	S2	1B.2
<i>Haliaeetus leucocephalus</i> bald eagle	ABNKC10010	Delisted	Endangered	G5	S3	FP
<i>Hydrochara rickseckeri</i> Ricksecker's water scavenger beetle	IICOL5V010	None	None	G2?	S2?	
<i>Icteria virens</i> yellow-breasted chat	ABPBX24010	None	None	G5	S3	SSC
<i>Juncus leiospermus var. ahartii</i> Ahart's dwarf rush	PMJUN011L1	None	None	G2T1	S1	1B.2
<i>Juncus leiospermus var. leiospermus</i> Red Bluff dwarf rush	PMJUN011L2	None	None	G2T2	S2	1B.1
<i>Laterallus jamaicensis coturniculus</i> California black rail	ABNME03041	None	Threatened	G3G4T1	S1	FP



Selected Elements by Scientific Name
California Department of Fish and Wildlife
California Natural Diversity Database



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<i>Lathyrus sulphureus var. argillaceus</i> dubious pea	PDFAB25101	None	None	G5T1T2Q	S1S2	3
<i>Legenere limosa</i> legenere	PDCAM0C010	None	None	G2	S2	1B.1
<i>Lepidurus packardi</i> vernal pool tadpole shrimp	ICBRA10010	Endangered	None	G4	S3S4	
<i>Linderiella occidentalis</i> California linderiella	ICBRA06010	None	None	G2G3	S2S3	
<i>Melospiza melodia</i> song sparrow ("Modesto" population)	ABPBXA3010	None	None	G5	S3?	SSC
<i>Navarretia myersii ssp. myersii</i> pincushion navarretia	PDPLM0C0X1	None	None	G2T2	S2	1B.1
<i>Northern Hardpan Vernal Pool</i> Northern Hardpan Vernal Pool	CTT44110CA	None	None	G3	S3.1	
<i>Northern Volcanic Mud Flow Vernal Pool</i> Northern Volcanic Mud Flow Vernal Pool	CTT44132CA	None	None	G1	S1.1	
<i>Oncorhynchus mykiss irideus pop. 11</i> steelhead - Central Valley DPS	AFCHA0209K	Threatened	None	G5T2Q	S2	
<i>Packera layneae</i> Layne's ragwort	PDAST8H1V0	Threatened	Rare	G2	S2	1B.2
<i>Pandion haliaetus</i> osprey	ABNKC01010	None	None	G5	S4	WL
<i>Progne subis</i> purple martin	ABPAU01010	None	None	G5	S3	SSC
<i>Rana boylei</i> foothill yellow-legged frog	AAABH01050	None	Candidate Threatened	G3	S3	SSC
<i>Riparia riparia</i> bank swallow	ABPAU08010	None	Threatened	G5	S2	
<i>Setophaga petechia</i> yellow warbler	ABPBX03010	None	None	G5	S3S4	SSC
<i>Spea hammondi</i> western spadefoot	AAABF02020	None	None	G3	S3	SSC
<i>Viburnum ellipticum</i> oval-leaved v burnum	PDCPR07080	None	None	G4G5	S3?	2B.3
<i>Wolffia brasiliensis</i> Brazilian watermeal	PMLEM03020	None	None	G5	S2	2B.3
<i>Wyethia reticulata</i> El Dorado County mule ears	PDAST9X0D0	None	None	G2	S2	1B.2

Record Count: 59

*The database used to provide updates to the Online Inventory is under construction. [View updates and changes made since May 2019 here.](#)

Plant List

29 matches found. [Click on scientific name for details](#)

Search Criteria

Found in Quads 3912113, 3912112, 3912111, 3812183, 3812182, 3812181, 3812173 3812172 and 3812171;

[Modify Search Criteria](#) [Export to Excel](#) [Modify Columns](#) [Modify Sort](#) [Display Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
Allium jepsonii	Jepson's onion	Alliaceae	perennial bulbiferous herb	Apr-Aug	1B.2	S2	G2
Allium sanbornii var. sanbornii	Sanborn's onion	Alliaceae	perennial bulbiferous herb	May-Sep	4.2	S3S4	G4T3T4
Azolla microphylla	Mexican mosquito fern	Azollaceae	annual / perennial herb	Aug	4.2	S4	G5
Balsamorhiza macrolepis	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
Brodiaea rosea ssp. vallicola	valley brodiaea	Themidaceae	perennial bulbiferous herb	Apr-May(Jun)	4.2	S3	G5T3
Calystegia stebbinsii	Stebbins' morning-glory	Convolvulaceae	perennial rhizomatous herb	Apr-Jul	1B.1	S1	G1
Carex xerophila	chaparral sedge	Cyperaceae	perennial herb	Mar-Jun	1B.2	S2	G2
Ceanothus roderickii	Pine Hill ceanothus	Rhamnaceae	perennial evergreen shrub	Apr-Jun	1B.1	S1	G1
Chlorogalum grandiflorum	Red Hills soaproot	Agavaceae	perennial bulbiferous herb	May-Jun	1B.2	S3	G3
Chloropyron molle ssp. hispidum	hispid bird's-beak	Orobanchaceae	annual herb (hemiparasitic)	Jun-Sep	1B.1	S1	G2T1
Clarkia biloba ssp. brandegeae	Brandegee's clarkia	Onagraceae	annual herb	May-Jul	4.2	S4	G4G5T4
Claytonia parviflora ssp. grandiflora	streambank spring beauty	Montiaceae	annual herb	Feb-May	4.2	S3	G5T3
Crocanthemum suffrutescens	Bisbee Peak rush-rose	Cistaceae	perennial evergreen shrub	Apr-Aug	3.2	S2?	G2?Q
Downingia pusilla	dwarf downingia	Campanulaceae	annual herb	Mar-May	2B.2	S2	GU
Fritillaria agrestis	stinkbells	Liliaceae	perennial bulbiferous herb	Mar-Jun	4.2	S3	G3
Fritillaria eastwoodiae	Butte County fritillary	Liliaceae	perennial bulbiferous herb	Mar-Jun	3.2	S3	G3Q

<u>Galium californicum ssp. sierrae</u>	El Dorado bedstraw	Rubiaceae	perennial herb	May-Jun	1B.2	S1	G5T1
<u>Gratiola heterosepala</u>	Boggs Lake hedge-hyssop	Plantaginaceae	annual herb	Apr-Aug	1B.2	S2	G2
<u>Juncus leiospermus var. ahartii</u>	Ahart's dwarf rush	Juncaceae	annual herb	Mar-May	1B.2	S1	G2T1
<u>Juncus leiospermus var. leiospermus</u>	Red Bluff dwarf rush	Juncaceae	annual herb	Mar-Jun	1B.1	S2	G2T2
<u>Lathyrus sulphureus var. argillaceus</u>	dubious pea	Fabaceae	perennial herb	Apr-May	3	S1S2	G5T1T2Q
<u>Legenere limosa</u>	legenere	Campanulaceae	annual herb	Apr-Jun	1B.1	S2	G2
<u>Lilium humboldtii ssp. humboldtii</u>	Humboldt lily	Liliaceae	perennial bulbiferous herb	May-Jul(Aug)	4.2	S3	G4T3
<u>Navarretia myersii ssp. myersii</u>	pincushion navarretia	Polemoniaceae	annual herb	Apr-May	1B.1	S2	G2T2
<u>Navarretia nigelliformis ssp. nigelliformis</u>	adobe navarretia	Polemoniaceae	annual herb	Apr-Jun	4.2	S3	G4T3
<u>Packera layneae</u>	Layne's ragwort	Asteraceae	perennial herb	Apr-Aug	1B.2	S2	G2
<u>Viburnum ellipticum</u>	oval-leaved viburnum	Adoxaceae	perennial deciduous shrub	May-Jun	2B.3	S3?	G4G5
<u>Wolffia brasiliensis</u>	Brazilian watermeal	Araceae	perennial herb (aquatic)	Apr,Dec	2B.3	S2	G5
<u>Wyethia reticulata</u>	El Dorado County mule ears	Asteraceae	perennial herb	Apr-Aug	1B.2	S2	G2

Suggested Citation

California Native Plant Society, Rare Plant Program. 2019. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 26 June 2019].

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[The California Lichen Society](#)
[California Natural Diversity Database](#)
[The Jepson Flora Project](#)
[The Consortium of California Herbaria](#)
[CalPhotos](#)

Questions and Comments

rareplants@cnps.org

ATTACHMENT C

Representative Site Photographs



View facing north at the NID North Canal siphon where it crosses over Doty Ravine. Photo taken 27 June, 2019.



View of Doth Ravine and associated riparian vegetation north of the siphon. Photo taken 27 June, 2019.



View facing northwest at the irrigated pasture within the Project Area. Photo taken 27 June, 2019.



View facing southwest of Sailor Ravine near the site access along Gold Hill Road. Photo taken 27 June, 2019.



ATTACHMENT D

Stantec Wetland Delineation

To: Brian Powell P.E.- Maintenance Manager
Nevada Irrigation District
1036 W. Main Street
Grass Valley, CA 95945

From: Andrea Williams- Senior Biologist /
Regulatory Specialist
Stantec Consulting Services, Inc.
101 Providence Mine Road, Suite 202
Nevada City, CA 95959

File: 185704106 Date: May 9, 2018

Reference: Doty North Canal Siphon Replacement Project Technical Memorandum- Environmental Compliance Assessment

INTRODUCTION

On behalf of the Nevada Irrigation District (NID), Stantec Consulting Services Inc. (Stantec) has conducted an Environmental Compliance Assessment (assessment) of biological, wetland, and cultural resources that occur within the proposed Doty North Canal Siphon Replacement Project (Project) area (**Attachment 1-1** Project Location Map **Attachment 3-1** Photo Record). The purpose of these resource assessments is to provide NID with information regarding potential sensitive environmental resources within the Project Study Area (PSA). Furthermore, this information is to aid in the determination if possible to redesign the Project to avoid sensitive environmental resources that could trigger the need for a California Environmental Quality Act (CEQA) Initial Study Mitigated Negative Declaration (ISMND), State of California (State) and federal endangered species act consultations with regulatory agencies, and other associated environmental permits. This Technical Memorandum (Tech Memo) has been compiled to provide NID with baseline environmental compliance assessment findings.

The Project area is in Placer County, California at an elevation range of approximately 360 to 370 (109 to 113 meters) above mean sea level (amsl). Specifically, the Project site is on a parcel that is part of Gold Hill Gardens and crosses Doty Ravine off Gold Hill Road in Placer County (County), California (38.917692, -121.189985) (**Attachment 1-1** Project Location Map). The Project includes the replacement of the existing siphon across Doty Ravine.

BIOLOGICAL RESOURCES ASSESSMENT

The biological resources assessment was conducted for the PSA by identifying biological communities and screening species that may exist within the PSA, and by establishing the baseline for potential special-status species and their likelihood of occurrence in the PSA. The following section provides a summary of the desktop and field methods used to assess biological resources in the PSA, as well as the assessment results.

BIOLOGICAL RESOURCE METHODS

Biological Desktop Review

- Prior to conducting biological resource field surveys, a qualified Stantec Biologist completed a desktop review to identify sensitive biological resources (e.g., wildlife species, plant species, and their habitats) that may occur within the PSA and Project vicinity, and as defined by the California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service (USFWS), National Marine Fisheries Service (NMFS) and the California Native Plant Society (CNPS). Specifically, special-status species and habitat are defined as Federally Endangered (FE), Federally Threatened (FT), Federal Candidate Species (FC), Federal Proposed Species (FP), Federally Delisted (FD), Federal Species of Concern (FSC), and Designated Critical Habitat (DCH) through the Federal Endangered Species Act (FESA); State Endangered (SE), State Threatened (ST), and State Candidate Species (SC) through the California

Reference: Doty North Canal Siphon Replacement Project Technical Memorandum- Environmental Compliance Assessment

Endangered Species Act (CESA); or State Fully Protected [FP], California Species of Special Concern [SSC]; and/or California Rare Plant Rank (CRPR) List 1 or 2. The following resources were used to identify sensitive biological resources that may occur within the PSA and Project vicinity: CDFW California Natural Diversity Database (CNDDDB) records search of special-status species and habitat observations within three miles surrounding the PSA (**Attachment 1-2** Known Occurrences of Designated Critical Habitat and Special Status Plant Species Within Three Miles of the Project Area Map)¹;

- CNPS online Inventory of Rare and Endangered Plants of California for Camp Far West, Wolf, Lake Combie, Lincoln, Gold Hill, Auburn, Roseville, Rocklin, and Pilot Hill U.S. Geological Survey (USGS) 7.5-minute Quads²;
- U.S. Fish and Wildlife Service (USFWS) Information for Planning and Conservation (IPaC) online database³;
- USFWS Designated Critical Habitat (DCH) data for federally threatened and endangered species⁴; and
- Calflora online database for Placer County⁵. Note that Calflora was used as a secondary tool for assessing rare plant species that have the potential to occur within Placer County.

