DRAFT INITIAL STUDY/MITIGATED NEGATIVE DECLARATION

Dunaweal Pump Station Replacement Project

City of Calistoga
January 2023

Prepared for:

City of Calistoga Public Works Department
414 Washington Street
Calistoga, CA 94515

Prepared by:
AECOM
300 Lakeside Drive, Suite 400
Oakland, CA 94612

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LIST OF ABBREVIATIONS AND ACRONYMS

	°F	Fahrenheit
A	AB	Assembly Bill
	ABAG	Association of Bay Area Governments
	ACRD	American Canyon Recycling and Disposal
	Alquist-Priolo Act	Alquist-Priolo Earthquake Fault Zoning Act
	ANSI S1.4	American National Standards Institute for Type 1/Class 1 sound-level meters
	AP	Agricultural Preserve
	APE	Area of Potential Effects
	ATCMs	Airborne Toxics Control Measures
	AW	Agricultural Watershed
B	BAAQMD	Bay Area Air Quality Management District
	BERD	Built Environment Resource Directory
	bgs	below ground surface
	BGS	Berryessa Garbage Service
	BMPs	Best Management Practices
C	CAAQS	California Ambient Air Quality Standards
	CAC	Climate Action Committee
	cal BP	calibrated years before present
	CAL FIRE	California State Department of Forestry and Fire Protection
	CalEEMod	California Emissions Estimator Model
	CALGreen	California Green Building Standards
	Caltrans	California Department of Transportation
	CARB	California Air Resources Board
	CBC	California Building Code
	CCR	California Code of Regulations
	CDFW	California Department of Fish and Wildlife
	CEQA	California Environmental Quality Act
	CGS	California Geological Survey
	City	City of Calistoga
	CNDDB	California Natural Diversity Database
	CNEL	community noise equivalent level
	CNPS	California Native Plant Society
	CO_2e	carbon dioxide equivalents
	CRHR	California Register of Historical Resources
D	dB	decibels
	dBA	A-weighted decibels
	DOC	California Department of Conservation
	DOF	California Department of Finance
	DPS	distinct population segment
	DTSC	Department of Toxic Substances Control's
E	EFH	essential fish habitat
	EOP	Emergency Operations Plan
F	FTA	Federal Transit Administration
	FP	fully protected species

G	GAC	granular activated carbon
	GHG	greenhouse gas.
	gpm	gallons per minute
	GWP	global warming potential
H	HAA5	Haloacetic acids (5 compounds)
	HP	horsepower
I	in/sec	inches per second
	IS	Initial Study
L	lbs/day	pounds per day
	LDL	Larson Davis Laboratories
	L_{den}	day-evening-night noise level
	L_{eq}	equivalent sound level
	L_{max}	maximum sound level
	LOS	Level of Service
	LUST	Leaking Underground Storage Tank
M	MCLs	maximum contaminant levels
	MM	mitigation measure
	MMBtu	million British thermal units
	MMRP	Mitigation Monitoring and Reporting Program
	MND	Mitigated Negative Declaration
	MST	Milliken-Sarco-Tulucay
	MT	metric ton
	MTC	Metropolitan Transportation Commission
N	NAAQS	National Ambient Air Quality Standards
	NAHC	Native American Heritage Commission
	Napa	City of Napa
	NAVD88	North American Vertical Datum of 1988
	NBA	North Bay Aqueduct
	NCRWS	Napa County Recycling and Waste Services
	NPDES	National Pollutant Discharge Elimination System
	NO_X	nitrogen oxides
	NRCS	Natural Resources Conservation Service
	NRWS	Napa Recycling and Waste Services
	NVTA	Napa Valley Transportation Authority
	NVWMA	Napa Vallejo Waste Management Authority
	NWIC	Northwest Information Center
O	OEHHA	California Office of Environmental Health Hazard Assessment
	OHP	Office of Historic Preservation
	OPR	Office of Planning and Research
P	PG&E	Pacific Gas and Electrical Company
	PM	particulate matter
	PM_{10}	particulate matter equal to or less than 10 micrometers in diameter
	$PM_{2.5}$	particulate matter equal to or less than 2.5 micrometers in diameter
	PPV	peak particle velocity
	Project	Dunaweal Pump Station Replacement Project

	psi	pounds per square inch
	pump cans	pressurized steel cylinders
R	RCRA	Resource Conservation and Recovery Act
	ROG	reactive organic gases
	RMS	root-mean-square
	Rutherford Pump Station	Rutherford Hill Road Pump Station
S	SB	Senate Bill
	SFBAAB	San Francisco Bay Area Air Basin
	SFBRWQCB	San Francisco Bay Regional Water Quality Control Board
	SFHA	Special Flood Hazard Area
	SIP	State Implementation Plan
	SR	State Route
	SSC	Species of Special Concern
	SWPPP	Stormwater Pollution Prevention Plan
	SWRCB	State Water Resources Control Board
T	TAC	toxic air contaminant
	TCP	traffic control plan
	TTHM	total trihalomethanes
U	USACE	US Army Corps of Engineers
	USEPA	U.S. Environmental Protection Agency
	USTs	Underground Storage Tanks
	UVDS	Upper Valley Disposal Service
	UVWMA	Upper Valley Waste Management Agency
V	VdB	vibration or velocity level in decibels
	VFDs	variable frequency drives
	VMT	vehicle miles traveled
W	WTP	Water Treatment Plant
	WWTP	wastewater treatment plant

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1.0 INTRODUCTION

1.1 PROJECT TITLE

Dunaweal Pump Station Replacement Project (Project)

1.2 LEAD AGENCY AND PROJECT SPONSOR

Lead Agency:

City of Calistoga
414 Washington Street
Calistoga, CA 94515

Contact Person:

Hamid Heidary, P.E.
Senior Civil Engineer
Public Works Department
City of Calistoga
414 Washington Street
Calistoga, CA 94515
(707) 942-2828

1.3 INTRODUCTION

The City of Calistoga (City) has prepared this Initial Study/Mitigated Negative Declaration (IS/MND) to provide the public, responsible agencies, and trustee agencies with information about the potential environmental effects of the City's Dunaweal Pump Station Replacement Project (Proposed Project). The Project is located in Napa County, California and consists of replacement of the existing Dunaweal Pump Station within the City and construction of a new pump station approximately 11 miles southeast of the City, near Rutherford Hill Road. The Proposed Project is described in detail in Chapter 2, "Project Description." This document has been prepared in accordance with the requirements of the California Environmental Quality Act (CEQA) of 1970 (Pub. Resources Code, § 21000 et seq.) and the CEQA Guidelines (Cal. Code Regs., tit. 14, § 15000 et seq.). This IS/MND relies on expert opinion, technical studies, and other evidence to substantiate its findings.

1.4 INTENT AND SCOPE OF THIS DOCUMENT

This IS/MND reflects an evaluation at a project level (Cal. Code Regs., tit. 14, § 15378). The City, as the CEQA Lead Agency, will consider the Proposed Project's potential environmental impacts when determining whether to approve it. The intent of this IS/MND is to provide the public and decision-making agencies with information about the environmental impacts that could result from Proposed Project implementation.

This IS/MND describes the Proposed Project and its environmental setting, including existing conditions; identifies the Proposed Project's potential environmental impacts and presents

mitigation measures that will be implemented to avoid, reduce, or mitigate potentially significant impacts.

1.5 PUBLIC REVIEW AND COMMENT

Pursuant to State CEQA Guidelines sections 15072 and 15073, a lead agency must issue a proposed MND for a minimum 30-day public review period. Agencies and the public will have the opportunity to review and comment on the document. Responses to written comments received by the City during the 30-day public review period will be incorporated into the MND, if necessary. In accordance with State CEQA Guidelines section 15074, subdivision (b), the City will review and consider the MND, together with any comments received during the public review process, prior to taking action on the MND and Project at a noticed public hearing.

All comments received by the date identified for closure of the public comment period in the Notice of Intent will be considered by the State Water Board during development of the Final IS/MND. Comments can be submitted electronically via email or by mail to:

Emailed Comments	Mailed Comments
hheidary@ci.calistoga.ca.us	Dunaweal Pump Station Replacement Project Hamid Heidary, P.E., Senior Civil Engineer Public Works Department City of Calistoga 414 Washington Street Calistoga, CA 94515

1.6 ORGANIZATION OF THE MITIGATED NEGATIVE DECLARATION

This IS/MND is intended to provide the City of Calistoga, as lead agency under the CEQA (Pub. Resources Code, § 21000 et seq.), and other responsible and trustee agencies with the information required to exercise their discretionary responsibilities with respect to the proposed Project. The document is organized as follows:

- **Section 1** provides agency and applicant information; summarizes the public review and comment process; and lists anticipated agency actions.
- **Section 2** describes the proposed Project including its layout, equipment, and facilities, and provides an overview of the Project's operations and schedule.
- **Section 3** provides the IS, including the environmental setting, identification and analysis of potential impacts, and discussion of various Project changes and other measures that, if incorporated into the Project, would mitigate or avoid those impacts.
- **Section 4** presents the Mitigation Monitoring Program.
- **Section 5** presents information on report preparation and references.
- **Appendices**. The appendices include specifications, technical data, and other information supporting the analysis presented in this MND.

- Appendix A – Air Quality and Greenhouse Gas (GHG) Emissions Summary

1.7 OTHER APPROVALS AND PERMITTING REQUIREMENTS

In addition to project approval and adoption of the MND by the City, the Project may be subject to approval from other local, state and federal entities with statutory or regulatory jurisdiction over various aspects of the Project. The project would not affect wetlands or other federal or state waters under the Clean Water Act and would not affect listed species. No environmental permits would be needed from the US Army Corps of Engineers (USACE), The Regional Water Quality Control Board, or other state agencies such as the California Department of Fish and Wildlife (CDFW). Permits required for the project would be ministerial building and/or grading permits. All necessary building permits required for the Project would be obtained before starting any Project-related activities.

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2.0 PROJECT DESCRIPTION

2.1 INTRODUCTION

The City is proposing the Dunaweal Pump Station Replacement project. The Project, described in detail below, will demolish and replace the existing Dunaweal Pump Station located near Dunaweal Lane and construct an additional new pump station southeast of St. Helena called the Rutherford Hill Road Pump Station (Rutherford Pump Station). This pump station would replace the existing Pope Street Pump Station. The project will also involve the replacement of an existing valve with an automated valve near the primary metering location south of Silverado Trail.

2.2 PROJECT LOCATION

The two pump stations are located in Napa County (Figure 2-1). The proposed new Rutherford Pump Station is located in unincorporated Napa County, southeast of St. Helena, just off of Silverado Trail and south of Rutherford Hill Road (Figure 2-1, inset). The Dunaweal Pump Station is located in the City's city limits within the boundaries of the City wastewater treatment plant (Figure 2-1, inset).

2.3 BACKGROUND

The City currently has two water sources for its municipal water supply system. The main water source is the City of Napa (Napa) through the North Bay Aqueduct (NBA), a 12-inch-diameter transmission main. The other is the Kimball Water Treatment Plant (WTP) on the northwest side of Calistoga. Kimball WTP is able to provide a flowrate of approximately 225 gallons per minute (gpm) as a supplementary water source during the high-water demand period, but is not available year-round. Approximately 60% of the City's supply is from the NBA and 40% from Kimball Reservoir.

The water supply transferred from Napa through the NBA to Calistoga is measured with a flow meter that is located approximately at the intersection of Silverado Trail and Highway 128. The southern (down valley) half of the NBA transmission main was constructed along Silverado Trail, from the Napa meter location to Deer Park Road. From there to Calistoga the main runs between Highway 29 and Silverado Trail through vineyards.

Because of the higher elevation of Calistoga compared to the elevation at the tie-in location between the NBA transmission main and the Napa water supply system, two booster pump stations were built along the NBA transmission main, based on the hydraulic requirements. One pump station is near Pope Street and the other is near Dunaweal Lane. The operations and control strategies of the two pump stations are determined by the pressure conditions in Napa's water supply system network, under its different water sources.

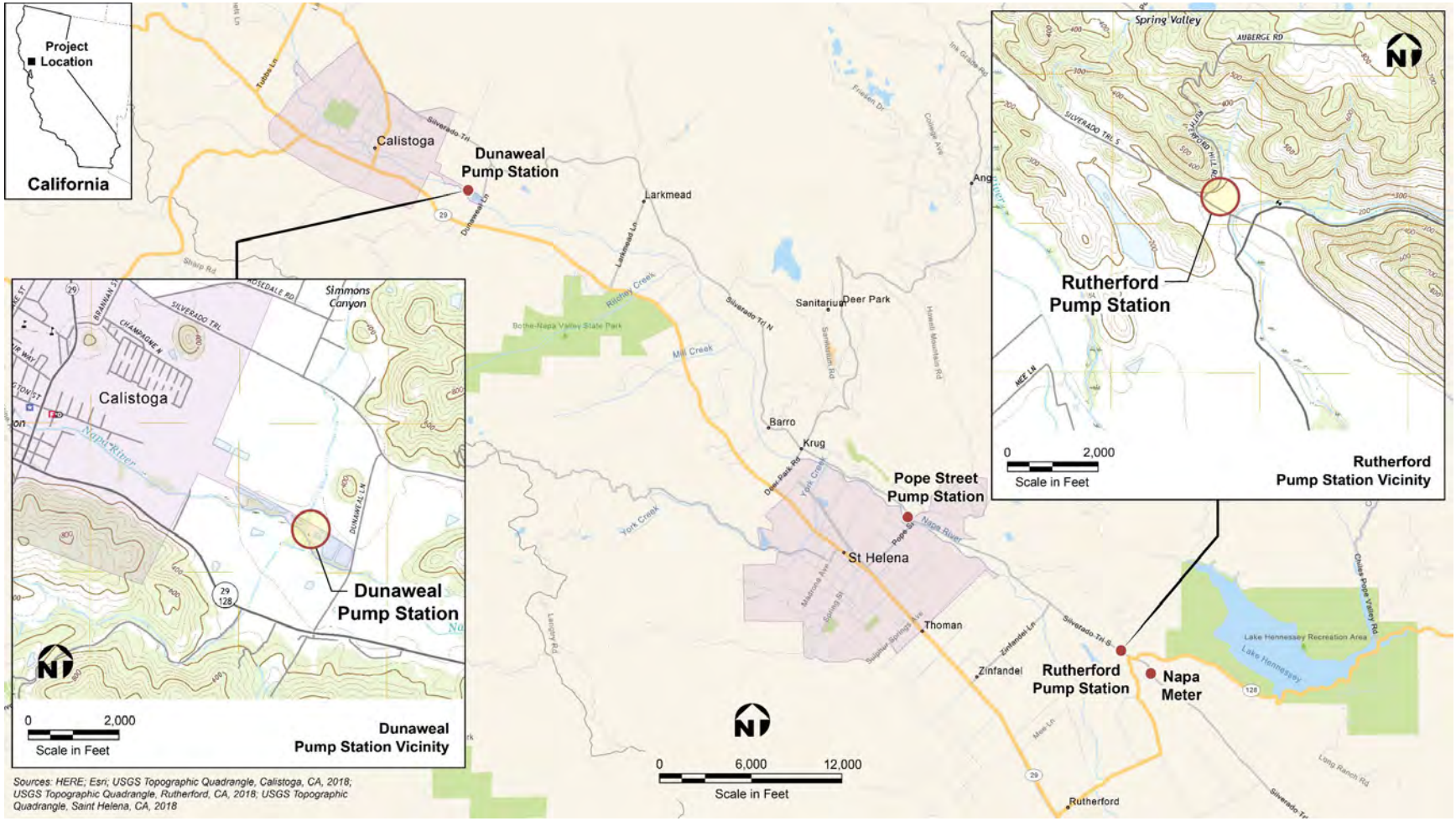

Figure 2-1. Project Location

The two water sources that are used to provide water supply to Napa's water supply system are Hennessey WTP and Jamieson WTP. Hennessey WTP is on the north side of Napa and closer to the tie-in location between the NBA transmission main and Napa's water supply system, while Jamieson WTP is on the south side of Napa and further away from the tie-in location. The pressure delivered to Napa's water supply system varies significantly, depending on which WTP provides water to the NBA, mainly because of the elevation difference between the two WTPs.

Currently, Dunaweal pumping rates are controlled by variable frequency drives (VFDs) that at times lowers the pressure to a minimum of 5 pounds per square inch (psi), jeopardizing minimum pressures required to maintain health standards in the transmission line. Furthermore, the Dunaweal Pump Station efficiency has declined with time, which further reduces water delivery capabilities. Because of the vicinity of the NBA to the Napa River, the Pope Street Pump Station is located within the 100-year floodplain and has experienced damage twice since it was built in the mid-1990's, affect the reliability of the system. The Division of Safe Drinking Water has mandated that the Pope Street Pump Station be replaced because of it susceptibility to flooding.

The water quality provided through the NBA varies, depending on the water source. The water supply can be high in disinfection by-products total trihalomethanes (TTHM) and Haloacetic acids (five compounds known as HAA5) that sometimes exceed the maximum contaminant levels (MCLs) and therefore the City is also in need of reduction in these compounds on this water supply.

2.4 PROJECT PURPOSE

The purpose of this project is to improve the current operation and resiliency of the City's critical water infrastructure to flooding and other hazards by replacing the ageing Dunaweal Pump Station and designing a new pump station capable of providing reliable supply, while withstanding high flood events, thereby ensuring adequate water resources for the City. The project will also provide for improved water quality with the addition of treatment for TTHMs and HAA5.

2.5 RUTHERFORD PUMP STATION

2.5.1 Site Characteristics

The Rutherford Pump Station site is located just off the north side of Silverado Trail, approximately 150 feet east of Rutherford Hill Road, and south of the building that houses the Rutherford Ranch Winery. The site is relatively flat, with low vegetation, scattered trees and power lines (Figure 2-2). There is a drainage ditch along the north edge of the property which will not be affected by the development. All the improvements are located within Napa County Right-of-Way.

Figure 2-2. Proposed Rutherford Pump Station Site

2.5.2 Pump Station Description

The building and equipment yard would be set back approximately 20-feet from the edge of the Silverado Trail travel lane (Figure 2-3). The area in front of the building and equipment yard gate would be paved. The grade around the building would be set so that all rainfall drains away from the building. This would require approximately 1 to 2 feet of fill beneath the building. The equipment yard would be constructed at grade; structural fill would be imported to support the equipment. The finished yard would be covered with permeable gravel. Two pressure tanks, 12 feet in diameter and 28 feet tall that are used to moderate water system surge would be located on the opposite side of the building from the equipment yard. These tanks would be outside of the building.

Figure 2-3. Rutherford Pump Station Layout

Pumping, electrical, and instrumentation equipment will be enclosed in an approximately 28-foot by 48-foot building (Figure 2-3). The building will be single story, approximately 20 feet tall at the peak of the pitched roof. The building would be constructed from textured concrete block. The roof will be gabled with a metal roof. Six pumps, one 75 horsepower electric air blower (for air cooling of the equipment), one smaller compressor, electrical and instrumentation cabinets will be enclosed in the building.

The equipment yard will be enclosed in a chain link fence with visual screening. The 28-foot by 40-foot yard will enclose an electrical transformer, diesel emergency generator, and an air stripper system that will treat the water to remove TTHMs and HAA5.

Connection to the existing NBA pipeline would require trenching across Silverado Trail.

2.5.3 Construction

2.5.3.1 Site Preparation

Initial site preparation will include removal of vegetation (clearing and grubbing) and grading of the site and establishment of staging and equipment laydown areas (see section 2.4.4). Once initial site preparation is complete, temporary construction site security fencing will be installed.

2.5.3.2 Pump Station Construction

The foundation for the building would be constructed, then the pump station building itself. Equipment and materials will be brought to the site as needed and stored. Excavations and installation of piping to tie the new pump station into the NBA would also be completed. The NBA alignment in on the south side of Silverado Trail and the tie-in will require trenching across the road to install the pipe.

Once the building has been constructed, the pump station equipment will be installed. After completion of the building, the yard area would be completed and paved/graveled. All temporary construction fencing at the site and staging area would be removed and a permanent site security fence around the equipment yard would be installed.

2.5.4 Laydown and Staging

In order to minimize site impacts, the future yard area would be used for staging and storage of most of the equipment and building materials for the construction of the building and installation of the equipment. During clearing and grading equipment can be stored at night on the site. A turnout area across Silverado Trail will also be established as a laydown where equipment can be stored temporarily. During construction the site will be contained within temporary fencing as would the staging area on the other side of Silverado Trail.

2.5.5 Traffic Control During Construction

The Rutherford Pump Station will be connected to the existing NBA pipeline on the opposite (south) side of Silverado Trail from the pump station. The pipelines would be installed via open trench across the roadway with an encroachment permit through Napa County Public Works Department. Construction documents will require that Silverado Trail remain open for traffic, albeit with reduced traffic flow. The contractor will be required to trench halfway across the road while maintaining, with flaggers, one way traffic. Once the pipeline beneath one lane is installed, backfilled and temporary asphalt paving is in place, the pipeline would be installed beneath the other half of the road. Temporary plating to cover trenching may be installed to keep at least one lane open. At the end of each workday, temporary plating would be installed to maintain both lanes open.

2.5.6 Equipment

The following equipment is expected to be used at the site during construction:

- Caterpillar D8 for rough grading
- Caterpillar 780 backhoe for miscellaneous site work
- Caterpillar 938M front end loader
- Small track excavator such as Caterpillar 213 for trenching
- Rough Terrain crane such as Liebherr LRT 1100
- Asphalt paving and roller equipment
- Small, electric power tools

Power may not be available during site construction, therefore a small portable generator such as DuroMax XP13000DX would be used for power during construction.

20-yard end dump or equivalent semi-trucks will be used to haul off slash and debris from clearing and grading operations. During construction similar trucks will deliver gravel, structural backfill, and hot mix asphalt.

2.5.7 Construction Personnel and Schedule

Construction of the Rutherford Pump Station would require an average crew of approximately 5 workers, working over approximately 6 months to complete construction of the pump station, including the installation of the building, equipment, yard, and tie-in to the NBA. A maximum of 18 workers is estimated at the peak of construction activity. There will be on site activity approximately 75% of the time during those four months.

2.5.8 Pump Station Operation and Maintenance

The Rutherford Pump Station will operate an average of about 13 hours per day. The pump station will be visited approximately once per week by an operator to check and maintain the

equipment. The emergency generator will be run for approximately 15 minutes each month to assure it will operate in an emergency.

2.6 DUNAWEAL PUMP STATION REPLACEMENT

2.6.1 Site Characteristics

The Dunaweal Pump Station is located within the fenced boundaries of the Calistoga wastewater treatment plant (WWTP). The pump station is in the northwest corner of the facility (see Figure 2-1, inset) adjacent to the Napa Valley Vine Trail. The pump station is in an unpaved area with several surrounding trees.

2.6.2 Pump Station Description

The new Dunaweal Pump Station will be constructed on the same site as the existing pump station. All existing piping and equipment, including electrical cabinets will be removed and demolished. Three new vertical turbine pumps with associated valves and instrumentation will be installed (Figure 2-4). The pumps will be installed below the pump station floor in enclosed, pressurized steel cylinders (called pump cans). Each pump has one pump can about 20-inches diameter by about 8 feet deep. The pump station will not have a building enclosing the equipment. Two 12-foot diameter granular activated carbon (GAC) vessels for water treatment will be installed on a concrete pad adjacent to the new pump station. Installation of the GAC vessels may require removal of a small number of trees at the location as well as minor site grading to provide a structural base for the vessels.

2.6.3 Construction

2.6.3.1 Site Preparation

Initial site preparation will include removal of vegetation and trees (clearing and grubbing) and grading of the site.

2.6.3.2 Pump Station Construction

The new Dunaweal Pump Station would be reconstructed at the same location as the existing pump station on approximately the same footprint. The existing pump station would be taken offline and demolished. The new pump station would be constructed in its place.

2.6.4 Laydown and Staging

The Dunaweal Pump Station improvements are all within the WWTP. All equipment and material laydown will be within the fenced boundaries of the WWTP on paved or previously disturbed areas.

Figure 2-4. Dunaweal Pump Station Layout

2.6.5 Equipment

The expected construction equipment will be similar to that used at the Rutherford site with the exception that portable power will not be required. 20-yard end dump or equivalent semi-trucks will be used to haul off slash, debris, and trees from clearing and grading operations. During construction 20-yard trucks will deliver gravel, structural backfill, and hot mix asphalt.

2.6.6 Construction Personnel and Schedule

Construction of the pump station would require an average crew of approximately 6 workers, working over approximately 3 months to complete construction of the pump station, including the installation of the pumps, electrical equipment, yard and GAC vessels.

2.6.7 Pump Station Operation and Maintenance

The Dunaweal Pump Station will operate an average of 13 hours per day. The pump station will be visited approximately once per week by an operator to check and maintain the equipment.

2.7 NAPA METER MODIFICATION

2.7.1 Site Characteristics

The Napa meter is located south of Silverado Trail, just down the roadside embankment, approximately 2,500 feet southeast of the proposed Rutherford Pump Station location (Figure 2-5). The meter is within Napa County right-of-way between Silverado Trail and a dirt perimeter road around a vineyard in an area of disturbed, ruderal vegetation.

2.7.2 Description

A new automated valve will be installed downstream of the existing meter. The valve will be closed using and electric actuator based on a signal from the meter that the flow has reversed. The valve will be powered by batteries charged from a new, pole mounted, solar panel.

A backhoe similar to the Caterpillar 780 will be used to excavate an approximately 4 feet by 4 feet by 6 feet deep area for the valve installation. No staging or laydown area will be required. Once the valve is installed, the excavation would be refilled.

2.7.3 Construction Personnel and Schedule

Installation of the valve would require an average of 3 people working over an approximately 2-week period to excavate the small area and install the new value and solar equipment. Work would be off the road and would not require traffic control.

Figure 2-5. Photo of the Napa Meter Location

2.7.4 Meter Operation

As described above, the valve is automated and runs on solar charged batteries. It may require minor, intermittent maintenance.

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3.0 ENVIRONMENTAL CHECKLIST AND ANALYSIS

This section contains the IS that was completed for the proposed Project in accordance with the requirements of the CEQA. The IS identifies site-specific conditions and potential Project-related environmental impacts, evaluates their potential significance, and discusses ways to avoid or lessen impacts that are potentially significant. The information, analysis, and conclusions included in the IS provide the basis for determining the appropriate document needed to comply with CEQA. Based on the analysis and information contained herein, City has determined that the IS shows that there is substantial evidence that the Project may have a significant effect on the environment, but revisions to the Project would avoid or mitigate those effects to a point where clearly no significant effect on the environment would occur. As a result, the City has concluded that a MND is the appropriate CEQA document for the Project.

The evaluation of potential environmental impacts provided in this IS is based in part on the impact questions contained in Appendix G of the State CEQA Guidelines; these questions, which are included in an impact assessment matrix for each environmental category (Aesthetics, Agriculture/Forest Resources, Air Quality, Biological Resources, etc.), are "intended to encourage thoughtful assessment of impacts." Each question is followed by a check-marked box with column headings that are defined below.

- **Potentially Significant Impact.** This column is checked if there is substantial evidence that a Project-related environmental impact may be significant. If there are one or more "Potentially Significant Impacts," a Project Environmental Impact Report would be prepared.
- **Less than Significant with Mitigation.** This column is checked when the Project may result in a significant environmental impact, but the incorporation of identified Project revisions or mitigation measures would avoid or reduce the identified impact(s) to a less-than-significant level.
- **Less than Significant Impact.** This column is checked when the Project would not result in any significant environmental impacts. The Project's environmental impact is less than significant even without the incorporation of Project-specific mitigation measures.
- **No Impact.** This column is checked when the Project would not result in any environmental impact in the category, or when the category does not apply.

The environmental factors checked below (Table 3-1) would be potentially affected by this Project; a checked box indicates that at least one impact would be a "Potentially Significant Impact" except that the City has agreed to Project revisions, including implementation of mitigation measures, to reduce the impacts to "Less than Significant with Mitigation."

Table 3-1. Environmental Issues with Potentially Significant Impacts

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

Detailed descriptions and analyses of environmental impacts from Project activities and the basis for their significance determinations are provided for each environmental topic on the following pages, beginning with Section 3.1, Aesthetics.

AGENCY DETERMINATION

Based on the environmental impact analysis provided by this IS:

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

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

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

_____ _____

Signature Date

Jeff Mitchem, AICP
Planning & Building Director
City of Calistoga

3.1 AESTHETICS

AESTHETICS – Except as provided in Public Resources Code Section 21099, would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less than Significant Impact**	**No Impact**
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	☐	☐	☒	☐
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	☐	☐	☒	☐

3.1.1 Environmental Setting

3.1.1.1 Project Area Visual Character

The visual character of the project areas is defined by a rural and agricultural setting with vineyards and wineries being the dominant uses. The project areas are generally flat within Napa Valley with foothills and mountain ranges located to the east and west. The proposed Rutherford Pump Station location is near several wineries, vineyards and scattered residences. About a mile to the north of the Dunaweal Pump Station site is the city limit of Calistoga, which has a suburban/urban character. The highways within the project area travel through vineyards, wineries, and open space, with some scattered commercial and residential uses. The County has designated nearby Routes 29/128[1] as well as Silverado Trail and Dunaweal Lane as scenic roadways. In addition, the City of Calistoga had designated Routes 29/128 and Silverado Trail as scenic corridors (City of Calistoga 2003). Based on this designation, the areas surrounding the project sites are considered to have high visual quality. The project sites themselves have low to moderate visual quality. Figures 3.1-1 through 3.1-3 show photographs of the existing project sites.

[1] In the Napa Valley between the town of Rutherford and the City of Calistoga, Routes 29 and 128 are the same roadway.

Figure 3.1-1. Dunaweal Pump Station Site

Figure 3.1-2. Proposed Rutherford Pump Station Site

Figure 3.1-3. Napa Meter Site

3.1.1.2 Scenic Vistas

A scenic vista is a viewpoint of natural scenery, historic, and/or architectural features possessing visual qualities of value to the community. A vista typically refers to expansive views, usually from an elevated and open area. To the east and west, foothills, ridgelines and mountain ranges provide a continuous backdrop from the project sites. None of the project sites are identified by the Napa County general plan as scenic vistas. The majority of scenic vistas and key viewsheds are identified at higher elevations along the ridgelines and hillsides (Napa County 2008).

3.1.1.3 Scenic Highways

None of the project locations are on state-designated scenic highways or routes. However, nearby Routes 29/128 are eligible for scenic highway designation by the state (Caltrans 2018). The County has designated Routes 29/128 and Silverado Trail and Dunaweal Lane as scenic roadways (Napa County 2008). The Dunaweal Pump Station site is 0.5-mile northeast of Routes 29 and 128 and 0.2 mile west of Dunaweal Lane. The Rutherford Pump Station is adjacent to Silverado Trail and 600 feet west of Route 128. The Napa meter site is adjacent to Silverado Trail and 0.25 mile southeast of Route 128.

3.1.1.4 Light and Glare

Since the projects sites are in a rural and agricultural area, existing sources of light and glare are minimal. Existing sources of light and glare are from vehicles traveling along roadways, wineries, residences, and commercial uses. The Dunaweal Pump Station site is at the City's Wastewater Treatment Plant and there are existing sources of lights at the plant.

3.1.2 Impact Analysis

a) Have a substantial adverse effect on a scenic vista?

No Impact. The Rutherford Pump Station and Napa meter project location offer scenic views of the surrounding vineyards, open-space, and foothills and mountains to the distance. The Dunaweal Pump Station, located at the Calistoga Water Treatment plant has more limited views due to the surrounding infrastructure. However, these sites are not in locations designated by the County as scenic vistas or key viewshed areas (Napa County 2008). The project sites are not located on hillsides or ridgeline and would not be prominently visible to a large area of the County. The Rutherford Pump Station site would be visible from Silverado Trail. Pump Station equipment would be housed in an approximate 14-foot tall building with a fenced yard area. Proposed pipeline connections to the new pump station would be buried underground. The project components at this site would not block or obstruct scenic views.

The Dunaweal Pump Station site would not be visible from any public roadways but would be visible by recreationists using the Napa Valley Vine Trail. Aesthetics at the site would be unchanged from existing conditions because the existing pump station would be replaced with similar though updated equipment. The pump station at this location would not block or obstruct any scenic views.

The Napa meter site is located down the embankment on the southwest side of Silverado Trail. Components of this valve installation, except for a 8- to 10-foot-tall pole with a small mounted solar panel would not be visible to motorists. The pole and solar panel are not expected to be that noticeable to motorists driving by and it would not block or obstruct any scenic views. Therefore, the project would not have a substantial adverse effect on a scenic vista. There would be no impact.

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

Less than Significant Impact. There are no state-designated scenic highways or routes in the project vicinity. However, Routes 29 and 128 are eligible for scenic highway designation by the State, and the County has designated them as scenic roadways. Silverado Trail and Dunaweal Lane have also been designated by the County as scenic roadways. Routes 29 and 128 and these county roads offer scenic views of surrounding vineyards, and foothills and mountains to the east and west.

The Rutherford Pump Station site would be visible from Silverado Trail. A small number of trees are expected to be removed at the Dunaweal Pump Station site. Regardless, this site is not visible from Routes 29/128 or Dunaweal Lane.

The Napa meter site is located downhill of Silverado Trail and would not be visible from the roadway. The site contains some ruderal vegetation which would be cleared and removed during construction, but no trees are present.

No unique topographic and geologic features, as defined by the Napa County Viewshed Protection Program, are found on any of the project sites. Additionally, no historic resources, as identified in the Community Character Element of the Napa County General Plan, are located within or near the project sites (Napa County 2008). The project would not obstruct scenic views along roadways or damage scenic resources along a state scenic highway. Therefore, the impacts would be less than significant.

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?

No Impact at Dunaweal Pump Station and Napa meter sites. Less than Significant Impact at Rutherford Pump Station site. The visual character of the project area is generally defined by a rural and agricultural setting, with scattered wineries, residences, commercial uses and open-space. The surrounding vineyards and foothills and mountains to the east and west add to the scenic quality of the surrounding area. Many of the wineries have architecturally unique designs that also contribute to the visual quality of the area.

The Rutherford Pump Station site would be visible from Silverado Trail. There would be temporary and short-term visual impacts at the site during construction of the pump station, building and pipeline connections. During construction, equipment and vehicles would be visible from the roadway during the day. Once constructed, the pump station building and permanent fencing would be visible from Silverado Trail. The building and fence would be designed with aesthetic treatments to blend with the surrounding environment. The building will be constructed textured concrete block in earth tones. The chain-link fence would have green or earth-tone strips woven in. The pipeline connections would be buried underground and the pumps would be inside the building and would not be visible to the public. The visual character and quality would not be substantially degraded. For these reasons, visual impacts at this location would be less than significant.