Biological Field Surveys

On April 9, 2018, a biological resource survey was conducted by a qualified Stantec biologist. The survey was completed walking meandering pedestrian transects throughout the 0.56-acre PSA, evaluating habitat and suitability for special-status species identified during the desktop review, if present. Specifically, the biological field surveys assessed general site conditions if relevant to biological resources. Note this assessment did not include species-specific protocol-level surveys.

BIOLOGICAL RESOURCE RESULTS

Desktop results for special-status species with a moderate or high potential to occur within the Project area have been compiled below in **Table 1-1** Biological Resources Desktop Review Results. **Attachment 5-1** shows the desktop results for special-status species with a very low or low potential to occur within the Project area. DCH for Steelhead (*Oncorhynchus mykiss*) California Central Valley Distinct Population Segment (DPS) and Essential Fish Habitat for Central Valley Fall and late-fall-run Chinook Salmon (*Oncorhynchus tshawytschawas*) was identified during desktop review of the Project area. Specific biological communities identified within the PSA during the biological resource field surveys include the following:

- Valley Oak Woodland (*Quercus lobata* Woodland Alliance), or valley oak riparian forest. This biological community is concentrated in and around Doty Ravine within the PSA. Reference **Attachment 1-4** Wetland Resources Assessment Map for the geographic location of this community.

The conditions of the biological communities within the PSA is in fair to good condition. The NID irrigation canal (i.e., Doty North canal) is comprised of a valley oak woodland biological community. The riparian zone in the PSA is disturbed and void of riparian vegetation in most areas. These biological communities' assignments were used to further evaluate the potential for occurrence of special-status species identified in the desktop review.

¹ California Department of Fish and Wildlife (CDFW). 2018. California Natural Diversity Database (CNDDDB) Occurrence Map for Three-Mile Buffer Surrounding Proposed Project Area. RareFind Version 3 Search. CDFW. Sacramento, California. <<http://www.dfg.ca.gov/biogeodata/cnddb/rarefind.asp>>. Accessed April 2018.

² California Native Plant Society (CNPS). 1998. Policy on Mitigation Guidelines Regarding Impacts to Rare, Threatened, and Endangered Plants. CNPS. California. <<http://www.cnps.org/cnps/archive/mitigation.pdf>>. Accessed April 2018.

³ U.S. Fish and Wildlife Service (USFWS). 2018. Information for Planning and Consultation (IPaC)- Powered by the Environmental Conservation Online System (ECOS). <<https://ecos.fws.gov/ipac/>>. Accessed April 2018.

⁴ U.S. Fish and Wildlife Service (USFWS). 2018. Designated Critical Habitat (DCH) Data. USFWS. Sacramento Fish and Wildlife Office, California. <<https://ecos.fws.gov/ecp/report/table/critical-habitat.html>>. Accessed April 2018.

⁵ Calflora. 2018. Information on California Plant for Education, Research and Conservation. [web application]. The Calflora Database. Berkeley, California. <<http://www.calflora.org>>. Accessed April 2018.

Reference: Doty North Canal Siphon Replacement Project Technical Memorandum- Environmental Compliance Assessment

Table 1-1 Biological Resource Desktop Review Results

Common Name	Scientific Name	Status	Potential for Occurrence Within the Project Area
Wildlife			
steelhead - Central Valley DPS	<i>Oncorhynchus mykiss irideus</i> pop. 11	FT, S2	Designated Critical Habitat. The proposed Project is within known critical habitat for steelhead. Therefore, there is a high potential of occurrence for steelhead.
Central Valley Chinook salmon Fall and late-fall-run	<i>Oncorhynchus tshawytscha</i>	EFH, FSC	Essential Fish Habitat (EFH). The proposed Project is potentially within known EFH for chinook salmon. Therefore, there is a high potential of occurrence for chinook from fall to spring.

WETLAND RESOURCES ASSESSMENT

The wetland resources assessment was conducted for the PSA by identifying and delineating potential Waters of the U.S. (WOTUS) and Waters of the State. The following section provides a summary of the desktop and field methods used to delineate WOTUS and Waters of the State within the PSA, as well as the delineation results (i.e., summary of findings).

WETLAND RESOURCE METHODS

Wetland Desktop Review

Prior to conducting a field wetland delineation, a qualified Stantec Wetland Scientist completed a desktop review to identify WOTUS, Waters of the State, or other sensitive hydrologic features that may occur within the PSA and Project vicinity, as defined under Sections 401 and 404 of the Clean Water Act (CWA). Specifically, The United States Environmental Protection Agency (USEPA) regulates surface water quality in WOTUS under Section 401 of the CWA, and in the State this authority is delegated to the Regional Water Quality Control Boards (RWQCB). The U.S. Army Corps of Engineers (USACE) and the USEPA regulate the discharge of dredge or fill material into WOTUS under Section 404 of the CWA. WOTUS include wetlands, lakes, rivers, streams, and their tributaries. Wetlands are defined 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. Furthermore, the existing landforms, as well as associated vegetation, hydrology, and soil conditions were assessed during the wetland desktop review to identify areas that could potentially contain wetlands, waters, and aquatic habitats in the PSA. The following resources were used to identify those potentially occurring wetland resources in the PSA:

- USGS 7.5 Minute Quad Map of “Gold Hill”;
- Aerial imagery, as available through Esri and Google;
- Soil map information for Placer County, California was reviewed using the U.S. Department of Agriculture (USDA)- Natural Resources Conservation Service (NRCS) Web Soil Survey⁶ (**Attachment 1-3** Soils, Hydrology and National Wetland Inventory Assessment); and
- National Wetlands Inventory (NWI) maps⁷ (**Attachment 1-3** Soils, Hydrology and National Wetland Inventory Assessment).

⁶ U.S. Department of Agriculture (USDA). 2018. National Resources Conservation District (NRCS) - Web Soil Survey <<http://websoilsurvey.nrcs.usda.gov/>>. Accessed April 2018.

⁷ U.S. Fish and Wildlife Service (USFWS). 2018. National Wetland Inventory (NWI). <<http://www.fws.gov/wetlands/Data/index.html>>. Accessed April 2018.

Reference: Doty North Canal Siphon Replacement Project Technical Memorandum- Environmental Compliance Assessment

Wetland Field Delineation

On April 9, 2018, a qualified Stantec Wetlands Scientist conducted a USACE-level Delineation of potential WOTUS and State within the PSA. The PSA was investigated on foot, and data was collected on vegetation and hydrology using wetland protocols as described in USACE wetland delineation⁸ and Ordinary High Water Mark (OHWM)⁹ manuals. In the field, soil test pits were taken only in wetland features. No additional soil test pits were taken where water features within the PSA were either confined to clearly marked river channel or canal, thus conforming to the definition of “waters”, “other waters” of the U.S. (e.g., exhibits a distinct bed and bank, with an OHWM), and/or did not contain characteristic hydrology or hydrophytic vegetation criteria. However, ‘instream’, ‘upland’, and “instream-upland boundary” sample points were taken at these locations to provide further differentiation of instream (i.e., below OHWM) and adjacent upland locations. Coordinates of each sample point (i.e., location) were recorded in the field using a sub-meter Trimble series 6000 Geo XH Global Positioning System (GPS) and Esri Collector used with a submeter Arrow 100 GNSS via Apple iPad. Information obtained at each sample point location was recorded on a USACE Arid West data form (see **Attachment 2-1**).

WETLAND RESOURCE RESULTS

The wetland resource desktop review identified one perennial stream through NWI within the vicinity of the Project. In addition, Placer County hydrology data identified Doty North Canal, which runs from south to north through the PSA. Furthermore, the desktop review of NRCS soil data concluded that Xerofluvents was the major soil unit within the PSA. This soil type contains a combination of loamy sand materials and tends to be frequently flooded and somewhat poorly drained. Being in the Entisol order and the suborder of Fluvents, Xerofluent tends to be a floodplain soil and as such, it often ranks as hydric soils (i.e., formed under wet conditions). The desktop review provided information regarding the potential extent and abundance of potential wetland resources within the PSA for wetland resource field surveys.

The following wetland resource results summarize the baseline found by assessing desktop resources and completing a wetland field delineation on April 9, 2018, within the 0.56-acre PSA. A complete summary of wetland resources, classification, and size can be referenced in **Table 1-2 Wetland Resources Within the Project Study Area (PSA)**. In addition, the location and extent of the wetland resources can also be referenced on **Attachment 1-4 Wetland Resources Assessment Map**.

Table 1-2 Wetland Resources within the Project Study Area (PSA)

Wetland Resource		Wetland Resource Classification	Location (centroid within PSA)		Wetland Resource Size Required for all Resources (acres)	Wetland Resource Size Required for all Resources (linear feet)
ID	Name	Cowardin ¹⁰	Latitude	Longitude		
1	Doty Ravine	Riverine	38.917784	-121.190887	0.102	145.45
2	Sailor’s Ravine	Riverine	38.917817	-121.190854	0.003	60.44

⁸ U.S. Army Corps of Engineers (USACE). 2008a. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West (Version 2.0). USACE- Engineer Research and Development Center. <http://www.usace.army.mil/Portals/2/docs/civilworks/regulatory/reg_supp/trel08-28.pdf>. Accessed April 2018.
⁹ U.S. Army Corps of Engineers (USACE). 1987. Corps of Engineers Wetlands Delineation Manual. Environmental Laboratory. <<http://el.erdc.usace.army.mil/elpubs/pdf/wlman87.pdf>>. Accessed April 2018
¹⁰ U.S. Army Corps of Engineers (USACE). 2008. A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) Delineation in the Arid West Region of the United States- A Delineation Manual. Wetlands Regulatory Assistance Program (WRAP). Engineer Research and Development Center. <<http://www.dtic.mil/dtic/tr/fulltext/u2/a486603.pdf>>. Accessed April 2018.
¹⁰ Cowardin, L.M., Carter, V., Golet, F.C., LaRoe, E.T. 1979. Classification of Wetlands and Deepwater Habitats of the United State. U.S. Department of the Interior (USDI). U.S. Fish and Wildlife Service (USFWS). Washington, D.C. <<http://www.wetlandpolicy.ca/cowardin-classification-system/>>. Accessed April 2018.

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Reference: Doty North Canal Siphon Replacement Project Technical Memorandum- Environmental Compliance Assessment

CULTURAL RESOURCES ASSESSMENT

A cultural resource assessment was conducted for the PSA (displayed in **Attachment 1-4**) by identifying cultural resources through a desktop review and survey. The following section provides a summary of the desktop review and survey methods used to assess cultural resources in the PSA, as well as the assessment results.

CULTURAL RESOURCE METHODS

Cultural Desktop Review

Prior to conducting cultural resource field surveys, a Stantec archaeologist completed a desktop review to identify cultural resources within or adjacent to the PSA. The following sources were used to identify cultural resources:

- California Department of Conservation Geologic Map of California¹¹
- USDA NRCS Soil Maps¹²
- Ethnographic Village Locations¹³
- Bureau of Land Management (BLM) General Land Office Maps¹⁴
- Historic USGS Topographic Maps¹⁵
- Historic aerials¹⁶
- National Register of Historic Places (NRHP) database¹⁷
- California Register of Historical Resources (CRHR) database¹⁸

The sources listed above were reviewed to assess the presence of cultural resources and sensitivity for buried archaeological sites within the PSA.

Assessing the sensitivity for an area to contain buried archaeological sites takes into consideration the potential for the presence of buried cultural deposits by examining past use of the PSA; factors that support human occupations such as access to resources and water; slope; and the underlying geomorphology of the area. Generally speaking, a large proportion of archaeological sites are located within 150 meters of perennial water sources and on relatively flat ground. Portions of the PSA that occur within these parameters have an increased potential to contain surficial and buried cultural resources.

¹¹ California Department of Conservation. 2010. Geologic Map of California. Electronic document accessed in April 2018 at: <http://maps.conservation.ca.gov/cgs/gmcl/>.
¹² U.S. Department of Agriculture (USDA). 2017. National Resources Conservation District (NRCS) - Web Soil Survey <<http://websoilsurvey.nrcs.usda.gov/>>. Accessed April 2018.
¹³ Wilson and Towne. 1978. Handbook of North American Indians, Volume 8, California; Nisenan Pages 387-397. Smithsonian Institution, Washington D.C.

¹⁴ Bureau of Land Management (BLM). 2018. General Land Office Records for Placer County. Electronic document accessed in April 2018 at: http://www.gloreCORDS.blm.gov/results/default.aspx?searchCriteria=type=survey|st=CA|cty=071|twp_nr=4|twp_dir=N|rng_nr=1|rng_dir=E|m=27.

¹⁵ United States Geological Survey (USGS) Topographic Maps. 2018. Electronic document accessed in April 2018 at: <http://historicalmaps.arcgis.com/usgs/index.html>.

¹⁶ Historic Aerials. 2018. Aerials and Topographic Maps of the PSA. Electronic document accessed in April 2018 at: <http://www.historicaerials.com/aerials.php?scale=2000&lon=-123.23232024908&lat=39.38358977437&year=2005>.

¹⁷ National Park Service (NPS). 2018 National Register of Historic Places – West Region Google Earth Layer. Electronic document accessed in April 2018. http://focus.nps.gov/nrhp/Content/data/NRHP_West_Region.kmz.

¹⁸ Office of Historic Preservation (OHP). 2018. California Historical Resources – Placer County. Electronic document accessed in April 2018 at: <http://ohp.parks.ca.gov/listedresources/>.

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Cultural Field Surveys

On April 9, 2018, a Stantec archaeologist conducted a pedestrian survey of the PSA. The PSA was entirely accessible to survey. The surveyor used 10 meters transects throughout the PSA. Ground visibility was generally poor due largely to the presence of thick vegetation such as tall grass, blackberries, and bushes. Periodic boot scrapes were conducted to mitigate for poor visibility.

During the survey, the PSA was examined for the presence of prehistoric or historic site indicators. Site indicators for the presence of prehistoric sites in this area may include but are not limited to: ground depressions; darkened soil areas indicative of middens; fire scorched and/or cracked rock; modified obsidian, chert, or other vitreous materials; and grinding stones including manos and metates. Historic era artifacts may include but are not limited to: metal objects including nails; containers or miscellaneous hardware; glass fragments; ceramic or stoneware objects or fragments; milled or split lumber; trenches; feature or structure remains such as buildings or building foundations; and trash dumps.

CULTURAL RESOURCE RESULTS

The geologic age of deposition in the PSA is classified as 'grMz' or plutonic rocks dating to the Mesozoic period (252 to 66 million years ago). The PSA is flat to gently sloping. Soils in the PSA are predominantly composed of Xerofluvents, which are frequently flooded and somewhat poorly drained with a parent material of alluvium. The closest perennial water source within 150 feet of the PSA is Doty Ravine and Sailor Ravine which are within the PSA. The PSA appears to have a moderate to high potential for buried archaeological resources based on a review of geologic age, soils, slope, and natural water sources within 150 meters of the Project area.

The PSA is within the Nisenan Tribal territory. The closest ethnographic villages are *Piuhu* which is approximately 5 miles southeast of the PSA and *Bamuma* which is approximately 5 miles southwest of the PSA.

During a review of historic topographic maps and historic aerials the Doty North Canal is shown within the PSA as early as 1952. No NRHP or CRHR listed properties were identified within or adjacent to the PSA.

The pedestrian survey of the PSA also identified the Doty North Canal and associated Siphon as a cultural resource (over 50 years old) within the PSA. No other cultural resources were identified during the survey.

CONCLUSIONS

The following conclusions summarize observed biological, wetland and cultural resources identified during the desktop review, field surveys, and results evaluation for each resource, as described above.

BIOLOGICAL RESOURCE CONCLUSIONS

If the proposed Project crosses over or under Doty Ravine or has any potential effect to the stream, chinook and/or steelhead, it would require FESA consultation with NMFS as it would be construction within DCH for Steelhead and potentially EFH for chinook.

WETLAND RESOURCE CONCLUSIONS

On April 9, 2018 a qualified Stantec Wetland Scientist conducted a wetland field delineation, and desktop review to verify site conditions and resources present within the 0.56-acre PSA. The desktop review and wetland field delineation were completed in accordance with USACE protocols. The conclusions provided henceforth are intended to inform NID of potential wetland resources within the PSA and support a USACE-level Aquatic Resources Delineation Report, as

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needed. This Delineation concludes a total of 0.105 acre of wetland resources, including one intermittent channel (i.e. Sailor's Ravine) and one perennial stream (i.e., Doty Ravine).

CULTURAL RESOURCE CONCLUSIONS

A Stantec archaeologist conducted a cultural resource desktop review and survey to identify cultural resources with the PSA. The Doty North Canal and associated Siphon was the only cultural resource identified within the PSA. No other cultural resources were identified within the PSA as a result of these efforts.

DISCUSSION

The following section discusses the need for CEQA and regulatory permitting requirements if the Project cannot be designed to avoid the environmental resources found within the PSA, as concluded above. This discussion includes environmental compliance recommendations for the preferred and alternative methods for the Project based on Stantec's best understanding of the Project components.

BIOLOGICAL RESOURCES

The CEQA statute, California Public Resources Code (PRC) § 21000 et seq., institutes a statewide policy of environmental protection. According to CEQA, all state and local agencies must consider environmental protection in regulating public and private Project activities. CEQA would be required to disclose the Project and alternative(s), potential impacts, mitigation, and avoidance/ minimization to biological resources.

To protect, manage, and conserve rivers, streams, lakes, wetlands, etc., CDFW has jurisdictional authority, under California Department of Fish and Game (CDFG) Code Sections 1600-1616, to regulate any activity that meets the definition under FGC Section 1602. Such activity can include 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; and/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. Additionally, CDFW requires a Lake and Streambed Alteration Agreement (LSAA) when it determines activities may substantially adversely affect existing fish or wildlife resources. An LSAA may include measures necessary to protect existing fish and wildlife resources. Furthermore, CDFW may suggest ways to modify a project that would eliminate or reduce harmful impacts to fish and wildlife resources. The conclusions of the biological resources assessment conducted for the proposed Project determined that Project activities have the potential to impact riparian habitat, sensitive natural communities, and/or suitable wildlife habitat; therefore, compliance is required through a CDFW LSAA. Note, before issuing a LSAA, the Project must comply with CEQA.

A NMFS FESA Section 7 or 10 will be triggered by the proposed Project because there is DCH for steelhead known to occur as well as potentially EFH for chinook in the Project area. As currently proposed with a new footing being constructed within the OHWM, FESA Section 7 consultation will be required. Stantec recommends designing the proposed Project to minimize potential effects to the greatest extent feasible (e.g. construct the new footing outside of the stream or not in open water) so that FESA Section 7 consultation is informal with a *Not Likely to Adversely Affect* Determination from the NMFS.

The Project activities will remove trees, primarily oak trees. NID, as a District with equal authority to that of the County, does not need to comply with Placer County Tree permitting regulations. However, in compliance with CEQA and to mitigate potential impacts, NID aims to mitigate for the loss of trees by replanting at a 3:1 ratio (onsite or offsite) or conserving trees of similar and equal characteristics at another location.

Reference: Doty North Canal Siphon Replacement Project Technical Memorandum- Environmental Compliance Assessment**WETLAND RESOURCES**

CEQA would be required to disclose the Project and alternative (s), potential impacts, mitigation, and avoidance/minimization to wetland resources.

As detailed in the Clean Water Act (CWA), any Project activities that would dredge and/or fill areas identified as USACE jurisdictional waters would require a verified Aquatic Resources Delineation Report and a USACE Section 404 Nationwide Permit (NWP). Before a USACE permit is valid, a CWA Section 401 Water Quality Certification (WQC) from the Regional Water Quality Control Board (RWQCB) would need to be obtained. Compensatory mitigation for impacts to jurisdictional WOTUS may be required by the USACE during Section 404 permitting. Mitigation measures that are required from the USACE will typically satisfy the Section 401 WQC. The conclusions of the wetland resources assessment conducted for the proposed Project determined that various features observed within PSA would likely fall under USACE and RWQCB jurisdiction pursuant to Section 404 and 401 of the CWA. Note, before the RWQCB issues a WQC, the Project must be in compliance with Section 404 (via USACE NWP) and must comply with CEQA.

CULTURAL RESOURCES

In relation to cultural resources, the Project will require compliance with CEQA and Section 106 of the National Historic Preservation Act (NHPA) as part of the USACE permit. To complete a full inventory of cultural resources in the PSA and to comply with CEQA and Section 106 of the NHPA in a timely manner, the first step would be to develop the Project APE and receive APE approval from USACE. Once the APE is approved, a records search at the North Central Information Center and Native American outreach (required for both CEQA and Section 106 of the NHPA) should be completed. The Doty North Canal and associated Siphon is over 50 years old and the Project may not be able to avoid this resource. Therefore, Stantec recommends that as part of CEQA and environmental permitting compliance, NID complete an evaluation of the Doty North Canal and associated Siphon for eligibility to the CRHR and NRHP. Finally, a Project cultural resource report that complies with CEQA and Section 106 of the NHPA should be completed to summarize the Project cultural resources study.

ENVIRONMENTAL COMPLIANCE APPROACH

This environmental compliance summary includes recommendations, requisites (i.e., required permits, regulatory compliance, etc.), associated schedules, avoidance measures, and additional notes where pertinent to streamline environmental compliance for the Project. The proposed and alternative methods for the Project are as follows:

- **Proposed Method-** The proposed method includes the replacement of an existing overhead 24-inch diameter raw water siphon that crosses Doty Ravine. The new siphon will tie into the existing Doty North Canal at the same existing locations; however, the new pipe would be constructed west of the existing pipe. The approximate extent of the pipeline replacement totals approximately 150 linear feet (46 linear meters). This proposed method includes leaving the existing pipeline in place. The new pipe construction will include the installation and construction of three concrete and metal pipe supports that are located approximately 45 feet apart. The new supports will be installed and located outside of the normal water zone. The new siphon will not be upsized to a capacity greater than the current size of the existing pipe. A bridge will be installed over and above the OHWM of Doty Ravine to allow vehicular access over creek.
- **Alternative Method-** The alternative method is the method applied to avoid and minimize environmental impacts to the extent feasible. This would include the replacement of the existing 24-inch pipeline similar to that of the proposed method. Avoidance and minimization of the perennial stream and DCH can be achieved for the alternative method not only by spanning Doty and Sailor Ravines, but also by utilizing the current footings for the new pipe. It is advised that the existing structure is left in place as removing the existing structure and footings would require additional regulatory oversight, and subsequently additional costs. Although this method minimizes impacts to the greatest extent feasible, if no new footings or fill is placed within the OHWM or within USACE jurisdiction, but construction activities are still occurring over or under DCH for steelhead or EFH for chinook, FESA consultation would still likely

Reference: Doty North Canal Siphon Replacement Project Technical Memorandum- Environmental Compliance Assessment

be required; and if USACE permits are not required, then FESA Section 10 consultation would likely be triggered, which takes a lot longer than FESA Section 7 consultation. Both the proposed and alternative method have been evaluated and recommendations have been summarized in **Table 1-3** Environmental Compliance Approach Summary below. Further environmental compliance details are detailed further in this section.

Environmental Compliance Approach Summary

Environmental Compliance	Compliance Specifications	Estimated Schedule for Compliance
Proposed		
CEQA	<ul style="list-style-type: none"> Avoidance and minimization- All resources, specifically those addressed in the biological, wetland, and cultural assessments concluded for the Project in this Memo. Area of Impact- All impacts to resources by Project activities must be disclosed including impacts to biological, wetland and hydrology, and cultural resources. Compliance- CEQA Initial Study Mitigation Negative Declaration (IS/MND); and AB 52 Native American Consultations Notes: AB 52 Native American Consultations should be completed as soon as possible. 	<ul style="list-style-type: none"> Approximately 1.5 months*(does not include preparation time)
NMFS Section 7	<ul style="list-style-type: none"> Avoidance and minimization- All biological and wetland, specifically aquatic resources, relating to species and habitat protected under FESA. Area of Impact- Any and all biological and aquatic resources within Doty Ravine- Steelhead DCH and potentially chinook EFH. Compliance- NMFS Section 7 Consultation will be required. 	<ul style="list-style-type: none"> Formal Section 7 Consultation and receipt of Biological Opinion (BO) will take a minimum of 180 days Or: Informal Section 7 Consultation and receipt of a Not Likely to Adversely Affect Determination from the NMFS will take a minimum of 90 days
USACE CWA Section 404	<ul style="list-style-type: none"> Avoidance and minimization- WOTUS and waters of the State, including bed, bank and floodplain (i.e., point bar between Doty and Sailor Ravines). Area of Impact- Doty Ravine and Sailor Ravine. Compliance- Verified Aquatic Resources Delineation Report and NWP. 	<ul style="list-style-type: none"> 90 + days to deem complete from submittal of NWP Pre-Construction Notification (PCN) Total = 90 + days
RWQCB CWA Section 401	<ul style="list-style-type: none"> Avoidance and minimization- Water quality, wetlands, riparian areas, and stream channels. Area of Impact- Doty Ravine and Sailor Ravine. Compliance- WQC. 	<ul style="list-style-type: none"> Receipt of Notice of Completion (NOC) 30 days from WQC application submittal. 60 days to deem complete after NOC issuance. Total = 90 days
CDFW Section 1602	<ul style="list-style-type: none"> Avoidance and minimization- Riparian zone and sensitive communities/habitats. Vegetation removal. Disturbance to nesting and/or migratory birds. Area of Impact- Stream channel/aquatic habitats, and riparian zone habitats adjacent to Doty Ravine and Sailor Ravine. Compliance- LSAA required. 	<ul style="list-style-type: none"> Receipt of Notice of Completion (NOC) 30 days from LSA Notification submittal. 60 days to deem complete after NOC issuance. Total = 90 days
NHPA Section 106 (Cultural Resources Compliance)	<ul style="list-style-type: none"> Avoidance and Minimization: If possible, avoid Doty North Canal. Potential for inadvertent discovery of cultural resources during construction. Implement NID procedures for Unanticipated Discovery of Cultural Resources and Human Remains. Area of Impact: The area of potential effects (APE) is three dimensional and includes above and below ground impacts, 	<ul style="list-style-type: none"> 1 month for USACE review 1 month for SHPO review Total = 2 months