The Dunaweal Pump Station site is located at the City's Wastewater Treatment Plant, which is predominately a built site containing concrete surfaces, water treatment equipment including tanks, buildings and two large water treatment ponds. The site is surrounded by vineyards and open space. Approximately 1 mile northwest of the wastewater treatment plant is the City, which has a more suburban/urban character. A new pump station would replace the current pump station at the same spot. Some tree removals may be required to construct the new pump station. Temporary construction activities at the site would be visible by recreationists using the

Napa Valley Vine Trail. Once the pump station is constructed, there would be no substantial change in the visual character and quality at this site. Public views of the site and surroundings would generally be the same as existing conditions. Therefore, there would no impact at this location.

The Napa meter site on the shoulder of Silverado Trail within the County right-of-way. The site contains ruderal vegetation and existing utility infrastructure including electrical boxes and existing in-ground valve/meter vaults. The new elements added to this site would blend in with the existing infrastructure. The 8- to 10-foot pole that the solar panel used to charge batteries for the new meter would be attached to may partially be visible from the roadway, but is not expected to stand out to motorists. There would be no substantial change in the visual character and quality at this site. Therefore, there would be no impact.

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

Less than Significant. The project would not introduce new sources of substantial light or glare in the project areas that would affect day and nighttime views in the area. Construction at all locations would occur during the daytime hours; therefore, no nighttime lighting would be necessary during project construction. The Rutherford Pump Station building would contain an external light positioned above the door. The light would be designed to be limited spillover to adjacent areas through directional lighting and shielding. The fixture would not create a substantial amount of light or glare in the surrounding area.

New lighting at the Dunaweal Pump Station would replace the existing lighting at this location and would not result in a substantial change over existing conditions. There is no lighting proposed at the Napa meter location.

Therefore, there would be no impacts related to light or glare at the Dunaweal and Napa meter locations and a less-than-significant impact at the proposed Rutherford Pump Station location.

3.1.3 Mitigation Summary

The project would have no significant impacts to aesthetics; therefore, no mitigation is required.

3.2 AGRICULTURE AND FOREST RESOURCES

AGRICULTURE AND FOREST RESOURCES. In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board – Would the Project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less than Significant Impact**	**No Impact**
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	☐	☐	☐	☒
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

3.2.1 Environmental Setting

The project area is in the fertile valley of Napa County where agriculture is the prominent use. The Dunaweal Pump Station, Rutherford Pump Station and Napa meter sites are in areas that are surrounded by vineyards and scattered wineries. The Dunaweal Pump Station site is located on the City's Wastewater Treatment Plant site and would be constructed on paved areas where the current pump station is located. This site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The Rutherford Pump Station would be constructed within the County of Napa right-of-way. The site is located between Silverado Trail and the Rutherford Ranch Winery on undeveloped land, except for a utility line that traverses the site. The Napa meter site is located within Napa County's right-of-way adjacent to a vineyard to the west and Silverado Trail to the east. This site is not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance.

Under the California Land Conservation Act of 1965, also known as the Williamson Act, local governments can enter into contracts with private property owners to protect land (in agricultural preserves) for agricultural and open space purposes. The project sites are not under the Williamson Act. However, there are surrounding parcels that are under Williamson Act contracts (California Department of Conservation 2017).

3.2.2 Impact Analysis

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?

No Impact. The project sites are not located on land that is currently being utilized for farming or agricultural purposes. The Dunaweal Pump Station and Napa meter sites are not designated as Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. The Rutherford Pump Station site is located on Cortina very gravelly loam soils, which are designated as Farmland of Statewide Importance. However, this site is within the County of Napa right-of-way and not being utilized as farmland, and therefore would not convert farmland to non-farmland uses. Furthermore, the construction of the project would not affect surrounding farming and agricultural uses. Trenching for pipelines that would connect to Rutherford Pump Station and construction of the pump station building would all occur in the County's right-of-way. Thus, the project would not convert or result in the conversion of Prime Farmland, Unique Farmland, and Farmland of Statewide Importance. There would be no impact.

b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The project sites are in the Agricultural Preserve (AP) zoning district. The AP district is intended for agriculture use; other uses that are compatible with farming and agriculture are also permitted. The district precludes incompatible uses with agriculture or development of urban type uses that would be detrimental to the continuance of agriculture and the maintenance of open space which are economic and aesthetic attributes and assets of the county (Napa County 2015a; Napa County 2022).

The project would construct pump stations that would serve the public. These uses would be compatible with, and not interfere with the surrounding agricultural uses. Additionally, the project would not conflict with the use of adjacent parcels that are under the Williamson Act. Therefore, the project would not conflict with existing zoning for agricultural use. Thus, there would be 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))?

No Impact. The project sites are in the AP zoning district. Surrounding parcels do not include areas zoned as forest land or timberland (Napa County 2015a). Therefore, the development of the proposed project would not conflict with zoning for forest land or timberland use in the County. Thus, there would be no impact.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. No portion of the project sites contains forest land or timberland, and there are no forestry uses in or around the project sites. Therefore, the proposed project would not result in the loss or conversion of forest land. Thus, there would be 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?

No Impact. As discussed in question (a) above, the project sites are not located on land that is currently being used for farming and agricultural purposes, nor would the project impact surrounding farmland and agricultural uses. Therefore, there would be no impact.

3.2.3 Mitigation Summary

The project would have no impacts to agriculture and forest resources; therefore, no mitigation is required.

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3.3 AIR QUALITY

AIR QUALITY – Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the Project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less than Significant Impact**	**No Impact**
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?	☐	☒	☐	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

3.3.1 Environmental Setting

3.3.1.1 Topography, Meteorology, and Climate

The Project is in the San Francisco Bay Area Air Basin (SFBAAB), which comprises many complex terrain types, including coastal mountain ranges, inland valleys, and bays, that distort normal wind flow patterns. The SFBAAB is generally bordered on the west by the Pacific Ocean, on the north by the Coast Ranges, and on the east and south by the Diablo Range. Meteorological conditions in the SFBAAB are warm and mainly dry in summer and mild and moderately wet in winter. Winds are generally calm throughout Napa County. Annual precipitation averages range from about 24 inches in low elevations to more than 40 inches in the mountains (BAAQMD 2019).

3.3.1.2 Local Air Quality Conditions

Individual air pollutants at certain concentrations may adversely affect human or animal health, reduce visibility, damage property, and reduce the productivity or vigor of crops and natural vegetation. Six air pollutants have been identified by the U.S. Environmental Protection Agency (USEPA) and the California Air Resources Board (CARB) as being of concern both on a nationwide and statewide level: ozone; carbon monoxide; nitrogen dioxide; sulfur dioxide; lead; and particulate matter (PM), which is subdivided into two classes based on particle size: PM equal to or less than 10 micrometers in diameter (PM_{10}) and PM equal to or less than 2.5 micrometers in diameter ($PM_{2.5}$). Because the air quality standards for these air pollutants

are regulated using human health and environmentally based criteria, they are commonly referred to as “criteria air pollutants.”

The determination of whether a region’s air quality is healthful or unhealthful is made by comparing contaminant levels in ambient air samples to California Ambient Air Quality Standards (CAAQS) and National Ambient Air Quality Standards (NAAQS). Ambient air concentrations are monitored throughout the SFBAAB to designate an area’s attainment status with respect to the CAAQS and NAAQS for criteria air pollutants. The purpose of these designations is to identify areas with air quality problems, thereby initiating planning efforts for improvement. The three basic designation categories are “nonattainment,” “attainment,” and “unclassified” (the latter is used for areas that cannot be classified on the basis of available information as meeting or not meeting the standards). With respect to the CAAQS, the SFBAAB is designated as a nonattainment area for ozone, PM_{10}, and $PM_{2.5}$; and as an attainment or unclassified area for all other pollutants. With respect to the NAAQS, the SFBAAB is designated as a nonattainment area for ozone and $PM_{2.5}$, and as an attainment or unclassified area for all other pollutants (BAAQMD 2017a).

In addition to criteria air pollutants, USEPA and CARB regulate hazardous air pollutants, also known as toxic air contaminants (TACs). TACs collectively refer to a diverse group of air pollutants that are capable of causing chronic (i.e., long-duration) and acute (i.e., severe but short-term) adverse effects on human health, including carcinogenic effects. TACs can be separated into carcinogens and noncarcinogens based on the nature of the effects associated with exposure to the pollutant. For regulatory purposes, carcinogens are assumed to have no safe threshold; exposure to a carcinogen may pose a health risk of contracting cancer. Noncarcinogens differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis.

3.3.1.3 Sensitive Receptors

Some receptors are considered more susceptible to potential health impacts from poor air quality than others. The reasons for greater than average sensitivity include preexisting health problems, proximity to emissions source, or duration of exposure to air pollutants. Bay Area Air Quality Management District (BAAQMD) identifies a sensitive receptor 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 include schools, hospitals, and residential areas” (BAAQMD 2017b).

The Dunaweal Pump Station, which will be demolished and reconstructed at the same location, is in the City, just south of the main portion of town, within the boundaries of the City’s wastewater treatment plant (Figure 2-1, inset). The nearest sensitive receptor is a residence at 1076 Dunaweal Lane, located at approximately 100 feet from the proposed Dunaweal Pump Station reconstruction.

The proposed new Rutherford Pump Station is located near St. Helena, just off of Silverado Trail, east (or down valley) of Rutherford Hill Road (Figure 2-1, inset). The nearest sensitive receptors are located at approximately 1,000 feet from the proposed pump station.

The Napa Meter is located south of Silverado Trail and the nearest sensitive receptors are located at approximately 500 feet from the proposed pump station.

3.3.2 Regulatory Setting

At the federal level, national air quality policies are regulated through the Federal Clean Air Act. Pursuant to the Clean Air Act, and as described above, the USEPA has established the NAAQS to protect public health and welfare with an adequate margin of safety. The Clean Air Act was amended in 1977 to require each state to maintain a State Implementation Plan (SIP) for achieving compliance with the NAAQS. In 1990, the Clean Air Act was amended again to strengthen regulation of both stationary and motor vehicle emission sources. Conformity to the SIP is defined under the 1990 Clean Air Act amendments as conformity with the SIP's purpose in eliminating or reducing the severity and number of violations of the NAAQS and achieving expeditious attainment of these standards.

In 1988, the state legislature adopted the California Clean Air Act, which established a statewide air pollution control program. Therefore, at the state level, the California Clean Air Act requires all air districts in the state to endeavor to meet CAAQS by the earliest practical date. Unlike the federal Clean Air Act, the California Clean Air Act does not set precise attainment deadlines. Instead, the California Clean Air Act establishes increasingly stringent requirements for areas that will require more time to achieve the standards. CAAQS are generally more stringent than NAAQS and incorporate additional standards for sulfates, hydrogen sulfide, visibility-reducing particles, and vinyl chloride.

At the regional level, BAAQMD is the local agency responsible for preparing, adopting, and implementing mobile, stationary, and area emission control measures and standards.

BAAQMD rules and regulations relevant to the Project include but are not limited to:

- Regulation 6 (Particulate Matter)
- Regulation 7 (Odorous Substances)
- Regulation 11, Rule 2 (Asbestos Demolition, Renovation and Manufacturing)

In addition, under the California Clean Air Act, BAAQMD is required to develop an air quality attainment plan for nonattainment criteria pollutants in the air district. The 2017 Bay Area Clean Air Plan: Spare the Air and Cool the Climate was adopted on April 19, 2017 and provides a regional strategy to protect public health and protect the climate. To fulfill state ozone planning requirements, the 2017 control strategy includes all feasible measures to reduce emissions of ozone precursors—reactive organic gases (ROG) and nitrogen oxides (NO_X)—and reduce transport of ozone and its precursors to neighboring air basins. In addition, the 2017 Clean Air Plan builds on and enhances BAAQMD's efforts to reduce emissions of PM and TACs (BAAQMD 2017c).

At the local level, the Napa County General Plan, under the Conservation Element, has goals and policies related to improving and maintaining air quality to protect human and environmental health (Napa County 2009). Goals and policies related to air quality include:

- **Goal CON-17:** Reduce air pollution and reduce local contributions to regional air quality problems, achieving and maintaining air quality in Napa County which meets or exceeds state and federal standards.
    - **Policy CON-77:** All new discretionary projects shall be evaluated to determine potential significant project-specific air quality impacts and shall be required to incorporate appropriate design, construction, and operational features to reduce emissions of criteria pollutants regulated by the state and federal governments below the applicable significance standard(s) or implement alternate and equally effective mitigation strategies consistent with BAAQMD's air quality improvement programs to reduce emissions.

The City's General Plan, under the Open Space and Conservation Element, also includes goals, policies, and actions to maintain the City's air quality and prevent deterioration in air quality. Goals, policies, and actions related to air quality and applicable to the Project include:

- **Goal OSC-6:** Protect and improve Calistoga's existing high standard of air quality.
    - **P6.1-3:** The City shall support the Bay Area Air Quality Management District in the implementation of reasonable and feasible new regulations related to the improvement of air quality throughout the Napa Valley.
    - **P6.1-5:** The City shall minimize emissions from construction activities by implementing all feasible, cost-effective measures to control dust and PM_{10}, as defined by BAAQMD. These measures include clean-burning fuels and tuning engines to minimize pollution.
    - **A6.1-2:** Adopt a Construction Dust Ordinance to require that all construction activities implement dust control measures identified by the BAAQMD, including the suppression of dust emissions from all sources of dust generation using water, chemical stabilizers, and/or vegetative ground cover.

3.3.3 Impact Analysis

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. As described above, air quality plans describe air pollution control strategies to be implemented by a city, county, or regional air district. The primary purpose of an air quality plan is to bring an area that does not attain NAAQS and CAAQS into compliance with those standards pursuant to the requirements of the Clean Air Act and California Clean Air Act. The most recent air quality plan is the BAAQMD 2017 Clean Air Plan. The 2017 Clean Air Plan identifies potential control measures and strategies, including rules and regulations that could be implemented to reduce air pollutant emissions from industrial facilities, commercial processes, on- and off-road motor vehicles, and other sources. BAAQMD

implements these strategies through rules and regulations, grant and incentive programs, public education and outreach, and partnerships with other agencies and stakeholders.

A project is determined to be consistent with the 2017 Clean Air Plan if it supports the goals of the Clean Air Plan, includes applicable control measures from the Clean Air Plan, and would not disrupt or hinder implementation of any control measures from the Clean Air Plan (BAAQMD 2017c). Consistency with the Clean Air Plan also is determined through evaluation of project-related air quality impacts and demonstration that project-related emissions would not increase the frequency or severity of existing violations or contribute to a new violation of the NAAQS or CAAQS. The BAAQMD CEQA Air Quality Guidelines include thresholds of significance that are applied to evaluate regional impacts of project-specific emissions of air pollutants and their impact on BAAQMD's ability to reach attainment (BAAQMD 2017b). Emissions that are above these thresholds have not been accommodated in the air quality plans and would not be consistent with the air quality plans.

Construction of the Project would involve the temporary use of off-road equipment, haul trucks, and worker commute trips. As discussed in Section 3.3(b) below, construction-related emissions from the Project would not exceed the thresholds of significance recommended by BAAQMD. In addition, consistent with Stationary Source Control Measures SS36 (PM from Trackout) and SS38 (Fugitive Dust) of the 2017 Clean Air Plan, and as noted in Mitigation Measure (MM) AQ-1, the Project would implement BAAQMD's Basic Construction Mitigation Measures, which would reduce fugitive dust emissions during construction activities, and also be consistent with City Policy P6.1-5. After construction, operation of the Rutherford Pump Station and Dunaweal Pump Station are anticipated to include one weekly operational and maintenance trip, which is similar to existing conditions of the Pope Street Pump Station and existing Dunaweal Pump Station and would not involve any uses that would increase population or vehicle trips beyond that considered in the 2017 Clean Air Plan. Further, the emergency generator that would be required for the Rutherford Pump Station would be permitted per BAAQMD rules and regulations. As shown in Section 3(b) below, the Project would result in operational emissions that would be below the thresholds of significance recommended by BAAQMD. Therefore, the intensity of operational emissions has been accounted for in the 2017 Clean Air Plan and would not exceed the current assumptions used to develop the plan. Therefore, the Project would not conflict with or obstruct implementation of the applicable air quality plan, and this impact would be less than significant.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?

Less than Significant with Mitigation. By its very nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development in the SFBAAB, and this regional impact is cumulative rather than being attributable to any one source. A project's emissions may be individually limited, but cumulatively considerable when taken in combination with past, present, and future development projects.

Construction emissions are temporary but have the potential to result in a significant impact on air quality. Construction activities associated with the Project would generate temporary emissions of precursors to ozone (ROG and NOx), PM_{10} exhaust, and $PM_{2.5}$ exhaust. Fugitive PM_{10} and $PM_{2.5}$ emissions would also be generated and are associated with site preparation and travel on unpaved areas and vary as a function of parameters such as soil silt content, soil moisture, wind speed, acreage of disturbance area, and miles traveled by construction vehicles.

Emissions generated by construction activities were modeled using the California Emissions Estimator Model (CalEEMod), Version 2022.1. This model allows the user to enter project-specific construction information, such as the construction schedule, equipment types, and quantity of haul truck and worker trips. Construction emissions were estimated for worker commutes, haul trucks, and the use of off-road equipment. Additional details are available in Appendix A.

BAAQMD published the May 2017 CEQA Air Quality Guidelines, which provide lead agencies with assistance in evaluating air quality impacts of projects and plans proposed in the SFBAAB (BAAQMD 2017b). The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background air quality information. BAAQMD has stated that the CEQA Guidelines are for informational purposes only and should be followed by local governments at their own discretion (BAAQMD 2017b). The BAAQMD CEQA Guidelines may inform environmental review for development projects in the Bay Area, but do not commit local governments or BAAQMD to any specific course of regulatory action. The thresholds for criteria pollutants were developed through a quantitative examination of the efficacy of fugitive dust mitigation measures and a quantitative examination of statewide nonattainment emissions and are used for the analysis of project-generated emissions.

Table 3.3-1 shows the estimated total and average daily emissions of ROG, NO_X, PM_{10} (exhaust), and $PM_{2.5}$ (exhaust) associated with Project construction activities (all construction activities except for fugitive dust generation).

Table 3.3-1. Estimated Total and Average Daily Construction Emissions

Description	ROG	NO_X	PM_{10} (Exhaust)	$PM_{2.5}$ (Exhaust)
Total Construction Emissions (tons)	0.06	0.45	0.05	0.03
Average Daily Emissions (lbs/day)[1]	**0.90**	**6.72**	**0.75**	**0.37**
Threshold of Significance (lbs/day)[2]	54	54	82	54
Exceeds Threshold?	No	No	No	No

Notes: ROG = reactive organic gases; NOx = nitrogen oxides; PM_{10} = particulate matter equal to or less than 10 micrometers in diameter; $PM_{2.5}$ = particulate matter equal to or less than 2.5 micrometers in diameter; lbs/day = pounds per day

[1] Average daily emissions estimated assuming a total of 134 construction workdays (6-month construction schedule).

[2] BAAQMD 2017b

BAAQMD does not have quantitative mass emissions thresholds for fugitive PM_{10} and $PM_{2.5}$ dust. Instead, BAAQMD recommends that all projects, regardless of the level of average daily emissions, implement applicable best management practices, including those listed as Basic Construction Measures in the BAAQMD CEQA Guidelines (BAAQMD 2017b). Therefore, fugitive PM_{10} and $PM_{2.5}$ dust emissions generated during construction have the potential to contribute to an existing air quality violation and result in a significant impact. MM-AQ-1 would be required to comply with BAAQMD threshold for fugitive dust and the Basic Construction Measures listed in the BAAQMD CEQA Guidelines.

- MM AQ-1: Implement Basic Construction Emission Control Practices (Best Management Practices).

    - The contractor shall comply with all of the following BAAQMD best management practices for reducing construction emissions of uncontrolled fugitive dust (PM_{10} and $PM_{2.5}$):

        - All exposed surfaces (e.g., parking areas, staging areas, soil piles, stockpiles, graded areas, and unpaved access roads) shall be watered twice daily, or as often as needed, treated with non-toxic soil stabilizers, or covered to control dust emissions. Watering shall be sufficient to prevent airborne dust from the leaving the site.
        - All haul trucks transporting soil, sand, or other loose material off site shall be covered.
        - All visible mud or dirt track-out onto adjacent public roads and paved access roads shall be removed using wet power (with reclaimed water, if possible) vacuum street sweepers at least once per day, or as often as needed. The use of dry power sweeping is prohibited.
        - All vehicle speeds on unpaved roads shall be limited to 15 miles per hour.
        - All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
        - Idling times shall be minimized either by shutting equipment off when not in use or by reducing the maximum idling time to 5 minutes (as required by California airborne toxics control measure Title 13 California Code of Regulations (CCR) Section 2485). Clear signage shall be provided for construction workers at all access points.
        - All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
        - A publicly visible sign shall be posted with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's phone number also shall be visible to ensure compliance with applicable regulations.

- The contractor's project manager or his/her designee shall verify compliance that these measures are included in the Project's grading plan and have been implemented during normal construction site inspections.

As shown in Table 3.3-1, Project-related emissions of ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust would not exceed the applicable mass emission thresholds of significance recommended by BAAQMD. However, since the project would generate fugitive PM_{10} and $PM_{2.5}$ dust emissions, this impact would be potentially significant. With implementation of MM AQ-1, the Project would be consistent with BAAQMD guidance and emissions of fugitive dust would be reduced to a less-than-significant level. As a result, with implementation of MM AQ-1, the Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment under an applicable federal or state ambient air quality standard.

The purpose of the Project is to improve the current operation and resiliency of the City's critical water infrastructure to flooding and other hazards by replacing the ageing Dunaweal Pump Station and designing a new pump station capable of providing reliable supply, while withstanding high flood events, thereby ensuring adequate water resources for the City. As such, operational and maintenance activities associated with the Project are anticipated to remain similar to existing conditions. Emissions associated with maintenance and testing of the emergency generator located at Rutherford Pump Station are shown in Table 3.3-2 below. The remaining equipment at the Dunaweal and Rutherford Pump Stations is anticipated to be electric-powered and generate indirect greenhouse gas emissions (greenhouse gas emissions are discussed in Section 3.9 below). The Napa Meter will be automated and run on solar-charged batteries; thus, there are no operational emissions associated with the Napa Meter. As shown in Table 3.3-2, operational criteria air pollutant emissions would be minimal.

Table 3.3-2. Estimated Total and Average Daily Operational Emissions

Description	ROG	NO_X	PM_{10}	$PM_{2.5}$
Annual Operational Emissions (tons)	0.03	0.14	0.01	0.01
Average Daily Emissions (lbs/day)[1]	**0.16**	**0.77**	**0.03**	**0.03**
Threshold of Significance (lbs/day)[2]	54	54	82	54
Exceeds Threshold?	No	No	No	No

Notes: ROG = reactive organic gases; NOx = nitrogen oxides; PM_{10} = particulate matter equal to or less than 10 micrometers in diameter; $PM_{2.5}$ = particulate matter equal to or less than 2.5 micrometers in diameter; lbs/day = pounds per day

[1] Average daily emissions based on 365 operational days per year.

[2] BAAQMD 2017b

Therefore, the impact of a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard due to Project activities would be less than significant with mitigation.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less than Significant Impact.

3.3.3.1 Criteria Air Pollutants

As shown in Table 3.3-1 and Table 3.3-2, Project-related activities would result in emissions of criteria air pollutants (ROG, NO_X, PM_{10} exhaust, and $PM_{2.5}$ exhaust), but at levels that would not exceed the BAAQMD regional thresholds of significance. With implementation of MM AQ-1, fugitive dust emissions would also not exceed the recommended threshold of significance. These regional thresholds of significance were designed to identify those projects that would result in significant levels of air pollution and to assist the region in attaining the applicable state and federal ambient air quality standards. The ambient air quality standards were established using health-based criteria to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution. Therefore, the criteria air pollutant emissions associated with the Project would not expose sensitive receptors to substantial criteria pollutant concentrations.

3.3.3.2 Toxic Air Contaminants

The greatest potential for TAC emissions would be related to diesel particulate matter emissions associated with heavy-duty construction equipment operations. The Office of Environmental Health Hazard Assessment (OEHHA) developed a Guidance Manual for Preparation of Health Risk Assessments (OEHHA 2015). According to OEHHA methodology, health impacts from carcinogenic TACs are usually described in terms of individual cancer risk, which is based on a 30-year lifetime exposure to TACs. Construction activities would last approximately 6 months for the Rutherford Pump Station, approximately 3 months for the Dunaweal Pump Station, and about 2 weeks for the Napa Meter modification. Thus, the exposure period for the construction activities at the Rutherford Pump Station, Dunaweal Pump Station, and Napa Meter modification would be less than 2 percent of the total exposure period used for typical health risk calculations [i.e., 30 years]) at the Rutherford Pump Station and less than 1 percent at the Dunaweal Pump Station and Napa Meter.

BAAQMD recommends that sensitive receptors within a 1,000-foot radius of the Project site be assessed for potentially significant impacts (BAAQMD 2017b). As described previously, the nearest sensitive receptors to the proposed Rutherford Pump Station, Dunaweal Pump Station, and Napa Meter are located at approximately 1,000 feet, 100 feet, and 1,000 feet away, respectively. As shown in Table 3.3-1, exhaust $PM_{2.5}$, which can be used as a surrogate for the estimate of diesel PM, is substantially below the threshold of significance. In addition, studies indicate that diesel PM emissions and the relative health risk can decrease by approximately 60 percent at a distance of 300 feet (CARB 2005; Zhu et al. 2002).

CARB has adopted Airborne Toxics Control Measures (ATCMs) applicable to off-road diesel equipment and portable diesel engines rated brake 50 horsepower (HP) and greater. The purpose of these ATCMs is to reduce emissions of PM from engines subject to the rule. The ATCMs require diesel engines to comply with PM and NO_X emission limitations on a fleet-

average basis. It is also important to note that recently manufactured construction equipment is designed to nearly eliminate diesel PM emissions. While the use of new off-road equipment is not required, these vehicles are increasingly in use in construction equipment fleets are required to meet the required fleet average index (i.e., indicator of a fleet's overall emission rate) each year. CARB has also adopted an ATCM that limits diesel-fueled commercial motor vehicles idling. The rule restricts vehicles from idling for more than five minutes at any location. All off-road diesel equipment, on-road heavy-duty diesel trucks, and portable diesel equipment used for the Project must meet California's applicable ATCMs for control of diesel PM or NO_X in the exhaust (e.g., ATCMs for portable diesel engines, off-road vehicles, and heavy-duty on-road diesel trucks, and 5-minute diesel engine idling limits) that are in effect during the construction of the Project.

Thus, considering the intermittent nature of the emissions, buffer distances to the nearest receptors, proposed construction activities, existing regulations to reduce emissions including diesel PM from off-road and on-road equipment, and the short duration of the exposure period, the Project is not anticipated to expose sensitive receptors to substantial pollutant concentrations of TACs.

Following construction, operation and maintenance of the Project is anticipated to remain similar to existing conditions. As such, the Project is not anticipated to result in an increase in vehicle trips or off-road equipment usage associated with staff or maintenance. The new pumps associated with the Project at each Pump Station and the Napa Meter would be electric-powered; thus, operation would not generate TAC emissions or expose sensitive receptors to substantial pollutant concentrations. The diesel-fueled emergency generator at the Rutherford Pump Station would be a source of TAC emissions. However, the emergency generator would not be operated for extended periods of time and emissions would be limited to operation during maintenance and testing and infrequent power outages. Therefore, the Project would not result in an increase in TAC emissions beyond existing conditions and the Project would not expose sensitive receptors to substantial pollutant concentrations. This impact would be less than significant.

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

Less than Significant Impact. The occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptors. Offensive odors rarely cause any physical harm, but they still can be very unpleasant, leading to considerable distress and often generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose individuals to objectionable odors are deemed to have a significant impact. Typical facilities that generate odors include wastewater treatment facilities, sanitary landfills, composting facilities, petroleum refineries, chemical manufacturing plants, and food processing facilities (BAAQMD 2017b).

Activities associated with the Project could result in short-term odor emissions from diesel exhaust associated with construction equipment. However, the Project would utilize typical construction techniques, and the odors would be typical of most construction sites and

temporary in nature. Following construction activities, the Project would not result in any long-term source of odors. Since the Project includes replacement of the existing Dunaweal Pump Station and pump stations are not typical sources of odors, the Project, including the proposed new Rutherford Pump Station, would not introduce new odors. Therefore, the Project would not result in other emissions adversely affecting a substantial number of people. This impact would be less than significant.

3.3.4 Mitigation Summary

Implementation of the following mitigation measure would reduce the potential for Project-related impacts to air quality to a less-than-significant level:

- MM AQ-1: Implement Basic Construction Emission Control Practices (Best Management Practices)

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3.4 BIOLOGICAL RESOURCES

BIOLOGICAL RESOURCES – Would the Project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**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?	☐	☒	☐	☐
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?	☐	☐	☐	☒
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	☐	☐	☐	☒
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☐	☒
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	☐	☐	☐	☒

The biological resources section describes the existing biological setting of the Project area and evaluates whether the Project would result in adverse effects on biological resources.

3.4.1 Environmental Setting

This environmental setting section describes the existing habitats in the Project area and the special-status species[2] with potential to occur in the Project area.

3.4.1.1 Vegetation Communities

Urban: Urban areas are defined as paved, graveled, or barren and unvegetated areas of land. Urban areas occur at all three components of the project. At the Dunaweal pump station, the entirety of the project footprint is comprised of paved and graveled areas. At the Rutherford Pump Station and Napa Meter, Silverado Trail South is a paved, urban area immediately adjacent to both sites.

Vineyard: Vineyards are defined as planted grape vines with sparsely vegetated understory of grasses. At Dunaweal pump station, vineyards are located immediately north of the project footprint. At the Rutherford Pump Station and Napa Meter, vineyards are located immediately south of the project footprint. Further afield, vineyards surround all three sites in all directions.

Ruderal: Ruderal vegetation is defined as non-native forbs and grasses such as Eurasian oats (*Avena fatua*), dandelions (*Leontodon taraxacum*), and curly dock (*Rumex crispus*). Ruderal habitat is present at all three sites; adjacent to the existing Dunaweal pump station, and adjacent to Silverado Trail South at the Rutherford Pump Station and Napa Meter sites.

Oak Woodland: Oak woodlands in the study area are dominated by coast live oak (*Quercus agrifolia*), with slightly lower cover of valley oak (*Quercus lobata*). The understory in this community is sparse and dominated by nonnative annual grasses, most of which were not identifiable at the time of survey. Small patches of poison oak (*Toxicodendron diversilobum*) and Himalayan blackberry (*Rubus armeniacus*) were also identified in the understory. Oak woodland occurs on a portion of the Rutherford Pump Station site.

3.4.1.2 Special-Status Species

Based on reviews of the California Natural Diversity Database (CDFW 2022), a U.S. Fish and Wildlife Service Information Planning and Conservation official species list (USFWS 2021), and other available public documents, it was determined that several special-status species have the potential to occur in the Project vicinity (Table 3.4-1). The determinations for the potential to occur in the Project area are based on the range of the species, the habitat requirements of the species, and habitats present in the Project area.

The Project area lacks suitable habitat for many of the special-status species that were identified, based on background research, as having the potential to occur in the Project area. For these reasons, these special-status species have no potential to occur in the Project area and are not discussed further in this section. For other species, the Project area contains

[2] Special-status species are federal and state listed as endangered, threatened, or candidate species, California Department of Fish and Wildlife (CDFW) Species of Special Concern (SSC), CDFW fully protected species (FP), Bald and Golden Eagle Protection Act, and California Rare Plant Ranking 1 and 2 species.

marginal habitat, has very poor-quality habitat, or is on the edge of the species' known geographic range; for these reasons, these species have low potential to occur in the Project area and are not discussed in more detail in this section. The special-status species that have moderate or high potential to occur in the Project area are discussed further below in this analysis.