Reference: Doty North Canal Siphon Replacement Project Technical Memorandum- Environmental Compliance Assessment

Environmental Compliance	Compliance Specifications	Estimated Schedule for Compliance
	<p>including depth of ground disturbance. The APE also includes the project area and construction staging and access roads.</p> <ul style="list-style-type: none"> Schedule: <ol style="list-style-type: none"> Develop Project APE and receive APE approval from USACE Complete a records search at the North Central Information Center Complete NRHP and CRHR evaluation for the Doty North Canal and associated Siphon Complete Native American Consultations (assist USACE with consultations if possible) Draft a Project Cultural Resource Report in the USACE format for Section 106 of the NHPA compliance <p>Compliance: SHPO Concurrence Letter</p>	
Alternative		
CEQA	<ul style="list-style-type: none"> Avoidance and minimization- All resources, specifically those addressed in the biological, wetland, and cultural assessments concluded for the Project in this Memo. Area of Impact- All impacts to resources by Project activities must be disclosed; including impacts to biological, wetland and hydrology, and cultural resources. Compliance- CEQA IS/MND; and AB 52 Native American Consultations 	<ul style="list-style-type: none"> Approximately 1.5 months*(does not include preparation time)
NMFS Section 7 or 10 Consultation	<ul style="list-style-type: none"> Avoidance and minimization- All biological and wetland, specifically aquatic resources, relating to species and habitat protected under FESA. Area of Impact- Any and all biological and aquatic resources within Doty Ravine- Steelhead DCH. Compliance- A) FESA Section 7; or B) FESA Section 10 Consultation will be required. 	<p>A) Informal Section 7 Consultation and receipt of a Not L key to Adversely Affect Determination from the NMFS will take a minimum of 90 days</p> <p>Or:</p> <p>B) Section 10 (no federal nexus) Habitat Conservation Plan takes 1 -2 years</p>
USACE CWA Section 404	<ul style="list-style-type: none"> Avoidance and minimization- WOTUS and waters of the State. Area of Impact- Doty Ravine and Sailor Ravine. Compliance- A) USACE issued Non-Notifying Verification; or B) Verified Aquatic Resources Delineation Report and NWP. 	<p>A) If the area of impact can be avoided and there will be no temporary and/or permanent impacts to WOTUS/State and the Project follows CWA Section 401, a Non-Notifying USACE Verification can be requested. Total = 30 + days</p> <p>B) 90 + days to deem complete from submittal of NWP PCN. Total = 90 + days</p>
RWQCB CWA Section 401	<ul style="list-style-type: none"> Avoidance and minimization- Water quality, riparian areas, and stream channels. Area of Impact- Doty Ravine and Sailor Ravine. Compliance- A) Non-Notifying RWQCB WQC Verification; or B) WQC. 	<ul style="list-style-type: none"> If the area of impact can be avoided and there will be no impacts to water quality, riparian areas, and/or stream channel and the Project follows Section CWA 404, a Non-Notifying RWQCB WQC Verification can be requested. Total = 2 weeks-30 days +

Reference: Doty North Canal Siphon Replacement Project Technical Memorandum- Environmental Compliance Assessment

Environmental Compliance	Compliance Specifications	Estimated Schedule for Compliance
		<ul style="list-style-type: none"> 90 + days to deem complete from submittal of NWP PCN. Total = 90 + days
<p>CDFW Section 1602</p>	<ul style="list-style-type: none"> Avoidance and minimization- Riparian zone and sensitive communities/habitats. Vegetation removal. Disturbance to nesting and/or migratory birds. Area of Impact- Stream channel/aquatic habitats, and riparian zone habitats adjacent to Doty Ravine and Sailor Ravine. Compliance- LSAA required. 	<ul style="list-style-type: none"> Receipt of Notice of Completion (NOC) 30 days from LSA Notification submittal. 60 days to deem complete after NOC issuance. Total = 90 days
<p>NHPA Section 106 (Cultural Resources Compliance)</p>	<ul style="list-style-type: none"> Avoidance and Minimization: If possible, avoid Doty North Canal. Potential for inadvertent discovery of cultural resources during construction. Implement NID procedures for Unanticipated Discovery of Cultural Resources and Human Remains Area of Impact: The area of potential effects (APE) is three dimensional and includes above and below ground impacts, including depth of ground disturbance. The APE also includes the project area and construction staging and access roads. Schedule: <ol style="list-style-type: none"> Develop Project APE and receive APE approval from USACE Complete a records search at the North Central Information Center Complete NRHP and CRHR evaluation for the Doty North Canal and associated Siphon Complete Native American Consultations (assist USACE with consultations if possible) Draft a Project Cultural Resource Report in the USACE format for Section 106 of the NHPA compliance <p>Compliance: SHPO Concurrence Letter</p>	<p>1 month for USACE review 1 month for SHPO review Total = 2 months</p>

Recommended avoidance and minimization measures specific to the Project have been compiled and provided in **Attachment 4-1** Project Avoidance and Minimization Overview.

Stantec recommends that both CEQA and permit applications are prepared in parallel to minimize the timeline duration. However, CEQA must be completed and an NOD submitted to each State agency prior to permit approvals. The schedules provided in **Table 1-3** Environmental Compliance Approach Summary detail the standard minimum timelines typical for CEQA and environmental permitting, and are dependent on no additional information being required by the agencies, changes to the Project description, etc. Note that the schedule provided in **Table 1-3** Environmental Compliance Approach Summary does not include time for the preparation of the CEQA IS/MND and permit packages. Preparation of CEQA is estimated to take a *minimum of three months*. Permit packages are estimated to take a *minimum of one month*. Both preparation timelines are contingent on NID providing all information required (e.g., project description, project plans/ drawings, etc.).

In general, CEQA fees (CDFW and County) will be approximately \$2,330. Permit fees are based on standard flat permit application fees. For the USACE NWP and the RWQCB WQC, fees will also include the total area of permanent impacts to WOTUS and waters of the State. For the CDFW LSAA, fees will be based on the total area of impact specifically related to vegetation and habitat. The final IS/MND and approved permits for the Project will include mitigation and

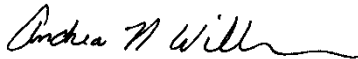
Reference: Doty North Canal Siphon Replacement Project Technical Memorandum- Environmental Compliance Assessment

monitoring and reporting, and conditions/stipulations that may result in additional costs to fulfill environmental compliance for the Project (e.g., revegetation and restoration, environmental monitoring and reporting, etc.).

Both the preferred and alternative methods for the Project require the full suite of CEQA and permitting. However, the alternative method (i.e., avoidance method) would significantly decrease potential impacts to biological and wetland resources in the Project area. By reducing impacts, fees associated with Project permitting, mitigation and minimization efforts will be reduced. Therefore, Stantec recommends a combination of the proposed and alternative method by minimizing impacts to the greatest extent feasible and retaining a federal nexus so that FESA Section 7 consultation is informal with a *Not Likely to Adversely Affect* Determination from the NMFS.

If NID has any additional questions, please feel free to contact Andrea Williams at the number/email provided below.

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Attachment:

- Attachment 1-1 Project Location Map
- Attachment 1-2 Known Occurrences of Designated Critical Habitat and Special Status Species Within Three Miles of the Project Area Map
- Attachment 1-3 Soils, Hydrology, and National Wetland Inventory Map
- Attachment 1-4 Wetland Resources Assessment Map
- Attachment 2-1 USACE Wetland Determination Data Forms
- Attachment 3-1 Photo Record
- Attachment 4-1 Project Avoidance and Minimization Overview
- Attachment 5-1 Special Status Species Potential of Occurrence Table

- c. Bernadette Bezy (Stantec)
- Morgan Kennedy (Stantec)
- Meagan Kersten (Stantec)
- Meghan Oats (Stantec)



- Legend**
- Name**
- ★ Doty North Canal
 - Local Roads

Figure No
1-1

Title

Project Location

Client/Project

Nevada Irrigation District
Doty North Canal Siphon Replacement

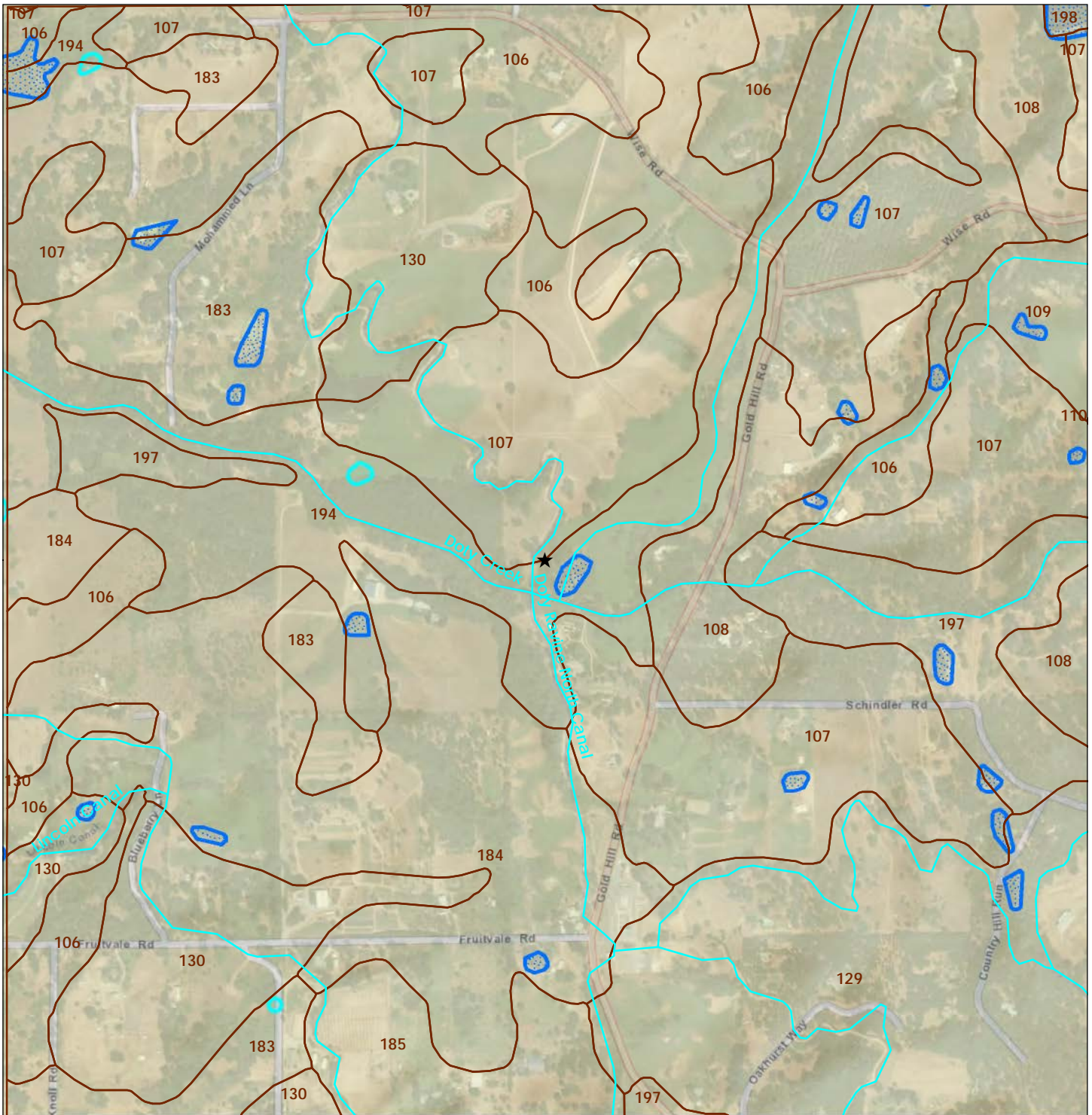
Project Location

Placer County, CA



- Notes**
1. Coordinate System NAD 1983 StatePlane California II
FPS 0402 Feet
 2. Data Sources Include Stantec 2018
Placer County.





Notes
 1. Coordinate System NAD 1983 StatePlane California II FIPS 0402 Feet
 2. Data Sources Include Stantec 2018 National Wetland Inventory 2018 Placer County USDA Natural Resources Conservation Service

Legend

- ★ Doty Project Location
- Hydrology
- National Wetland Inventory**
- Wetland Type**
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine
- Project Area Soil Type**
- Xerofluvents frequently flooded (194) and Andregg coarse sandy loam 9 to 15% slopes (107)

Figure No
1-3

Title
Soils, Hydrology, and National Wetland Inventory

Client/Project

Nevada Irrigation District
 Doty Ravine Crossing Project

Project Location

Placer County, CA



OHW M Delineation Cover Sheet

Page 1 of 2

Project: NID-Doty Ravine Crossing

Date: 4/11/2018

Location: Doty Ravine, New Castle, CA

Investigator(s): M. KENNEDY, M. OATS

Project Description:

Replacement of aerial water conveyance pipe that spans both Doty Ravine and Sailor ravine.

Describe the river or stream's condition (disturbances, in-stream structures, etc.):

- Current aerial water delivery pipe has in stream footings
- Perennial Channel that is DCH for steelhead.
- Channel is in stable condition. Some downstream barriers (screens, cement blocks) visible out of PSA.

Off-site Information

Remotely sensed image(s) acquired? Yes No [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

Hydrologic/hydraulic information acquired? Yes No [If yes, attach information to datasheet(s) and describe below.] Description:

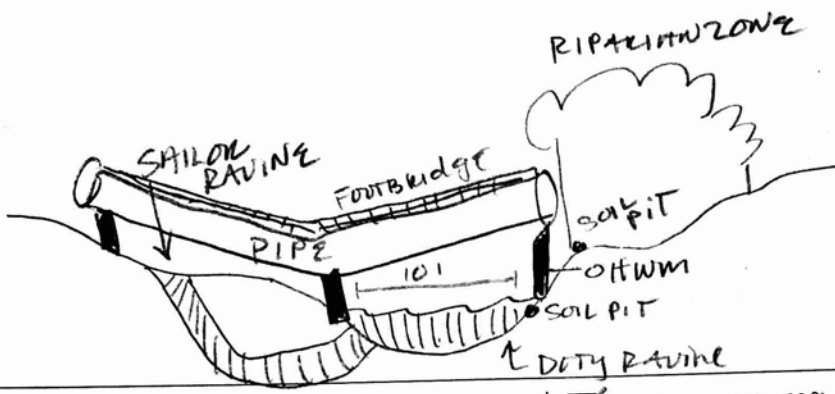
NWI and Placer County hydrology data (gis) viewed prior to field assessment

List and describe any other supporting information received/acquired:

Wetland Scientist familiar w/ Channel and region. Anecdotal information from landowner.

Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their coordinates noted on the datasheet.

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: Sharp (> 60°) | Moderate (30-60°) | Gentle (< 30°) | None

Notes/Description:
presence of Bed & Bank

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 - 2mm	Gravel 2mm - 1cm	Cobbles 1 - 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	50	10	10	10	20	Y
Below OHWM	15	70	10	5	0*	N

Notes/Description:
*NO Boulders present, however there are large cement slabs.

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	60	20	70	30
Below OHWM	3	2	20	75

Notes/Description:
Community successional stage = Early.

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

Upland soil pit - south side, matrix = 7.5yR^{3/2} / ebox 7.5yR^{4/4}
soil texture = predom. sandy. Pit location is
same location of proposed new footing.
Hand pan not identified. (>1")

OHWM soil pit - south side, matrix = 7.5yR^{3/1}, rebox 10yR^{2/1}
Handpan 5in.

Project: Doty Ravine Crossing (NID)Date: 4/11/2018Location: Doty Ravine, New Castle, CAInvestigator(s): M. Kennedy, M. D. S.

Project Description:

Replacement of aerial water conveyance pipe that spans both Doty and Sailor ravine.

Describe the river or stream's condition (disturbances, in-stream structures, etc.):

- Terminus in Doty Ravine.
- Intermittent Channel (upstream water source verification needed).
- Channel showing signs of scour where it meets Doty Ravine.
- Upland slump
- Overgrowing with *R. tinctorius*.

Off-site Information

Remotely sensed image(s) acquired? Yes No [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

Hydrologic/hydraulic information acquired? Yes No [If yes, attach information to datasheet(s) and describe below.] Description:

National wetland inventory (NWI) and Placer County GIS data assessed prior to field visit.

List and describe any other supporting information received/acquired:

Possible pond upstream providing water source.
Anecdotal information from landowner.

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: Sharp (> 60°) | Moderate (30-60°) | Gentle (< 30°) | None

Notes/Description:
Slope between stream and uplands is eroding.

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 - 2mm	Gravel 2mm - 1cm	Cobbles 1 - 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	<i>55</i>	<i>20</i>	<i>30</i>	<i>0</i>	<i>0</i>	<i>N</i>
Below OHWM	<i>50</i>	<i>25</i>	<i>20</i>	<i>5</i>	<i>0</i>	<i>Y</i>

Notes/Description:
Soil and sediment texture are fairly uniform below stream and above, which is in the flood plain of Doty Ravine.

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	<i>15</i>	<i>20</i>	<i>50</i>	<i>15</i>
Below OHWM	<i>0</i>	<i>15</i>	<i>25</i>	<i>60</i>

Notes/Description:
SHRUB layer consists of RUMPLE. Most species below and above are uniform and non-hydrophytic species.

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

PHOTO RECORD

The following photo record provides site-specific details pertaining to the Doty North Canal Siphon Replacement Project Site during biological, wetland, and cultural resource field surveys conducted on April 9, 2018.

<p>DIRECTION 323 deg(T) 38.91785°N ACCURACY 5 m 121.19111°W DATUM WGS84</p> <p>NID Doty Ravine Crossing 2018-04-09 13:56:06-07:00</p>	<p>DIRECTION 79 deg(T) 38.91770°N ACCURACY 5 m 121.19095°W DATUM WGS84</p> <p>NID Doty Ravine Crossing 2018-04-09 13:54:23-07:00</p>	<p>DIRECTION 148 deg(T) 38.91783°N ACCURACY 10 m 121.19114°W DATUM WGS84</p> <p>NID Doty Ravine Crossing 2018-04-09 14:22:01-07:00</p>
<p>South side of Doty Ravine looking downstream from road access point.</p>	<p>South side of Doty Ravine looking upstream from riparian zone.</p>	<p>Doty Ravine, in-stream conditions.</p>
<p>DIRECTION 108 deg(T) 38.91771°N ACCURACY 5 m 121.19098°W DATUM WGS84</p> <p>NID Doty Ravine Crossing 2018-04-09 13:54:31-07:00</p>	<p>DIRECTION 9 deg(T) 38.91745°N ACCURACY 10 m 121.19127°W DATUM WGS84</p> <p>NID Doty Ravine Crossing 2018-04-09 13:55:49-07:00</p>	<p>DIRECTION 98 deg(T) 38.91787°N ACCURACY 5 m 121.19101°W DATUM WGS84</p> <p>NID Doty Ravine Crossing 2018-04-09 14:22:51-07:00</p>
<p>South side of Doty Ravine within riparian zone looking upstream. Sample Location Site 1A (above OHWM). Sample Location Site 1A is at the proposed location for the new-bridge footing in the proposed Project method.</p>	<p>South side of Doty Ravine along potential Project access road route. Location of Sample Location Site 1B (in-stream). This road access location is access in both the proposed and alternative methods for the Project. Access from one site of Doty Ravine to the other would be accomplished via bridge spanning the channel.</p>	<p>Sailor Ravine on northside of Doty Ravine, at terminus location. The island/ point bar (photo center) separates the two hydrologic features and is the location for a new footing using the proposed Project method.</p>

<p>North East Elevation 236°SW (T) ● 38°55'4"N, 121°11'27"W ±16.4ft ▲ 366</p> <p>09 Apr 2018</p>	<p>DIRECTION 38.91810°N ACCURACY 5 m 193 deg(T) 121.19091°W DATUM WGS84</p> <p>NID Doty Ravine Crossing 2018-04-09 14:14:16-07:00</p>	<p>South Elevation 343°N (T) ● 38°55'3"N, 121°11'27"W ±16.4ft ▲ 368ft</p> <p>09 Apr 2018</p>
<p>Sailor Ravine on northside of Doty Ravine. The island/ point bar (photo left) separates the two hydrologic features and is the location for a proposed footing using the proposed Project method.</p>	<p>North side of Doty Ravine along potential Project access road route. This road access location is access in both the proposed and alternative methods for the Project. Access from one site of Doty Ravine to the other would be accomplished via bridge spanning the channel.</p>	<p>Access road in uplands on the south side of Doty Ravine.</p>
<p>DIRECTION 38.91771°N ACCURACY 5 m 142 deg(T) 121.19098°W DATUM WGS84</p> <p>NID Doty Ravine Crossing 2018-04-09 13:54:28-07:14</p>	<p>South West Elevation 24°NE (T) ● 38°55'4"N, 121°11'27"W ±16.4ft ▲ 366ft</p> <p>09 Apr 2018</p>	<p>North Elevation 193°S (T) ● 38°55'4"N, 121°11'26"W ±16.4ft ▲ 374ft</p> <p>09 Apr 2018</p>
<p>Riparian zone on north side of Doty Ravine, to the west of the existing pipe/bridge structure.</p>	<p>Access road in uplands on the north side of Doty Ravine. Proposed location for the new-bridge footing in the proposed Project method.</p>	<p>In-stream (below OHWM) footing support current pipe/bridge on the south side of Doty Ravine.</p>
<p>South Elevation 21°N (T) ● 38°55'3"N, 121°11'27"W ±16.4ft ▲ 368ft</p> <p>09 Apr 2018, 13:51</p>	<p>South Elevation 12°N (T) ● 38°55'4"N, 121°11'27"W ±12412.0ft ▲ 369ft</p> <p>09 Apr 2018, 14:01</p>	<p>DIRECTION 38.91743°N ACCURACY 5 m 127 deg(T) 121.19093°W DATUM WGS84</p> <p>NID Doty Ravine Crossing 2018-04-09 14:53:44-07:00</p>
<p>Footings of current pipe/ bridge structure reside below the OHWM.</p>	<p>Current pipe/ bridge structure, crossing over both Doty and Sailor Ravines.</p>	<p>Upland intake structure at Doty Crossing</p>

PROJECT AVOIDANCE AND MINIMAZATION OVERVIEW

This attachment provides an overview of recommended avoidance and minimization measures to reduce potential impacts to biological, cultural, and wetland resources associated with the Doty Ravine Crossing Project.

BIOLOGICAL RESOURCES

❖ Pre-Construction Environmental Awareness Training

Prior to construction, a qualified biologist shall conduct one Environmental Awareness Training for construction personnel. The Environmental Awareness Training shall be given to construction personnel to brief them on how to recognize special-status plant species, wildlife species, and sensitive habitats that could occur in the Project area (i.e., special-status plant identification, amphibian identification and habitat, wetland habitats, riparian habitats, relevant BMPs, mitigation, and regulations). If special-status species are encountered, construction shall cease, 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, NID shall notify the USFWS and/or CDFW for guidance.

❖ Avoid and Minimize Disturbance and Impacts to Nesting Raptors and Other Migratory Birds

One of the following measures, depending on the specific construction timeframe, to avoid disturbing nesting raptors and other migratory birds will be implemented:

- 1) If construction activities are scheduled to occur during the nesting season (i.e., approximately February 15 through August 31), a qualified wildlife biologist shall conduct a pre-construction nesting survey within the Project area and within an approximate 100-foot buffer of the Project area. If no active nests are detected, then no additional mitigation is required.
- 2) If surveys indicate that raptor or other migratory bird nests are found in any areas that would be directly affected by construction activities, a no-disturbance buffer shall be established around the site to avoid disturbance or destruction of the nest site until after the breeding season, or after a wildlife biologist determines that the young have fledged (i.e., typically late June to mid-July). The extent of these buffers shall be determined by a qualified biologist and shall depend on the special-status wildlife species present, the level of noise or construction disturbance, line of sight between the nest and the disturbance, ambient levels of noise, topographical or artificial barriers, and other disturbances. These factors should be analyzed to make an appropriate decision on buffer distances.
- 3) If construction activities begin outside the breeding season (i.e., approximately September 1 through February 14), then construction may proceed until it is determined that an active migratory bird nest would be subject to abandonment because of construction activities. Optimally, all necessary vegetation removal shall be conducted before the breeding season so that nesting birds would not be present in the construction area during construction activities. If any bird nests are in the Project area under pre-existing construction conditions, then it is assumed that they are habituated (or will habituate) to the construction activities. Under this scenario, the pre-construction survey described previously should still be conducted on or after February 15 to identify any active nests in the vicinity. A qualified biologist should monitor active sites periodically until after the breeding season or after the young have fledged (typically late June to mid-July). If active nests are identified on or immediately adjacent to the Project area, then all non-essential construction activities (e.g., equipment storage, meetings, etc.) should be avoided in the immediate vicinity of the nest site, but the remainder of construction activities may proceed.