Table 3.4-1. Federally and State-Listed Wildlife Species that May Occur in the Project Area

Scientific Name	Common Name	Status	Potential to Occur
Plants			
Amorpha californica var. *napensis*	Napa false indigo	1B.2	Broad leafed upland forests and chaparral are not present in the project footprint. **No Potential**
Trichostema ruygtii	Napa bluecurls	1B.2	Cismontane woodland and chaparral are not present in the project footprint. **No Potential**
Fish			
Entosphenus tridentatus	Pacific lamprey	SSC	Conn Creek located 500 feet east of the project footprint provides marginal potential habitat, but no suitable aquatic habitat is present within the project footprint. **No Potential**
Mylopharodon conocephalus	Hardhead	SSC	Conn Creek located 500 feet east of the project footprint provides marginal potential habitat, but no suitable aquatic habitat is present within the project footprint. **No Potential**
Oncorhynchus mykiss irideus	Steelhead – central California coast distinct population segment (DPS)	FT	Conn Creek located 500 feet east of the project footprint provides potential habitat for steelhead. The nearest documented occurrence is 5.1 miles away. Conn Creek occurs within an area designated as essential fish habitat (EFH) for salmonids and is designated as critical habitat for steelhead. However, no suitable aquatic habitat is present within the project footprint. **No Potential**
Amphibians			
Rana boylii	*Foothill yellow-legged frog*	SSC	The nearest CNDDB occurrence for foothill yellow-legged frog is a non-specific record that overlaps the project footprint, but the record is clearly situated in Conn Creek 500 feet to the east of the project footprint, as this is the only suitable habitat for the species. Foothill yellow-legged frog rarely travel more than 3 feet from the banks of their aquatic habitat and are not expected to disperse into a barren road shoulder or paved roadway. No suitable aquatic habitat is present within the project footprint. **No Potential**

Scientific Name	Common Name	Status	Potential to Occur
Reptiles			
Emys marmorata	western pond turtle	SSC	The nearest CNDDB occurrence of western pond turtle is located in this section of Conn Creek 500 feet east of the project footprint. This species is not expected to disperse into a barren road shoulder or paved roadway. No suitable aquatic habitat is present within the project footprint. **No Potential**
Birds			
Agelauis tricolor	Tricolored blackbird	ST, SSC	This species was document near lake Hennessy, approximately 1.25 miles northeast of the project footprint. The project footprint does not provide potential nesting habitat for this species, but open fields surrounding the project footprint could provide potential foraging habitat. **Low Potential to Forage** **No Potential to Nest**
Aquila chrysaetos	golden eagle	FP, BGEPA	This species was document near lake Hennessy, approximately 1.25 miles northeast of the project footprint. The project footprint does not provide potential nesting habitat for this species, but open fields surrounding the project footprint could provide potential foraging habitat. **No Potential to Forage or Nest**
Buteo swainsoni	Swainson's hawk	ST	Nearest documented occurrence is 2.3 miles away; nearest nesting site is 2.5 miles south of the Rutherford Pump Station site, along the Napa River. There is no open grassland or agricultural land suitable for Swainson's hawk at Rutherford Pump Station or Napa Meter. This species may nest in trees adjacent to the project footprint and forage in open fields west and south of the Dunaweal Pump Station. **Moderate Potential to Forage or Nest (Dunaweal Pump Station)**
Elanus leucurus	White-tailed kite	FP	There are no CNDDB occurrences of this species within 2 miles of the project. This species may nest in trees adjacent to the project footprint and forage in open fields west and south of the Dunaweal Pump Station **Moderate Potential to Forage or Nest**
Falco peregrinus anatum	American peregrine falcon	FP	This species was document near lake Hennessy, approximately 1.25 miles northeast of the project footprint. The project footprint does not provide suitable foraging or nesting habitat for this species. **No Potential to Forage or Nest**
Haliaeetus leucocephalus	Bald eagle	SE, FP	This species was documented near lake Hennessy, approximately 1.25 miles northeast of the project footprint. This species could nest in the riparian areas along Conn Creek, but is unlikely to nest in the portions of Conn Creek adjacent to the project due to nearby roads and commercial areas. **No Potential to Forage or Nest**

Scientific Name	Common Name	Status	Potential to Occur
Icteria virens	Yellow-breasted chat	SSC	There are no CNDDB occurrences of this species within 2 miles of the project. This species is known to occur in the Napa River Ecological Reserve, approximately 5.5 miles from the Rutherford project area. This species could potentially nest in the riparian habitat in Conn Creek 500 feet east of the project footprint but is not expected to nest within the project footprint. **Low Potential to Forage or Nest**
Progne subis	Purple martin	SSC	Nearest documented occurrence is 1.25 miles away. Purple martin could potentially nest in trees and snags within or adjacent to the project footprint. **Moderate Potential to Forage or Nest**
Setophaga petechia	Yellow warbler	SSC	There are no CNDDB occurrences of this species within 2 miles of the project. This species could potentially nest in the riparian habitat in Conn Creek 500 feet east of the project footprint but is not expected to nest within the project footprint. **Low Potential to Forage or Nest**
Mammals			
Antrozous pallidus	Pallid bat	SSC	The nearest CNDDB occurrence of this species is 1.4 miles southeast of the project. This species could roost in trees or snags within or adjacent to the project footprint. **Moderate Potential**
Corynorhinus townsendii	Townsend's big-eared bat	SSC	Nearest CNDDB occurrence of this species is 4.8 miles away. This species could roost in trees or snags within or adjacent to the project footprint. **Moderate Potential**

Notes:
CNDDB = California Natural Diversity Database
1 Federal
BGEPA Bald and Golden Eagle Protection Act
FE Federally listed as Endangered
FT Federally listed as Threatened
MBTA Protected under the Migratory Bird Treaty Act
State
SE State listed as Endangered
ST State listed as Threatened
SSC California Department of Fish and Wildlife designated "Species of Special Concern"
CNPS
1B California Native Plant Society (CNPS) Ranking. Defined as plants that are rare, threatened, or endangered in California and elsewhere.
CNPS Threat Code Extension
.1 Species seriously endangered in California
.2 Species fairly endangered in California
Potential to occur (only those species with known, high, or moderate potential are reflected above; however, the full range of ratings is presented here for informational purposes)
Potential to occur ratings are evaluated as follows:

- A rating of "high" indicates that the species has not been observed, but sufficient information is available to indicate suitable habitat and conditions are present on-site and the species is expected to occur on-site.
- A rating of "moderate" indicates that it is not known if the species is present, but suitable habitat exists on-site.
- A rating of "low" indicates that species was not found during biological surveys conducted to date on the site and may not be expected given the species' known regional distribution or the quality of habitats located on the site.
- A rating of "no" indicates that the taxa would not be expected to occur on the project site because the site does not include the known range or does not support suitable habitat.

Sources: CDFW 2022; Data compiled by AECOM in 2022.

3.4.1.3 Migratory Birds

Migratory birds (and their eggs and nests) are protected under the Migratory Bird Treaty Act. Common migratory birds occurring in the Project vicinity include the acorn woodpecker (*Melanerpes formicivorus*), bushtit (*Psaltriparus minimus*), western scrub jay (*Aphelocoma californica*), lesser goldfinch (*Spinus psaltria*), Anna's hummingbird (*Calypte anna*), turkey vulture (*Cathartes aura*), and red-tailed hawk (*Buteo jamaicensis*).

3.4.2 Impact Analysis

CEQA requires that projects analyze the potential impacts to special-status plant and animal species, as well as on sensitive habitats, wildlife corridors, and waters of the United States. Impacts on wildlife species that are not considered special-status under CEQA are generally not considered significant unless impacts are associated with the species' migration routes or movements, or the species are considered locally important.

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

Less than Significant with Mitigation. Construction activities associated with the Project have the potential to directly affect individuals of the following special-status species and/or their habitat:

- Swainson's hawk, State threatened
- White-tailed kite, CDFW Species of Special Concern (SSC) and Fully Protected
- Purple martin, CDFW SSC
- Pallid bat, CDFW SSC
- Townsend's big-eared bat, CDFW SSC

Potential project impacts are discussed in the following sections.

3.4.2.1 Special-Status Birds

Potential impacts to Swainson's hawk, white-tailed kite, and purple martin may occur from construction activities in the form of nest destruction or failure, or behavioral impacts from increased noise or human presence.

Suitable nesting habitat for purple martin is present adjacent to the project footprint at the Rutherford Pump Station site. The Project would not remove trees at the Rutherford Pump Station location to install the facilities. Given the availability of alternative natural habitat for purple martin in the vicinity of the Project, impacts to purple martin are not expected to be significant.

Suitable nesting habitat for Swainson's hawk is present to the west and south of the Dunaweal Pump Station site, and suitable nesting habitat for white-tailed kite and purple martin are present in the vicinity of all three Project sites. Increased noise and human presence from construction could result in behavior modification of nesting birds in the vicinity of these sites, potentially resulting in nest failure. Nest destruction or nest failure would be a potentially significant impact.

Increased noise and human presence at these sites could also result in behavioral modification of foraging birds adjacent to the Project sites. However, given the location of each Project site in urban areas, the short duration of Project construction at each site, and the abundance of nearby habitat, impacts foraging Swainson's hawk, white-tailed kite, and purple martin would not be significant.

To reduce the potential of nest destruction or failure, mitigation measure MM BIO-1 would be implemented, which requires preconstruction nesting bird surveys, and implementation of nest avoidance buffers.

- MM BIO-1: Nesting Bird Avoidance Measures.

  Discourage Nesting: Starting before the nesting season (i.e., prior to February 1), the City or its contractor shall visit the Project site to identify existing inactive bird nests within and in the vicinity of the Project site. If existing inactive bird nests are detected and it is determined that those nests could be impacted by the Project should they become active during construction, those existing inactive nests shall be removed prior to the nesting season (October to February) and a nest deterrent shall be installed as needed to prevent establishment of new nests. Disturbance or removal of active nests (i.e., nests containing eggs or young) shall not be conducted without the appropriate authorization(s) from the USFWS and/or CDFW.

  Avoidance of Active Nests: Nesting birds and their nests shall be protected during construction by use of the following measures:

  - Removal of trees and tree trimming should occur outside the bird nesting season (February 1 to August 30), to the extent feasible.
  - If construction occurs during the nesting bird season (February 1 to August 30), a qualified wildlife biologist shall conduct pre-construction nesting surveys within 3 days prior to the start of construction activities and after any construction breaks of 14 days or more.
  - Surveys shall be performed for the project site and suitable habitat within 100 feet of the project site in order to locate any active passerine (perching bird) nests and within 500 feet of the project site to locate any active raptor (birds of prey) nests. If active nests are located during the pre-construction bird nesting surveys, the wildlife biologist shall evaluate if the schedule of construction activities could affect the active nests and the following measures shall be implemented based on their determination:

- If construction may affect the active nest, the biologist shall establish a no-disturbance buffer. Typically, these buffer distances are between 50 feet and 100 feet for passerines and between 300 feet and 500 feet for raptors. These distances may be adjusted depending on the level of surrounding ambient activity (e.g., if the project site is adjacent to a road or community development) or if an obstruction, such as a tree or building, obscures line-of-sight between the nest and construction. For bird species that are regulated as federal and/or State sensitive species (i.e., fully protected, endangered, threatened, species of special concern), a City representative, supported by the wildlife biologist, shall confer with the USFWS and/or CDFW regarding modifying nest buffers and allowable construction within the buffer.
- To be evaluated on a case-by-case basis: birds that begin nesting within the project site and survey buffers amid construction activities shall be assumed to be habituated to construction-related or similar noise and disturbance levels and minimum work exclusion zones of 25 feet shall be established around active nests in these cases.

Implementation of MM BIO-1 would ensure that construction activities do not have the potential to result in significant impacts to nesting birds by requiring pre-construction surveys, and implementing avoidance measures if active nests are located. With the implementation of MM BIO-1 impacts to special-status bird species would be less than significant.

3.4.2.2 Special-Status Bats

Trees that would be removed as part of the Project may provide suitable day or night roosting habitat for pallid bat and Townsend's big-eared bat. Given the availability of alternative natural habitat for hibernaculum in the vicinity of the Project, impacts to habitat for bats are not expected to be significant. However; if construction were to remove trees containing bats during the maternity or winter season, bat mortality could occur, and the impacts to special-status bat species would be potentially significant.

To reduce the potential for the Project to result in the mortality of bats, MM BIO-2 would be implemented, which requires preconstruction roosting bat surveys, and provides prescriptive measures for how to proceed should bats be documented.

- MM BIO-2: Roosting Bat Surveys.

  A qualified biologist shall conduct a pre-construction survey for special-status bats in advance of tree trimming to characterize potential bat habitat and identify active roost sites. Should potential roosting habitat or active bat roosts be found in trees to be disturbed, the following measures shall be implemented:

  - Trimming or removal of trees should occur when bats are active, approximately between the periods of March 1 to April 15 and August 15 to October 15, outside of bat maternity roosting season (approximately April 15 to August 15), and outside of

months of winter torpor (approximately October 15 to February 28), to the extent feasible.

- If trimming or removal of trees during the periods when bats are active is not feasible and bat roosts being used for maternity or hibernation purposes are found on or in the immediate vicinity of the project site where these activities are planned, a no-disturbance buffer, as determined by a qualified biologist, shall be established around these roost sites until they are determined to be no longer in use as maternity or hibernation roosts.
- Buffer distances may be adjusted around roosts depending on the level of surrounding ambient activity (i.e., if the project site is adjacent to a road) and if an obstruction, such as a building structure, is within line-of-sight between the roost and construction. If pallid bat or any other State-sensitive species is detected, a City representative, supported by the wildlife biologist, shall confer with CDFW regarding modifying roost buffers and allowable construction within the buffer, and modifying construction around maternity and hibernation roosts.
- The qualified biologist shall be present during tree trimming if bat roosts are present. Trees with roosts shall be disturbed only when no rain is occurring or is forecast to occur within the next 3 days and when daytime temperatures are at least 50 Fahrenheit (°F). Branches and limbs not containing cavities or fissures in which bats could roost shall be cut only using chainsaws. Branches or limbs containing roost sites shall be trimmed the following day, under the supervision of the qualified biologist, also using chainsaws.
- Bat roosts that become established during project construction shall be presumed to be unaffected, and no buffer would be necessary.

Implementation of MM BIO-2 would reduce Project impacts to special-status bats to a less-than-significant level by requiring preconstruction surveys, and implementing avoidance measures if potential roosting habitat or active roosts are identified.

3.4.2.3 Impacts to Migratory Birds

Migratory birds protected under the federal Migratory Bird Treaty Act and under the California Fish and Game Code could construct nests in or near the project footprint. If there are active nests in trees planned for removal, removal of the trees may result in nest destruction. In addition, increased noise and human presence from construction could result in behavior modification of nesting birds in the vicinity of these sites, potentially resulting in nest failure. Nest destruction or nest failure would be a potentially significant impact.

As discussed previously under the special-status birds section, MM BIO-1 would be implemented, which includes requirements for preconstruction nesting bird surveys and implementation of nest avoidance buffers. With the implementation of MM BIO-1, impacts to migratory bird species would be less than significant.

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 Game or US Fish and Wildlife Service?

No Impact. The project does not have the potential to impact riparian habitat or other sensitive natural communities.

No riparian habitat or sensitive natural communities are present within or in the vicinity of the Project footprint at any of the three Project sites. The nearest riparian habitat to the Dunaweal Pump Station is approximately 250 feet southwest of the site within the Napa River. The Calistoga Wastewater Treatment Facility is present between the Dunaweal Pump Station and this riparian habitat. The nearest riparian habitat to the Rutherford Pump Station site is located 500 feet east at Conn Creek. No direct or indirect impacts to the Napa River or Conn Creek area anticipated.

The Project would have no impact on riparian habitat or other sensitive natural communities.

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?

No Impact. The project does not have the potential to impact state or federally protected wetlands.

No state or federally protected wetlands are present within or in the vicinity of the project footprint at any of the three Project sites. All three of the project sites are located in upland areas, primarily within disturbed or ruderal habitats. One man-made ephemeral drainage ditch runs west to east, immediately north of the Rutherford Pump Station site. This ditch drains the parking lots at the Rutherford Ranch Winery. This feature will not be impacted by construction activities.

The Project would have no impact on state or federally protected wetlands.

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?

No Impact. The Project would generate noise and disturbance during construction. This may cause birds, bats, or common terrestrial species to temporarily avoid the immediate vicinity of the project while this activity is occurring. However, the Dunaweal Pump Station replacement, the Rutherford Pump Station installation, and the Napa Meter installation would be small installations, and would not block movement or migration of species. The Project does not include any physical barriers that would prevent the physical movement of wildlife. The Project would have no impact on the movement of native resident or migratory fish or wildlife.

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

No Impact. Tree removal at the Rutherford Pump Station site may be required to construct the project. Tree removal has the potential to conflict with policies of the City and Napa County.

Construction activities at the Rutherford Pump Station site will not require the removal of trees. Some small trees would be trimmed or removed at the Dunaweal Pump Station. If trees are removed at this location, all requirements and restrictions contained in Chapter 19.01 of the Calistoga Municipal Code will be followed.

The Project would comply with all City and Napa County tree ordinances, as applicable, and the project would not conflict with any local policies or ordinances protecting biological resources and no impact would occur.

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?

No Impact. The Project would not conflict with a Habitat Conservation Plan or Natural Communities Conservation Plan because the Project area is not included in a Habitat Conservation Plan or Natural Communities Conservation Plan.

3.4.3 Mitigation Summary

Implementation of the following mitigation measures would reduce the potential for Project-related impacts to biological resources to a less-than-significant level:

- MM BIO-1: Nesting Bird Surveys
- MM BIO-2: Roosting Bat Surveys

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3.5 CULTURAL RESOURCES

CULTURAL RESOURCES – Would the Project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less than Significant Impact**	**No Impact**
a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?	☐	☐	☐	☒
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	☐	☒	☐	☐
c) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☒	☐	☐

3.5.1 Environmental Setting

The Project site, which includes three loci (the existing Dunaweal Pump Station, Rutherford Pump Station, and the Napa Meter), is located in the Napa Valley. The Dunaweal Pump Station is centrally located within the valley approximately 1.2 miles east-southeast of the City, while the other two locations are over 11 miles from the City, along the eastern edge of the valley at the base of the Vaca Mountains. This mountain range runs between Napa and Solano counties and is part of the California Coast Ranges. The Project site is within semi-rural, agricultural lands, mostly used for viticulture. Napa Valley's climate is Mediterranean, with cool, wet winters and warm, dry summers, which lends to its status as a world-renown wine growing region.

Geologically, Napa Valley lies between the Vaca Mountains on the east and the Mayacama Mountains on the west, in the North Bay region of the San Francisco Bay area. The geologic complexes found in this region of the Coast Ranges consist of the Franciscan subduction mélange complex. The Napa Valley was created by seismic activity that created a fault basin that filled with loose sand, gravel, and volcanic debris from the Sonoma Volcanics between the Sonoma, Mayacamas, and Howell mountains (Reichardt 2014).

The soils in the Project site for the three locales are comprised of loamy fan deposits from the Napa River at the Dunaweal Pump Station and Rutherford Pump Station, and Conn Creek at the Rutherford Pump Station and Napa Meter. These Holocene alluvium deposits consist of gravel, sand, silt, and clay that were deposited by these water courses that originated from upland drainages or mountain canyons (Meyer and Rosenthal 2007). At the Dunaweal Pump Station, the soils are mostly Bale loam, 0 to 2 percent slopes; at the Rutherford Pump Station, the soils are mostly Cortina very gravelly loam, 0 to 5 percent slopes; and, at the Napa Meter, Pleasanton loam, 0 to 2 percent (US Department of Agriculture 2021).

3.5.1.1 Cultural Setting

Precontact Context (Adapted from Reichardt 2014 and Byrd et al. 2017)

The earliest evidence for human occupation in California, during the Terminal Pleistocene (13,500 to 11,700 calibrated years before present [cal BP]), is very sparse, consisting primarily of isolated fluted points, and therefore is poorly understood. Throughout California, the Terminal Pleistocene occupation is infrequently encountered; no fluted points or archaeological deposits dating to this time period have been documented in the San Francisco Bay Area. During this period, modern-day San Francisco Bay would have been a large valley available for human occupation.

Early Holocene (11,700 to 8,200 cal BP) occupation of the San Francisco Bay region is characterized by the use of handstones and millingslabs, stemmed points, crescents, and steep-edged formed flaked tools that served a semi-mobile hunter-gatherer population who exploited a wide range of plants and animals from marine, lacustrine, and terrestrial environments. Obsidian from eastern Sierra quarries make up a large portion of the nonlocal flaked stone tools and debris found in early Holocene sites in central California.

Middle Holocene (8,200 to 4,200 cal BP) archaeological deposits are represented with more than 60 known sites in the San Francisco Bay-Delta Area. Artifact assemblages are varied and characterized by groundstone (handstones and millingslabs, as well as mortars and pestles); side-notched dart points; cobble-based implements; and shell beads and ornaments. The transition to the Early Period/Middle Holocene (5,500 to 2,500 cal BP) was documented through the discovery of the first cut *Olivella* shell beads found within human burials, as well as the use of the mortar and pestle, which dates to as early as 6,000 cal BP. *Olivella* beads of this period tend to be rectangular-shaped and were minimally processed. The artifact assemblage of this period generally shows the transition from a forager lifestyle to one of a more semi-sedentary land use pattern (Milliken et al. 2007).

After 3,000 years of usage, rectangular shell beads disappeared suddenly from the San Francisco Bay Area and were replaced with split-beveled and tiny saucer *Olivella* beads (Milliken et al. 2007). Along with this shift in bead type, other artifacts that date to this time period also depict a shift in resource procurement and crafts. The shift in *Olivella* bead manufacture also shows a refinement in bead-making skills.

Evidence for late Holocene (4,200 to 180 cal BP) occupation in central California is extensive; there are more than 240 known archaeological sites that date to this time period in the Bay-Delta Area (Milliken et al. 2009; Rosenthal and Meyer 2009). In California, the late Holocene includes three primary chronological divisions: the Early, Middle, and Late periods. The Early Period is the least well understood, primarily due to a lack of data. Middle Period sites are more abundant and widely recorded in central California. The Late Period is similarly well represented, with a number of excavated sites and well-dated assemblages (Rosenthal and Meyer 2009).

The first arrow-sized projectile points in the Bay Area did not appear until after 3,200 cal BP, which caused biface and debitage production at Napa County's Glass Mountain quarries to disappear, while at the same time Napa Valley obsidian debitage increases dramatically in the East Bay during this time; Napa Valley obsidian was being transported out of the valley for manufacture elsewhere (Milliken et al. 2007). This was also a time of innovation in the North Bay with the toggle harpoon, hopper mortar, plain corner-notched arrow-sized projectile point, clamshell disk beads, magnesite tube beads, and secondary cremation first appearing in the North Bay and spreading southward (Milliken et al. 2007). Mortars and pestles became more common in central California sites but were not exclusive; fishing gear (e.g., hooks and net weights) and hunting equipment (e.g., projectile points and atlatl spurs) were also common in Early and Middle late Holocene settlements. The Middle Period is characterized by Fredrickson's (1974) Berkeley Pattern; this Pattern is recognized throughout the northern Diablo Range and in the major valleys and large drainage systems of the southern North Coast Ranges (Rosenthal and Meyer 2009).

The Late Period of the late Holocene is the best-documented era. Current data suggest that the Bay-Delta Area populations increased in size, sedentary villages flourished, and ritual activity increased (Byrd et al. 2017). Artifact assemblages include "clam disk beads, distinctive Haliotis [abalone] pendants, flanged steatite pipes, chevron-etched bone whistles and tubes, elaborately finished stone 'flowerpot' mortars, and needle-sharp coiled basketry awls" (Milliken et al. 2009). The bow and arrow appear in the region around 700 cal BP, with a distinctive arrow style dubbed the "Stockton Serrated." This arrow was almost exclusively manufactured from Napa Valley and Annadel obsidian during this time period, and the style development suggests that "ethnic continuity was present across the Bay region from Middle/Late Transition through Late 1 Period" (Byrd et al. 2017).

Archaeological evidence suggests that the Napa Valley was occupied between 2,000 and 4,000 years ago.

Historic Context

Spanish Captain Gaspár de Portolá was the first recorded European to sail into the San Francisco Bay in 1769, on accident, while searching for Monterey Bay. This expedition was accompanied by Father Junipero Serra, a Spanish Franciscan Friar. Serra, on behalf of Spain, later set out and established missions in an effort to colonize the region. The first recorded expedition into present-day Napa County by Europeans was in 1823 by Francisco Castro, Jose Sanchez, and Father Jose Altamira, searching for a suitable location for a mission in the area (Kyle et al. 2002). Mission San Francisco de Solano (also known as Sonoma Mission) was the last of 21 missions established in Alta California, founded that same year in the town of Sonoma. However, the mission's cattle grazed in the Napa Valley due to its abundance of wild oats and grains. Please see Section 3.6, *Cultural Resources – Tribal*, for an ethnographic history.

In 1822, Mexico gained independence from Spain, and shortly after, North American fur companies made expeditions into California seeking to trap game. Increasing numbers of Europeans and Americans began to immigrate into northern California due to its accommodating climate and fertile soils. The abundance of vegetation in the Napa Valley was

the result of the soils created from the volcanic formations throughout the region. The mineral-rich soil contributed to Napa County's successful agricultural industry, which started with settlers planting wheat, the valley's first major agricultural crop.

When the missions were secularized, General Mariano Vallejo issued land grants to residents and the first Napa Valley land grant was given to George C. Yount, who established Rancho Caymus (near Rutherford Pump Station and Napa Meter) in 1836. Governor Juan Alvarado issued a land grant to Edward Turner Bale in 1841, who established Rancho Carne Humana (Dunaweal Pump Station). Yount's grant was patented by the Public Land Commission in 1863, while Bale's was granted in 1879. Yount became the first permanent Euro-American settler in the Napa Valley with his land. Bale established a Grist Mill on his land in 1846, which remained in use until 1900, and that mill is still present on the land today.

Eventually, Californians grew resentful of living under the Mexican flag and with an influx of American settlers from east of the Rocky Mountains, tensions grew until a revolt was staged in the town of Sonoma (the governmental center of Mexican northern California at the time) on June 14, 1846. The Bear Flag Revolt, as it was called, helped push California out from under Mexican rule and eventually into a United States territory. Soon after the revolt, California would experience the Gold Rush, greatly expanding the territory's population and the need for resources to support the influx of able-bodied men in search of the fortunes in the mines. Many Napa Valley farmers resisted the urge to mine and continued to grow wheat which became a valuable commodity during this time.

Around the mid-1800s, Napa Valley farmers began expanding from wheat to other crops. William Huston Nash settled in the area and planted peach and English walnut trees. Nash's success encouraged other farmers to adjust their crops, and wheat no longer dominated, causing apple and peach orchards to spread throughout the region. Eventually, Napa Valley became a major agricultural producer of olives and prunes. And although the Spanish missions cultivated grapes and Napa Valley farmers began to branch out into viticulture in the late 1860s, it was not until 1879 that the Napa Valley's wine industry would take hold. France's wine industry suffered from a catastrophic event when the phylloxera weevil practically wiped out the country's grape crop. Napa Valley and surrounding area's vineyards took shape during France's recovery time, and Napa Valley became the leading producer of wine in the United States. The early twentieth century brought phylloxera to the valley, but the Napa vintners persevered by incorporating phylloxera-resistant varietals into their vineyards.

Prohibition was another threat to Napa Valley's wine industry. From 1920 to 1933, Napa Valley's main agricultural crop was reduced to a limited number of vineyards producing only sacramental wines. After the Prohibition Act was repealed in 1933, Napa Valley's wine industry began its slow recovery. Over the next 30 years, Napa Valley established itself as the prominent region for American wine making and in 1968, established America's first agricultural preserve. Today, Napa Valley wines are revered worldwide.

3.5.1.2 Existing Conditions

Northwest Information Center

A records search was conducted at the Northwest Information Center (NWIC) of the California Historical Resources Information System at Sonoma State University (NWIC File No. 2-1-1874). The records search reviewed the Project area and a 0.25--mile radius on the *Calistoga* and *Rutherford, Calif.* topographic quadrangles to (1) determine whether known cultural resources have been recorded in the vicinity of the Project; (2) assess the likelihood of unrecorded cultural resources based on historical references; and (3) develop a context for identification and preliminary evaluation of cultural resources. The Built Environment Resources Directory, the National Register of Historic Places, the California Register of Historical Resources (CRHR), the California Historical Landmarks, and California Points of Historical Interest were also reviewed. Historic-period topographic maps and aerial photographs were also reviewed.

Studies

The records search revealed that four studies were previously conducted in or adjacent to the Dunaweal Pump Station, and nine other studies within a 0.25-mile radius, along with three studies previously conducted in or adjacent to the Rutherford Pump Station and Napa Meter, with an additional 15 studies within a 0.25-mile radius (see Table 3.5-1 for studies in and adjacent to the Project Sites). In addition, AECOM retrieved several studies that were previously conducted in the area but have not been submitted to the NWIC (see Table 3.51).

Resources

No resources have been previously recorded in the footprint of any of the Project sites. However, P-28-966 (Napa Valley Wine Train-Southern Pacific Railroad) and P-28-1547 (Napa Valley Railroad) were previously recorded adjacent and P-28-846/NAP-172 is recorded near the Dunaweal Pump Station. At the Rutherford Pump Station there was one previously recorded resource, P-28-256/NAP-349, recorded nearby and no resources previously recorded near the Napa Meter. Seven other previously recorded resources are within 0.25-mile of both Project sites.

- P-28-966 (Napa Valley Wine Train-Southern Pacific Railroad)) is the Southern Pacific Railroad right of way, originally the Napa Valley Railroad, which ran through the Napa Valley. The track and ballast are no longer present at this location (the alignment is now the northern boundary of the Dunaweal Wastewater Treatment Plant). The Dunaweal Pump Station is located immediately north of the previous railroad alignment between the alignment and an old ranch road that has become the Napa Valley Vine Trail, a 47-mile walking and biking trail system.

Table 3.5-1. Studies Conducted in or Adjacent to the Project Sites

Study #	Author	Title	Date	In/Adjacent to Project Site	Results
S-2551	Archaeological Consulting and Research Services, Inc.	Cultural Resource Survey Report of the Calistoga Pipeline Archaeological Reconnaissance, Napa County, California	1981	Adjacent to Dunaweal and Rutherford	Positive outside Project site
S-27008	Elizabeth Bedolla	A Cultural Resources Evaluation of the Proposed Class I Bike Path, Calistoga, Napa County, California	2003	Adjacent to Dunaweal	Positive outside Project site
S-51333	Tetra Tech, Inc.	Archaeological Investigation for the Riverside Ponds & Headworks River Bank Repair Project – Geotechnical Soil Testing – HMGP 4240-20-27, Napa County, California-	2018	Adjacent to Dunaweal	Positive outside Project site
S-27328	Vicki Beard and Sue-Ann Schroder	A Cultural Resources Survey for a Proposed Pond at 4771 Silverado Trail, Napa County, California	2003	Adjacent to Dunaweal	Positive outside Project site
S-21260	Kim J. Tremaine and John A. Lopez	Rock Fences of Napa County: A Pilot Study	1998	Adjacent to Rutherford	Positive outside Project site
S-19105	Michael Smith and Laurence H. Shoup with Suzanne Baker	Archaeological Survey Report, Silverado Trail Bike Lane Expansion Project, Napa County, California	1997	In Rutherford	Positive outside Project site
-N/A	PaleoWest, LLC	Cultural Resources Assessment Report in Support of the Conn Creek Pipeline Project, Calistoga, Napa County, California (Redacted version)	2021	In Rutherford	Positive outside Project site
-N/A	Karen Reichardt	Archaeological Survey Report for the Proposed Conn Creek Bridge Replacement Project, St. Helena, Napa County, California	2014	In Rutherford	Positive outside Project site
-N/A	Adrian Praetzellis	Letter Report: Results of soil coring at the Highway 128 (PM 7.4) crossing of Conn Creek, near St. Helena, Napa County, California	2015	In Rutherford	Positive outside Project site

- P-28-1547 --(Napa Valley Railroad) is the rail line that originally ran from Napa Junction (approximately 9 miles south of the City of Napa) to Calistoga. It has been realigned several times and has been entirely removed between St. Helena and Calistoga. The track and ballast are no longer present at this location (Dunaweal Pump Station). The Dunaweal Pump Station is located immediately north of the railroad alignment and is the same corridor as the Napa Valley Wine Train-Southern Pacific Railroad. The Napa Valley Vine Trail, a 47-mile walking and biking trail system is located immediately north of the Dunaweal Pump Station and the Dunaweal Wastewater Treatment Plant. The Napa Valley Railroad is significant at the local level under Criterion A and B for the period of significance from 1864 to 1930. However, the resource does not maintain its historic integrity. As such, this resource is listed on the Office of Historic Preservation's (OHP's) Built Environment Resource Directory (BERD) as "determined ineligible for the National Register by consensus through a Section 106 process" but it was not evaluated for the California Register or a local register.
- P-28-846/NAP-172 --is a pre-contact lithic scatter and habitation site with potential burials situated on either side of the (northwest-southeast trending) Napa River, on the eastern banks of the confluence of Diamond Mountain and Simmons creeks. Original recording of the site occurred in 1953 by Heizer et al. as located between the Napa River and the railroad and mapped near the river. The site was revisited in 1959 by Stoll who also mapped it close to the river. In a 1976 supplement to the site record, Beard mapped the site on the south side of the Napa River in between it and Diamond Mountain Creek. Beard notes that the site was excavated in 1971 by U.C. Berkeley under the direction of Lew Napton and that the site is regularly pot-hunted by a collector that has the permission of the property owner. In 1993, a report of two skulls removed in the 1960s from a nearby agricultural field (approximately 100 yards from Highway 29 near Diamond Mountain Road along the creek) was made by a concerned citizen. Tetra Tech updated the boundary of the site in 2018 when they conducted geotechnical testing onsite of the Dunaweal Wastewater Treatment Plant and the nearby ponds to the northwest. The site was previously identified in the western corner of the treatment plant, as well as along the Napa River between the water and the plant. Tetra Tech identified obsidian flakes within a push berm near the edge of the undeveloped area along the river and the plant. However, no artifacts were observed in their Boring 4 in this area, likely due to "the majority of the north-northeastern site area is within the graded or paved [treatment plant] facility. Based on the 1974 engineering [drawings for the facility], the depth of subsurface disturbance across the developed [treatment plant] ranges from approximately 1 to 6 feet in depth" (Tetra Tech 2018). The engineering drawings identified an "Indian Mound" mapped in the undeveloped portion of the plant in the northwest portion of the area near the river. During their field investigation, Tetra Tech identified no evidence of the site in the location of the Dunaweal Pump Station, which is located near the previous railroad tracks, near Simmons Creek.
- P-28-256/NAP-349 is a previously recorded precontact site with three boulders with grooves located on the eastern bank of an unnamed creek, approximately 400 feet northeast of its confluence with Conn Creek. Originally recorded as three boulders, two of them have since been accidentally moved from their locations and incorporated into a

garden and the third boulder is not in its original location. These boulders used to be approximately 750 feet northeast of the proposed Rutherford Pump Station.

Both the Dunaweal and Rutherford pump stations are sensitive for cultural resources due to the proximity to natural water sources; Dunaweal is especially sensitive to due to the confluence of multiple water courses in that area.

California Native American Heritage Commission

A search of the California Native American Heritage Commission's (NAHC) Sacred Lands files and a list of local Native Americans who might have knowledge of cultural resources in the vicinity of the Project area were requested on May 19, 2022. The NAHC responded on July 8, 2022, that the NAHC records identified sacred lands in or near the Project sites and suggested the Mishewal-Wappo Tribe of Alexander Valley was contacted for more information. In addition, the NAHC provided a list of 13 contacts who might have additional information about the Project location. Additional outreach pursuant to Assembly Bill (AB) 52 and the Commission's Tribal Consultation Policy was conducted by the City (see Section 3.6, *Cultural Resources – Tribal*).

Field Investigation

On May 18, 2022, AECOM conducted an intensive pedestrian survey of the Project sites (Dunaweal Pump Station, Rutherford Pump Station, and Napa Meter). The survey was conducted using transect intervals of 2 meters or less. Any areas of disturbed soil such as rodent burrows were investigated for signs of buried deposits and when there were none, periodic boot scrapes were used to expose soils and remove vegetation to observe the native ground. All of the exposed ground surface was examined for precontact and historic-era indicators. Notes were taken of existing conditions at each location and documented with photographs.