❖ Avoid and Minimize Disturbance and Impacts to Riparian Habitat and/or Sensitive Natural Communities and Habitat

To avoid and minimize disturbance and impacts to these habitats and sensitive natural communities the following shall be implemented:

- 1) If riparian habitat, sensitive natural communities, and/or any other (designated) critical habitat shall be identified and flagged by a qualified biologist prior to construction activities. Specifically, when working within 100 feet of a water feature (e.g., stream, creek, wetland, pond, etc.), exclusion fencing shall be installed delineating the area to be avoided.
- 2) All ground and vegetation disturbance shall be minimized during Project implementation. Activities shall be confined to the defined Project work areas, including access routes and staging areas. Active work shall not occur in areas designated as exclusionary by the qualified biologist.
- 3) If riparian habitat, sensitive natural communities, and/or any other (designated) critical habitat are present within the Project area, then there shall be a Project representative on-site always during active work in these areas; including but not limited to within the floodplain, adjacent to and/or within water features (e.g., streams, creeks, ponds, etc.), and/or in sensitive biological communities. All on-site personnel shall be instructed on the importance of avoiding and minimizing disturbance in these areas if present within the Project area.
- 4) If Project work needs to occur within the buffered exclusion area and/or within an environmentally sensitive area, then the Project qualified biologist and the appropriate agencies shall coordinate to define potential work constraints and specifications prior to the initiation of any Project work activities, as needed.

❖ Avoid and Minimize Impacts to Endangered, Threatened, Rare and/or Special-Status Plant Species

- 1) To avoid and/or minimize impacts to endangered, threatened, rare, and/or special-status plant species within the Project site, a qualified biologist or botanist shall conduct pre-construction surveys. Reconnaissance level floristic field surveys shall be timed to cover the appropriate bloom period for the special-status plant species that have a moderate to high potential to occur in the Project area. Specifically, for the Project, two bloom period surveys are recommended to be conducted: one during the mid-bloom period (e.g., early May), and one during the late-bloom period (e.g., mid to late June). If special-status plants are determined to have no presence within the Project site, then no further mitigation is required.
- 2) If special-status plants are determined present within the Project site during pre-construction field surveys, Project activities shall be reduced and minimized to avoid impact by:
 - Mapping the population and placing flagging and/or exclusion fencing to protect special-status plants within the Project site during construction.
 - Install environmentally sensitive fencing and appropriate signage at an appropriate buffer distance, starting from the edge of the special-status plant and/ or plant population. Signage should indicate the area is environmentally sensitive and not to be disturbed. If any federal or State listed threatened or endangered plant species are detected in the Project area that may be impacted, a 25-foot area surrounding the species shall be established. Within such exclusion zones, no construction work shall be conducted until consultation with CDFW or USFS personnel has been made and their recommendation for protection is incorporated, as needed; and
 - Adjust Project activities away from special-status plants to the extent feasible. The Project disturbance area will be confined to the existing right-of-way and previously disturbed areas; therefore, minimizing any potential impact to special-status plant species if observed during pre-construction surveys; and
 - Supervision, guidance, and verification of the implementation of these measures shall be achieved by NID and an agency approved biological monitor.

Once the construction actions are determined, NID shall incorporate a maintenance and monitoring program. This program shall reference the guidelines set forth by CNPS in their Policy on Mitigation Guidelines Regarding Impacts to Rare, Threatened, and Endangered Plants (CNPS 1998). Additional reporting requirements would be

further defined after development of restoration and reclamation plan for rare plants, and as defined by the appropriate agency.

- 3) If special status plants are determined present in the Project site during pre-construction field surveys and direct/unavoidable impacts to special-status plant species shall result from Project activities, then consultation with appropriate agencies (i.e., CDFW and/or USFWS) will be required to develop acceptable mitigation (e.g., agency recommended mitigation may include translocation of individual plants, rectification of impact by seed collecting and stockpiling for replanting/replacement, mitigation fees, and/or permitting).

❖ Reduce spread and introduction of invasive and noxious weeds

Invasive and noxious weeds have the potential to impact plant communities directly and indirectly at or near the project area. To reduce the spread and introduction of weeds, the following measures shall be implemented:

- 1) By referencing the guidelines set forth by Placer County RCD Weed Abatement, develop a list of target invasive and noxious weeds that have the potential to occur in the project area and determine measures to avoid dispersal. The list should include species of invasive and noxious weeds that are currently present in the project area.
- 2) All project related equipment and vehicles shall be decontaminated of weeds and soils prior to initiation of work on the Project.
- 3) Any topsoil, mulch, and seed used in project related activities (e.g., restoration, reseeding, erosion control, soil stabilization) shall be certified weed-free.
- 4) A post-construction weed survey shall be conducted one year after restoration efforts to determine if invasive or noxious weeds not currently known to occur in the project area were introduced.
- 5) If new occurrences of noxious weeds that were previously not documented in the region are documented during the post-construction weed survey, remedial measures shall be implemented.

❖ Avoid, Minimize and Compensate for Impacts to Heritage Oaks Trees, and Oak Woodlands

The removal of large oak trees (DBH > 24") is recommended to be avoided through the design process to the maximum extent feasible. A tree survey is recommended to be conducted and heritage oaks greater than 24 inches DBH identified. Prior to construction activities, a certified arborist is recommended to assess direct and indirect (e.g., tree drip line encroachment) impacts to protected trees prior to removal or trimming activities. Where existing oak trees within the Project area are to be retained, the drip line is considered the acceptable limits of impact and tree protection fencing is recommended to be installed.

❖ Avoid, Minimize and Compensate for Removal of Riparian Trees

Riparian trees provide bank stabilization and stream shading for fisheries. During construction, the contractor is recommended to ensure that the unnecessary removal or disturbance of riparian habitat which provides shading and nutrients to stream environments. In areas adjacent to the construction riparian tree removal is recommended to be avoided by installing construction barrier fencing between the construction site and the riparian/creek areas. The removal of woody riparian vegetation is recommended to be avoided by creating an exclusion zone around woody riparian vegetation near the construction zone, educating construction crews about the importance of avoiding the sensitive habitat, and monitoring construction to ensure avoidance.

If avoidance is infeasible, NID is recommended to compensate for the loss of woody riparian habitat (greater than five-inch diameter at breast height-DBH). Compensation can either be in the form of in lieu mitigation fees paid to Placer County as a part of the Tree Permit or on-site restoration (preferred) as part of the CDFW LSAA. On-site restoration of riparian habitat affected by temporary construction activities is recommended to occur based on an approved Riparian Restoration Plan. The Plan is recommended to be developed in consultation with the appropriate agency and is recommended to entail a minimum 3:1 replacement/replanting ratio unless otherwise specified and required by the regulatory agencies. This Plan would apply to riparian trees with a diameter at breast height greater

than five inches, which are removed entirely by construction adjacent to streams. The Riparian Restoration Plan is recommended to include design specifications, an implementation plan, maintenance requirements, a monitoring program with success criteria and adaptive management steps for on-site restoration.

❖ Exclusion Fencing Installation

- 1) Silt fencing will be installed in all areas where construction occurs within 100 feet of actively flowing water or slow-moving water with emergent vegetation.
- 2) No less than two weeks prior to the beginning of ground-disturbing activities, a qualified wildlife biologist is recommended to survey disturbance areas for special status amphibians and aquatic reptiles.
- 3) Spoil sites will be located so they do not drain directly into a watercourse. If a spoil site drains into a water body, catch basins will be constructed to intercept sediment before it reaches the channels. Spoil sites will be graded to reduce the potential for erosion.
- 4) Staging and storage areas for equipment, materials, fuels, lubricants, and solvents will be located away from any watercourse. Any equipment or vehicles driven and/or operated within or adjacent to a watercourse will be checked and maintained daily to prevent leaks of materials that, if introduced to water, could be deleterious to aquatic life.
- 5) Project sites will be revegetated with an appropriate assemblage of native upland vegetation and, if necessary, riparian and wetland vegetation suitable for the area.

WETLAND RESOURCES

❖ Avoid and Minimize Disturbance to Wetlands

NID plans to avoid and minimize potential impacts to wetlands and jurisdictional WOTUS to the extent feasible. If avoidance is not feasible, NID is recommended to apply for a CWA Section 404 NWP through the USACE, and CWA Section 401 WQC through the RWQCB for the permanent and/or temporary impacts (e.g., dredge or fill) of the wetlands and jurisdictional WOTUS. Temporary impacts to wetlands and WOTUS is recommended to be addressed with onsite restoration for impacts from Project activities.

❖ Avoid/Minimize Potential Water Quality Impacts from Construction Activities

- 1) Containment and cleanup equipment (e.g., absorbent pads, mats, socks, granules, drip pans, shovels, and lined clean drums) is recommended to be at the staging areas and construction site for use, as needed.
- 2) Staging areas where refueling, storage, and maintenance of equipment occur is recommended to not be located within 100 feet of drainages to reduce the potential for contamination by spills.
- 3) Construction equipment is recommended to be maintained and kept in good operating condition to reduce the likelihood of line breaks or leakage.
- 4) No refueling or servicing is recommended to be done without absorbent material (e.g. absorbent pads, mats, socks, pillows, and granules) or drip pans underneath to contain spilled material. If these activities result in an accumulation of materials on the soil, the soil will be removed and properly disposed of as hazardous waste.
- 5) If a spill is detected, construction activity is recommended to cease immediately, and the procedures described in the Spill Prevention and Contingency Plan will be immediately enacted to safely contain and remove spilled materials.
- 6) Spill areas shall be restored to pre-spill conditions, as practicable.

❖ Dry Season Construction

In order to reduce the potential for erosion and sedimentation at watercourses during construction of collection system improvements, Project proponents shall incorporate into contract specifications the requirements that construction directly adjacent to or across waterways be limited to the extent possible to the dry season, annually from May 1st to October 15th, subject to agreement with the appropriate regulatory agencies. Construction during the dry season minimizes impacts of stormwater runoff to the waterways' water quality. In the event of drought or an

extended dry season in autumn, the construction General permit may be extended at one week increments until the first rain event of over one-inch total precipitation.

CULTURAL RESOURCES

❖ California Register of Historical Resources (CRHR) and National Register of Historic Places (NRHP) Evaluation of Doty North Canal and associated Siphon

Doty North Canal and associated Siphon is over 50 years old. If this resource cannot be avoided by the Project, as part of CEQA and environmental permitting compliance, NID should procure a qualified archaeologist or architectural historian to complete an evaluation of Doty North Canal and associated Siphon for eligibility to the CRHR and NRHP. To verify the significance of this resource, NID's archaeologist or architectural historian should complete a site recordation and CRHR and NRHP evaluation on the appropriate Department of Parks and Recreation (DPR) 523 forms. If Doty North Canal and associated Siphon is found not eligible to the CRHR and NRHP, then it is not considered a cultural resource for the purposes of CEQA or Section 106 of the NHPA (pending SHPO concurrence) and Doty North Canal and associated Siphon will require no further consideration.

If Doty North Canal and associated Siphon is found eligible for listing under the CRHR and NRHP, the resource is considered significant for the purposes of CEQA and Section 106 of the NHPA (pending SHPO concurrence) and proper treatment of the resource would be required. Appropriate treatment for Doty North Canal and associated Siphon would depend on the reasons for the resource's significance and use of treatment options identified in California PRC section 21083.2 and Section 106 of the NHPA.

❖ Unanticipated Discovery of Cultural Resources

If subsurface cultural resources are inadvertently uncovered during Project ground disturbing activities, NID's contractor shall follow standard NID Policy #6085 and complete the following steps:

- 1) Stop all work when cultural resources are encountered.
- 2) Immediately contact the NID Project Manager.
- 3) NID will relocate work within no less than 150 feet of the discovery or otherwise directed by the NID Qualified Professional Archaeologist; If NID resumes work in a location where cultural resources have been discovered and cleared.
- 4) NID will have an onsite archaeologist to confirm that no additional archaeological resources are in the area.
- 5) NID or its contractor shall secure the discovery location with traffic plates over the exposed site or a person watching the site until cleared by the archaeologist.
- 6) NID contractor will make every effort not to further harass or damage, touch, or remove any cultural resources materials.
- 7) All spoils will remain in their current location until directed to be moved by NID staff or the archaeologist.
- 8) NID or its contractor shall record the location and keep notes of all calls and events.
- 9) NID or its contractor shall treat the find as confidential and do not publicly disclose the location. Only authorized personnel, or individuals with the permission of NID (and the land owner if different from NID) shall be allowed on the archaeological site.

The NID archaeologist will assess the significance of the find. All materials collected and secured by NID at the offsite District location. The NID archaeologist will not provide any materials to a tribal agency or other group unless directed by the District. All materials found will be secured and provided to an appropriate tribal or museum of selection at the discretion of the District. The District will make every effort to treat the sharing of materials such that the find benefits the community.

No additional work shall take place within the immediate vicinity of the find until NID's chosen archaeologist has given approval and with the concurrence of SHPO.

Archaeological Materials: May include, but are not limited to, flaked stone tools (projectile point, biface, scraper, etc.) and debitage (flakes) made of chert, obsidian, etc., groundstone milling tools and fragments (mortar, pestle, handstone, millingstone, etc.), faunal bones, fire-affected rock, dark middens, house pit depressions and human interments.

Historic-era Resources: May include, but are not limited to, small cemeteries or burial plots, cut (square) nails, containers or miscellaneous hardware, glass fragments, cans with soldered seams or tops, ceramic or stoneware objects or fragments, milled or split lumber, earthworks, feature, or structure remains and trash dumps.