Ground visibility varied in each location. Dunaweal Pump Station was fair with about 50 percent of the ground surface visible, and Rutherford Pump Station and the Napa Meter were poor with less than 25 percent visible, except immediately adjacent to the Napa Meter along the dirt vineyard road, which was excellent at a 100 percent visibility. No evidence of archaeological materials or potential site constituents were identified within the Project sites.

3.5.1.3 Findings

Built Environment Resources

Two historic-period built environment resources were identified in the Project site: the Napa Valley Wine Train/Southern Pacific Railroad and the Napa Valley Railroad. Only the alignment of these resources still remains. All track and associated features have been removed and its historic integrity has been lost. The alignment has been repurposed as the Napa Valley Vine Trail, a Class I trail system stretching 47 miles through the Napa Valley.

California Register of Historical Resources Criteria

Portions of P-28-966/NAP-1157 have been evaluated as significant at the local level under Criteria A and B for the period of significance between 1864 and 1930. However, the portion of the resource that is adjacent to the Dunaweal Pump Station has been dismantled and only the alignment remains. This alignment has been paved over with asphalt masking any identity it had as a railroad, thereby removing any historic integrity it has along that stretch of the railroad line. As such, this resource is listed on the OHP's BERD as "determined ineligible for the National Register by consensus through a Section 106 process." Due to its lack of integrity to convey its historical significance, it is also ineligible for the CRHR.

Similarly, P-28-1547 has been previously evaluated for the National Register of Historic Places and found to be ineligible due to lack of integrity. These resources are also ineligible for the CRHR due to their lack of integrity due to the track and associated features being removed and the alignment being repurposed for a trail. While two of the aspects of integrity remain: location and setting, design, materials, workmanship, feeling, and association have been lost and one no longer can appreciate the historical significance that these resources once conveyed.

In summary, while the Napa Valley Wine Train-Southern Pacific Railroad and Napa Valley Railroad met CRHR criteria, these resources no longer retain the five of the seven aspects of integrity to convey their historical significance. Therefore, P-28-966 and P-28-1547 are not eligible for listing in the CRHR, and are therefore not historical resources for the purposes of CEQA.

Archaeological Resources

Two previously recorded archaeological resources were identified near the Project sites (P-28-846 at Dunaweal Pump Station and P-28-256 at Rutherford) during the records search. P-28-846 is recorded approximately 150 feet south of the Dunaweal Pump Station. The Dunaweal Wastewater Treatment Plant was developed on this resource. Prior to the grading and paving of the area for the treatment plant, Dr. Lewis K. Napton from the University of California, Berkeley conducted excavation at P-28-846 in 1971. No information regarding this excavation is available, but previous investigations at this site by others have uncovered no evidence of the site in the area of the Dunaweal Pump Station.

The existing Dunaweal Pump Station will be removed and replaced on the same footprint. The existing pump can is 22 feet deep, while the proposed replacement will be 8 feet deep, with the maximum excavation being approximately 17 feet deep. So, the deepest impacts at the same location have already been disturbed by the existing pump station. Clearing and grubbing of vegetation will take place, as well as minor grading of fill, but the existing concrete pad will be used for the new electrical cabinets after the old ones are removed.

The archaeological resource (P-28-256) mapped near the Project site at Rutherford Pump Station was recorded as originating from an unnamed creek over 500 feet to the northeast of the Project site and was moved to the winery/residence at this location to be included in the garden. Due to the distance and the boulders no longer being *in situ,* this resource will no longer be considered in this study.

3.5.2 Impact Analysis

a) Cause a substantial adverse change in the significance of a historical resource pursuant to § 15064.5?

No Impact. The Project would not result in a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 because the cultural resources investigation for the Project did not identify any historical resources in the Project area that meet the criteria of significance under CEQA. Therefore, there is no impact, and no mitigation is required.

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

Less than Significant with Mitigation. The Project would not cause a substantial adverse change in the significance of a unique archaeological resource as defined in section 15064.5 because P-28-846/NAP-172 is recorded approximately 150 feet to the southwest of the proposed Dunaweal Pump Station and, based on the 1974 engineering drawings for the facility, the depth of subsurface disturbance across the developed treatment plant ranges from 1 to 6 feet in depth. Furthermore, the proposed pump station is within the same footprint and at a shallower depth than the existing pump station. Ground disturbance for the project activities is proposed to be only minimal vegetation removal and grading of imported fill soils. However, there is still a possibility that previously unknown archaeological resources remain buried and undiscovered in the Project area. The inadvertent discovery of an unknown archaeological resource represents a potentially significant impact on archaeological resources pursuant to Section 15064.5 of the CEQA Guidelines.

If previously unknown archaeological resources are encountered during implementation of the Project, they could be adversely affected. Implementing MM CUL-1/TCR-1 and MM CUL-2/ TCR-2 would reduce potential impacts to previously unknown archaeological resources to a less-than-significant level. The CUL/TCR mitigation measures apply to both cultural resources and Tribal cultural resources.

- MM CUL-1/TCR-1: Cultural Resources Contractor Awareness Training.

  Prior to beginning construction, the Applicant shall retain a qualified archaeologist to prepare a Cultural Resources Contractor Awareness Training, subject to City approval. Local Native American representatives with an interest in the Project should also be invited to provide training to construction personnel. The training shall be given to all construction personnel prior to working on the Project, and the training shall include, but not be limited to, the following:

  - Guidance on identification of potential cultural resources that may be encountered, including Tribal cultural resources
  - The probability of exposing cultural resources
  - Clear direction on procedures if a find is encountered

- MM CUL-2/TCR-2: Unanticipated Discoveries.

  If construction personnel unearth Tribal cultural resources, or precontact or historic-period archaeological resources during Project implementation, all Project activities within 50 feet will halt until a professional archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards in archaeology is retained and determines the significance of the discovery. Precontact archaeological materials/Tribal cultural resources might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, or scrapers) or toolmaking debris; culturally darkened soil (midden) containing heat-affected rocks, artifacts, or shellfish remains; stone milling equipment (e.g., mortars, pestles, hand stones, or milling slabs); and/or battered stone tools, such as hammerstones. The qualified archaeologist will determine impacts, significance, and mitigation in consultation with local Native American representatives. If the resource is a Tribal Cultural Resource, substantial adverse changes to this resource shall be avoided or minimized following the measures identified in Public Resources Code section 21084.3, subdivision (b), if feasible, unless other equally or more effective measures are mutually agreed on by the City, the archaeologist, and the interested local Native American representative(s).

c) Disturb any human remains, including those interred outside of formal cemeteries?

Less than Significant with Mitigation. Human remains (two skulls) were known to have been discovered approximately 0.3-mile to the southwest on the Diamond Mountain Creek near the Project area. While not within the Project area, the possibility still exists that unmarked burials may be unearthed during subsurface construction activities. Consequently, there is the potential for the Project to disturb human remains during construction, including those outside of formal cemeteries. This impact is considered potentially significant but would be reduced to a less-than-significant level by implementing MM CUL-3/TCR-3.

- MM CUL-3/TCR-3: Treatment of Human Remains.

  If human remains are encountered, all provisions of California Health and Safety Code section 7050.5 and California Public Resources Code section 5097.98 shall be followed. Work shall stop within 100 feet of the discovery, and both an archaeologist and City staff must be contacted within 24 hours. The archaeologist shall consult with the Napa County Coroner. If human remains are of Native American origin, the County Coroner shall notify the NAHC within 24 hours of this determination, and a Most Likely Descendent shall be identified. No work is to proceed in the discovery area until consultation is complete and procedures to avoid or recover the remains have been implemented.

3.5.3 Mitigation Summary

Implementation of the following mitigation measures would reduce the potential for Project-related impacts to cultural resources to a less-than-significant level; the CUL/TCR mitigation measures apply to both cultural resources and Tribal cultural resources:

- MM CUL-1/TCR-1: Cultural Resources Contractor Awareness Training
- MM CUL-2/TCR-2: Unanticipated Discoveries
- MM CUL-3/TCR-3: Treatment of Human Remains

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3.6 CULTURAL RESOURCES – TRIBAL

CULTURAL RESOURCES – TRIBAL – Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less than Significant Impact**	**No Impact**
a) 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	☐	☒	☐	☐
b) 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.	☐	☒	☐	☐

3.6.1 Environmental Setting

3.6.1.1 Ethnographic Context (Adapted from Reichardt 2014 and PaleoWest, LLC 2021)

At the time of Euroamerican contact, the Project area would have been within Wappo ethnographic territory. The Wappo territory is believed to have included Napa Valley, west to the hills east of Santa Rosa. The Wappo speak a language that is part of the Yukian language group, which has significant time depth in the region. The Wappo are geographically removed from other speakers of that group by the Pomo territory. The Wappo language is one of four identified within the Yukian linguistic family with the other groups much more north (Yuki, Coast Yuki, and Huchnom).

At the time of initial European contact, the present town of Saint Helena and its vicinity were territory of a community of Central Wappo, which extended from Saint Helena in the south to the southern flank of Mt. St. Helena in the north, and Pope Valley in the east, with the upper watershed of the Russian River tributaries in the west.

The Wappo were hunter-gatherers who lived in resource-rich environments that allowed for dense populations with complex social structures. The Wappo lived in permanent and semi-permanent (seasonal or task-specific) settlements, often located along a creek or other water source. Village communities were the main sociopolitical unit, believed to average around 100 individuals. Wappo subsistence patterns included the gathering of plant foods, hunting of big and small game, and fishing. The acorn was an important food resource, and was supplemented by a variety of roots, bulbs, grasses, and nuts. The Central Wappo's territory included Glass Mountain, an important obsidian source.

According to their website, the Mishewal Wappo Tribe of Alexander Valley is the last remaining Wappo Tribe in existence, with 340 living members (Mishewal Wappo Tribe of Alexander Valley 2020). The Wappo are among the oldest tribes in California, who had approximately 8,000 individuals at the time of statehood, who occupied Sonoma and Napa counties.

3.6.1.2 Tribal Coordination

AB 52, which became effective on July 1, 2015, made several changes to CEQA regarding Tribal Cultural Resources and consultation with California Native American Tribes who have previously requested to be notified of projects in the geographic area traditionally and culturally affiliated with that Tribe. These provisions ensure that Tribes have the opportunity to provide meaningful input on a project's potential effects on Tribal Cultural Resources and possible measures to avoid or minimize any significant effects.

Under AB 52, lead agencies must avoid damaging effects on tribal cultural resources, when feasible, whether consultation occurred or is required. The NAHC maintains two databases to assist specialists in identifying cultural resources of concern to California Native Americans (Sacred Lands File and Native American Contacts). A request was sent to the NAHC for a Sacred Lands File search of the Project area and a list of Native American representatives who may be able to provide information about resources of concern in or adjacent to the Project area.

On July 8, 2022, the NAHC provided a letter and a list of 13 individual tribal contacts from the following nine tribes.

- Cachil Dehe Band of Wintun Indians of the Colusa Indian Community
- Cortina Rancheria – Kletsel Dehe Band of Wintun Indians
- Guidiville Indian Rancheria
- Muwekma Ohlone Indian Tribe of the SF Bay Area
- Middletown Rancheria
- Middletown Rancheria of Pomo Indians
- Mishewal-Wappo Tribe of Alexander Valley
- Pinoleville Pomo Nation
- Yocha Dehe Wintun Nation

The NAHC's reply also stated that the results of the Sacred Lands File search were positive and to contact the Mishewal-Wappo Tribe of Alexander Valley for more information.

On August 2, 2022, the City sent a letter and maps describing the project to all tribes on the NAHC list. One response was received from the Yocha Dehe Wintun Nation stating that the Project area was not within their territory and to contact Mishewal Wappo Tribe of Alexander Valley and Middletown Rancheria. No responses or comments have been received to date. Nonetheless, in keeping with the requirements of AB 52, MMs CUL1/TCR1, CUL2/TCR2, and CUL3/TCR3 were developed to ensure that damaging effects to tribal cultural resources are avoided during project implementation.

3.6.2 Impact Analysis

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

a) Listed or eligible for listing in the California Register of Historical Resources (CRHR), or in a local register of historical resources as defined in Public Resources Code section 5020.1, subdivision (k), or

b) 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.

Less than Significant with Mitigation. In a letter dated July 8, 2022, the NAHC stated that the Sacred Lands File search for the Project site was positive. As discussed in the Cultural Resources section (Section 3.5), the Project has the potential to disturb previously unknown archaeological resources. There is also the potential that the Project could disturb human remains. Consequently, MMs CUL-1/TCR-1, CUL-2/TCR-2, and CUL-3/TCR-3 would be required. With implementation of MMs CUL-1/TCR-1, CUL-2/TCR-2, and CUL-3/TCR-3, the Project would have a less-than-significant impact on Tribal cultural resources.

3.6.3 Mitigation Summary

Implementation of the following mitigation measures would reduce the potential for Project-related impacts to cultural resources to a less-than-significant level; the CUL/TCR mitigation measures apply to both cultural resources and Tribal cultural resources:

- MM CUL-1/TCR-1: Cultural Resources Contractor Awareness Training
- MM CUL-2/TCR-2: Unanticipated Discoveries
- MM CUL-3/TCR-3: Treatment of Human Remains

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3.7 ENERGY

ENERGY – Would the Project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**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?	☐	☐	☒	☐
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☐	☒

3.7.1 Environmental Setting

Electrical and natural gas service in the area is provided by the Pacific Gas and Electrical Company (PG&E). The Project would not require natural gas for operations; thus, PG&E's capacity to supply natural gas is not discussed further in this Initial Study.

3.7.2 Impact Analysis

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

Less than Significant Impact. Energy efficiency is a possible indicator of environmental impacts. The actual adverse physical environmental effects of energy use and the efficiency of energy use are detailed throughout this IS in the environmental-topic-specific sections. For example, the use of energy for electricity consumption leads to greenhouse gas emissions, the impacts of which are addressed in Section 3.9, *Greenhouse Gas Emissions*. There is no physical environmental effect associated with energy use that is not addressed in the environmental-topic-specific sections of this IS/MND.

Project construction activities would increase energy consumption for the duration of construction in the form of fossil fuel consumption for off-road construction equipment, worker and haul truck trips (e.g., gasoline and diesel fuel). Project-related transportation energy use depends on the off-road equipment engine and hours of use, type and number of on-road trips, vehicle miles traveled, and fuel efficiency of vehicles and engines. The use of fuel by on-road and off-road vehicles would be temporary and would fluctuate by specific construction activity and location. Fuel consumption associated with the construction activities would cease upon completion of the Project.

Operation of the Project would consume energy in the form of diesel fuel for the emergency generator and electricity consumption for the Rutherford Pump Station and Dunaweal Pump Station. The Rutherford Pump Station and Dunaweal Pump Station are anticipated to require

849,204 kilowatt-hours per year and 339,681 kilowatt-hours per year, respectively. The Napa Meter is not anticipated to result in an increase in electricity consumption because it is powered by solar batteries.

As shown in Table 3.7-1, the total energy consumption as a result of the fuel and electricity used during Project construction and operational activities would be approximately 4,298 million British thermal units per year. Energy consumption during construction activities and from use of the emergency generator during operations was estimated using the carbon dioxide emissions calculations for the proposed activities and application of the U.S. Energy Information Administration's carbon dioxide emissions coefficients (EIA 2022). This analysis conservatively did not account for the reduction in electricity demand from demolition of the existing Dunaweal Pump Station or retirement of the existing Pope Street Pump Station. As such, the increase in electricity consumption from implementation of the Project would be less than the estimates shown in Table 3.7-1. Additional modeling assumptions and details are provided in Appendix A.

Table 3.7-1. Project Construction and Operational Energy Requirements

Source	Energy/Fuel	Energy Requirement	Energy Consumption (MMBtu)
Amortized Construction[a]	Diesel (gallons/year)	260	36
Amortized Construction[a]	Gasoline (gallons/year)	84	11
Operations	Diesel (gallons/year)	1,413	195
Operations	Electricity Consumption (kilowatt-hours/year)	1,188,885	4,057
Total	Diesel/Electricity Consumption	**-**	**4,298**

Notes: MMBtu = million British thermal units

[a] Since construction-related energy demand would cease upon completion of construction, energy demand associated with construction of the Project was amortized over the Project lifetime. The assumed amortization period is 30 years, based on the typically assumed project lifetime based on other air districts (e.g., South Coast Air Quality Management District [2008]).

Based on the anticipated phasing, the anticipated equipment and Project work staff, the temporary nature of the Project activities, and the Project type, the Project would not include unusual characteristics that would necessitate the use of construction equipment that is less energy-efficient than the equipment used at comparable construction sites.

Furthermore, the construction contractor, in accordance with MM AQ-1 and the CARB Airborne Toxic Control Measure for Diesel-Fueled Commercial Motor Vehicle Idling, would be required to minimize the idling time of construction equipment by shutting equipment off when it is not in use or reducing the idling time to 5 minutes. MM AQ-1 would also require the construction contractor to maintain and properly tune all construction equipment in accordance with the manufacturer's specifications. These required practices would limit wasteful and unnecessary energy consumption.

Although the Project would result in increased indirect energy consumption for the temporary duration of the construction activities, and indirect energy consumption for operation of the

diesel generator, as well as electricity consumption from operation of the Rutherford and Dunaweal Pump Stations, the amount of energy is not considered an inefficient or wasteful use of energy. This is because the purpose of the Project is to improve the current operation and resiliency of the City's critical water infrastructure to flooding and other hazards by replacing the ageing Dunaweal Pump Station and designing a new pump station capable of providing reliable supply thereby ensuring adequate water resources for the City. Implementation of the Project would reduce the long-term risk of the City's water infrastructure to flooding and other hazards; thereby, reducing the need for more extensive (and higher energy-consuming) repairs in the long-term. Therefore, it is expected that fuel consumption associated with construction and operation of the Project would not be inefficient, wasteful, or unnecessary. This impact would be less than significant.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact. The Proposed Project area does not use land that was otherwise slated for renewable energy production and does not otherwise conflict with any state or local renewable energy plans. In addition, fuel use would be consistent with current construction and manufacturing practices and energy standards that promote strategic planning that reduce consumption of fossil fuels and enhance energy efficiency. Therefore, Proposed Project activities would not obstruct any state or local plans for renewable energy and there would be no impact.

3.7.3 Mitigation Summary

The Project would have no significant impacts to energy; therefore, no mitigation is required.

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3.8 GEOLOGY AND SOILS

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

3.8.1 Environmental Setting

3.8.1.1 Regional Geologic Setting

Napa County is located in the northern portion of the California Coast Range Geomorphic Province, bounded on the west by the Pacific Ocean and on the east by the Great Valley Geomorphic Province. The California Coast Range Geomorphic Province extends several hundred miles northward from southern California to near the Oregon border. The province is the general northwest-southeast orientation of physiographic features such as valleys and ridgelines. The Coast Ranges are composed of thick Mesozoic and Cenozoic sedimentary strata. The northern Coast Ranges are dominated by irregular, knobby, landslide-topography of the Franciscan Complex. The eastern border is characterized by strike-ridges and valleys in Upper Mesozoic strata. In several areas, Franciscan rocks are overlain by volcanic cones and flows of the Quien Sabe, Sonoma and Clear Lake volcanic fields (California Geological Survey [CGS] 2002).

The Napa Valley was created by seismic movement creating a fault basin that filled with loose sand, gravel, and volcanic debris (Reichardt 2014). Sonoma volcanic soils, which extends between the Sonoma, Mayacamas, and Howell mountains are mapped in the hills north of the Rutherford Pump Station. Sediments of Franciscan and volcanic rocks eroded into the valley, which created a sandy soil that is advantageous for grape agriculture (Reichardt 2014).

In general, the Dunaweal and Rutherford and Napa Meter project areas are underlain by Holocene-age surficial deposits and alluvium deposits consisting of clay, sand, gravel (Watershed Information and Conservation Council 2022). The soils in the project area are fairly recent and have low sensitivity for paleontological resources (Reichardt 2014).

3.8.1.2 Seismic Hazards

The greater San Francisco Bay Area is a seismically active area. Seismic hazards can cause damage to structures and risk the health and safety of citizens. Seismic hazards vary widely, and the level of hazard depends on both geologic conditions and the extent and type of land use. Significant earthquakes occurring in the San Francisco Bay Area are generally associated with crustal movement along well-defined, active fault zones of the San Andreas Fault system.

There are several active faults in the Project vicinity. Active fault lines within a 20 mile radius of the Rutherford Pump Station area include the Maacama fault zone, Rodgers Creek fault, West Napa fault, and the Concord-Green Valley fault. Faults within 20 miles of the Dunaweal station include the Maacama fault zone, Rodgers Creek fault, Alexander-Redwood Hill fault zone, Collayomi fault, and the West Napa fault (Department of Conservation [DOC] 2022). The San Andreas Fault lies approximately 35 miles east of each of the proposed pump station locations. Strong to very strong ground shaking could occur at the Project site as a result of a large earthquake on any one of the nearby faults.

3.8.2 Impact Analysis

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

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

ii. Strong seismic ground shaking?

Less than Significant Impact. The State Alquist-Priolo Earthquake Fault Zoning Act (Alquist-Priolo Act) prohibits the development of structures for human occupancy across active fault traces. Under the Alquist-Priolo Act, the CGS has established zones on either side of the active fault that delimits areas susceptible to surface fault rupture. These zones are referred to as Earthquake Fault Zones and are shown on official maps published by the Department of Conservation – California Geologic Survey. None of the Project sites are in an Alquist-Priolo Earthquake Fault Zone, and no known faults cross the Project sites (DOC 2022), therefore, the possibility of surface fault rupture at any of the sites is negligible. However, the Project is in a seismically active region with faults within several miles of each of the Project sites. The Project would not exacerbate the potential for seismic shaking; the intensity of the earthquake ground motion at the sites would depend on the characteristics of the generating fault, distance to the earthquake epicenter, magnitude, and duration of the earthquake, and specific site geologic conditions.

The project would not involve construction of new homes or habitable buildings within a seismically active area. Although seismic groundshaking may occur at the pump station sites, the potential damage would be minimized through the implementation of building code requirements. Project improvements would be required to adhere to the most current version of the California Building Code (CBC), which includes specifications and seismic design criteria that are created to minimize damage from anticipated groundshaking; therefore, the project would not result in an increased risk of loss, injury, or death from fault rupture or seismic ground shaking and the impact is considered less than significant.

iii. Seismic-related ground failure, including liquefaction?

Less than Significant Impact. Seismic shaking can trigger ground failures caused by liquefaction[3], potentially resulting in foundation damage, disruption of utility service, and roadway damage. The soils most susceptible to liquefaction are clean, loose, uniformly graded, saturated, sands, and occur close to the ground surface, usually at depths of less than 50 feet. Liquefaction susceptibility mapping indicates soils with moderate to high liquefaction potential near the proposed Rutherford Pump Station site (Napa County 2008, MTC/ABAG 2022). Geotechnical studies conducted in October 2020 for the recent City's Conn Creek Water Line Project (in the same areas as the Rutherford Pump Station) indicated that the subsurface conditions along the pipeline alignment consisted of dense and poorly graded sands, cobbles

[3] Liquefaction is the conversion of soil into a fluid-like mass during an earthquake or other seismic event.

and gravel, variably weathered/fractured sedimentary rock (conglomerate, sandstone, and tuffaceous sandstone) and igneous rock (Panorama Environmental, Inc. 2021). Due to the presence of competent rock and soil encountered above the groundwater table, they concluded the potential for liquefaction in the nearby area was low.

Liquefaction susceptibility mapping indicates high liquefaction potential at the location of the Dunaweal Pump Station reconstruction (Napa County 2008, MTC/ABAG 2022). Geotechnical studies conducted in the vicinity of the Dunaweal Pump Station for the City's Riverside Ponds Relocation Project showed that the near-surface soils are predominantly clay, sand, and gravel, groundwater was encountered at depths of 6.9 to 114 feet below ground surface (bgs), and the Holocene-age surface deposits are generally less consolidated and more susceptible to liquefaction (ESA 2019). The study concluded the liquefaction potential in the area near the Dunaweal Pump Station is very high, consistent with the Napa County General Plan mapping.

As described previously, the project would not involve construction of new homes or habitable buildings within a seismically active area. Although seismic groundshaking and secondary seismically induced liquefaction may occur at the pump station sites, the potential damage would be minimized through the implementation of building code requirements; therefore, the project would not result in an increased risk of loss, injury, or death from seismically induced liquidation and the impact is considered less than significant.

iv. Landslides?

No Impact. The project is located on relatively flat land in the Napa Valley and is not located in a landslide hazard area. There are no slopes that would be susceptible to landslides, resulting in a minimal risk for landslides at the Project sites and the project would not involve excavations that would exacerbate the landslide potential at the sites. The potential for landslides on site, including seismically induced landslides, is considered very low. The project would have no impact related to landslides.

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

Less than Significant Impact. Construction activities at the proposed Rutherford Pump Station site would involve ground disturbing activities such as clearing and grubbing, grading of the site, trenching, and other minor excavations. The Dunaweal Pump Station rebuild would include demolition of the existing equipment, and minor grading, excavation and trenching. Work at the Napa meter site would involve a minor 4 by 6 foot excavation to install a valve. These activities could increase the potential for soil erosion in the area of ground disturbance. If uncontrolled or not managed, soil erosion resulting from Project construction could result in a significant impact, as these activities could increase the susceptibility of soils to erosion by wind and/or water, and subsequently result in significant soil loss or erosion.

As discussed in Section 3.11 – Hydrology and Water Quality, the combined footprint of the two pump stations and the Napa meter are small enough that the project does not fall under the Statewide Construction General Permit, Napa County, or City of Calistoga ordinances that would requires a Stormwater Pollution Prevention Plan (SWPPP) or preparation of an erosion and sediment control plan. However, Mitigation Measure MM HYDRO-1 would be implemented.

This measure requires the development and implementation of sites specific Best Management Practices to reduce soil loss and erosion. These best management practices may include measures such as use of straw wattles, sandbags, track-out control, silt fencing, and covering stockpiles to control erosion and sedimentation during construction and stabilizing disturbed soils at project completing such as through the application of a native seed mix, which would provide additional erosion control following project completion.

With implementation of construction and erosion-control Best Management Practices (BMPs) specifically developed for each Project site per MM HYDRO-1, construction activity and associated soil disturbance would not contribute substantially to soil erosion or the loss of topsoil, and impacts would be less than significant.

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?

No Impact. The project site is not mapped in a high landslide hazard zone. Regional mapping shows much of the Napa Valley floor, where the project is located, as consisting of surficial deposits with low risk of landslides (MTC/ABAG 2022). The liquefaction potential of the project areas was discussed above under checklist item a-iii. The Project would not exacerbate landslide or liquefaction potential.

Lateral spreading is a phenomenon that involves lateral displacement of large, intact blocks of soil down gentle slopes or toward a steep free face such as a stream bank. Lateral spreading occurs as a result of liquefaction of shallow underlying deposits during an earthquake. It typically occurs on slopes of 0.3 to 5 percent underlain by loose sands and a shallow water table. The locations of the proposed pump stations are flat. The slope and soil conditions within the project area do not meet the characteristics of conditions that would yield lateral spreading.

Subsidence is the deep-seated settlement of soils due to mining, dissolution of subsurface carbonate rocks, or fluid withdrawal (oil, natural gas, or groundwater). The Project would not involve groundwater pumping or have the potential to cause subsidence in either of the pump station locations. The pump stations would be designed to building code standards to account for site-specific geologic conditions. Therefore, the project would not result in impacts related to landslide, lateral spreading, subsidence, and liquefaction.

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?

No Impact. Expansive soils are soils that possess a “shrink-swell” characteristic, also referred to as linear extensibility. Shrink-swell is the cyclic change in volume (expansion and contraction) that occurs in fine-grained clay sediments from the process of wetting and drying. Soils in the project areas are characteristic of the Napa Valley floor and consist of soils that are loamy in nature, which are typically well-drained and not subject to expansion. According to the Natural Resources Conservation Service (NRCS) Web Soil Survey, soils at the Rutherford site Cortina very gravelly loam (NRCS 2022) and soils at the Dunaweal site consist of Bale loam. These

soils present at the Project sites have a low linear extensibility rating and would not be classified as expansive soils.

The Project sites are not on soils considered to be expansive and the Project would not include the construction of habitable structures, and therefore would not result in risks to life or property. Impacts related to expansive soils would be less than significant.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

No Impact. The Project would not include the construction or use of septic tanks or alternative wastewater disposal systems. There would be no impact.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Less than Significant with Mitigation. There are no known unique paleontological resources or unique geologic features at the Project sites. The both the Rutherford and Dunaweal pump stations would be constructed on Holocene alluvium deposits not likely to yield significant paleontological resources because they are surface deposits and are too recent in age to be considered fossil-bearing rock units. Therefore, there is a low potential to uncover previously undiscovered paleontological resources during ground-disturbing work because paleontological resources are not anticipated in sediments and rocks in the project area. The impact would therefore be less than significant.

However, it is possible for previously unknown paleontological resources to exist in the Project area. Implementation of MM CUL-2/TCR-2 would mitigate potentially significant impacts to paleontological resources to a less-than-significant level.

3.8.3 Mitigation Summary

- MM HYDRO-1: Implement Stormwater Control Best Management Practices During Construction
- MM CUL-2/TCR-2: Unanticipated Discoveries

3.9 GREENHOUSE GAS EMISSIONS

GREENHOUSE GAS EMISSIONS – Would the Project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less than Significant Impact**	**No Impact**
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

3.9.1 Environmental Setting

Greenhouse gas (GHG) emissions play a critical role in determining the earth's surface temperature. A portion of the solar radiation that enters the earth's atmosphere is absorbed by the earth's surface, and a smaller portion of this radiation is reflected back toward space. Infrared radiation (i.e., thermal heat) is absorbed by GHGs; as a result, infrared radiation released from the earth that otherwise would have escaped back into space is instead "trapped," resulting in a warming of the atmosphere. This phenomenon, known as the "greenhouse effect," is responsible for maintaining a habitable climate on Earth.

GHGs are present in the atmosphere naturally, are released by natural sources, and are formed from secondary reactions taking place in the atmosphere. The following are GHGs that are widely seen as the principal contributors to human-induced global climate change: carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride.

Global warming potential (GWP) is a concept developed to evaluate the ability of each GHG to trap heat in the atmosphere in comparison to carbon dioxide. The GWP of a GHG is based on several factors, including the relative effectiveness of a gas to absorb infrared radiation and the length of time (i.e., lifetime) that the gas remains in the atmosphere (atmospheric lifetime). The GWP of each gas is measured relative to carbon dioxide, the most abundant GHG. GHGs with lower emissions rates than carbon dioxide may still contribute to climate change because they are more effective than carbon dioxide at absorbing outgoing infrared radiation (i.e., high GWP). The concept of carbon dioxide equivalents (CO_2e) is used to account for the different GWP potentials of GHGs to absorb infrared radiation.

3.9.2 Regulatory Setting

In 2006, California passed the California Global Warming Solutions Act of 2006 (AB 32; California Health and Safety Code Division 25.5, Sections 38500, et seq.). AB 32 further details and puts into law the mid-term GHG reduction target established in Executive Order S-3-05, which is to reduce statewide GHG emissions to 1990 levels by 2020 and 80 percent below 1990 levels by 2050. AB 32 also identifies CARB as the state agency responsible for the design and

implementation of emissions limits, regulations, and other measures to meet the target. Senate Bill (SB) 32, signed on September 8, 2016, requires California to reduce GHG emissions to 40 percent below 1990 levels by 2030.

As discussed in Section 3.3, *Air Quality*, the Project is in the SFBAAB under the jurisdiction of the BAAQMD. At the regional level, BAAQMD adopted the *2017 Bay Area Clean Air Plan: Spare the Air and Cool the Climate* in April 2017. The 2017 Clean Air Plan lays the groundwork for a long-term effort to reduce Bay Area GHG emissions 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050. In addition, BAAQMD established a climate protection program to reduce pollutants that contribute to global climate change and affect air quality in the SFBAAB. The program includes GHG-reduction measures that promote energy efficiency, reduce vehicle miles traveled, and develop alternative energy sources (BAAQMD 2017c).

In June 2019, the six jurisdictions in Napa County (American Canyon, Calistoga, the City of Napa, St. Helena, Yountville, and the unincorporated areas of Napa County) took action regarding the countywide commitment to address climate change and in 2020 formed the Napa County Climate Action Committee (CAC). In September 2022, Napa County prepared a 2019 communitywide GHG inventory update for the Napa County region and for each of the six jurisdictions.

In April 2014, the City adopted a Climate Action Plan to establish a baseline inventory of community emissions and set an emissions reduction target, outline a set of reduction strategies that will help the City work towards its GHG reduction targets, and establish a plan for implementation of the GHG reduction strategies (City of Calistoga 2014a). Goals, objectives, and measures applicable to the Project include:

- **Goal:** Promote energy efficiency associated with municipal operations
    - **Objective EE-4:** Optimize the energy-efficiency of street lighting, water pumping, water treatment and other energy-intensive municipal operations.
        - **Measure EE-4 A:** Incorporate energy-efficient measures in the replacement and upgrading of municipal facilities.

3.9.3 Impact Analysis

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

Less than Significant Impact. Heavy-duty off-road equipment, materials transport, and worker commutes during construction of the Project would result in exhaust-related GHG emissions. Operation of the Project would result in indirect GHG emissions from the consumption of electricity at the Rutherford and Dunaweal Pump Stations as well as operation of the emergency generator.

On April 24, 2022, the BAAQMD adopted updated thresholds of significance for climate impacts for land use projects, such as residential, mixed-use, and commercial projects, which include

project design elements of no natural gas appliances/plumbing, no wasteful, inefficient, or unnecessary energy usage, vehicle miles traveled (VMT) reductions below the regional average, and compliance with California Green Building Standards (CALGreen) Tier 2 electric vehicle requirements. As described in the BAAQMD CEQA Thresholds for Evaluating the Significance of Climate Impacts From Land Use Projects and Plans (BAAQMD 2022), there is no proposed construction-related climate impact threshold at this time and the threshold applicable to stationary sources is currently being reviewed. The BAAQMD states that GHG emissions from construction represent a very small portion of a project's lifetime GHG emissions. Nevertheless, this analysis quantified the Project's construction-related emissions for informational purposes. Construction of the Project would result in the generation of approximately 103 metric ton (MT) CO_2e. Operation of the Project would result in the generation of approximately 125 MT CO_2e per year from electricity consumption and intermittent operation of the emergency generator. Additional modeling details and results are available in Appendix A.

Although the recently adopted BAAQMD thresholds of significance for climate impacts for projects are not directly applicable to this Project type (e.g., water infrastructure projects), the Project would not conflict with the thresholds. For example, the Project would not include natural gas infrastructure. In addition, as described in Section 3.18, *Transportation*, no significant VMT impact would result from Project operation at the Rutherford and Dunaweal sites. Further, as described in Section 3.10, *Energy*, the Project would not result in any wasteful, inefficient, or unnecessary energy usage. The Project would also not include parking that would be subject to CALGreen requirements. In addition, California established a Renewables Portfolio Standard, which requires retail sellers of electricity to meet specific goals of providing their energy supply from renewable sources. Under SB 100, electricity retailers are required to provide at least 60 percent of their supply from renewable sources by 2030. SB 100 also added the requirement that all state's electricity must come from carbon-free resources by 2045. Per the 2021 Power Content Label for PG&E, approximately 91 percent of PG&E's power mix is greenhouse gas emissions free (PG&E 2022). These requirements would continue to reduce the carbon content of electricity generation and would reduce GHG emissions associated with electricity consumption. Therefore, the Project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment. This impact would be less than cumulatively considerable.

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

Less than Significant Impact. In response to AB 32 and SB 32, CARB has approved a series of Climate Change Scoping Plans and Scoping Plan updates. Although the Scoping Plan updates do include measures that would indirectly address GHG emissions associated with construction and operational activities, including the phasing in of cleaner technology for diesel engine fleets (including construction equipment) and Low Carbon Fuel Standard, successful implementation of these measures predominantly depends on the development of laws and policies at the state level. As such, the Scoping Plans and Scoping Plan updates do not constitute a regulation to adopt or implement a regional or local plan for reduction or mitigation of GHG emissions at the project level. Thus, it is assumed that any requirements or policies

formulated under the mandates of AB 32 and SB 32 that would be applicable to the Project, either directly or indirectly, would be implemented consistent with statewide policies and laws.

In addition, as described previously, the purpose of the Project is to improve the current operation and resiliency of the City's critical water infrastructure to flooding and other hazards by replacing the ageing Dunaweal Pump Station and designing a new pump station capable of providing reliable supply, in an areas less susceptible to high flood events than the current Pope Street Pump Station, thereby ensuring adequate water resources for the City. This is consistent with the 2017 Scoping Plan Update goal to develop and support more reliable water supplies for people, agriculture, and the environment, provided by a more resilient, diversified, sustainably managed water resources system (CARB 2017). Similarly, the Project would also be consistent with the City's Climate Action Plan Objective EE-4 of optimizing the energy-efficiency of street lighting, water pumping, water treatment and other energy-intensive municipal operations. Therefore, the Project would not conflict with the AB 32 and SB 32 Scoping Plans, the City's Climate Action Plan, or any other relevant plans, policies, or regulations for the purpose of reducing GHG emissions. This impact would be less than significant.

3.9.4 Mitigation Summary

The Project would have no significant impacts to greenhouse emissions; therefore, no mitigation is required.

3.10 HAZARDS AND HAZARDOUS MATERIALS

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

3.10.1 Environmental Setting

To identify the potential for encountering hazardous materials at any of the Alternatives, the GeoTracker and EnviroStor online databases were searched. GeoTracker is the State Water Resources Boards' data management system for sites impacting, or have the potential to impact, water quality in California, with an emphasis on groundwater. GeoTracker contains

records for sites that require cleanup, such as Leaking Underground Storage Tank (LUST) Sites, Department of Defense Sites, and Cleanup Program Sites. GeoTracker also contains records for various unregulated projects as well as permitted facilities including: Irrigated Lands, Oil and Gas production, operating Permitted Underground Storage Tanks (USTs), and Land Disposal Sites. EnviroStor is the Department of Toxic Substances Control's (DTSC's) data management system for tracking cleanup, permitting, enforcement and investigation efforts at hazardous waste facilities and sites with known contamination or sites where there may be reasons to investigate further.

The Rutherford Pump Station location and the nearby Napa meter site are in Napa County, southeast of the town of St Helena. The area is primarily agricultural with scattered wineries. The closest facility to the pump station site is the Rutherford Ranch Winery, approximately 50 feet north of the proposed pump station location. There were no sites listed in either database within 0.25 mile of the proposed Rutherford Pump Station or Napa meter. The nearest site to this location listed in GeoTracker is approximately 1.3 mile west of the pump station site (SWRCB 2022). This is listed as Sutter Home Winery, Zinfandel Lane Facility at 105 Zinfandel Lane. This was formerly a cleanup program site with potentially contaminated groundwater. The site has been remediated and the case was closed in 2008. There were no sites in the EnviroStor database within 0.5 mile of the Rutherford Pump Station site (DTSC 2022).

The Dunaweal Pump Station is located southeast of the City at the Calistoga Wastewater Treatment Plant. The area surrounding the pump station is largely agricultural open space with scattered wineries and a few homes within a 0.5 mile radius. The only site listed within 0.5 mile of the pump station location was found in the GeoTracker database and identified as Fisher Vineyards (SWRCB 2022). This is a former leaking underground storage tank case that was closed in August 1995. There were no sites in the EnviroStor database within 0.5 mile (DTSC 2022).

3.10.2 Impact Analysis

a) b) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Less than Significant Impact. The Project would involve the routine transport, storage, use, and disposal of small quantities of construction-related hazardous materials. Products used during construction such as gasoline, diesel, lubricants, and solvents are categorized as hazardous materials and are highly regulated by federal, state, and local laws and regulations. Transportation of any hazardous materials must in accordance with the Resource Conservation and Recovery Act (RCRA) and follow U.S. Department of Transportation regulations. Materials must be managed in accordance with the Napa County Division of Environmental Health's Certified Unified Program Agency program, and disposed of in accordance with RCRA as well as the California Code of Regulations at facilities that are permitted to accept the waste.

The Project would be managed in accordance with these applicable laws and regulations to reduce the potential for a release of construction-related fuels or other hazardous materials that may affect stormwater and downstream receiving water bodies, and would respond to accidental spills, if any. Because of adherence to the regulations, routine transport, storage,

use, or disposal of hazardous materials during Project activities would not create substantial hazards to the public or the environment, and potential impacts would be less than significant.

The potential for the Project to encounter contaminated soil and groundwater was evaluated utilizing database searches of GeoTracker and EnviroStor databases. These databases were reviewed to identify known environmental cases listed within a 0.25-mile radius of the Project sites and staging areas. Review of the databases did not identify any known environmental cases in the immediate vicinity of the Project or staging area. Thus, it is unlikely that Project construction would intercept or release contaminated soils or groundwater into the environment during construction; therefore this impact is considered less than significant.

b) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. There are no existing or proposed schools within 0.25 mile of the Project locations. Therefore, no impact would occur.

c) 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?

No Impact. There are no known hazardous, toxic, or radioactive waste sites or activities within or near the project locations listed on the Cortese List (Gov. Code, § 65962.5). Therefore, the Project sites are not at locations that would, as a result, create a significant hazard to the public or the environment. No impact would occur.

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

No Impact. The project locations are not within airport land use plans and there are no airports within two miles of the Project site. Therefore, no impact would occur.

e) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact. The Project would not interfere with any adopted emergency response plans or emergency evacuation plans. The Napa County Emergency Operations Plan (EOP) outlines procedures and establishes leadership roles and responsibilities of various agency staff that guide local preparedness, response, recovery and resource management efforts associated with the occurrence of a natural disaster, significant emergency, or other threat to public safety (Napa County 2020). No emergency response or evacuation plans have been adopted for the roads in the vicinity of the project sites.

During construction of the Rutherford Pump Station, Silverado Trail and State Route (SR) 128 would be used for delivery of equipment and materials and off-haul of excavated materials. Equipment and materials would be staged in areas at the pump station site and alongside

Silverado Trail. Temporary lane closures would be required for approximately one week during project construction while installing the new pipelines to connect the new pump station with the NBA. During pipe installation one lane will remain open. If Silverado Trail were needed for emergency evacuation during a time period with one lane closed, this could impede traffic and would be considered a significant impact. Mitigation measure MM TRAN-1 (described in Section 3.18 – Transportation) would be implemented, requiring the preparation and implementation of a traffic control plan, including protocols for quickly reopening both lanes if needed in an emergency situation. Under this measure, appropriate traffic controls would be implemented, including the use of flaggers to control traffic. Temporary plating would be installed as need to maintain at least one open lane during the work day and to open both lanes at the end of each workday or if an emergency situation arose during this phase of construction that required both lanes to be opened. Implementation of the Napa County EOP would not otherwise be impaired by the project. The impact at this location would be less than significant with implementation of mitigation measure MM TRAN-1.

Dunaweal Lane is shown as an arterial route in the City's General Plan but is not designated as an emergency evacuation route (City of Calistoga 2014b). During construction of the Dunaweal Pump Station, Dunaweal lane would be used for delivery of equipment and materials and off-haul of excavated materials but would not result in the closure or obstruction of Dunaweal Lane. The Project would not impair implementation of or interfere with an adopted emergency response plan or emergency evacuation plan, and therefore would result in no impact at this location.

f) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

Less than Significant Impact. According to the California State Department of Forestry and Fire Protection (CAL FIRE), the Rutherford Pump Station is within a State Responsibility Area designated as a Moderate Fire Hazard Severity Zone. The Napa Meter site is approximately 0.25-mile south of State Responsibility Area designated as a Moderate Fire Hazard Severity Zone. Neither the proposed Rutherford Pump Station and staging area near the intersection of Silverado Trail and Highway 128, nor the Napa meter site are within an area designated as very high or high fire hazard zones (CAL FIRE 2007, 2020).

The Dunaweal Pump Station is in a more urban setting and is not within a designated fire hazard zone and does not include components that would increase the risk of fire.

Considering the limited duration of the construction period and the small size of the construction crew and equipment required, the increase in fire risk introduced by construction of the Project would be minimal and temporary. All construction activities would follow local, state and federal fire regulations and implement best management practices for fire prevention.

During pump station operations at the Rutherford site, equipment would be located inside a building that would not exacerbate wildfire risks; routine operations would not increase the amount of available fuel or create potential ignition sources (such as overhead power lines) in proximity to wildland forested areas. The backup generators would be located on concrete pads and operated only during testing. Operations at the Dunaweal station would be the similar to

existing conditions at the current pump station and would not exacerbate fire risk. During project operation, pumping station equipment including all of the electrical components will have ongoing periodic maintenance.

The project is therefore not expected to expose people or structures to a significant risk of loss, injury or death involving wildland fires. The impact would be less than significant.

3.10.3 Mitigation Summary

The Project would have potentially significant impacts related to emergency evacuation along Silverado Trail; therefore, the following mitigation measure is required.

- MM TRAN-1: Implement Traffic Control Plan (see Section 3.18 – Transportation).

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3.11 HYDROLOGY AND WATER QUALITY

HYDROLOGY AND WATER QUALITY – Would the Project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less than Significant Impact**	**No Impact**
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?	☐	☒	☐	☐
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;	☐	☐	☒	☐
iii) create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or	☐	☐	☒	☐
iv) impede or redirect flood flows?	☐	☐	☒	☐
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

3.11.1 Environmental Setting

The pump station sites as well as the Napa meter site are located in the Napa River watershed, which covers an area of approximately 426 square miles. The watershed is contained by Mt. St. Helena to the north, the Mayacamas Mountains to the west, Howell Mountain, Atlas Peak, and Mt. George to the east, and the Napa-Sonoma Marsh to the south. The Napa River, which runs through the center of the watershed on the valley floor, drains 48 major tributaries and

numerous smaller ephemeral streams on its 55-mile path from the headwaters of Mt. St. Helena in the Mayacamas Mountain range to San Pablo Bay. Along this route, the river winds through varied landscapes of forested mountain slopes, vineyards, urban areas, open pasture, industrial zones, grasslands, marshes, and brackish estuary (Napa County Resource Conservation District 2005).

The proposed Rutherford pump station location is approximately 650 feet northwest of Conn Creek, one of the tributaries of the Napa River, and approximately 0.7 miles from the Napa River at its closest point. The Dunaweal pump station, located in the City, is approximately 400 feet northeast of the Napa River and about 200 feet east of Simmons Creek, a tributary to the Napa River. The proposed Rutherford pump station and the Napa meter locations are outside of the floodplain (Figure 3.11-1).

The proposed Rutherford Pump Station and the Dunaweal Pump Station rebuild are within the Napa Valley Subbasin of the Napa-Sonoma Valley - groundwater basin. The basin is designated by the California Department of Water Resources as a high priority groundwater basin due to the amount of irrigated lands, the density of wells, projected population growth, and the degree to which people rely on groundwater in the basin (DWR 2022, Napa County 2021).

The San Francisco Bay Basin Plan (Basin Plan; SFBRWQCB 2019) is the water quality plan for the region. The Basin Plan designates beneficial uses and water quality objectives for groundwater and surface water bodies in the region, including the Napa River and Conn Creek.

The site of the proposed Dunaweal Pump Station reconstruction is located in a Special Flood Hazard Area (SFHA) Zone AE (FEMA 2008). Zone AE is a designated area subject to a 1 percent annual chance of flooding, also known as a 100-year floodplain, where the flood elevation, also known as Base Flood Elevation, has been determined. The 100-year floodplain, in relation to the Dunaweal Pump Station location is shown on Figure 3.11-2. The Base Flood Elevation at the pump station site is approximately 327 feet (North American Vertical Datum of 1988 [NAVD88]).

The City is a participant in the Federal Emergency Management Agency’s National Flood Insurance Program. The City has adopted its own floodplain management regulations found in Title 18 of the City’s Municipal Code which are equal to, or more restrictive than, the minimum federal standards described in Title 44 of the Code of Federal Regulations. The City’s activities related to the proposed reconstruction of the Dunaweal Pump Station are subject to complying with the City’s floodplain management regulations.

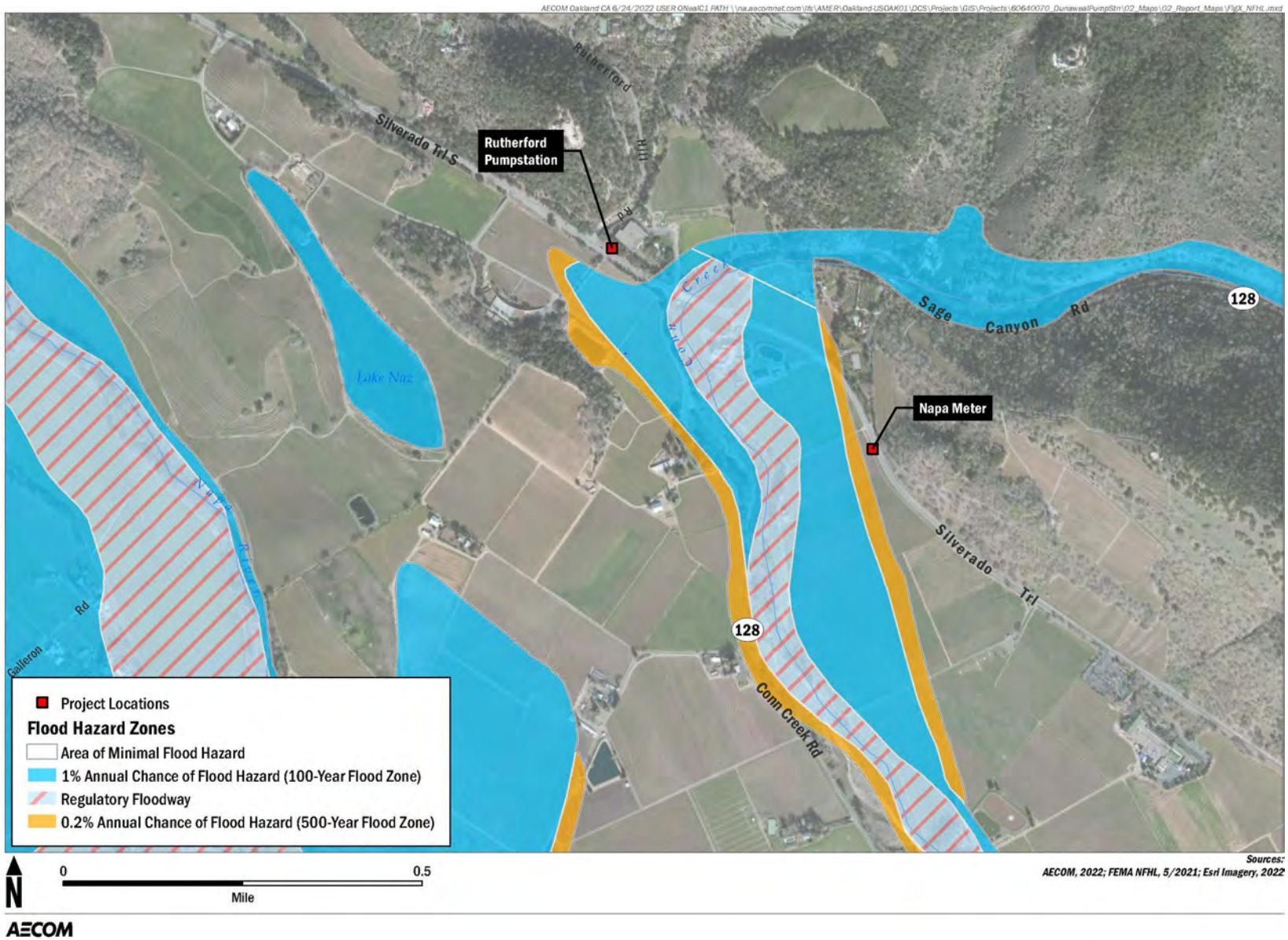

Figure 3.11-1. FEMA Flood Zones – Rutherford Pump Station Area

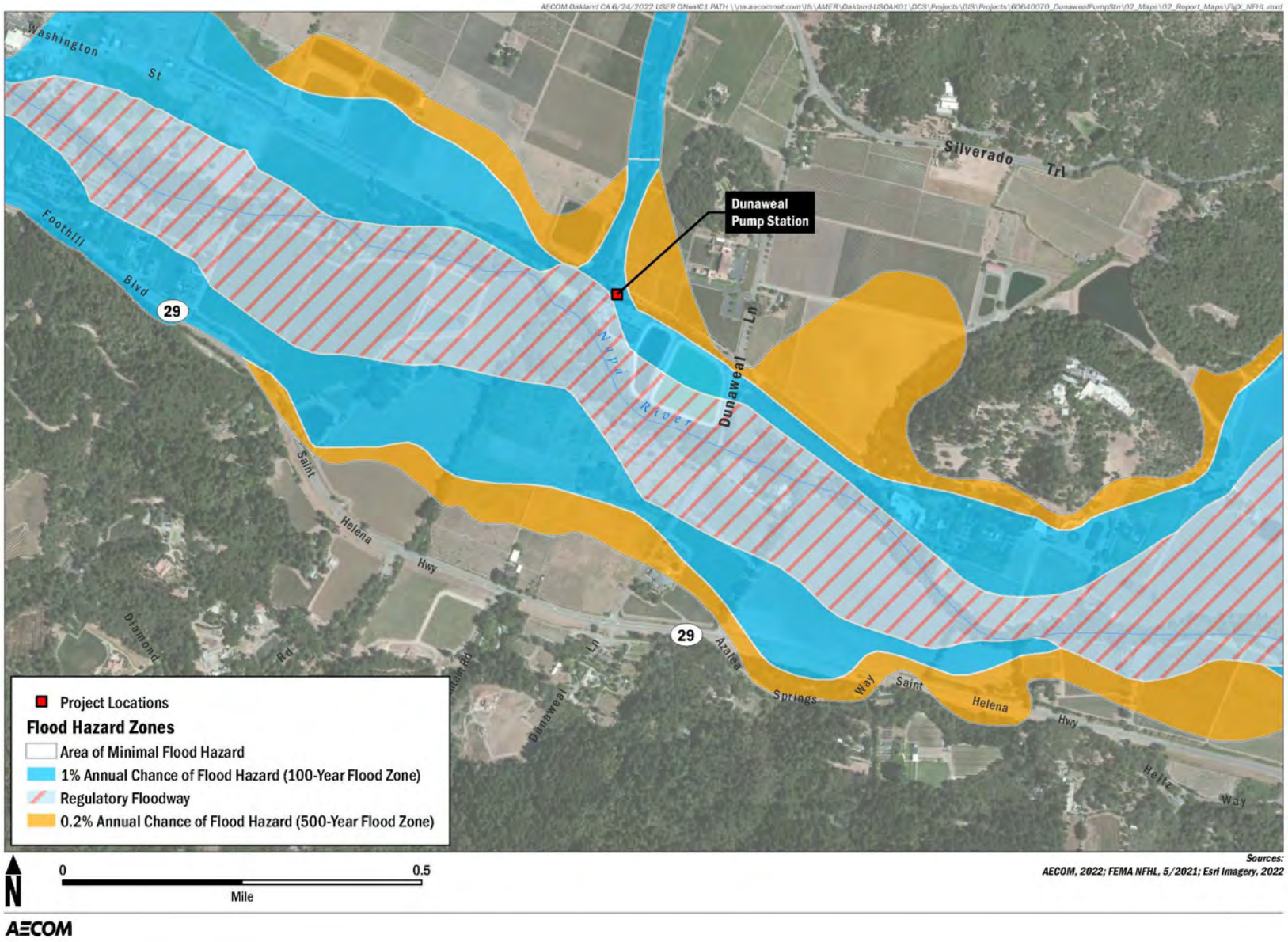

Figure 3.11-2. FEMA Flood Zones – Dunaweal Pump Station Area

3.11.2 Impact Analysis

a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?

Less than Significant with Mitigation. Construction activities would occur during the dry season (April to October). Construction of the Rutherford Pump Station would require grading, excavation, trenching, soil stockpiling and other earth-disturbing activities in the vicinity of Conn Creek. The site has a small drainage ditch to the north that could convey stormwater from the construction site to Conn Creek. During installation of the pipe to connect the pump station to the NBA, soils would be stockpiled nearby and returned to the trench following pipeline installation. Heavy equipment would be staged at the site and along Silverado Trail near highway 128. Construction at the Dunaweal Pump Station site would be similar but would be contained within the heavily developed areas of the WWTP with drainages to the Napa River and Simmons Creek. Work at the Napa meter site would involve small excavation with no nearby surface waterways.

Disturbed ground could increase the potential for erosion and sediment to enter waterways (Conn Creek near the Rutherford site and Simmons Creek or the Napa River near the Dunaweal site), and gasoline and diesel fuel used in the equipment and vehicles could potentially leak or spill and if these pollutants entered nearby waterways, would be considered a significant impact.

The combined project sites total less than one acre of ground disturbance, thus the project would not fall under the Statewide Construction General National Pollutant Discharge Elimination System (NPDES) permit for stormwater. Napa County and the City have similar ordinances for the management and control of pollutants in stormwater runoff from construction sites, but ground disturbance from the project falls below the minimums of both the Napa County Ordinance 1400 (Napa County 2015b) and the City's Ordinance 707 (City of Calistoga 2015a), which specify that an erosion and sediment control plan or approved SWPPP be prepared. Although these formal plans are not required, the Project would implement Mitigation Measure MM HYDRO-1 that will include standard construction stormwater BMPs to minimize potential water quality degradation as a result of construction-related runoff.

- MM HYDRO-1: Implement Stormwater Control Best Management Practices During Construction.

  The construction contractor shall develop and implement site specific standard best management practices, as applicable, for reducing and controlling pollutants in stormwater during construction. These measures would include standard pollution prevention actions, such as erosion and sediment control measures, proper control of non-stormwater discharges, and hazardous spill prevention and response. During construction, routine inspections of all BMPs would be conducted to document compliance and identify deficiencies to be corrected. The use of construction BMPs will minimize the potential for erosion and loss of topsoil, and would include, but not be limited to the following:

- Avoid scheduling construction activities during a rain event, but be prepared for sudden changes in conditions;
- Construct berms, silt fences, straw bales, fiber rolls, and/or gravel/sand bags berms;
- Cover stockpiled soils during a rain event and monitor perimeter barriers, repair as necessary;
- Stabilize entrances to work areas to prevent tracking of dirt or mud onto roadways;
- Manage/store hazardous materials and wastes to prevent spills;
- Designate appropriate areas for equipment fueling and maintenance away from drainages to prevent spills of leaks of liquids from entering waterways; and
- Implement dust control practices as appropriate on all exposed surfaces. Water used for dust control shall not be applied in a manner such that runoff would be allowed occur.
- Stabilize all disturbed and exposed soils at project completion using methods such as hydroseeding with a native seed mix.

With implementation of erosion control and other BMPs specifically developed for each Project site, construction activity and associated soil disturbance would not substantially degrade ground or surface water quality and impacts would be reduced to less than significant.

b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?

No Impact. Project construction and operation (both the Rutherford and Dunaweal pump stations and work proposed at the napa meter) would not use groundwater resources. Water needed for dust suppression during construction would be obtained from an existing municipal water source and the quantity of water required would be limited to only what is needed to suppress fugitive dust during the 3-4 months of construction on the pump stations.

The pump stations would contain only small amounts of new impermeable surfaces, adding only approximately 0.03 acre of impervious surface at the proposed Rutherford Pump Station site and approximately the same at the Dunaweal site. The project would adhere to the sustainability goal for the Napa Valley basin with regard to protection of groundwater quantity and quality. Therefore, once constructed, the Pump Stations would not result in impacts with respect to conditions for groundwater infiltration.

The Project would not result in changes to existing groundwater supplies or to groundwater recharge systems and would not impede any sustainable groundwater management goals of the basin. There would be 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 which would:

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

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

iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or

iv. Impede or redirect flood flows?

Less than Significant Impact (i to iv). The pump station sites have flat topography. Minor clearing and grading would occur at the Rutherford Pump Station site to prepare the area for construction of the pump station building and yard. The Dunaweal Pump Station would be constructed in the footprint of the existing pump station. The topography at the sites would not be changed and drainage patterns would not be altered. As described above, the pump stations would contain only small amounts of new impermeable surfaces which would not substantially increase the amount or rate of runoff in the vicinity of the pump stations that would result in flooding or that would exceed stormwater conveyance features.

The proposed Rutherford Pump Station is not within the floodplain. The Dunaweal Pump Station is located within the 100-year floodplain, however the new pump station would be constructed within the same area as the existing pump station and would not substantially change conditions at the site from the current conditions.

The project would not alter drainage patterns in a manner that could result in substantial erosion and siltation or flooding. This impact would be less than significant. No mitigation would be required.

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

No Impact. The Rutherford Pump Station and Napa meter locations are not within the floodplains and not subject to flood hazards. The Dunaweal Pump Station replacement is in the same footprint as the existing pump station, which is located within the 100-year floodplain of the Napa River; however, construction of the project would occur during the dry season, during which the area would not be subject to flooding. The project would have no impact.

The project sites are not located in coastal areas or, according to the Napa County Tsunami Inundation Map (California Department of Conservation 2022), in areas subject to seiches or tsunamis; therefore, these phenomena are not applicable to the project. There would be no impact.

e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?

Less than Significant Impact. During construction, the City would implement practices and measures to avoid the introduction of pollutants to the waters of Conn Creek (Rutherford Pump Station) and the Napa River and Simmons Creek (Dunaweal Pump Station) as described under criteria a. Construction activities at the pump station locations and the Napa meter would occur during the dry season and construction Best Management Practices would be employed to minimize pollutant runoff during construction and would not affect beneficial uses as design designated in the Basin Plan.

The Project would therefore not obstruct implementation of the Basin Plan. The Project would not affect groundwater and therefore would not affect any groundwater management plans.

3.11.3 Mitigation Summary

Implementation of the following mitigation measure would reduce the potential for Project-related impacts to hydrology and water quality to a less-than-significant level:

- MM HYDRO-1: Implement Stormwater Control Best Management Practices During Construction

3.12 LAND USE AND PLANNING

LAND USE AND PLANNING – Would the Project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less than Significant Impact**	**No Impact**
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☒	☐

3.12.1 Environmental Setting

The overall project area is in Napa County and includes the southern end of the City near the Dunaweal Pump Station and the Rutherford Pump Station area located south of St. Helena. The Dunaweal Pump Station is located in the City and is within the boundaries of a WWTP operated by the City. Both the Rutherford Pump Station and Napa Meter are in Napa County, and are located off Silverado Trail north and south of SR 128, respectively. Project activities associated with the Rutherford Pump Station and Napa Meter would take place within the existing right-of-way of Silverado Trail.

According to the Napa County Land Use Plan, the Rutherford Pump Station and Napa meter project areas are designated as Agriculture, Watershed, & Open Space land uses (Napa County 2016). The Napa County Zoning Ordinance further defines the Rutherford Pump Station as Agricultural Watershed (AW) and the Napa meter as AP (Napa County 2015a). These zoning districts are defined as follows:

- AW – classification is intended to be applied in areas of the county where the predominant use is agriculturally oriented, where watershed areas, reservoirs, and floodplain tributaries are located, where development would adversely impact on all such uses, and where the protection of agriculture, watersheds and floodplain tributaries from fire, pollution, and erosion is essential to the general health, safety, and welfare (Napa County 2015a).
- AP – classification is intended to be applied in the fertile valley and foothill areas of Napa County in which agriculture is and should continue to be the predominant land use, where uses incompatible to agriculture should be precluded and where the development of urban-type uses would be detrimental to the continuance of agriculture and the maintenance of open space which are economic and aesthetic attributes and assets of the county (Napa County 2015a).

Land uses in the area of the Dunaweal Pump Station are governed by the City's General Plan and the local zoning code. The City's General Plan designates the wastewater treatment plant as a Public/Quasi-Public land use with the Dunaweal Pump Station within adjacent city parcels

(City of Calistoga 2015b). Public areas are defined as publicly-owned and/or operated facilities including wastewater treatment plants. The land use designations defined in the City's General Plan are implemented through the Zoning Code, which provides more specific classifications than the General Plan. The zoning map is consistent with the land use designations as described above (City of Calistoga 2015b). While the Dunaweal Pump Station is within parcels defined as "city parcels", it is reasonable to assume that the land use designation and zoning codes of Public/Quasi-Public would apply to the pump station as it is operated as part of the overall WWTP. The zoning code considers the purpose of the public district "to provide for a wide variety of uses for the general public benefit" and includes allowed uses of water and wastewater facilities (City of Calistoga 2021). Land uses surrounding the Dunaweal site in the unincorporated areas of northern Napa County consist of agricultural fields, vineyards, and open space lands.

3.12.2 Impact Analysis

a) Physically divide an established community?

No Impact. The project involves demolition and replacement of the existing Dunaweal Pump Station, construction of a new Rutherford Pump Station, and replacement of an existing valve at the Napa meter. The proposed project would not divide an established community nor would it substantially change the land use around the project site. Construction of the new Rutherford Pump Station would be located within the right-of-way of Silverado Trail where other existing utilities are located (i.e., overhead powerlines). While construction of the pump station would occur on existing open land, it would be consistent with surrounding land uses (e.g., adjacent winery/tasting room off Rutherford Hill Road and Silverado Trail S) nor would it physically divide the community. Pump Station and meter valve upgrades at the Dunaweal Pump Station and Napa meter, respectively, would be contained within relatively the same footprint as existing and would not create a new division through the community. Thus, there would be no impact to established communities.

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?

Less than Significant. Various planning documents, policies, and regulations apply to the proposed project. The proposed Dunaweal Pump Station replacement of existing facilities is consistent with the current and allowable uses identified in the Calistoga General Plan for Public/Quasi-Public lands (City of Calistoga 2015b). No change of zoning or land use is proposed or required for implementation of the proposed project.

As described above, the Rutherford Pump Station site is within lands zoned as AW. The area where the new pump station is proposed is an open parcel east of Silverado Trail, located within the road right-of-way, which also contains overhead transmission lines. Directly east of the proposed site is a winery with a large tasting room building, parking lot, and vineyards. Directly west of the site is open vineyard fields. Given the area of the proposed pump station, construction would not adversely impact agricultural uses or water resources, nor would it impact such uses essential to general public wellbeing, since this area would not be viable for

agriculture and does not have watersheds or tributaries located on it. The proposed pump station would also not preclude nearby agricultural uses as it would remain contained within a relatively focused footprint and would not interfere with long-term operations. Further, this zoning district is intended to be applied to lands predominantly consisting of agricultural and water resources which, as described above, this site does not currently have. Thus, proposed construction of the Rutherford Pump Station would not be in conflict with existing land use regulations.

The Napa meter site is zoned as AP and is intended to be applied "in the fertile valley and foothill areas" where agriculture is the predominant land use (Napa County 2015a). The site is located just west of Silverado Trail within the road right-of-way, and would not be considered for agricultural use nor within the valley or foothill areas of Napa County. The existing valve resides in fill used to construct and support the roadway, and would not be considered viable for agricultural use. Replacement of the existing valve would not be detrimental to the vineyards located to the west of the project site, as the valve replacement would remain relatively within the footprint of existing underground infrastructure in the vicinity. Installation of the valve would not be in conflict with existing land use policies.

Improvements would not conflict with land use regulations or policies in a manner that would result in substantial adverse environmental effects. Thus, impacts related to land use would be less than significant.

3.12.3 Mitigation Summary

The Project would have a less-than-significant impact related to land use and planning; therefore, no mitigation is required.

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3.13 MINERAL RESOURCES

MINERAL RESOURCES – Would the Project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less than Significant Impact**	**No Impact**
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

3.13.1 Environmental Setting

The Napa County General Plan, Conservation Element (Napa County 2008) does not designate any areas of significant mineral resources in or near the Project sites. The General Plan describes three quarries located in Napa County designated as active by the State Department of Conservation, Office of Mine Reclamation. Of these, only one, the Napa Quarry (operated by Syar Industries) is a significant operation. This quarry is located south of the City of Napa, approximately 17 and 26 miles south of the Rutherford and Dunaweal sites, respectively. Additionally, according to the U.S. Geological Survey Mineral Resources On-Line Spatial Data, none of the Project sites are near or on a known mineral resource (USGS 2022).

3.13.2 Impact Analysis

a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?

No Impact. The Project sites are not in areas known to contain significant mineral resources or in areas designated as locally important mineral resource recovery sites. Therefore, the Project would not result in the loss of availability of a known mineral resource of value to the region or state; nor would it 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. There would be no impact.

3.13.3 Mitigation Summary

The Project would have no impacts to mineral resources; therefore, no mitigation is required.

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3.14 NOISE

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

3.14.1 Environmental Setting

This section evaluates the potential effects of noise and vibration associated with construction and operation of the pump stations. It summarizes the applicable noise regulations and describes ambient noise conditions near the Project site. The environmental effects evaluation analyzes the noise impacts associated with the Project.