❖ Unanticipated Discovery of Human Remains

Section 7050 of the California Health and Safety Code states that it is a misdemeanor to knowingly disturb a human burial site. If human remains are encountered (or are suspected) during any Project-related activity, NID's contractor shall follow standard NID Policy #6085 complete the following steps:

- 1) Immediately stop all work when human remains are encountered
- 2) Immediately contact the NID Project Manager or Department Manager
- 3) NID will contact a Qualified Professional Archaeologist (meeting the Secretary of the Interior's Qualifications) who will then notify the County Coroner immediately pursuant to PRC Section 7050.5
- 4) NID or its contractor will relocate work if directed by NID within no less than 150 feet of the discovery or otherwise directed by the NID Qualified Professional Archaeologist
- 5) NID will have the NID archaeologist confirm that no additional archaeological resources are in the area. If NID resumes work in a location where human remains have been discovered and cleared, NID will have a Qualified Professional Archaeologist onsite to confirm that no additional human remains are in the area
- 6) NID's contractor shall not damage, touch, or remove any human remains or associated materials or remove associated spoils or pick through them
- 7) Record the location and keep notes of all calls, site visits and events
- 8) NID or its contractor shall treat the find as confidential and do not publicly disclose the location. NID shall provide security to the area as needed. Only authorized personnel, or individuals with the permission of NID (and the land owner, if different from NID) shall be allowed onsite
- 9) The County Coroner may assess the human remains. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission (NAHC) within 24 hours of such identification. The NAHC shall identify the most likely descendant (MLD)
- 10) Once given the permission by NID (and the land owner if different from NID) the MLD shall be allowed onsite. The MLD shall complete their inspection and make their recommendation to NID for means of treating or disposing of, with appropriate dignity, the human remains, and any associated grave goods as provided in PRC Section 5097.98. MLD recommendations must be made within 48 hours of the NAHC notification to the MLD.
- 11) No additional work shall take place within the immediate vicinity of the find until NID's chosen archaeologist gives approval to resume work in that area.

Attachment 4-2

Biological Resource Desktop Review Results with a Low or Very Low to Nil Potential to Occur within the Project Area – Doty Ravine Siphon

Common Name	Scientific Name	Status	Potential for Occurrence Within the Project Area
Plants			
Ahart's dwarf rush	<i>Juncus leiospermus</i> var. <i>ahartii</i>	1B.2, S1	Low. Limited suitable habitat within the proposed Project area.
big-scale balsamroot	<i>Balsamorhiza macrolepis</i>	1B.2, S2	Low. Limited suitable habitat within the proposed Project area.
Boggs Lake hedge-hyssop	<i>Gratiola heterosepala</i>	CE, 1B.2, S2	Low. Limited suitable habitat within the proposed Project area.
Brazilian watermeal	<i>Wolffia brasiliensis</i>	2B.3, S1	Very Low to Nil. No suitable habitat within the proposed Project area.
Butte county meadowfoam	<i>Limnanthes floccosa</i> ssp. <i>californica</i>	FE, CE, 1B.1, S1	Very Low to Nil. No suitable habitat within the proposed Project area.
Cuyamaca cypress	<i>Hesperocyparis stephensonii</i>	1B.1, S1	Very Low to Nil. No suitable habitat within the proposed Project area.
dwarf downingia	<i>Downingia pusilla</i>	2B.2, S2	Very Low to Nil. No suitable habitat within the proposed Project area.
El Dorado bedstraw	<i>Galium californicum</i> ssp. <i>sierrae</i>	FE, CR, 1B.2, S1	Very Low to Nil. No suitable habitat within the proposed Project area.
fineleaf pondweed	<i>Stuckenia filiformis</i>	2.B2, S3	Very Low to Nil. No suitable habitat within the proposed Project area.
great burnet	<i>Sanguisorba officinalis</i>	2.B2, S2	Very Low to Nil. No suitable habitat within the proposed Project area.
great polemonium	<i>Polemonium carneum</i>	2.B2, S2	Very Low to Nil. No suitable habitat within the proposed Project area.
hispid bird's-beak	<i>Chloropyron molle</i> ssp. <i>hispidum</i>	1B.1, S1	Low. Limited suitable habitat within the proposed Project area.
legenere	<i>Legenere limosa</i>	1B.1, S2	Very Low to Nil. No suitable habitat within the proposed Project area.
Monterey pine	<i>Pinus radiata</i>	1B.1, S1	Very Low to Nil. No suitable habitat within the proposed Project area.
Northern California black walnut	<i>Juglans hindsii</i>	1B.1, S1	Very Low to Nil. No suitable habitat within the proposed Project area.
Nuttall's scrub oak	<i>Quercus dumosa</i>	1.B1, S3	Low. Limited suitable habitat within the proposed Project area.
oval-leaved viburnum	<i>Viburnum ellipticum</i>	2B.3, S3?	Very Low to Nil. No suitable habitat within the proposed Project area.
pincushion navarretia	<i>Navarretia myersii</i> ssp. <i>myersii</i>	1B.1, S2	Low. Limited suitable habitat within the proposed Project area.
prostrate navarretia	<i>Navarretia prostrata</i>	1B.1, S2	Low. Limited suitable habitat within the proposed Project area.
Red Bluff dwarf rush	<i>Juncus leiospermus</i> var. <i>leiospermus</i>	1B.1, S2	Low. Limited suitable habitat within the proposed Project area.
Suisun marsh aster	<i>Symphyotrichum lentum</i> ssp. <i>alpina</i>	1B.2, S2	Very Low to Nil. No suitable habitat within the proposed Project area.
Tuolumne button celery	<i>Eryngium pinnatisectum</i>	1B.2, S2	Low. Limited suitable habitat within the proposed Project area.
Wildlife			

Common Name	Scientific Name	Status	Potential for Occurrence Within the Project Area
bald eagle	<i>Haliaeetus leucocephalus</i>	D, CE, FP, S2	Low. Limited suitable habitat within the proposed Project area.
black swift	<i>Cypseloides niger</i>	SSC, S2	Very Low to Nil. No suitable habitat within the proposed Project area.
burrowing owl	<i>Athene cunicularia</i>	SSC, S3	Low. Limited suitable habitat within the proposed Project area.
California red-legged frog	<i>Rana draytonii</i>	CT, SSC, S2S3	Low. Limited suitable habitat within the proposed Project area.
Conservancy fairy shrimp	<i>Branchinecta conservatio</i>	FE, S2	Low. Limited suitable habitat within the proposed Project area.
Delta smelt	<i>Hypomesus transpaci</i>	FT, CE, S1	Very Low to Nil. No suitable habitat within the proposed Project area.
giant garter snake	<i>Thamnophis gigas</i>	FT, CT, S2	Low. Limited suitable habitat within the proposed Project area.
golden eagle	<i>Aquila chrysaetos</i>	FP, WL, S3	Low. Limited suitable habitat within the proposed Project area.
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>	SSC, S2	Low. Limited suitable habitat within the proposed Project area.
tricolored blackbird	<i>Agelaius tricolor</i>	CT, S1S2	Low. Limited suitable habitat within the proposed Project area.
valley elderberry longhorn beetle	<i>Desmocerus californicus dimorphus</i>	FT, S2S3	Very Low to Nil. No suitable habitat within the proposed Project area.
vernal pool fairy shrimp	<i>Branchinecta lynchi</i>	FT, S3	Very Low to Nil. No suitable habitat within the proposed Project area.
vernal pool tadpole shrimp	<i>Lepidurus packardii</i>	FE, S3S4	Very Low to Nil. No suitable habitat within the proposed Project area.
western pond turtle	<i>Emys marmorata</i>	SSC, S3	Low. Limited suitable habitat within the proposed Project area.

Potential for Occurrence Within the Proposed Project Area

Very Low to Nil = The Project area and/or immediate area do not support suitable habitat for a particular species. The Project is outside the species known range.

Low = The 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 Project area.

Moderate: The Project area and/or immediate area provide suitable habitat for a particular species, and habitat for the species may be impacted.

High = The 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 Project.

USFWS

FE = Listed as endangered under the FESA

FT = Listed as threatened under the FESA

D = Delisted under the FESA

PD = Proposed for delisting

CF = Candidate species for listing as endangered or threatened under the FESA.

MBTA = Migratory Bird Treaty Act
= No listing.

CDFW

CE = Listed as endangered under the CESA

CT = Listed as threatened under the CESA

R = Listed as rare under the California Native Plant Protection Plan Act (CNPPA). This category is no longer used for newly listed plants, but some plants previously listed as rare retain this designation.

CC = Candidate species for listing as endangered or threatened under the CESA.

FP = Fully protected species

SSC = Species of special concern in California

WL = Watch List

S1 = Critically Imperiled

S2 = Imperiled

S3 = Vulnerable

S4 = Apparently Secure

S5 = Secure

- = No listing.

CNPS

1B = Rank 1B species: rare, threatened, or endangered in California and elsewhere.

2B = Rank 2B species: rare, threatened, or endangered in California but more common elsewhere.

0.1 = Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat).

0.2 = Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat).

0.3 = Not very threatened in California (less than 20% of occurrences threatened / low degree and immediacy of threat or no current threats known).

NMFS

FE = Listed as endangered under the FESA

FT = Listed as threatened under the FESA

D = Delisted under the FESA

PD = Proposed for delisting

CF = Candidate species for listing as endangered or threatened under the FESA.

FSC = Species of Concern

EFH = Essential Fish Habitat

ATTACHMENT E

Wildlife Observed Onsite

Doty North Canal Siphon #1 Replacement Project

Wildlife Observed On-Site (27 June 2019)

<u>Species Name</u>	<u>Scientific Name</u>
Birds	
Mallard	<i>Anas platyrhynchos</i>
California quail	<i>Callipepla californica</i>
Eurasian collared dove	<i>Streptopelia decaocto</i>
Mourning dove	<i>Zenaida macroura</i>
Turkey vulture	<i>Cathartes aura</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Nuttall's woodpecker	<i>Picoides nuttallii</i>
Ash-throated flycatcher	<i>Myiarchus cinerascen</i>
Western kingbird	<i>Tyrannus verticalis</i>
California scrub-jay	<i>Aphelocoma californica</i>
Yellow-billed magpie	<i>Pica nuttalli</i>
Northern rough-winged swallow	<i>Stelgidopteryx serripennis</i>
Tree swallow	<i>Tachycineta bicolor</i>
Barn swallow	<i>Hirundo rustica</i>
Cliff swallow	<i>Petrochelidon pyrrhonota</i>
Oak titmouse	<i>Baeolophus inornatus</i>
Bushtit	<i>Psaltriparus minimus</i>
White-breasted nuthatch	<i>Sitta carolinensis</i>
House wren	<i>Troglodytes aedon</i>
American robin	<i>Turdus migratorius</i>
Northern mockingbird	<i>Mimus polyglottos</i>
European starling	<i>Sturnus vulgaris</i>
Lesser goldfinch	<i>Spinus psaltria</i>
Song sparrow	<i>Melospiza melodia</i>
California towhee	<i>Melospiza crissalis</i>
Spotted towhee	<i>Pipilo maculatus</i>
Brown-headed cowbird	<i>Molothrus ater</i>
Brewer's blackbird	<i>Euphagus cyanocephalus</i>
Lazuli bunting	<i>Passerina amoena</i>
Mammals	
Black-tailed deer	<i>Odocoileus hemionus</i>

Total Construction-Related and Operational Gasoline Usage

Doty North Canal Siphon #1 Replacement

Newcastle, California

Prepared For:

Nevada Irrigation District
1036 West Main Street
Grass Valley, CA 95945

August 2019



ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

**Proposed Project
Total Construction-Related
Gasoline Usage**

Action	Carbon Dioxide Equivalents (CO₂e) in Metric Tons¹	Conversion of Metric Tons to Kilograms²	Construction Equipment Emission Factor²	Total Gallons of Fuel Consumed
Project Construction	17.7142	17714.2	10.15	1,745
	Per CalEEMod Output Files.	Per Climate Registry Equation 13e	Per Climate Registry Equation 13e	

Total Gallons Consumed During Project Construction: 1,745

Notes:

¹Fuel used by all construction equipment, including vehicle hauling trucks, assumed to be diesel.

Sources:

¹ECORP Consulting, 2019.