3.14.1.1 Sound, Noise, and Acoustics

Sound is the mechanical energy of a vibrating object transmitted by pressure waves through a liquid or gaseous medium (e.g., water or air). Noise is defined as an unwanted sound (i.e., loud, unexpected, or annoying). Acoustics is the physics of sound.

The amplitude of pressure waves generated by a sound source determines the perceived loudness of that source. A logarithmic scale is used to describe sound pressure level in terms of decibels (dB). The threshold of human hearing (near-total silence) is approximately 0 dB. A doubling of sound energy corresponds to an increase of 3 dB. In other words, when two sources at a given location are each producing sound of the same loudness, the resulting sound level at a given distance from that location is approximately 3 dB higher than the sound level produced by only one of the sources. For example, if one automobile produces a sound pressure level of 70 dB when it passes an observer, two cars passing simultaneously do not produce 140 dB; rather, they combine to produce 73 dB. In typical noisy environments, noise-level changes of 1 to 2 dB are generally not perceptible by the healthy human ear; however, people can begin to

detect 3 dB increases in noise levels. An increase of 5 dB is generally perceived as distinctly noticeable, and a 10 dB increase is generally perceived as a doubling of loudness.

The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 hertz and above 5,000 hertz, in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies in comparison to the frequency mid-range. This method of frequency weighting is referred to as A-weighting and is expressed in units of A-weighted decibels (dBA). All noise levels are reported in this section in terms of A-weighting. There is a strong correlation between A-weighted sound levels and community response to noise.

The following are the sound level descriptors commonly used in environmental noise analysis:

- **Equivalent sound level (L_{eq}).** L_{eq} is an average of the sound energy occurring over a specified time period. The 1 hour, A-weighted L_{eq} is the energy average of A-weighted sound levels occurring during a 1 hour period.
- **Maximum sound level (L_{max}).** L_{max} is the highest instantaneous sound level measured during a specified period.

Sound from a localized source (i.e., point source), such as sound that would be generated by the project, propagates uniformly outward in a spherical pattern, and the sound level attenuates (decreases) at a rate of 6 dB for each doubling of distance from a point/stationary source.

3.14.1.2 Groundborne Vibration

Groundborne vibration is energy transmitted in waves through the ground. Vibration attenuates at a rate of approximately 50 percent for each doubling of distance from the source. This approach considers only the attenuation with distance from the source and tends to provide for a conservative assessment of vibration level at the receiver.

Vibration is an oscillatory motion that can be described in terms of displacement, velocity, or acceleration. Vibration typically is described by its peak and root-mean-square (RMS) amplitudes. The RMS value can be considered an average value over a given time interval. The peak vibration velocity is the same as the "peak particle velocity" (PPV), generally presented in units of inches per second (in/sec). PPV is the maximum instantaneous positive or negative peak of the vibration signal and is generally used to assess the potential for damage to buildings and structures. The RMS amplitude typically is used to assess human annoyance to vibration, and the abbreviation "VdB" is used in this document for vibration decibels to reduce the potential for confusion with sound decibels.

3.14.1.3 Existing Noise Environment

The two pump stations are located in Napa County (Figure 2-1). The proposed new Rutherford Pump Station is located near St. Helena, just off of Silverado Trail, east (or down valley) of Rutherford Hill Road (Figure 2-1, inset). The nearest noise and vibration sensitive receptors are

the Rutherford Ranch Winery outside seating area and the winery building. Residential uses are located at approximately 1,000 feet from the proposed pump station.

The existing noise environment in the Project area is primarily influenced by surface-transportation noise emanating from vehicular traffic on Silverado Trail and Sage Canyon Road. Intermittent noise from the activities within the winery including vehicle noise in the parking lot, equipment operations, and human voices in outdoor areas. Wind and birds also influence the existing noise environment.

The Dunaweal Pump Station, which will be demolished and reconstructed at the same location, is in the City, just south of the main portion of town, within the boundaries of the City's wastewater treatment plant (Figure 2-1, inset). The nearest noise and vibration sensitive receptor is a residence at 1076 Dunaweal Lane, located at approximately 100 feet from the proposed Dunaweal Pump Station reconstruction.

The existing noise environment in the Project area near the Dunaweal Pump Station is primarily influenced by intermittent noise from the activities within the Calistoga City Water Treatment Plant including the plant operation, vehicles within the plant, and human voices as well as more distant surface-transportation noise emanating from vehicular traffic on Dunaweal Lane, and the distant Silverado Trail and Saint Helena Highway. Wind and birds also influence the existing noise environment.

An ambient noise survey was conducted near the proposed project sites from May 25 through May 26, 2022, to establish existing noise conditions. Ambient noise measurements were conducted at locations near existing noise-sensitive uses in the project areas for the Rutherford and Dunaweal Pump Stations (Figures 3.14-1 and 3.14-2). The results of the noise survey are shown in Table 3.14.1. One long-term (24-hour) measurement was conducted near the Dunaweal Pump Station, and four short-term noise measurements were conducted near the proposed Rutherford Pump Station site. As shown in Table 3.14-1, measured ambient noise levels at the noise-sensitive land uses closest to the project site ranged from 47 to 71 dBA L_{eq}, and 58 dBA day-evening-night noise level (L_{den}).

3.14.2 Regulatory Setting

The new Rutherford Pump Station site is on unincorporated Napa County lands. Noise levels on unincorporated County lands are regulated by the Napa County General Plan and the Napa County Noise Ordinance. The Dunaweal Pump Station is located in the City. The applicable sections of the General Plan and Municipal Code are stated below.

3.14.2.1 Napa County General Plan

The Napa County General Plan contains applicable noise goals and policies in the Community Character Element (Napa County 2008). Normally acceptable noise levels in residential areas range from 60 to 70 dB, and in commercial areas range from 65 to 75 dB.

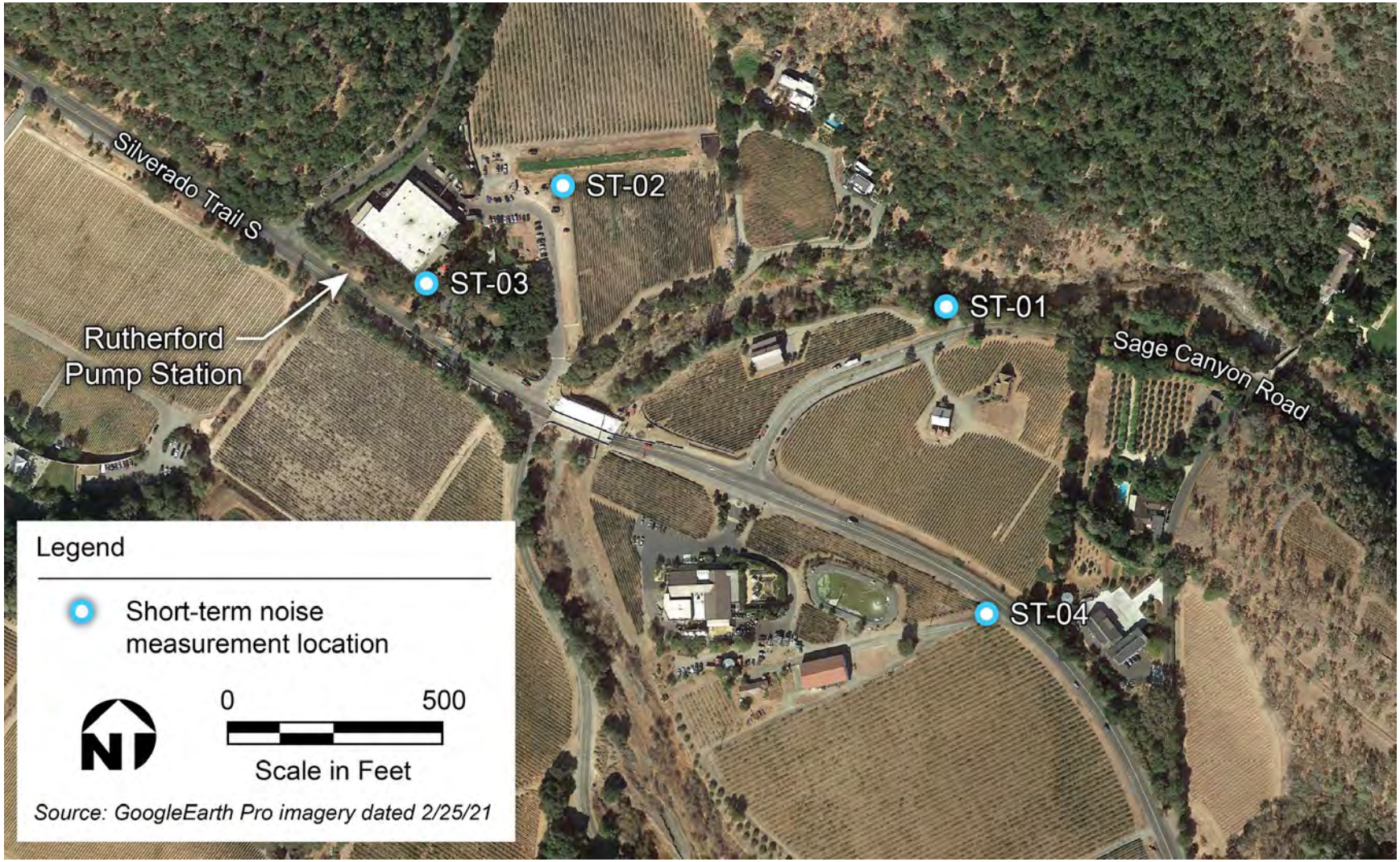

Figure 3.14-1. Noise Measurements near the Rutherford Pump Station

Figure 3.14-1. Noise Measurements near the Dunaweal Pump Station

Table 3.14-1. Summary of Measured Ambient Noise Level, dB, in the Vicinity of the Project Sites

Site ID	Location Description	Date (2022)	Time	Duration	Daytime (7 a.m.–7 p.m.) L_{eq}\ L_{max}	Nighttime (7 p.m.–7 a.m.) L_{eq}\ L_{max}	L_{den}/ CNEL
ST-01	Along Sage Canyon Road and Conn Creek	25 May	17:15	15 Minutes	56.4\71.4	--	--
ST-02	Parking Area of Rutherford Ranch Winery	26 May	16:06	15 Minutes	47.3\55.1	--	--
ST-03	Outside Seating Area at Rutherford Ranch Winery	26 May	16:28	15 Minutes	65.0\87.1	--	--
ST-04	Along Silverado Trail	26 May	16:51	10 Minutes	70.6\79.0	--	--
LT-01	Dunaweal Pump Station	25 May to 26 May	19:00	24 Hour	53.1\65.6	50.9\55.4	58.3

Source: Data compiled by AECOM in 2022
Notes:
Noise-level measurements were completed using a Larson Davis Laboratories (LDL) Model 820 and 831 precision integrating sound-level meters. The meters were calibrated before the measurements using an LDL Model CAL200 acoustical calibrator. The meter was programmed to record A-weighted sound levels using a "slow" response. The equipment used complies with all pertinent requirements of the American National Standards Institute for Type 1/ Class 1 sound-level meters (ANSI S1.4).
CNEL = community noise equivalent level
dB = decibels
L_{den} = day-evening-night noise level
L_{eq} = equivalent sound level (the sound energy averaged over a continuous period of time)
L_{max} = maximum instantaneous sound level

3.14.2.2 Napa County's Noise Ordinance

Chapter 8.16 from the County's Municipal Code prohibits "any loud, unnecessary or unusual noise which disturbs the peace and quiet of any neighborhood or which causes any discomfort or annoyance to any reasonable person of normal sensitiveness residing in the area". To help establish what constitutes a violation of the County's Noise Ordinance, the County has established maximum exterior noise limits of 50 dBA for residential uses from 7 a.m.to 10 p.m. and 45 dBA from 10 p.m. to 7 a.m.

To control noise from construction activities, Section 8.16.080 of the Napa County's Noise Ordinance identifies noise limits for construction activities. The County has established maximum exterior noise limits of 75 dBA for residential uses and 80 dBA for commercial uses from 7 a.m.to 7 p.m.

Section 8.16.080 further prohibits the use of any tools or equipment used in construction, drilling, repair, alternation, or demolition work between the hours of 7:00 p.m. and 7:00 a.m. to prevent construction activity-related noise from creating a noise disturbance across a residential or commercial property line.

3.14.2.3 City of Calistoga General Plan

The General Plan establishes the following goals and policies that are relevant to noise associated with the proposed project:

- **Goal N-1:** Preserve current low levels of noise in Calistoga to maintain the City's rural atmosphere.
    - **Objective N-1.4:** Minimize the potential for new development projects to create unacceptable noise levels at sensitive receptors such as residential areas, hospitals, convalescent homes and schools.
        - **Policy P1:** New residential projects shall be required to meet the following noise level standards:
            A. A maximum of 45 dB for interior noise level.
            B. A maximum of 60 dB for exterior noise level, especially when outdoor activities are important component of a project (e.g., multi-family housing)
        - **Policy P2:** A noise study, including field noise measurements, shall be required for any proposed project which would:
            A. Place a potentially intrusive noise source near an existing noise sensitive receptor, or
            B. Place a noise-sensitive land use near an existing potentially intrusive noise source.
        - **Policy P4:** The City shall encourage the inclusion of site design techniques for new construction to minimize noise impacts, including building placement, landscaped setbacks, orientation of noise-tolerant components (i.e., parking, utility areas, and maintenance facilities) between noise sources and the sensitive receptor areas.
        - **Policy P5:** The City shall encourage the use of architectural design techniques to meet noise attenuation requirements, such as:
            A. Using noise-tolerant rooms (garages, kitchens, bathrooms) to shield noise sensitive rooms or areas (living rooms, bedrooms).
            B. Using architectural design techniques and building façade materials that help shield noise.

3.14.2.4 City of Calistoga Noise Ordinance

Chapter 8.20.025 Construction activity – Noise – Prohibited hours.

A. It shall be unlawful for professional construction activity to occur on Sunday or between 7:00 p.m. and 7:00 a.m., and time during the week.

B. For the purpose of this chapter "professional construction activity" shall mean construction by any person other than:

1. An individual homeowner working on that person's primary residence;
2. A public utility in response to an emergency situation; or
3. City public work crew in response to an emergency situation or scheduled maintenance.

These local regulations are considered, as discussed below.

3.14.3 Impact Analysis

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

Less than Significant Impact. Project-related noise levels would fluctuate depending on the type, number, and duration of use for the various pieces of equipment. The effects of construction noise largely depend on the type of activities occurring on any given day, noise levels generated by those activities, distances to noise-sensitive receptors, and the existing ambient noise environment in the receptor's vicinity. Noise-generating activities during construction would involve operating off-road construction equipment such as cranes, backhoes, loader, excavators, dump trucks, and generators at the Project site. Construction would occur during the daytime, and no nighttime activities are anticipated for the Project.

Table 3.14-2 depicts the maximum (L_{max}) and average (L_{eq}) noise levels generated by various types of construction equipment at 50 feet from the equipment. Construction equipment can be either mobile or stationary. Mobile equipment (e.g., cranes or excavators) typically move around a site performing tasks in a recurring manner. Stationary equipment (e.g., air compressors or generators) operates in a given location for an extended period of time to perform continuous or periodic operations. Accounting for the use factor of individual pieces of equipment, continuous and combined noise levels generated by the simultaneous operation of the loudest pieces of proposed equipment would result in combined noise levels from 73 to 81 dB L_{eq} at a distance of 50 feet from the equipment, as shown in Table 3.14-2.

Table 3.14-2. Construction Equipment and Calculated Noise Levels, dBA

Phase	L_{max}, dBA 50 feet	L_{eq}, dBA 50 feet	L_{eq}, dBA 100 feet	L_{eq}, dBA 1000 feet
Rutherford Site Preparation	82	81	73	48
Rutherford Grading/Backfill	82	81	74	49
Rutherford Paving	80	73	65	40
Dunaweal Demolition	81	79	71	46
Dunaweal Grading/Backfill	81	78	70	45

Notes: dBA = A-weighted decibels; L_{eq} = Equivalent Noise; L_{max} = maximum sound level
Source: FHWA 2006, data compiled by AECOM in 2022.

The nearest residential use to the Dunaweal site is located at approximately 100 feet. Project related construction noise levels would be up to 71 dB at 100 feet from the Dunaweal site. As shown in Table 3.14-3, the established daytime standards for stationary construction equipment are 75 dBA to 80 dBA for residential and commercial uses, respectively. Therefore, the construction noise impact would be less than significant at the Dunaweal site.

Table 3.14-3. Maximum Allowable Construction Noise Levels, dBA, L_{eq}

Land Use	Time Period	Napa County	City of Calistoga
Residential	Weekdays, 7:00 a.m. to 7:00 p.m.	75 dBA	None
Commercial	Weekdays, 7:00 a.m. to 7:00 p.m.	80 dBA	None

Notes: dBA = A-weighted decibels.
Source: Napa County Noise Ordinance, Section 8.20.025 of the City of Calistoga Municipal Code, data compiled by AECOM in 2022.

The nearest noise-sensitive uses to the proposed project activities at the Rutherford site include the outside seating area at Rutherford Winery, which is a commercial land use at approximately 100 feet, and residential properties located at approximately 1,000 feet from Rutherford site. Project-related construction activities would result in a noise level of up to 74 dBA L_{eq} at 100 feet (the outside seating area at the winery) and 49 dBA L_{eq} at 1,000 feet at the residential properties. Therefore, project-related construction noise levels of 51 to 76 dBA, L_{eq} at the nearest noise-sensitives uses, would not exceed the County's threshold.

With respect to an increase above ambient noise, as shown in Table 3.14-1, above, the measured ambient noise level at the Dunaweal Pump Station area is 53.1 dB, and ambient noise levels at the noise-sensitive land uses closest to the Rutherford project site range from 47 to 71 dBA L_{eq}. When two noise levels are combined, they are not strictly additive, but result in only small increases in the total noise level results, as they are added logarithmically. Table 3.14-4 shows the combination of two decibel values and the resulting increase in noise levels.

Table 3.14-4. Addition of Two Noise levels (e.g., Ambient and Project Noise)

When Two Decibel Values Differ by:	Add This Amount to the Higher Value:
0 or 1 dB	3 dB
2 or 3 dB	2 dB
4 to 9 dB	1 dB
10 dB or more	0 dB

Notes: dB = decibels.
Source: Caltrans 2013, data compiled by AECOM in 2022.

Adding the project construction noise Level of 76 dBA to highest measured ambient level of 71 dB, would result in a total noise level of 77 dB[4], which does not exceed the County's threshold

[4] Ambient noise level = 71 dB. Project noise level = 76 dB, a 5 dB difference. Therefore, based on Table 3.14-4, 1 dB would be added to the highest noise level (76 dB) for a total noise level (ambient plus project) of 77 dB.

of 80 dB for commercial uses. Based on the nature of Project activities, associated projected noise levels, and distances to noise-sensitive receptors, this impact would be less than significant.

The Rutherford Pump Station will operate an average of 13 hours per day. The pump station would be enclosed and the noise levels from the pump station operation will be shielded by the enclosure. The emergency generator will be run for approximately 15 minutes each month to assure it will operate in an emergency. The emergency generator that will be located outside of the pump station building might be started once a month for a short period (5 min or less). Project impacts under operation would be less than significant.

The Dunaweal Pump Station will be the same as existing conditions with respect to noise. The pump station will be visited approximately once per week by an operator to check and maintain the equipment. Therefore, project impact under operation would be less than significant.

b) Generation of excessive groundborne vibration or groundborne noise levels?

Less than Significant Impact. Construction activities have the potential to result in varying degrees of temporary groundborne vibration, depending on the specific construction equipment used, the location of construction activities relative to sensitive receptors, and the operations/ activities involved. Vibration generated by construction equipment spreads through the ground and diminishes in magnitude with increases in distance. The type and density of soil can also affect the transmission of energy. Table 3.14-4 provides vibration levels for typical construction equipment.

Table 3.14-4. Typical Vibration Levels for Construction Equipment

Equipment	PPV at 25 Feet (in/sec)	Approximate Lv (VdB) at 25 Feet
Pile Driver (Impact) - Upper Range	1.518	112
Pile Driver (Impact) - Typical	0.644	104
Pile Driver (Sonic) - Upper Range	0.734	105
Pile Driver (Sonic) - Typical	0.170	93
Vibratory Roller	0.21	94
Large Bulldozer/Hoe Ram	0.089	87
Drill	0.089	87
Truck	0.076	86
Jackhammer	0.035	79
Small Bulldozer	0.003	58
Significance Threshold	0.2/0.08 [1]	80

Sources: Caltrans 2020, FTA 2018

Notes:

[1] For normal residential buildings and buildings more susceptible to structural damage, respectively.
in/sec = inches per second
Lv = the velocity level in decibels referenced to 1 micro inch per second and based on the root- mean- square velocity amplitude
PPV = peak particle velocity
VdB = Vibration Decibel, logarithmic velocity unit.

The movement and operation of the project's construction equipment may generate temporary ground-borne vibration. The California Department of Transportation (Caltrans) has developed criteria that are commonly applied as an industry standard to determine the impacts of project vibration relative to human annoyance and structural damage. Caltrans determines that the vibration level of 80 VdB (0.04 in/sec PPV) would be distinctly perceptible. Therefore, remaining less than 80 VdB at residential uses would avoid human annoyance. Also, Caltrans recommends staying below 0.3 in/sec PPV at older residential structures and below 0.5 in/sec PPV for new residential structures, to avoid structural damage (Caltrans 2020).

During project construction, the primary source of vibration would be from trucks, bulldozers and/excavators. Among these sources of vibration, bulldozers are the heaviest vehicles and generate a higher vibration level. The vibration level associated with the use of a large bulldozer is 0.089 in/sec PPV (87 VdB) at 25 feet (FTA 2018). The vibration-sensitive uses (buildings) nearest to the Rutherford and Dunaweal pump station construction sites are the residential and commercial uses, approximately 100 feet away. At these distances, the most substantial vibration generated by project construction equipment would attenuate to less than 69 VdB and 0.011 in/sec PPV, which would be less than the criteria of 80 VdB and 0.5 in/sec PPV recommended by Caltrans. Therefore, this impact would be less than significant.

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

No Impact. The Project site is not within 2 miles of a public airport or a private airstrip, and the Project would not involve any aircraft uses. Because the Project would not affect any airport operations and would not expose people on or off site to excessive aircraft noise levels, no impact would occur.

3.14.4 Mitigation Summary

The Project would have no significant impacts related to noise; therefore, no mitigation is required.

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3.15 POPULATION AND HOUSING

POPULATION AND HOUSING – Would the Project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less than Significant Impact**	**No Impact**
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

3.15.1 Environmental Setting

The California Department of Finance (DOF) estimates that the City's total population increased from 5,156 in 2010 to 5,340 through 2020, representing a 3.6 percent increase over the 10-year period. During that same time period, Napa County's total population increased from 136,893 to 137,637, representing a 0.5 percent increase over the 10-year period (DOF 2021). Through 2020, approximately 17 percent (23,386 persons) resided in the unincorporated areas of Napa County, and 83 percent (114,251 persons) resided in the incorporated cities.

3.15.2 Impact Analysis

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)?

No Impact. The Project would not include the construction of dwellings or an increase in the resident population of the surrounding area. Project-related construction activities would occur over an approximately 3-4 month window and would employ a maximum of 5 workers at peak construction. Based on the work force composition, it is likely that workers would come from the local labor pool and not relocate from other areas.

The Project would not induce substantial population growth, directly (i.e., construction of new homes or businesses) or indirectly (i.e., through extension of roads or increased water supply). Therefore, there would be no impact.

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

No Impact. Because the Project would not displace people or remove existing housing, it would not necessitate the construction of replacement housing elsewhere. There would be no impact.

3.15.3 Mitigation Summary

The Project would have no impacts to population and housing; therefore, no mitigation is required.

3.16 PUBLIC SERVICES

PUBLIC SERVICES	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:	-	-	-	-
Fire protection?	☐	☐	☐	☒
Police Protection?	☐	☐	☐	☒
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

3.16.1 Environmental Setting

3.16.1.1 Fire Protection

The Saint Helena Fire Department provides fire protection and rescue services to the City of Rutherford, including the Rutherford Pump Station project site. There are 22 emergency operations personnel who have been sworn in, including 1 fire chief, 1 administrative assistant/fire inspector, 6 full-time firefighters, and 16 part-time firefighters (City of St. Helena 2022a). The closest fire station to the Project site is the Saint Helena Fire Department station, at 1989 CA-29 in St. Helena, approximately 3.6 miles to the southeast.

The Calistoga Fire Department provides fire protection and rescue services to the City, including the Dunaweal Pump Station project site. The department operates with a combination of 1 fire chief, 6 fulltime and 10 part time firefighters. (City of Calistoga 2022a). The closest fire station to the Dunaweal Pump Station project site is the Calistoga Fire Department station, at 1113 Washington Street in Calistoga, approximately 1.2 miles to the southeast.

3.16.1.2 Police Protection

The St. Helena Police Department provides police protection services to the Rutherford Pump Station project area and serves approximately 6,100 residents in the City of St. Helena. The

nearest police station is at 1480 Main Street in St. Helena, approximately 3.7 miles southeast of the Project site. The City of St. Helena Police Department has 13 permanently staffed peace officers serving the patrol areas in the project area (City of St. Helena 2022b).

The Calistoga Police Department provides police protection services to the Dunaweal Pump Station project area and serves approximately 6,100 residents in the City of St. Helena. The nearest police station is at 1235 Washington Street in Calistoga, approximately 1.3 miles southeast of the Dunaweal Pump Station project site. The City Police Department has 8 permanently staffed peace officers, 5 dispatchers, 1 corporal, 1 sergeant, and 1 chief of police serving the patrol areas in the project area (City of Calistoga 2022b).

3.16.1.3 Schools

The City of Rutherford is served by the St. Helena Unified School District. The St. Helena Unified School District operates 4 schools in the local area. The Project area is in the St. Helena Unified School District. St. Helena Montessori School is the closest school to the Project site, approximately 2.9 miles to the southeast.

The City is served by the Calistoga Joint Unified School District. The Calistoga Joint Unified School District operates 3 schools in the local area. The project area is in the Calistoga Joint Unified School District. Palisades High School is the closest school to the Dunaweal project site, approximately 1.4 miles to the southeast.

3.16.1.4 Parks

There are no parks within 1 mile of either the Rutherford Pump Station or the Dunaweal Pump Station. No impacts to parks or recreational facilities will occur as a result of this project. Impacts to parks are discussed in Section 3.17, *Recreation*.

3.16.2 Impact Analysis

a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:

- Fire protection?
- Police Protection?
- Schools?
- Parks?
- Other public facilities?

No Impact. The Project would not involve construction of new housing or other land uses that could increase the local population and demand for governmental facilities and services, such

as fire protection, police protection, schools, or parks. The proposed pump station construction, including the small number of short-term workers, would not generate significant demand for public services, which would be accommodated by the existing local service providers. The temporary presence of workers would not result in the need for new or physically altered fire or police facilities. After pump station construction is completed, there would be no need for additional permanent services in the Rutherford or Dunaweal areas, and no increased demand on public services would occur. Therefore, the Project would not increase demand for public services or require construction of new or altered facilities and there would be no impact.

3.16.3 Mitigation Summary

The Project would have no impacts to public services; therefore, no mitigation is required.

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3.17 RECREATION

RECREATION	Potentially Significant Impact	Less than Significant with Mitigation	Less than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

3.17.1 Environmental Setting

The Cities of St. Helena and Calistoga have a variety of parks and recreational open spaces that include public landscapes and natural open spaces. Moore Creek Park and the Lake Hennessey City Recreation Area is the closest park and open space area, approximately 1.7 miles northeast of the Rutherford Pump Station, off of Chiles Pope Valley Road. The access to Moore Creek Park and the Lake Hennessey Recreation Area is by car from Chiles Pope Valley Road to the north, Conn Valley Road to the west, and Sage Canyon Road to the south. Pioneer Park is the closest park and open space area to the Dunaweal Pump Station, approximately 1.3 miles northwest off of Foothill Boulevard. The access to Pioneer Park by car is from Cedar Street to the south and Spring Street to the west.

3.17.2 Impact Analysis

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

No Impact. The Project would not involve construction of new housing or other land uses that could increase the local population and demand for the use of existing neighborhood and regional parks or other recreational facilities. There would be no impact.

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

No Impact. The Project would not include recreational facilities or involve construction or expansion of recreational facilities that would generate an adverse physical effect on the environment. There would be no impact.

3.17.3 Mitigation Summary

The Project would have no impacts to recreation; therefore, no mitigation is required.

3.18 TRANSPORTATION

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

3.18.1 Environmental Setting

3.18.1.1 Roadways

Regional access to the proposed Rutherford Pump Station site is provided by Silverado Trail. Regional access to the Dunaweal Pump Station Project site is provided by Silverado Trail and Highway 29\Highway 128 via Dunaweal Lane.

Silverado Trail is the county-road linking the town of Napa to Calistoga that travels 29 miles along the eastern edge of the Napa Valley, parallel to and several miles to the east of California SR 29.

Highway 29 (SR 29) is a state highway that travels from Interstate 80 in Vallejo north to SR 20 in Upper Lake. It serves as the primary road through the Napa Valley, providing access to the Lake County region to the north and the rest of the San Francisco Bay Area to the south.

Highway 128 (SR 128) is a state highway in the U.S. state of California, connecting the Mendocino coast to the Sacramento Valley, through the state's Wine Country. It runs from State Route 1 near Albion to Interstate 505 in Winters.

Dunaweal Lane is a north-south roadway connecting Silverado Trial to the north to Highway 128\Highway 29 to the south.

3.18.1.2 Bicyclists, Pedestrians, Transit

The Unincorporated Napa County Bicycle Plan is intended to guide development of infrastructure, programs, and policies that improve the bicycling environment for all residents and visitors in the unincorporated Napa County (Napa Valley Transportation Authority [NVTA] 2019). Silverado Trail is part of the 54.3 miles of existing bike lanes identified in the Unincorporated Napa County Bicycle Plan. Silverado Trail is a Class II Bike Lane, near the Rutherford Pump Station and Dunaweal Pump Station Project sites. The Napa Valley Trail (a Class I bike and pedestrian trail) is located near Dunaweal Pump Station. There are no public transportation stations near the Rutherford Pump Station and Dunaweal Pump Station project sites.

3.18.2 Impact Analysis

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

Less than Significant with Mitigation. The Project would not introduce any new land uses or activities in the Project area that would generate long-term increases in traffic volume. During construction, the number of vehicles off site would be limited to the work periods as needed to transport crews, cleared vegetation and demolition debris and equipment and materials for pump station construction; however, this would be temporary and intermittent. The majority of project construction would occur off roadway beyond the road shoulder at the Rutherford and Napa meter sites; and the construction at Dunaweal site would occur within the WWTP boundaries, further away from any roadways near the project site.

Project-related construction trips would include up to four truck deliveries per week, and one trip per month for debris hauling over the 6 month construction period at the Rutherford Pump Station site; a total of 6 deliveries and 2 debris removal over three months at Dunaweal site; and one delivery / debris removal at Napa meter. Additionally, a maximum of 18 workers at a time would access the Rutherford project site, six workers at Dunaweal project site, and three workers at Napa meter site. Construction-related truck traffic on local roadways would be minimal compared to existing traffic flow conditions on Silverado Trail/ SR 128, Dunaweal Lane and other roadways in the vicinity of the Rutherford and Dunaweal project sites. Therefore, impacts to the transportation system in the project area are not anticipated due to the small number of trips relative to existing traffic.

During operation of the pump stations, maintenance workers would visit the pump stations intermittently and would generally be only one to two trucks at a time.

The temporary, intermittent, and relatively small amount of traffic volume from project-related crew commutes and debris transport would not conflict with adopted program plans, ordinances, or policies addressing the circulation system. However, the addition of oversize vehicles, haul trucks, and worker vehicles during construction could temporarily affect the traffic flow along the roadways immediately adjacent to the project sites due to slower movements and larger turning radii of construction vehicles. Also, temporary lane closures on Silverado Trail would be required during pipeline installation and tie-in to the NBA line at the Rutherford Pump Station.

Closures would be limited to active construction hours or weekdays and would be limited to one lane at a time. Construction equipment and/or segments of pipe may be staged in or encroach upon the bicycle lane on Silverado Trail during pipe installation and tie-in to the NBA construction. Temporary full or partial closure of the bicycle lane along Silverado Trail/SR 128 would be required during pipeline installation. This could create unsafe conditions for bicyclists by requiring cyclists to merge with vehicles traveling along Silverado Trail. Therefore, this impact would be potentially significant.

To address this potential significant impact (occurring primarily at the Rutherford Pump Station location), mitigation measure MM TRAN-1 would be implemented. Under this measure, a traffic control plan (TCP) will be prepared that will include specific measures to alert motorists and bicyclists of construction along Silverado Trail, and will also include warning such as signage, traffic cones, and flaggers to help ensure the safe and efficient movement of vehicular and bicycle traffic through the affected area as well as identification of bicycle detours. As a result, the potential impact related to traffic hazards would be less than significant.

- MM TRAN-1: Implement Traffic Control Plan

  Before construction begins, the construction contractor shall prepare and implement a traffic control plan to minimize construction-related traffic impacts on affected roadways. The contractor shall coordinate the development and implementation of this plan with agencies with jurisdiction over the affected routes (i.e., City of Calistoga, Napa County), as appropriate. The traffic control plan shall include, at a minimum the following discussions and measures:

  - Traffic controls and detours based on City or County requirements and any conditions of project approval.
  - Time periods that construction-related traffic trips could be reduced (e.g., during the morning peak hours [7 am – 9 am.] and during the afternoon peak hours [4 pm – 6 pm]).
  - Determine the need to require workers to park personal vehicles at an approved staging area and take only necessary project vehicles to the worksites;
  - Construction area signs that will be installed and maintained throughout the project area.
  - Describe the use of flaggers as needed to temporarily hold traffic to safely stage equipment in advance of and/or during construction.
  - Discuss work hours and haul routes, delineate work areas, and identify traffic control methods and plans for flagging;
  - Describe the installation of advance warning signs to alert bicyclists and Silverado Trail users of the work zone and temporary detours. Advance warning signs may include reflective signs, cones, or barricades. Signage should state the anticipated duration for construction and reflect that the work is scheduled to occur between the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday.