²Climate Registry. 2016. *General Reporting Protocol for the Voluntary Reporting Program version 2.1*. January 2016.
<http://www.theclimateregistry.org/wp-content/uploads/2014/11/General-Reporting-Protocol-Version-2.1.pdf>



Greenhouse Gas Model Data Outputs

Doty North Canal Siphon #1 Replacement

Newcastle, California

Prepared For:

Nevada Irrigation District
1036 West Main Street
Grass Valley, CA 95945

August 2019

Doty Ravine - Placer-Sacramento County, Annual

Doty Ravine
Placer-Sacramento County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
Other Non-Asphalt Surfaces	5.40	1000sqft	0.12	5,400.00	0

1.2 Other Project Characteristics

Urbanization	Urban	Wind Speed (m/s)	2.2	Precipitation Freq (Days)	74
Climate Zone	2			Operational Year	2021
Utility Company	Pacific Gas & Electric Company				
CO2 Intensity (lb/MW hr)	641.35	CH4 Intensity (lb/MW hr)	0.029	N2O Intensity (lb/MW hr)	0.006

1.3 User Entered Comments & Non-Default Data

- Project Characteristics -
- Land Use - Square feet calculated from Figure 2.2 in the Project Description provided.
- Construction Phase - Construction time update to match that of the Project.
- Off-road Equipment - Construciton equipment updated to match that of the project.
- Off-road Equipment -
- Off-road Equipment -
- Off-road Equipment - Construction equipment updted to match the project.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	100.00	24.00

Doty Ravine - Placer-Sacramento County, Annual

tblConstructionPhase	NumDays	10.00	7.00
tblConstructionPhase	PhaseEndDate	12/31/2010	11/29/2019
tblConstructionPhase	PhaseEndDate	12/31/2013	10/23/2019
tblConstructionPhase	PhaseEndDate	12/31/2010	10/28/2019
tblConstructionPhase	PhaseEndDate	12/31/2010	10/24/2019
tblConstructionPhase	PhaseStartDate	1/1/2011	10/29/2019
tblConstructionPhase	PhaseStartDate	1/1/2014	10/15/2019
tblConstructionPhase	PhaseStartDate	1/1/2011	10/25/2019
tblConstructionPhase	PhaseStartDate	1/1/2011	10/24/2019
tblOffRoadEquipment	HorsePower	158.00	81.00
tblOffRoadEquipment	LoadFactor	0.38	0.73
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	LoadFactor	0.37	0.37
tblOffRoadEquipment	LoadFactor	0.38	0.38
tblOffRoadEquipment	OffRoadEquipmentType	Concrete/Industrial Saws	Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Excavators
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentType		Tractors/Loaders/Backhoes
tblOffRoadEquipment	OffRoadEquipmentType		Dumpers/Tenders
tblOffRoadEquipment	OffRoadEquipmentType		Off-Highway Trucks
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblOffRoadEquipment	OffRoadEquipmentUnitAmount	2.00	1.00
tblTripsAndVMT	WorkerTripNumber	25.00	20.00
tblTripsAndVMT	WorkerTripNumber	10.00	8.00

Doty Ravine - Placer-Sacramento County, Annual

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0156	0.1532	0.1226	2.0000e-004	1.9200e-003	9.1300e-003	0.0111	6.8000e-004	8.4900e-003	9.1700e-003	0.0000	17.5974	17.5974	4.6700e-003	0.0000	17.7142
Maximum	0.0156	0.1532	0.1226	2.0000e-004	1.9200e-003	9.1300e-003	0.0111	6.8000e-004	8.4900e-003	9.1700e-003	0.0000	17.5974	17.5974	4.6700e-003	0.0000	17.7142

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2019	0.0156	0.1532	0.1226	2.0000e-004	1.9200e-003	9.1300e-003	0.0111	6.8000e-004	8.4900e-003	9.1700e-003	0.0000	17.5974	17.5974	4.6700e-003	0.0000	17.7142
Maximum	0.0156	0.1532	0.1226	2.0000e-004	1.9200e-003	9.1300e-003	0.0111	6.8000e-004	8.4900e-003	9.1700e-003	0.0000	17.5974	17.5974	4.6700e-003	0.0000	17.7142

Doty Ravine - Placer-Sacramento County, Annual

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
		Highest		

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.3000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.3000e-004	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004

Doty Ravine - Placer-Sacramento County, Annual

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	4.3000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	4.3000e-004	0.0000	5.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Percent Reduction	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.0 Construction Detail

Construction Phase

Doty Ravine - Placer-Sacramento County, Annual

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Demolition	Demolition	10/15/2019	10/23/2019	5	7	
2	Site Preparation	Site Preparation	10/24/2019	10/24/2019	5	1	
3	Grading	Grading	10/25/2019	10/28/2019	5	2	
4	Building Construction	Building Construction	10/29/2019	11/29/2019	5	24	

Acres of Grading (Site Preparation Phase): 0.5

Acres of Grading (Grading Phase): 0

Acres of Paving: 0.12

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Doty Ravine - Placer-Sacramento County, Annual

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Demolition	Tractors/Loaders/Backhoes	1	6.00	97	0.37
Demolition	Dumpers/Tenders	1		16	0.38
Demolition	Excavators	2	8.00	81	0.73
Building Construction	Excavators	2		158	0.38
Demolition	Concrete/Industrial Saws	1	8.00	81	0.73
Grading	Concrete/Industrial Saws	1	8.00	81	0.73
Site Preparation	Graders	1	8.00	187	0.41
Demolition	Off-Highway Trucks	4		402	0.38
Building Construction	Dumpers/Tenders	1		16	0.38
Building Construction	Off-Highway Trucks	4		402	0.38
Grading	Rubber Tired Dozers	1	1.00	247	0.40
Building Construction	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Building Construction	Cranes	1	4.00	231	0.29
Grading	Tractors/Loaders/Backhoes	2	6.00	97	0.37
Building Construction	Forklifts	2	6.00	89	0.20
Site Preparation	Tractors/Loaders/Backhoes	1	8.00	97	0.37
Demolition	Rubber Tired Dozers	1	1.00	247	0.40

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Demolition	10	20.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Site Preparation	2	5.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Grading	4	8.00	0.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT
Building Construction	11	2.00	1.00	0.00	10.80	7.30	20.00	LD_Mix	HDT_Mix	HHDT

Doty Ravine - Placer-Sacramento County, Annual

3.1 Mitigation Measures Construction

3.2 Demolition - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.0900e-003	0.0486	0.0466	7.0000e-005		3.0100e-003	3.0100e-003		2.8300e-003	2.8300e-003	0.0000	6.1140	6.1140	1.4700e-003	0.0000	6.1507
Total	5.0900e-003	0.0486	0.0466	7.0000e-005		3.0100e-003	3.0100e-003		2.8300e-003	2.8300e-003	0.0000	6.1140	6.1140	1.4700e-003	0.0000	6.1507

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.9000e-004	2.0300e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4901	0.4901	1.0000e-005	0.0000	0.4905
Total	2.6000e-004	1.9000e-004	2.0300e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4901	0.4901	1.0000e-005	0.0000	0.4905

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3.2 Demolition - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	5.0900e-003	0.0486	0.0466	7.0000e-005		3.0100e-003	3.0100e-003		2.8300e-003	2.8300e-003	0.0000	6.1139	6.1139	1.4700e-003	0.0000	6.1507
Total	5.0900e-003	0.0486	0.0466	7.0000e-005		3.0100e-003	3.0100e-003		2.8300e-003	2.8300e-003	0.0000	6.1139	6.1139	1.4700e-003	0.0000	6.1507

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	2.6000e-004	1.9000e-004	2.0300e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4901	0.4901	1.0000e-005	0.0000	0.4905
Total	2.6000e-004	1.9000e-004	2.0300e-003	1.0000e-005	5.5000e-004	0.0000	5.5000e-004	1.5000e-004	0.0000	1.5000e-004	0.0000	0.4901	0.4901	1.0000e-005	0.0000	0.4905

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3.3 Site Preparation - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	3.6000e-004	4.4600e-003	2.0700e-003	0.0000	2.7000e-004	1.8000e-004	4.5000e-004	3.0000e-005	1.7000e-004	2.0000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0175	0.0175	0.0000	0.0000	0.0175
Total	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0175	0.0175	0.0000	0.0000	0.0175

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3.3 Site Preparation - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					2.7000e-004	0.0000	2.7000e-004	3.0000e-005	0.0000	3.0000e-005	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	3.6000e-004	4.4600e-003	2.0700e-003	0.0000		1.8000e-004	1.8000e-004		1.7000e-004	1.7000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413
Total	3.6000e-004	4.4600e-003	2.0700e-003	0.0000	2.7000e-004	1.8000e-004	4.5000e-004	3.0000e-005	1.7000e-004	2.0000e-004	0.0000	0.4378	0.4378	1.4000e-004	0.0000	0.4413

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0175	0.0175	0.0000	0.0000	0.0175
Total	1.0000e-005	1.0000e-005	7.0000e-005	0.0000	2.0000e-005	0.0000	2.0000e-005	1.0000e-005	0.0000	1.0000e-005	0.0000	0.0175	0.0175	0.0000	0.0000	0.0175

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3.4 Grading - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005	7.5000e-004	5.4000e-004	1.2900e-003	4.1000e-004	5.1000e-004	9.2000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.3000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0560	0.0560	0.0000	0.0000	0.0561
Total	3.0000e-005	2.0000e-005	2.3000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0560	0.0560	0.0000	0.0000	0.0561

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3.4 Grading - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					7.5000e-004	0.0000	7.5000e-004	4.1000e-004	0.0000	4.1000e-004	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005		5.4000e-004	5.4000e-004		5.1000e-004	5.1000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570
Total	9.5000e-004	8.6000e-003	7.6900e-003	1.0000e-005	7.5000e-004	5.4000e-004	1.2900e-003	4.1000e-004	5.1000e-004	9.2000e-004	0.0000	1.0520	1.0520	2.0000e-004	0.0000	1.0570

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Worker	3.0000e-005	2.0000e-005	2.3000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0560	0.0560	0.0000	0.0000	0.0561
Total	3.0000e-005	2.0000e-005	2.3000e-004	0.0000	6.0000e-005	0.0000	6.0000e-005	2.0000e-005	0.0000	2.0000e-005	0.0000	0.0560	0.0560	0.0000	0.0000	0.0561

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3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.7000e-003	0.0898	0.0629	1.0000e-004		5.3900e-003	5.3900e-003		4.9600e-003	4.9600e-003	0.0000	8.9281	8.9281	2.8200e-003	0.0000	8.9987
Total	8.7000e-003	0.0898	0.0629	1.0000e-004		5.3900e-003	5.3900e-003		4.9600e-003	4.9600e-003	0.0000	8.9281	8.9281	2.8200e-003	0.0000	8.9987

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.5500e-003	3.2000e-004	0.0000	8.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3339	0.3339	2.0000e-005	0.0000	0.3343
Worker	9.0000e-005	7.0000e-005	7.0000e-004	0.0000	1.9000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1680	0.1680	0.0000	0.0000	0.1682
Total	1.4000e-004	1.6200e-003	1.0200e-003	0.0000	2.7000e-004	1.0000e-005	2.8000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.5019	0.5019	2.0000e-005	0.0000	0.5025

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3.5 Building Construction - 2019

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	8.7000e-003	0.0898	0.0629	1.0000e-004		5.3900e-003	5.3900e-003		4.9600e-003	4.9600e-003	0.0000	8.9281	8.9281	2.8200e-003	0.0000	8.9987
Total	8.7000e-003	0.0898	0.0629	1.0000e-004		5.3900e-003	5.3900e-003		4.9600e-003	4.9600e-003	0.0000	8.9281	8.9281	2.8200e-003	0.0000	8.9987

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.0000e-005	1.5500e-003	3.2000e-004	0.0000	8.0000e-005	1.0000e-005	9.0000e-005	2.0000e-005	1.0000e-005	3.0000e-005	0.0000	0.3339	0.3339	2.0000e-005	0.0000	0.3343
Worker	9.0000e-005	7.0000e-005	7.0000e-004	0.0000	1.9000e-004	0.0000	1.9000e-004	5.0000e-005	0.0000	5.0000e-005	0.0000	0.1680	0.1680	0.0000	0.0000	0.1682
Total	1.4000e-004	1.6200e-003	1.0200e-003	0.0000	2.7000e-004	1.0000e-005	2.8000e-004	7.0000e-005	1.0000e-005	8.0000e-005	0.0000	0.5019	0.5019	2.0000e-005	0.0000	0.5025

4.0 Operational Detail - Mobile

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4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

4.2 Trip Summary Information

Land Use	Average Daily Trip Rate			Unmitigated	Mitigated
	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
Other Non-Asphalt Surfaces	0.00	0.00	0.00		
Total	0.00	0.00	0.00		

4.3 Trip Type Information

Land Use	Miles			Trip %			Trip Purpose %		
	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
Other Non-Asphalt Surfaces	9.50	7.30	7.30	0.00	0.00	0.00	0	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
Other Non-Asphalt Surfaces	0.494811	0.040252	0.220236	0.128508	0.023782	0.006284	0.029295	0.046215	0.001446	0.001205	0.005961	0.000773	0.001232

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5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

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5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

6.0 Area Detail

6.1 Mitigation Measures Area

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	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	4.3000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004
Unmitigated	4.3000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	8.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.5000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004
Total	4.3000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004

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6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	8.0000e-005					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.5000e-004					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	0.0000	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004
Total	4.3000e-004	0.0000	5.0000e-005	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	1.0000e-004	1.0000e-004	0.0000	0.0000	1.0000e-004

7.0 Water Detail

7.1 Mitigation Measures Water

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	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

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7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
Other Non-Asphalt Surfaces	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

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8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
Other Non-Asphalt Surfaces	0	0.0000	0.0000	0.0000	0.0000
Total		0.0000	0.0000	0.0000	0.0000

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type
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10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type
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Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type
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User Defined Equipment

Equipment Type	Number
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11.0 Vegetation