- Describe signage that would be installed at both ends of the Silverado Trail segment affected by project construction at the Rutherford, directing pedestrians and bicyclists to detours facilities.
- Describe how work will be confined to the immediate project site and performed in a manner that would be least disruptive to the public.
- The plan shall allow methods for quickly reopening lanes (e.g., through the use of plates) in an emergency situation such as an evacuation.
- The plan shall ensure the public has access to businesses and private driveways along Silverado Trail and Dunaweal Lane at all times.
- Develop and implement a process for communicating with affected residents and landowners about the project before the start of construction. The public noticing shall include posting notices and appropriate signage regarding construction activities. The written notification shall include the construction schedule, the exact location and duration of activities on each roadway (e.g., which roads/lanes and access points/driveways will be blocked on which days and for how long), and contact information for questions and complaints. These notifications shall be coordinated with online messaging, including outreach noticing on social media and posting or linking of information to the City's website for more details.
- Notifying the public regarding alternative routes that may be available to avoid delays.

Traffic control plans shall be submitted to and reviewed by the County; and shall be completed and approved prior to any construction.

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

Less than Significant Impact. Section 15064.3(b)(3) of the CEQA Guidelines allows a qualitative analysis of potential impacts related to VMT for many construction projects. VMT is now the preferred methodology for assessing transportation impacts under CEQA. Section 21099 of the Public Resources Code of the Technical Advisory on Evaluating Transportation Impacts in CEQA, states that the criteria for determining the significance of transportation impacts must promote: (1) reduction of GHG emissions; (2) development of multimodal transportation networks; and (3) a diversity of land uses.

The proposed project would not include the construction of dwellings or result in an increase in the residential population of the surrounding area. The project would not add or change the capacity of any roadways, or change traffic circulation. It would therefore not affect long term (post construction) the number of vehicle trips (no change in volume) or the long-term length (would not affect miles traveled). Therefore the factors in calculating VMT (number of vehicles and trip length) would not change from existing conditions. A detailed CEQA transportation analysis of operational VMT is therefore not required. The pump stations, following construction, will be visited approximately once per week by an operator to check and maintain the equipment. Since the project's operational characteristics would not cause an increase in traffic volumes in any of the public roadways, no impact would occur. Therefore, no significant VMT

impact would result from proposed project operation at either the Rutherford and Dunaweal sites.

Any VMT attributable to project construction, such as construction-worker commutes and haul-truck would be temporary and would not permanently increase VMT. Because VMT analysis is intended to capture the long-term impacts of a proposed project, construction activities are not typically subject to VMT analysis. Construction for this project is estimated at 3 to 6 months at different locations. As a result, no analysis of construction VMT is warranted.

Furthermore, there are no existing policies related to VMT analysis for construction-related trips in the County's general plan. However, The OPR identifies 110 trips per day as a screening threshold for small land use projects. Therefore, projects that generate less than 110 trips per day could be assumed to cause a less-than-significant impact (OPR 2018). As discussed above, project construction trips would be minimal. The project requires a maximum of 18 construction workers at each site on a single day. Assuming a worst-case scenario that no workers carpool together, up to 40 vehicles trips (one-way) per day could occur, including private vehicles, material hauling and water trucks during the peak of construction. Therefore, project construction trips are not anticipated to cause a substantial increases in VMT. The project would not conflict with State CEQA Guidelines section 15064.3, subdivision (b). The impact would be less than significant and no mitigation is required.

c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

Less than Significant with Mitigation. The Project would not change the existing design features of any roadways in the project area during the project operations. The project would not permanently introduce unsafe design features or uses that are incompatible with the road system. Operational activities would be limited to intermittent visits (e.g., a trip once per week by) an operator to check and maintain the equipment. A clear line of sight is available in both directions on nearby roadways for vehicles entering and leaving the site. Therefore, the project would not substantially increase hazards due to a design feature or incompatible use and the impact would be less than significant under the project operation.

However, as described above, the addition of oversize vehicles, haul trucks, and worker vehicles during construction could increase traffic hazards. Also, construction at Rutherford pump station would require temporary lane closures on a short segment of Silverado Trail during trenching, underground pipe installation, and backfilling activities. MM TRAN-1 would be implemented requiring a TCP that would include measures to reduce hazards and describe procedures for lane closures.

d) Result in inadequate emergency access?

Less than Significant with Mitigation. Access to the surrounding land uses during project operations would not change due to the implementation of the proposed projects at Rutherford and Dunaweal sites. As discussed above, project operation would not permanently alter the physical configuration of the existing roadway network serving the project area. Crews would be minimal and would access the site via vehicle access on adjacent roadways. The project would

not increase traffic volumes and congestion substantially, and therefore would not interfere substantially with emergency vehicle response. Project-related operational vehicles would typically pull to the side of the road when emergency vehicles use their sirens. The impact would be less than significant.

The majority of the project-related construction activities would occur off road at both Rutherford and Dunaweal pump station sites. However, project construction activities would include slow-moving trucks entering and exiting the project site from the adjacent roadways at both Rutherford and Dunaweal pump station sites that could slightly delay the movement of emergency vehicles. Also, temporary lane closures on Silverado Trail adjacent to the Rutherford pump station site could delay the movement of emergency vehicles. The delay of emergency vehicles would be considered significant. To the extent that emergency access in the project vicinity could be temporarily impeded during construction, the measures provided in the traffic control plan (mitigation measure MM TRAN-1) would serve to ensure that sufficient emergency access is available for the duration of the construction period. Appropriate emergency access will be maintained throughout the project area. As a result, the impact of the project during construction would be less than significant with mitigation measures.

3.18.3 Mitigation Summary

The Project would have significant impacts related to transportation; therefore, the following mitigation is required.

- MM TRAN-1: Implement Traffic Control Plan

3.19 UTILITIES AND SERVICE SYSTEMS

UTILITIES AND SERVICE SYSTEMS – Would the Project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**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?	☐	☒	☐	☐
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☒	☐
c) Result in a determination by 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?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☒	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

3.19.1 Environmental Setting

3.19.1.1 Water, Wastewater, Stormwater Drainage, Electricity, and Natural Gas

Utilities and service systems in the project area are served by the various public and private water purveyors in Napa County, for public water, public wastewater services, a public stormwater system, an electrical delivery service, and natural gas providers. The cities of Napa, American Canyon, Calistoga, St. Helena, and the Town of Yountville provide public water within their respective corporate boundaries as well as delivering water to the unincorporated portions of the County. The Napa County Flood and Water Conservation District is the "State Water" contractor and the individual cities, towns and water districts are considered "subcontractors" for potable water sources.

The primary source of water for the cities within the County is surface water, while the primary source of water for the unincorporated area is groundwater. The largest source of groundwater

for the County is the North Napa Valley Basin (which generally consistent to the "Main Basin" referred to in the 2050 Napa Valley Water Resources Study), Milliken-Sarco-Tulucay (MST) Subbasin and the Carneros Subbasin.

The City's water supply is drawn from two water sources for its municipal water supply system: the City of Napa through the NBA, and the Kimball WTP on the northwest side of Calistoga. Approximately 60% of the City's supply is from the NBA and 40% from Kimball Reservoir. Because of the higher elevation of Calistoga compared to the elevation at the tie-in location between the NBA transmission main and the Napa water supply system, two booster pump stations were built along the NBA transmission main, based on the hydraulic requirements. One of these pump stations is the Dunaweal Lane pump station. The NBA serves about 500,000 people in Napa and Solano Counties and transports water from Barker Slough in the Sacramento-San Joaquin River Delta to Cordelia Forebay, just outside Vallejo. The water supply transferred from Napa through the NBA to Calistoga is measured with a flow meter that is located approximately at the intersection of Silverado Trail and Highway 128. The southern (down valley) half of the NBA transmission main was constructed along Silverado Trail, from the Napa meter location to Deer Park Road. From there to Calistoga the main runs between Highway 29 and Silverado Trail through vineyards.

St. Helena's potable water supply is drawn from two sources: Bell Canyon Reservoir and two municipal wells collectively known as the "Stonebridge Wells." St. Helena is authorized to divert and store up to 3,800 acre-feet of water annually from Bell Creek for beneficial use. Bell Canyon Reservoir is located northeast of St. Helena and is used as the primary water source throughout the year. Water drawn from the Stonebridge Wells is used as a supplemental source to Bell Canyon Reservoir. The Stonebridge Wells consist of two adjacent wells developed in 1992 and 1996 and have current daily production capacities of approximately 0.35 and 0.47 million gallons respectively. Electrical and natural gas service in the area is provided by the PG&E.

3.19.1.2 Solid Waste

There are currently five solid waste providers and two joint powers agencies/authorities in Napa County. Solid waste providers include the Upper Valley Disposal Service (UVDS), Berryessa Garbage Service (BGS), Napa Recycling and Waste Services (NRWS), Napa County Recycling and Waste Services (NCRWS), and American Canyon Recycling and Disposal (ACRD). The joint power agencies/authorities in the County include the Upper Valley Waste Management Agency (UVWMA) and the Napa Vallejo Waste Management Authority (NVWMA). These joint power agencies do not provide solid waste collection or disposal services.

The project area is served by the UVWMA, which was formed to provide the coordination of economic and regional waste management services to meet the requirements set forth in the California Integrated Waste Management Act. The UVWMA includes Yountville, St. Helena, Calistoga, and the northern unincorporated portions of the County.

The UVDS collects and disposes solid waste and recycling materials at the Clover Flat landfill, which is located, 4380 Silverado Trail, just south of Calistoga. The Clover Flat landfill is permitted to receive up to 600 tons of waste daily and has an ultimate permitted capacity of

5,100,000 cubic yards. This facility has a remaining capacity of 3,081,046 cubic yards and is permitted through 2021, which is the facility's anticipated closing date. BGS uses the Potrero Hills landfill which receives up to 4,330 tons of waste daily and had 13,800,000 cubic yards of remaining capacity as of 2001 (Napa County 2008).

3.19.2 Impact Analysis

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?

Less than Significant with Mitigation. The project involves demolishing and replacing an existing pump station and constructing a new pump station to maintain and improve functionality of the existing water system. The project also involves the minor installation of an automated valve.

Existing water facilities near the proposed Rutherford Pump Station project area include the NBA pipeline along the opposite shoulder of Silverado Trail. Existing underground and overhead utilities occur in the shoulder of Silverado Trail, within the pipeline alignment, including underground and overhead powerlines and an AT&T pedestal. In addition, there are overhead lines at the project site. Construction of the Rutherford Pump Station would require relocation of the existing PG&E overhead electrical line at the site. This would be a minor relocation, conducted as part of the project, to move the lines on the property so they are not located directly above the pump station building.

Existing water facilities near the Dunaweal Pump Station include the Calistoga WWTP. Both the existing and replacement pump stations are within the boundary of the plant. The replacement Dunaweal Pump Station will be tied in to the existing NBA pipeline. Construction of the Dunaweal Pump Station would not require the relocation of any utility lines.

Although Project construction would involve the relocation of overhead power lines at the Rutherford Pump Station site, the Project would not result in the need or expansion of any additional facilities, including new or expanded wastewater treatment or stormwater drainage. Additionally, the project would not require the construction of new or expanded electric power systems, natural gas, or telecommunication facilities as the project site does not require any expanded utilities during construction or after completion.

Temporary planned outages to existing utility services may be necessary during construction while relocating the power lines at the Rutherford Pump Station and during water pipeline tie-ins. Interruptions to utility systems would be a significant impact if planned outages did not provide utility customers advance warning to allow them to plan ahead and avoid inconveniences from utility interruption. MM UTIL-1 requires public notification of any planned service disruptions before they occur, thereby allowing businesses and residences adequate time to prepare for the outage, reducing impacts associated with utility disruption. The impact would be less than significant with implementation of mitigation.

- MM UTIL-1: Notification of Utility Service Interruptions

  Prior to construction in which a utility distribution service interruption is known to be unavoidable, the City shall notify members of the public affected by the planned outage at least 10 calendar days prior to the impending interruption for residential and commercial outages.

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

Less than Significant Impact. The purpose of the project is to improve the resiliency of the City's critical water infrastructure to primarily to flooding. Pump Station construction would be phased to ensure that the replacement pump stations are operating before removing the existing pump stations from service. During the service transfer, a temporary bypass would be implemented to ensure water service is not interrupted. By constructing a new pump station outside of a flood zone and replacing an existing pump station with modern equipment, the project would reduce the potential for critical water transmission infrastructure failure in the event of hazards and their associated impacts, thereby ensuring adequate water resources for the City. The project does not include constructing new homes or habitable structures that would require water services and would not result in growth-inducing effects that would result in the need for additional water supplies to serve the community. Impacts would be less than significant. No mitigation is required.

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?

No Impact. The project does not include the construction of any structures or facilities that would require wastewater collection and treatment services. Portable restrooms would be used during the construction period for each pump station. As such, implementation of the project would have no negative impact on any wastewater treatment provider's existing commitments.

d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?

Less than Significant Impact. The Implementation of the project would generate solid waste during construction. The anticipated volume of solid waste generated by construction activities would be approximately 175 cubic yards for the Rutherford Pump Station and 5 cubic yards for the Dunaweal Pump Station. The waste and debris would be off-hauled and appropriately disposed of at an approved landfill such as the Clover Flat Landfill. The Clover Flat Landfill is operational until January 2047 and has a remaining capacity of 2,240,000 cubic yards (CalRecycle 2022). Although the project could increase the total waste generation in the area, the temporary incremental contribution of the project could be reasonably accommodated by the landfill. Reusable construction debris would be recycled, and organics and soils reused on-site or composed, as feasible, in compliance with federal, State, and local statutes and regulations related to solid waste. Given the existing landfill capacity, the project 's contribution would be

less than significant and would not result in the local landfill exceeding its permitted capacity. No mitigation is required.

e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

No Impact. The Implementation of the project would generate solid waste during construction. The anticipated volume of solid waste generated by construction activities would be approximately 175 cubic yards for the Rutherford Pump Station and 5 cubic yards for the Dunaweal Pump Station. The waste and debris would be off-hauled and appropriately disposed of at an approved landfill such as the Clover Flat Landfill. The Clover Flat Landfill is operational until January 2047 and has a remaining capacity of 2,620,000 cubic yards (CalRecycle 2022). Although the project could increase the total waste generation in the area, the temporary incremental contribution of the project could be reasonably accommodated by the landfill. Reusable construction debris would be recycled, and organics and soils reused on-site or composed, as feasible, in compliance with federal, State, and local statutes and regulations related to solid waste. Given the existing landfill capacity, the project ‘s contribution would be less than significant and would not result in the local landfill exceeding its permitted capacity. No mitigation is required.

3.19.3 Mitigation Summary

Implementation of the following mitigation measures would reduce the potential for Project-related impacts to utilities and service systems to a less-than-significant level:

- MM UTIL-1: Notification of Utility Service Interruptions

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3.20 WILDFIRE

WILDFIRE – If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:	**Potentially Significant Impact**	**Less than Significant with Mitigation**	**Less than Significant Impact**	**No Impact**
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☒	☐
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	☐	☐	☐	☒
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	☐	☐	☒	☐
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	☐	☐	☐	☒

3.20.1 Environmental Setting

CAL FIRE's Fire Hazard Severity Zone Maps for State Responsibility Area lands and Local Responsibility Area lands shows where areas are most vulnerable to wildfire in California. CAL FIRE uses various types of data and factors such as climate, vegetation, potential fuel, topography, and fire history to map out these zones. These zones are ranked either Very High, High, or Moderate Fire Hazard Severity. Areas that are designated as Very High or High Fire Hazard Severity Zones are the most likely to experience wildfire, and structures in these zones can be potentially impacted.

According to CAL FIRE, the Dunaweal Pump Station and the Napa meter sites are not within a designated fire hazard zone. The Napa meter site is approximately 0.25-mile south of State Responsibility Area designated as a Moderate Fire Hazard Severity Zone. The Rutherford Pump Station is within a State Responsibility Area designated as a Moderate Fire Hazard Severity Zone (CAL FIRE 2007, 2020). An area classified as Very High Fire Hazard Severity is located approximately 0.5 mile to the west of the Dunaweal Pump Station site.

3.20.2 Impact Analysis

a) Substantially impair an adopted emergency response plan or emergency evacuation plan?

Less than Significant Impact. The project area would be subject to the Napa County Operational Area EOP. The EOP provides guidelines for emergency response planning, preparation, training, and execution throughout the county. Wildfire evacuation is a component of emergency functions in the EOP (Napa County 2020). No emergency response or evacuation plans have been adopted for the roads in the vicinity of the project sites. Therefore, no evacuation routes would be impeded or disrupted during project construction and operation.

As discussed in Section 3.10, *Hazards and Hazardous Materials*, temporary lane closure would be required for the installation of the new pipelines across Silverado Trail for approximately one week to connect the proposed Rutherford Pump Station to the NBA. A traffic management plan would be implemented during this construction in accordance with MM TRAN-1 to maintain traffic flow via one direction travel. Temporary plating would be installed as need to maintain at least one open lane during the work day and to open both lanes at the end of each workday or if an emergency situation arose during this phase of construction that required both lanes to be opened. While access to emergency vehicles would be maintained, reduce speeds may slightly affect response times. A slight increase in truck traffic on Silverado Trail, SR 128 and Dunaweal Lane will occur during the delivery and hauling of equipment, and materials. However, the increase in truck traffic would not be so much that there would be a reduction in emergency response times.

Following construction of the project, there would be no changes in traffic patterns. Therefore, construction and operation of the pump stations would not substantially impair implementation of an emergency response or emergency evacuation plan. The impact would be less than significant.

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?

No Impact. The project sites are located on the valley floor that is generally flat, with little to no slopes. CAL FIRE has utilized data that analyzes various factors such as climate, topography and vegetation to rank fire risks in certain areas. The Dunaweal Pump Station and the Napa meter sites are not within designated high fire hazard zones. The Rutherford Pump Station is within a State Responsibility Area designated as a Moderate Fire Hazard Severity Zone. There is no existing ground vegetation at the Dunaweal Pump Station. There are a few trees in the vicinity. The Napa meter site has a strip of existing ruderal grass nearby (see Figure 2-5). Existing vegetation in the footprint at the Rutherford Pump Station would be removed during site preparation activities, though some vegetation and trees would remain in the vicinity of the site. There is no ground vegetation at the staging area for the Rutherford Pump Station site. All construction activities would follow local, state and federal fire regulations and implement best management practices for fire prevention (see section c, below). Therefore, the project is not

expected to exacerbate wildfire risks or expose project personnel to pollutants from a wildfire or the uncontrolled spread of a wildfire. There would be no impact.

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?

Less than significant. The project involves constructing a new pump station at the Rutherford site with connecting pipelines; replacing the existing Dunaweal Pump Station; and installing a water meter. During construction of the Rutherford Pump Station, site preparation would include removing some of the existing vegetation (clearing and grubbing), which would minimize fire outbreaks related to vegetation at the Rutherford site. The Dunaweal Pump Station is located at the Calistoga Water Treatment Plant which is largely paved or graveled. Considering the limited duration of the construction period and the small size of the construction crew and equipment required, the increase in fire risk introduced by construction of the Project would be minimal and temporary. All of the project construction activities would follow applicable local, state and federal laws related to fire safety.

During pump station operations at the Rutherford site, equipment would located inside a building that would not exacerbate wildfire risks; routine operations would not increase the amount of available fuel or create potential ignition sources (such as overhead power lines) in proximity to wildland forested areas. The backup generators would be located on concrete pads and operated only during testing. Operations at the Dunaweal station would be the similar to existing conditions at the current pump station and would not exacerbate fire risk. During project operation, pumping station equipment including all of the electrical components will have ongoing periodic maintenance. Therefore, the project is not expected to exacerbate fire risks that would result in impacts to the environment. This impact would be less than significant.

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?

No Impact. No recent fires have occurred in the project vicinity that could result in post-fire slope instability or drainage changes. Additionally, the project would not include development that would expose people or structures to significant risks associated with wildfires, including downslope or downstream flooding or landslides as a result of runoff, post-fire instability, or drainage changes. There would be no impact.

3.20.3 Mitigation Summary

The Project would have no significant impacts to related to wildfire; therefore, no mitigation is required.

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3.21 MANDATORY FINDINGS OF SIGNIFICANCE

The lead agency shall find that a project may have a significant effect on the environment and thereby require an Environmental Impact Report to be prepared for the project where there is substantial evidence, in light of the whole record, that any of the conditions listed below may occur.

However, where a project proponent, prior to commencement of the environmental analysis, agrees to mitigation measures or project modifications that would avoid any significant effect on the environment or would mitigate the significant environmental effect to a less-than-significant level, a lead agency need not prepare an Environmental Impact Report solely because without mitigation the environmental effects would have been significant (in accordance with State CEQA Guidelines, § 15065).

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

a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a

rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?

Less than Significant with Mitigation. Based on background research, site visits, and the analysis presented herein, construction and operation of the Project would not have the potential to substantially degrade the quality of the environment, 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, or substantially reduce the number or restrict the range of a rare or endangered plant or animal. As discussed in Section 3.4, *Biological Resources*, with implementation of MMs BIO-1 and BIO-2 impacts to migratory birds and sensitive natural communities would be less than significant.

As concluded in Section 3.5, *Cultural Resources*, and Section 3.6, *Cultural Resources – Tribal*, the Project would lessen any potential impacts by implementing MM CUL-1/TCR-1, requiring cultural resources contractor awareness training, MM CUL-2/TCR-2, requiring procedures in the event of unanticipated discovery of cultural resources; and MM CUL-3/TCR-3, requiring treatment of the unanticipated discovery of human remains.

The potential impacts to biological and cultural resources would primarily occur during active construction and during project operation. Measures have been identified to reduce these temporary impacts. The impacts would not be considered significant or would be less than significant with mitigation incorporated for those impacts where mitigation is needed.

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

Less than Significant with Mitigation. Two approaches to a cumulative impact analysis are provided in CEQA Guidelines Section 15130(b)(1): (1) the analysis can be based on a list of past, present, and reasonably foreseeable future projects producing closely-related impacts that could combine with those of the proposed project, or (2) a summary of projections contained in a general plan or related planning document can be used to determine cumulative impacts. The following factors were used to determine a list of individual projects to be considered in this cumulative analysis:

- Similar Environmental Impacts. A relevant project contributes to effects on resources that are also affected by the proposed project. A relevant future project is defined as one that is "reasonably foreseeable," such as a proposed project for which an application has been filed with the approving agency or has approved funding.
- Geographic Scope and Location. A relevant project is located within the geographic area within which effects could combine. The geographic scope varies on a resource-by-resource basis. For example, the geographic scope for evaluating cumulative effects to aesthetics consists of the nearby viewshed at each location while air quality consists of the affected air basin.

- Timing and Duration of Implementation. Effects associated with activities for a relevant project (e.g., short-term construction or demolition, or long-term operations) would likely coincide in timing with the related effects of the proposed project.

Lists of past, present, current and potential foreseeable projects in the region from Napa County and the City were reviewed in connection with preparing this document. Seven cumulative projects have been identified in the project vicinity (Table 3.21-1). Implementation of the Dunaweal Pump Station Replacement Project would have no impact on Agriculture and Forestry Resources, Mineral Resources, Population and Housing, Public Services, and Recreation; therefore, cumulative impacts associated with these resource topics are not discussed in this section. Cumulative impacts for each remaining resource topic are discussed below.

Table 3.21-1. Cumulative Projects

Name	Location	Distance	Summary
Rutherford Project Area			
Water Reliability Transmission and Distribution Improvement - Conn Creek Water Line Project	Silverado Trail at Hwy 128	Approximately 150 feet south	Upgrade an underground segment of the existing North Bay Aqueduct (NBA) pipeline that crosses the Conn Creek floodway.
Rutherford Ranch Winery	1680 Silverado Trail, St Helena	200 feet north	Recognize and change uses within the existing winery buildings; recognize food and wine pairings; recognize existing buildings within the creek setbacks; increase employees; increase in by-appointment visitation; add a marketing plan and allow on-premise consumption of wine produced by the winery.
Conn Creek Winery	8711 Silverado Trail, Napa	0.21 mi southeast	Add second story and internal remodel; use of garden for visitation; new mechanical area, water storage tanks, and gravel access road; new parking; modify driveway entrance; and widen access road.
Benjamin Ranch	8895 State Highway 128	0.65 mi south	Construct a new winery (475,000 gallons per year) with 82,350 square feet of improvements
Dunaweal Project Area			
Calistoga Riverside Ponds Relocation Project	1100 Dunaweal Lane	Within Dunaweal Pump Station project area	Relocate the riverside ponds and associated water conveyance and treatment utilities; realigning river channels away from infrastructure, restoring a vegetated riparian buffer of sufficient width, and stabilizing channel banks between the riverside ponds and headworks structure and the adjacent active river channels to protect the facilities from subsequent erosion.
Sterling Vineyards	1111 Dunaweal Lane, Calistoga	0.66 mi east	Rebuild gondola that was destroyed in the 2020 Glass Fire. The gondola includes 3 stations and 11 guide towers.
Clover Flat Landfill	4380 Clover Flat Road, Calistoga	1.58 mi northeast	Expand the landfill boundary and add Mondays to hours of operations. No increase in tonnage, height, shape, volume, or waste types is proposed.

3.21.1 Aesthetics

For the analysis of aesthetics, the cumulative study area includes the project sites and views of surrounding uses generally within 1 mile of the project sites.

The Conn Creek Water Line Project, Rutherford Ranch Winery, Conn Creek Winery and Benjamin Ranch Winery Modifications are located within the cumulative study area for biological resources impacts for the Rutherford Pump Station. The Rutherford Ranch Winery modifications, adjacent to the Rutherford Pump Station do not appear to involve outdoor construction and thus no changes to aesthetics. The Conn Creek Water Line Project would be an underground pipeline and would not construct or demolish any buildings, remove existing trees, or obstruct surrounding ridgeline views along Silverado Trail. Implementation of the Winery modifications projects could result in permanent aesthetic impacts following development of new buildings, access roads, and parking areas; however, views of wineries and associated infrastructure are common throughout Napa County and near the project site. The Dunaweal Pump Station location is within the existing wastewater treatment facility and is largely not visible from public viewpoints and thus would not result in cumulative considerable impacts. The existing pump station would be replaced with equipment similar in visual character. Work at the Napa meter location would result in an underground valve replacement. The only permanently visible element is a small pole with a solar panel beside the road, that would not significantly alter the visual character of the area. Thus, the Project would result in cumulatively considerable degradation of visual quality and would not result in a significant cumulative impact on aesthetic resources.

3.21.2 Air Quality

The geographic scope for the cumulative analysis of air quality impacts is considered to be the SFBAAB. It is appropriate to consider the entire air basin because air emissions can travel substantial distances and are not confined by jurisdictional boundaries; rather, they are influenced by large-scale climatic and topographical features. The SFBAAB is designated as a nonattainment area for ozone and $PM_{2.5}$, and as an attainment or unclassified area for all other pollutants. The nonattainment status of regional pollutants is a result of past and present development in the SFBAAB, and this regional impact is cumulative rather than attributable to any one source. Maximum and average daily emission pollutants as a result of the pump station construction activities and operation are listed in Tables 3.3-1 and 3.3-2, respectively. Project construction activities would be short term and as explained in Section 3.3, Air Quality, with implementation of MM AQ-1, the Project would not result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is in nonattainment under an applicable federal or state ambient air quality standard. Therefore, the Project's contributions would be less than cumulatively considerable.

3.21.3 Biology

The geographic scope for the biological resources cumulative analysis includes all similar habitats within 1 mile of the project sites. This geographic scope accounts for the cumulative degradation or loss of a particular vegetation community or special-status species population

from all projects that have impacted or would impact vegetation communities of concern or special-status species.

The Conn Creek Water Line Project, Rutherford Ranch Winery, Conn Creek Winery and Benjamin Ranch Winery Modifications are located within the cumulative study area for biological resources impacts for the Rutherford Pump Station. The Rutherford Ranch Winery modifications do not appear to involve outdoor construction. Analysis of potential impacts to biological resources as a result of the Conn Creek Winery Modifications are not available; however, impacts to similar habitats are not anticipated to be significant because all proposed activities would occur within the boundaries of the existing wineries. The Benjamin Ranch Winery Project would also be constructed on land currently developed for viticulture. None of the cumulative projects in the Rutherford Pump Station area proposes impacts in similar habitat types.

The Calistoga Riverside Ponds Relocation Project is in the cumulative study area for the Dunaweal Pump Station. The ponds relocation project, though nearby, does not occur in similar habitat types to the Dunaweal Pump Station. Since the Dunaweal Pump Station replacement is within the same footprint as the existing pump station, no new habitat is affected. The combined effect of the Project would not result in a cumulatively considerable effect and cumulative impacts would be less than significant.

3.21.4 Cultural and Tribal Cultural Resources

The geographic extent for the cultural resources cumulative analysis includes the Area of Potential Effects (APE) and areas in and immediately adjacent to the project sites because impact would only occur if a cumulative project were to impact the same area and type of resources affected by the project. All cumulative projects identified in the vicinity (Table 3.21-1) are assumed to potentially cause some degree of ground disturbance during construction and, thus, contribute to a potential cumulative impact on buried cultural resources. However, no cumulative projects would impact the Dunaweal Pump Station Replacement Project sites directly.

No known historical or archaeological resources or human remains are known to occur within the project footprints of the three areas (Rutherford, Dunaweal and the Napa Meter) and background research suggests that the potential for Project activities to encounter archaeological resources or human remains is low. MM CUL-1/TCR-1 through MM CUL-1/TCR-3 would reduce individual project impacts on tribal cultural resources to less than significant and the project's contribution to a potential cumulative impact is less than considerable.

3.21.5 Energy

The geographic scope of potential cumulative effects with respect to energy conservation includes the statewide electric grid from which the project would receive energy, areas from which transportation fuels would be provided, and the cumulative projects identified in Table 3.21-1. Past, present, and probable future projects throughout the state would result in the irreversible use of diesel and gasoline resources during construction, as well as the incremental increase in energy consumption from operational energy and traffic associated with those

projects. However, the use of such resources would be subject to the same regulatory framework relating to energy and fuel efficiency as the project and would be anticipated to become more energy efficient over time as regulatory requirements change and technological advancements are made. Specifically, regarding petroleum use during construction, the project and other future projects would consume energy associated with the off-road equipment, truck trips, and worker vehicle trips. However, construction of the project and future projects would be temporary. Furthermore, present and future projects in the City would also be required to comply with BAAQMD Basic Construction Measures which would help reduce construction-related fuel usage. After construction, the project's operational energy demand would be limited to electricity consumption which would be partially offset by the reduction in electricity demand from demolition of the existing Dunaweal Pump Station or retirement of the existing Pope Street Pump Station; therefore, any incremental impact related to the use of fuel or energy in a wasteful or inefficient manner or related to adversely affecting existing energy resources are not expected to combine with the incremental impacts of other projects to cause an adverse cumulative impact associated with energy. There would be no cumulative impact on energy.

3.21.6 Geology and Soils

For geology and soils, the study area considered for the cumulative impact analysis consists of the area that could be affected by proposed project activities, and the areas affected by other projects whose activities could directly or indirectly affect the geology and soils of the proposed project site.

The Dunaweal Pump Station Replacement Project impacts on geology and soils would be less than significant or would have no impact. Other projects in the vicinity of the proposed Rutherford and Dunaweal pump stations are unlikely to have significant effect and would include mitigation. The various winery modifications and the Conn Creek Water Line Project adjacent to the Rutherford project site include ground disturbing activities such as construction of access and parking improvements and trenching that may result in increased erosion; however, the projects would be required to implement project-specific practices to reduce potential erosion impacts. No cumulative impact on geology and soils would occur.

3.21.7 Greenhouse Gas Emissions

As previously described, the geographic scope of consideration for GHG emissions is on a global scale, because such emissions contribute, on a cumulative basis, to global climate change. Given the nature of environmental consequences from GHGs and global climate change, CEQA requires that lead agencies evaluate the cumulative impacts of GHGs, even relatively small additions, on a global basis. The GHG emissions impact analysis in Section 3.9 above constitutes a cumulative analysis, in that it considers global, statewide, and regional projections of GHG emissions, as well as the contribution of the project, to GHG emission impacts. Therefore, the significance conclusions reached above for project-level impacts GHG-1 and GHG-2 also constitute the significance conclusions with respect to cumulative GHG emissions impacts and the project's incremental contribution to GHG emissions would be less than cumulatively considerable.

3.21.8 Hazards and Hazardous Materials

Evaluating cumulative impacts from hazards and hazardous materials is typically limited to only projects adjacent to the project site because of the limited potential impact area associated with release of hazardous materials into the environment. The Conn Creek Water Line Project and the Rutherford Ranch and Conn Creek Winery Modifications are the only cumulative projects that would occur within 0.25 mile of the proposed Rutherford Pump Station. The Calistoga Riverside Ponds Relocation Project is the only foreseeable project within 0.25 mile of the Dunaweal Pump Station rebuild. The proposed winery modification projects are not anticipated to be constructed at the same time as the proposed project. The Conn Creek Water Line Project near Rutherford Pump Station and the Riverside Ponds project near the Dunaweal Pump Station could occur within the same timeframe as construction of the pump stations.

Construction activities for all of the projects are required to comply with numerous hazardous materials regulations designed to ensure that hazardous materials are transported, used, stored, and disposed of in a safe manner to protect worker safety, reduce the potential for a release of construction-related fuels or other hazardous materials, and to respond to accidental spills, if any; therefore, no cumulative impact related to hazards or hazardous materials would occur.

3.21.9 Hydrology and Water Quality

The cumulative study area for hydrology and water in the area of the Rutherford Pump Station quality includes projects that could affect Conn Creek and the Napa River, of which Conn Creek is a tributary. Napa River is impaired by nutrients, pathogens, and sediment, indicating that a cumulative water quality impact exists. The projects in the Rutherford area would include the winery modifications as well as the Conn Creek Water Line Project. The Dunaweal Pump Station area includes the Riverside Ponds Replacement Project. The Dunaweal Pump Station Replacement Project's impacts to hydrology and water quality are short-term in nature and geographically limited at both pump station locations as well as at the Napa meter location. Nearby projects at both locations that would have construction related erosion and sedimentation effects to the Napa River may be subject to the NPDES Construction General Permit and/or the City's Stormwater Runoff Pollution Control Ordinance, and would be required to control sediment and erosion using BMPs similar to those of the proposed project as it implements MM HYDRO-1 as described in this document. The project's contribution to the existing impairments in the Napa River would not be cumulatively considerable and the impact would be less than significant.

3.21.10 Noise

Noise impacts generally dissipate within a distance of 1,000 feet and vibration impacts dissipate within 50 to 100 feet. The project would result in temporary noise and groundborne vibration as a result of construction activities at both pump station sites. Most of the cumulative projects are farther than these distances or do not have schedules that overlap. However, the construction schedule for the Conn Creek water line project could potentially overlap in time with construction of Rutherford Pump Station. Construction noise from the Conn Creek project would be 72 dB at

the nearest noise-sensitive use (Rutherford Ranch Winery outside seating area), (Panorama 2021). Construction noise from proposed project would be 74 dB at the nearest noise-sensitive use, also the Rutherford Ranch Winery outside seating area. If the two project construction periods in this area were to overlap, the combined noise level from both projects at the winery's outside seating area, would be 76 dB, which is still below the 80 dB Napa County threshold for commercial land uses. Therefore, the impact would not be cumulatively considerable and would be less than significant.

No operational noise is associated with the project. No cumulative impact would occur from operations.

3.21.11 Transportation

The potential for cumulative transportation impacts exists where multiple projects proposed in an area that have overlapping construction schedules and/or project operations that could result in a substantial contribution to increased traffic levels throughout the surrounding roadway network. Most of the cumulative projects in Table 3.21-1 are not expected to occur in the same timeframe at the proposed project. However, two City projects do have the possibility of being constructed in generally the same timeframe. These are the Conn Creek Water Line Project, in the Rutherford Pump Station project area, and the Riverside Ponds Relocation Project in the Dunaweal Pump Station project area. The volume of traffic generated from any of these projects would not be particularly large during construction and none would increase traffic volumes above existing levels once construction is complete. Each of the cumulative projects as well as the proposed project would preparate similar traffic management plans (the City would coordinate since these are all City projects). The Project's contribution to transportation impacts would be less than cumulatively considerable as a result of the short-term nature of construction, implementation of a traffic management plan, and lack of long-term transportation impacts. Cumulative impacts associated with transportation would therefore be temporary and less than significant.

3.21.12 Utilities and Service Systems

Existing overhead utilities occur in the shoulder of Silverado Trail in the proposed Rutherford Pump Station area. Utilities occur within the NBA pipeline alignment, including underground and overhead power lines and an AT&T pedestal. Projects mentioned in Table 3.21-1 could result in increased demand for water, wastewater, and stormwater generation and capacity. However, the Dunaweal Pump Station Replacement Project would not contribute to a demand in additional water or wastewater, other than that necessary during construction; therefore, the cumulative contribution would not be considerable. Increased waste generation from the Project and cumulative development would not be significant relative to landfill capacity, since waste generation from the Project would be exclusively construction related. Given the existing remaining capacity relative to the potential increment of Project waste in addition to waste from other cumulative projects, the Project would not have a cumulatively considerable contribution for waste disposal.

Concurrent implementation of this Project in conjunction with other cumulative projects (in particular, the Conn Creek Water Line Project near Rutherford) could cause service disruptions for the same set of customers within a short timeframe. However, any of the Project's impacts related to utility service disruptions during construction (e.g., if any are necessary during water line tie-ins or power line relocation) would be less than significant with compliance with relevant regulations and implementation of MM UTIL-1. Therefore, potential cumulative impacts related to disruption of utility operations would not be cumulatively considerable.

3.21.13 Wildfire

There are multiple projects that could undergo construction in a timeframe that overlaps with that of the project (see Table 3.21-1). Similar to the project, the construction of some of these projects would involve ground disturbing activities and the use of large equipment, which could pose risks for ignition within or near a fire-prone region. The projects near the Rutherford and Dunaweal Pump Station locations are not in high Fire Hazard Severity Zones. Due to the location and low level of risk due to these site conditions, the Project's contribution to impacts related to regional wildfire risk would not be cumulatively considerable and no cumulative impact is anticipated.

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

Less than Significant with Mitigation. Potential adverse effects to human beings could occur as a result of project construction and use of equipment. Potential impacts would include effects to air quality, minor increases in construction-related traffic, and potential interruptions to existing utility services. These impacts would be short-term and would cease upon completion of construction. MM AIR-1, MM TRAN-1, and MM UTIL-1 have been identified to reduce temporary impacts to air quality, transportation, and utilities. These impacts would not be considered significant. The project would protect critical water infrastructure by reducing the chance of interrupted service to local communities, and would provide decades of useful life to the City's water transmission system. The project would not result in any environmental effects that would cause substantial direct or indirect adverse effects on human beings. Project impacts to human beings would be less than significant with mitigation incorporated.

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4.0 MITIGATION MONITORING AND REPORTING PROGRAM

The City is the lead agency under the California Environmental Quality Act (CEQA) for the Dunaweal Pump Station Replacement Project. The City prepared an Initial Study/Mitigation Negative Declaration (IS/MND) that evaluates potential environmental impacts associated with the project and defines mitigation measures to reduce potentially significant impacts of project construction and operation. In conjunction with approval of this Project, the City adopts this Mitigation Monitoring and Reporting Program (MMRP) for implementation of mitigation measures for the Project to comply with Public Resources Code section 21081.6, subdivision (a) and State CEQA Guidelines sections 15074, subdivision (d) and 15097.

4.1 PURPOSE

It is important that significant impacts from the Project be mitigated to the maximum extent feasible. The purpose of a MMRP is to facilitate compliance and implementation of mitigation measures; this MMRP shall be used as a working guide for implementation, monitoring, and reporting for the Project's mitigation measures.

4.2 ENFORCEMENT AND COMPLIANCE

The City is responsible for enforcing this MMRP and is responsible for the successful implementation of and compliance with the mitigation measures identified in this MMRP. Implementation of the MMRP requires the full cooperation of Project personnel and supervisors. Many of the mitigation measures require action from site supervisors and their crews.

General Reporting Procedures. The City or its designated representative shall develop a checklist to track all procedures required for each mitigation measure and shall ensure that the timing specified for the procedures is followed. The environmental monitor shall note any issues that may occur and take appropriate action to resolve them.

Public Access to Records. Records and reports are open to the public and would be provided upon request.

4.3 MITIGATION MONITORING TABLE

This section presents the mitigation monitoring table (Table 4-1) for the following environmental disciplines: Air Quality; Biological Resources; Cultural Resources; Cultural Resources-Tribal; Geology and Soils; Hazards and Hazardous Materials; and Hydrology and Water Quality. All other environmental disciplines were found to have less than significant or no impacts and are, therefore, not included below. The table lists the following information by column:

- Mitigation Measure (full text of the measure)
- Location (where impact occurs and mitigation measure should be applied)
- Monitoring/Reporting Action (action to be taken by monitor or Lead Agency)
- Responsible Party
- Timing (before, during, or after construction; during operation, etc.)
- Effectiveness Criteria (how the agency can know if the measure is effective)

Table 4-1. Mitigation Monitoring Program

Mitigation Measure	Monitoring/Reporting Action	Applicable Location	Responsible Party	Timing	Effectiveness Criteria
Air Quality					
MM AQ-1: Implement Basic Construction Emission Control Practices (Best Management Practices). The contractor shall comply with all of the following BAAQMD best management practices for reducing construction emissions of uncontrolled fugitive dust (PM_{10} and $PM_{2.5}$): • All exposed surfaces (e.g., parking areas, staging areas, soil piles, stockpiles, graded areas, and unpaved access roads) shall be watered twice daily, or as often as needed, treated with non-toxic soil stabilizers, or covered to control dust emissions. Watering shall be sufficient to prevent airborne dust from the leaving the site. • All haul trucks transporting soil, sand, or other loose material off site shall be covered. • All visible mud or dirt track-out onto adjacent public roads and paved access roads shall be removed using wet power (with reclaimed water, if possible) vacuum street sweepers at least once per day, or as often as needed. The use of dry power sweeping is prohibited. • All vehicle speeds on unpaved roads shall be limited to 15 miles per hour. • All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used. • Idling times shall be minimized either by shutting equipment off when not in use or by reducing the	Incorporation of BAAQMD BMPs as applicable	All	City and Contractor	During construction activities	Reduction in fugitive dust generation

Mitigation Measure	Monitoring/Reporting Action	Applicable Location	Responsible Party	Timing	Effectiveness Criteria
maximum idling time to 5 minutes (as required by California airborne toxics control measure Title 13 CCR Section 2485). Clear signage shall be provided for construction workers at all access points. • All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation. • A publicly visible sign shall be posted with the telephone number and person to contact regarding dust complaints. This person shall respond and take corrective action within 48 hours. BAAQMD's phone number also shall be visible to ensure compliance with applicable regulations. • The contractor's project manager or his/her designee shall verify compliance that these measures are included in the Project's grading plan and have been implemented during normal construction site inspections.					
Biological Resources					
MM BIO-1: Nesting Bird Avoidance Measures. **Discourage Nesting**: Starting before the nesting season (i.e., prior to February 1), the City or its contractor shall visit the Project site to identify existing inactive bird nests within and in the vicinity of the Project site. If existing inactive bird nests are detected and it is determined that those nests could be impacted by the Project should they become active during construction, those existing inactive nests shall be removed prior to the nesting season (October to February) and a nest deterrent shall be	Document site visit/ Incorporation of mitigation strategies	Rutherford and Dunaweal Pump Station Sites	City	Prior to nesting season for nest or tree removal. Active nest surveys no more than 3 days prior to start of construction at each location or after any	Nesting birds and nest failures avoided; any established buffers adhered to

Mitigation Measure	Monitoring/Reporting Action	Applicable Location	Responsible Party	Timing	Effectiveness Criteria
installed as needed to prevent establishment of new nests. Disturbance or removal of active nests (i.e., nests containing eggs or young) shall not be conducted without the appropriate authorization(s) from the USFWS and/or CDFW. **Avoidance of Active Nests**: Nesting birds and their nests shall be protected during construction by use of the following measures: • Removal of trees and tree trimming should occur outside the bird nesting season (February 1 to August 30), to the extent feasible. • If construction occurs during the nesting bird season (February 1 to August 30), a qualified wildlife biologist shall conduct pre-construction nesting surveys within 3 days prior to the start of construction activities and after any construction breaks of 14 days or more. • Surveys shall be performed for the project site and suitable habitat within 100 feet of the project site in order to locate any active passerine (perching bird) nests and within 500 feet of the project site to locate any active raptor (birds of prey) nests. If active nests are located during the pre-construction bird nesting surveys, the wildlife biologist shall evaluate if the schedule of construction activities could affect the active nests and the following measures shall be implemented based on their determination: o If construction may affect the active nest, the biologist shall establish a no-disturbance buffer. Typically, these buffer distances are between 50 feet and 100 feet for passerines and between 300 feet and 500 feet for raptors. These distances may be adjusted depending on the level of surrounding ambient activity (e.g., if the project site is adjacent to a road or community				construction breaks of 14 days or more.	

Mitigation Measure	Monitoring/Reporting Action	Applicable Location	Responsible Party	Timing	Effectiveness Criteria
development) or if an obstruction, such as a tree or building, obscures line-of-sight between the nest and construction. For bird species that are regulated as federal and/or State sensitive species (i.e., fully protected, endangered, threatened, species of special concern), a City representative, supported by the wildlife biologist, shall confer with the USFWS and/or CDFW regarding modifying nest buffers and allowable construction within the buffer. • To be evaluated on a case-by-case basis: birds that begin nesting within the project site and survey buffers amid construction activities shall be assumed to be habituated to construction-related or similar noise and disturbance levels and minimum work exclusion zones of 25 feet shall be established around active nests in these cases.					
MM BIO-2: Roosting Bat Surveys A qualified biologist shall conduct a pre-construction survey for special-status bats in advance of tree trimming to characterize potential bat habitat and identify active roost sites. Should potential roosting habitat or active bat roosts be found in trees to be disturbed, the following measures shall be implemented: • Trimming or removal of trees should occur when bats are active, approximately between the periods of March 1 to April 15 and August 15 to October 15, outside of bat maternity roosting season (approximately April 15 to August 15), and outside of months of winter torpor (approximately October 15 to February 28), to the extent feasible. • If trimming or removal of trees during the periods when bats are active is not feasible and bat roosts being used for maternity or hibernation purposes are found on or in the immediate vicinity of the	Document site visit/ surveys Incorporation of mitigation strategies	Rutherford and Dunaweal Pump Station Sites	City	Prior to tree trimming or removal at each site	Special status bats are not disturbed.

Mitigation Measure	Monitoring/Reporting Action	Applicable Location	Responsible Party	Timing	Effectiveness Criteria
project site where these activities are planned, a no-disturbance buffer, as determined by a qualified biologist, shall be established around these roost sites until they are determined to be no longer in use as maternity or hibernation roosts. • Buffer distances may be adjusted around roosts depending on the level of surrounding ambient activity (i.e., if the project site is adjacent to a road) and if an obstruction, such as a building structure, is within line-of-sight between the roost and construction. If pallid bat or any other State-sensitive species is detected, a City representative, supported by the wildlife biologist, shall confer with CDFW regarding modifying roost buffers and allowable construction within the buffer, and modifying construction around maternity and hibernation roosts. • The qualified biologist shall be present during tree trimming if bat roosts are present. Trees with roosts shall be disturbed only when no rain is occurring or is forecast to occur within the next 3 days and when daytime temperatures are at least 50 Fahrenheit (°F). Branches and limbs not containing cavities or fissures in which bats could roost shall be cut only using chainsaws. Branches or limbs containing roost sites shall be trimmed the following day, under the supervision of the qualified biologist, also using chainsaws. • Bat roosts that become established during project construction shall be presumed to be unaffected, and no buffer would be necessary.					

Mitigation Measure	Monitoring/Reporting Action	Applicable Location	Responsible Party	Timing	Effectiveness Criteria
Cultural / Tribal Cultural Resources					
MM CUL-1/TCR-1: Cultural Resources Contractor Awareness Training. **MM CUL-1/TCR-1: Cultural Resources Contractor Awareness Training.** Prior to beginning construction, the Applicant shall retain a qualified archaeologist to prepare a Cultural Resources Contractor Awareness Training, subject to City approval. Local Native American representatives with an interest in the Project should also be invited to provide training to construction personnel. The training shall be given to all construction personnel prior to working on the Project, and the training shall include, but not be limited to, the following: • Guidance on identification of potential cultural resources that may be encountered, including Tribal cultural resources • The probability of exposing cultural resources • Clear direction on procedures if a find is encountered	Document training for all work personnel prior to working on the Project, including identification and handling of previously unknown cultural resources	All	City	Prior to start of construction	Educate workers regarding cultural resources
MM CUL-2/TCR-2: Unanticipated Discoveries. If construction personnel unearth Tribal cultural resources, or precontact or historic-period archaeological resources during Project implementation, all Project activities within 50 feet will halt until a professional archaeologist who meets the Secretary of the Interior's Professional Qualifications Standards in archaeology is retained and determines the significance of the discovery. Precontact archaeological materials/Tribal cultural resources might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, or scrapers) or toolmaking debris; culturally darkened soil (midden) containing heat-affected rocks,	Inform Project contractors of unearthed Tribal cultural resources, or precontact or historic-period archaeological resources procedure/ Document any reported finds and treatment plan, if needed	All	City and Contractor	If an unanticipated discovery is made during construction	Disturbance of any discovered Tribal cultural resources, precontact or historic-period archaeological resources reduced

Mitigation Measure	Monitoring/Reporting Action	Applicable Location	Responsible Party	Timing	Effectiveness Criteria
artifacts, or shellfish remains; stone milling equipment (e.g., mortars, pestles, hand stones, or milling slabs); and/or battered stone tools, such as hammerstones. The qualified archaeologist will determine impacts, significance, and mitigation in consultation with local Native American representatives. If the resource is a Tribal Cultural Resource, substantial adverse changes to this resource shall be avoided or minimized following the measures identified in Public Resources Code section 21084.3, subdivision (b), if feasible, unless other equally or more effective measures are mutually agreed on by the City, the archaeologist, and the interested local Native American representative(s).					
MM CUL-3/TCR-3: Treatment of Human Remains. If human remains are encountered, all provisions of California Health and Safety Code section 7050.5 and California Public Resources Code section 5097.98 shall be followed. Work shall stop within 100 feet of the discovery, and both an archaeologist and City staff must be contacted within 24 hours. The archaeologist shall consult with the Napa County Coroner. If human remains are of Native American origin, the County Coroner shall notify the NAHC within 24 hours of this determination, and a Most Likely Descendent shall be identified. No work is to proceed in the discovery area until consultation is complete and procedures to avoid or recover the remains have been implemented.	Inform Project contractors of human remains notification procedure/ Document any reported finds	All	City and Contractor	If an unanticipated discovery is made during construction	Potential impacts on human remains reduced
Hydrology and Water Quality					
MM HYDRO-1: Implement Stormwater Control Best Management Practices During Construction.	Contractor to prepare practices for City review. Incorporate BMPs into construction plan. On-site	All	City and Contractor	During construction	Unanticipated impacts to water quality avoided or

Mitigation Measure	Monitoring/Reporting Action	Applicable Location	Responsible Party	Timing	Effectiveness Criteria
The construction contractor shall develop and implement site specific standard best management practices, as applicable, for reducing and controlling pollutants in stormwater during construction. These measures would include standard pollution prevention actions, such as erosion and sediment control measures, proper control of non-stormwater discharges, and hazardous spill prevention and response. During construction, routine inspections of all BMPs would be conducted to document compliance and identify deficiencies to be corrected. The use of construction BMPs will minimize the potential for erosion and loss of topsoil, and would include, but not be limited to the following: • Avoid scheduling construction activities during a rain event, but be prepared for sudden changes in conditions; • Construct berms, silt fences, straw bales, fiber rolls, and/or gravel/sand bags berms; • Cover stockpiled soils during a rain event and monitor perimeter barriers, repair as necessary; • Stabilize entrances to work areas to prevent tracking of dirt or mud onto roadways; • Manage/store hazardous materials and wastes to prevent spills; • Designate appropriate areas for equipment fueling and maintenance away from drainages to prevent spills of leaks of liquids from entering waterways; and • Implement dust control practices as appropriate on all exposed surfaces. Water used for dust control shall not be applied in a manner such that runoff would be allowed occur.	monitor to verify implementation and maintenance of BMPs				appropriately mitigated

Mitigation Measure	Monitoring/Reporting Action	Applicable Location	Responsible Party	Timing	Effectiveness Criteria
• Stabilize all disturbed and exposed soils at project completion using methods such as hydroseeding with a native seed mix. With implementation of erosion control and other BMPs specifically developed for each Project site, construction activity and associated soil disturbance would not substantially degrade ground or surface water quality and impacts would be reduced to less than significant.					
Transportation					
MM TRAN-1: Implement Traffic Control Plan Before construction begins, the construction contractor shall prepare and implement a traffic control plan to minimize construction-related traffic impacts on affected roadways. The contractor shall coordinate the development and implementation of this plan with agencies with jurisdiction over the affected routes (i.e., City of Calistoga, Napa County), as appropriate. The traffic control plan shall include, at a minimum the following discussions and measures: • Traffic controls and detours based on City or County requirements and any conditions of project approval. • Time periods that construction-related traffic trips could be reduced (e.g., during the morning peak hours [7 am – 9 am.] and during the afternoon peak hours [4 pm – 6 pm]). • Determine the need to require workers to park personal vehicles at an approved staging area and take only necessary project vehicles to the worksites; • Construction area signs that will be installed and maintained throughout the project area.	Contractor to prepare traffic control plan for City review	Rutherford Pump Station	City and Contractor	Prior to construction. Implement during construction	Traffic delays are minimized. Lanes are opened in an emergency. Detours are implemented and public is informed.

Mitigation Measure	Monitoring/Reporting Action	Applicable Location	Responsible Party	Timing	Effectiveness Criteria
• Describe the use of flaggers as needed to temporarily hold traffic to safely stage equipment in advance of and/or during construction. • Discuss work hours and haul routes, delineate work areas, and identify traffic control methods and plans for flagging; • Describe the installation of advance warning signs to alert bicyclists and Silverado Trail users of the work zone and temporary detours. Advance warning signs may include reflective signs, cones, or barricades. Signage should state the anticipated duration for construction and reflect that the work is scheduled to occur between the hours of 7:00 a.m. to 7:00 p.m., Monday through Friday. • Describe signage that would be installed at both ends of the Silverado Trail segment affected by project construction at the Rutherford, directing pedestrians and bicyclists to detours facilities. • Describe how work will be confined to the immediate project site and performed in a manner that would be least disruptive to the public. • The plan shall allow methods for quickly reopening lanes (e.g., through the use of plates) in an emergency situation such as an evacuation. • The contractor shall ensure the public has access to businesses and private driveways along Silverado Trail and Dunaweal Lane at all times. • Develop and implement a process for communicating with affected residents and landowners about the project before the start of construction. The public noticing shall include posting notices and appropriate signage regarding construction activities. The written notification shall					

Mitigation Measure	Monitoring/Reporting Action	Applicable Location	Responsible Party	Timing	Effectiveness Criteria
include the construction schedule, the exact location and duration of activities on each roadway (e.g., which roads/lanes and access points/driveways will be blocked on which days and for how long), and contact information for questions and complaints. These notifications shall be coordinated with online messaging, including outreach noticing on social media and posting or linking of information to the City's website for more details. • Notifying the public regarding alternative routes that may be available to avoid delays.					
Utilities and Service Systems					
MM UTIL1: Notification of Utility Service Interruptions Prior to construction in which a utility distribution service interruption is known to be unavoidable, the City shall notify members of the public affected by the planned outage at least 10 calendar days prior to the impending interruption for residential and commercial outages.	City to verify affected residences and businesses are notified	Anywhere utilities need to be interrupted	City	Prior to any utility interruptions	Affected residences and business are informed in advance

5.0 MITIGATED NEGATIVE DECLARATION PREPARATION SOURCES AND REFERENCES

This Mitigated Negative Declaration (MND) was prepared by the staff of the City, with the assistance of AECOM.

5.1 CITY OF CALISTOGA STAFF

Hamid Heidary, P.E., Project Manager

5.2 SECTION AUTHORS AND/OR REVIEWERS

Name and Title	MND Section(s)
Bill Martin, Project Manager	Project and Agency information; Project Description; Hazards and Hazardous Materials; Mineral Resources
Karin G. Beck, RPA; Archaeologist	Cultural Resources; Tribal Cultural Resources
Peter Boice, Senior Biologist	Biology
Ryan Hutchison, Planner	Land Use and Planning, Population and Housing, Public Services, Recreation, Utilities and Service Systems
Issa Mahmoodi	Noise, Transportation
Stephanie Osby	Aesthetics, Agriculture and Forestry, Wildfire
Paola Pena, Air Quality Scientist	Air Quality; Energy; Greenhouse Gas
Tayler Tharaldson, Biologist	Biology
Geoff Thornton, Environmental Planner	Geology and Soils, Hydrology and Water Quality
Ann Campbell	Graphics

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APPENDIX A

AIR QUALITY AND GHG EMISSIONS SUMMARY

Appendix A

Dunaweal Pump Station Replacement Project - Air Quality and GHG Emissions Summary

Annual Construction Emissions											
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	CO2e
Year	tons/year										MT/year
2022	0.05	0.41	0.44	5.00E-03	0.02	0.05	0.07	0.02	0.02	0.04	90.4
2023	0.01	0.04	0.05	5.00E-03	< 0.005	< 0.005	0.01	5.00E-03	5.00E-03	5.00E-03	12.1
Total Emissions (tons)	0.06	0.45	0.49	0.01	0.02	0.05	0.08	0.03	0.03	0.05	102.50
Notes: ROG = reactive organic gases; NOx = nitrogen oxides; CO = carbon monoxide; SO2 = sulfur dioxide; PM10 = particulate matter equal or less than 10 micrometers in diameter; PM2.5 = particulate matter equal or less than 2.5 micrometers in diameter											

Average Daily Construction Emissions										
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total Emissions (tons)	0.06	0.45	0.49	0.01	0.02	0.05	0.08	0.03	0.03	0.05
Average Daily Emissions (pounds/day)[1]	0.90	6.72	7.31	0.15	0.30	0.75	1.19	0.37	0.37	0.67
Threshold[2]	54	54				82			54	
Exceed Threshold?	No	No				No			No	
Notes:										

Annual Operational Emissions											
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	CO2e
	tons/year										MT/year
Emergency Generator	0.03	0.14	0.08	5.00E-03	0	5.00E-03	5.00E-03	0	5.00E-03	5.00E-03	14.4
Electricity Consumption	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	111
Total Emissions	0.03	0.14	0.08	0.01	0.00	0.01	0.01	0.00	0.01	0.01	125.40
Threshold	10.00	10.00					15.00			10.00	
Exceed Threshold?	No	No					No			No	
Notes: ROG = reactive organic gases; NOx = nitrogen oxides; CO = carbon monoxide; SO2 = sulfur dioxide; PM10 = particulate matter equal or less than 10 micrometers in diameter; PM2.5 = particulate matter											

Average Daily Operational Emissions										
	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total
Total Emissions (tons)	0.03	0.14	0.08	0.01	0.00	0.01	0.01	0.00	0.01	0.01
Average Daily Emissions (pounds/day)[1]	0.16	0.77	0.44	0.03	0.00	0.03	0.03	0.00	0.03	0.03
Threshold	54	54					82			54
Exceed Threshold?	No	No					No			No

Start Date	8/2/2022
End Date	2/3/2023
Total Days of Construction	134
lb/ton	2000

Operational Greenhouse Gas Emissions	
Year	MT CO2e
Amortized Construction	3
Emergency Generator	14
Electricity	111
Total	129

Dunaweal Pump Station Replacement Project - Energy Consumption Summary

Construction and Operational - Energy Consumption Summary			
Phase	Energy Requirement	Unit	Annual Energy Consumption (MMBtu)
Construction [1] (amortized over project lifetime)			
Diesel	260	Gallons/yr	36
Gasoline	84	Gallons/yr	11
		Subtotal	*46*
Operations [2]			
Electrical	1,188,885	KWh/yr	4,057
Diesel	1,413	Gallons/yr	195
		Subtotal	*4,252*
		Total	*4,298*

Notes:
Totals may not add due to rounding.
1. Construction estimates are based on conversion for CO_2 emissions estimates from CalEEMod to fuel consumption for diesel and gasoline-powered vehicles using U.S. Energy Information Administration 2021 factors. The CO_2 emission estimates are based on the GHG calculations for the project.
2. Operational energy consumption is based on estimated electricity demand of the Dunaweal Pumpstation and Rutherford Pumpstation.
3. The fuel consumption associated with the diesel emergency generator is based on the CO2 emission estimates.

Conversion Factors		
Category	Amount	Units
Diesel (heat content)	5.8	MMBtu/barrel
Motor Gasoline	5.25	MMBtu/barrel
Btu per kWh	3,412	Btu/kWh
Gallons per Barrel	42	gallons/barrel

https://www.theclimateregistry.org/wp-content/uploads/2021/05/2021-Default-Emission-Factor-Document.pdf

Construction Fuel Consumption				
Source	MT CO_2 [a]	Fuel Type	Factor (MT CO_2/gallon) [b]	Gallons
Offroad Equipment	76	Diesel	0.01019	7,433
Hauling	1	Diesel	0.01019	81
Vendor	3	Diesel	0.01019	294
Worker	22	Gas	0.00878	2,533
		Total Gallons	Diesel	7,809
			Gasoline	2,533
		Amortized Demands (over 30 years)	Diesel	260
			Gasoline	84
Notes:				
Sources: [a] Based on GHG emission estimates for the project. [b] U.S. Energy Information Administration 2022 (https://www.eia.gov/environment/emissions/co2_vol_mass.php)				

Operational Diesel Emergency Generator Fuel Consumption				
Source	MT CO_2 [a]	Fuel Type	Factor (MT CO_2/gallon) [b]	Gallons/year
Emergency Generator	14.4	Diesel	0.01019	1,413
Notes:				
Sources: [a] Based on GHG emission estimates for the project. [b] U.S. Energy Information Administration 2022 (https://www.eia.gov/environment/emissions/co2_vol_mass.php)				

Dunaweal Pumpstation Replacement Project Custom Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	Dunaweal Pumpstation Replacement Project
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	3.60
Precipitation (days)	32.4
Location	38.48853095193664, -122.40744554212404
County	Napa
City	Unincorporated
Air District	Bay Area AQMD
Air Basin	San Francisco Bay Area
TAZ	803
EDFZ	2
Electric Utility	Pacific Gas & Electric Company
Gas Utility	Pacific Gas & Electric

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
User Defined Industrial	1.00	User Defined Unit	0.12	1,344	0.00	0.00	—	Rutherford Pump Station
User Defined Industrial	1.00	User Defined Unit	0.06	0.00	0.00	0.00	—	Dunaweal Pump Station

User Defined Industrial	1.00	User Defined Unit	0.01	0.00	0.00	0.00	—	Napa Meter

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2022	3.15	2.66	25.7	25.6	0.04	1.15	10.4	11.6	1.06	5.20	6.26	—	4,341	4,341	0.19	0.14	3.75	4,392
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2022	1.04	0.90	7.68	7.91	0.01	0.29	0.41	0.71	0.27	0.10	0.37	—	1,954	1,954	0.09	0.04	0.06	1,967
2023	0.54	0.46	3.38	4.18	0.01	0.13	0.31	0.43	0.12	0.07	0.19	—	1,089	1,089	0.05	0.03	0.04	1,098
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2022	0.31	0.27	2.27	2.39	< 0.005	0.09	0.27	0.36	0.08	0.11	0.19	—	542	542	0.02	0.01	0.28	546
2023	0.04	0.03	0.22	0.27	< 0.005	0.01	0.02	0.03	0.01	< 0.005	0.01	—	72.6	72.6	< 0.005	< 0.005	0.05	73.3
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2022	0.06	0.05	0.41	0.44	< 0.005	0.02	0.05	0.07	0.02	0.02	0.04	—	89.8	89.8	< 0.005	< 0.005	0.05	90.4
2023	0.01	0.01	0.04	0.05	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	12.0	12.0	< 0.005	< 0.005	0.01	12.1

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.01	0.01	0.01	0.05	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.3	12.3	< 0.005	< 0.005	0.06	12.6
Area	0.01	0.04	< 0.005	0.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.24	0.24	< 0.005	< 0.005	—	0.24
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	664	664	0.11	0.01	—	671
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	1.36	1.24	5.54	3.16	0.01	0.18	—	0.18	0.18	—	0.18	—	634	634	0.03	< 0.005	—	636
Total	1.38	1.29	5.55	3.27	0.01	0.18	< 0.005	0.19	0.18	< 0.005	0.18	0.00	1,311	1,311	0.13	0.02	0.06	1,320
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.01	0.01	0.01	0.05	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	< 0.005	11.9
Area	—	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	664	664	0.11	0.01	—	671
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationary	1.36	1.24	5.54	3.16	0.01	0.18	—	0.18	0.18	—	0.18	—	634	634	0.03	< 0.005	—	636
Total	1.37	1.28	5.55	3.21	0.01	0.18	< 0.005	0.19	0.18	< 0.005	0.18	0.00	1,310	1,310	0.13	0.02	< 0.005	1,319
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	0.01	0.04	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	8.44	8.44	< 0.005	< 0.005	0.02	8.60
Area	0.01	0.04	< 0.005	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.12	0.12	< 0.005	< 0.005	—	0.12
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	664	664	0.11	0.01	—	671
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Stationar	0.19	0.17	0.76	0.43	< 0.005	0.02	—	0.02	0.02	—	0.02	—	86.8	86.8	< 0.005	< 0.005	—	87.1
Total	0.20	0.21	0.77	0.50	< 0.005	0.03	< 0.005	0.03	0.03	< 0.005	0.03	0.00	760	760	0.11	0.01	0.02	767
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.40	1.40	< 0.005	< 0.005	< 0.005	1.42
Area	< 0.005	0.01	< 0.005	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.02	0.02	< 0.005	< 0.005	—	0.02
Energy	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	110	110	0.02	< 0.005	—	111
Water	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Waste	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Stationar y	0.03	0.03	0.14	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.4	14.4	< 0.005	< 0.005	—	14.4
Total	0.04	0.04	0.14	0.09	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.00	126	126	0.02	< 0.005	< 0.005	127

3. Construction Emissions Details

3.1. Demolition (2022) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.33	0.28	2.31	2.87	< 0.005	0.11	—	0.11	0.10	—	0.10	—	401	401	0.02	< 0.005	—	402
Demolitio n	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.20	2.20	< 0.005	< 0.005	—	2.20
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.36	0.36	< 0.005	< 0.005	—	0.37
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.18	0.14	2.09	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	330	330	0.02	0.01	1.63	336
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.70	1.70	< 0.005	< 0.005	< 0.005	1.73
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.28	0.28	< 0.005	< 0.005	< 0.005	0.29

Vendor	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	0.00
Hauling	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	0.00

3.3. Demolition (2022) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.85	0.71	7.02	6.98	0.01	0.31	—	0.31	0.28	—	0.28	—	1,361	1,361	0.06	0.01	—	1,366
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.46	7.46	< 0.005	< 0.005	—	7.49
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.24	1.24	< 0.005	< 0.005	—	1.24
Demolition	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—

Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.70	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	110	110	0.01	< 0.005	0.54	112
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.57	0.57	< 0.005	< 0.005	< 0.005	0.58
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.10
Vendor	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	0.00
Hauling	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	0.00

3.5. Site Preparation (2022) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.33	1.12	11.5	10.1	0.01	0.53	—	0.53	0.49	—	0.49	—	1,468	1,468	0.06	0.01	—	1,473
Dust From Material Movement	—	—	—	—	—	—	4.91	4.91	—	2.53	2.53	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.1	12.1	< 0.005	< 0.005	—	12.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.00	2.00	< 0.005	< 0.005	—	2.00
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.18	0.14	2.06	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	325	325	0.02	0.01	1.61	331

Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.51	2.51	< 0.005	< 0.005	0.01	2.55
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.42	0.42	< 0.005	< 0.005	< 0.005	0.42
Vendor	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	0.00
Hauling	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	0.00

3.7. Site Preparation (2022) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.33	1.12	11.5	10.1	0.01	0.53	—	0.53	0.49	—	0.49	—	1,468	1,468	0.06	0.01	—	1,473
Dust From Material Movement	—	—	—	—	—	—	4.91	4.91	—	2.53	2.53	—	—	—	—	—	—	—
Onsite truck	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.1	12.1	< 0.005	< 0.005	—	12.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.00	2.00	< 0.005	< 0.005	—	2.00
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.70	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	110	110	0.01	< 0.005	0.54	112
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.85	0.85	< 0.005	< 0.005	< 0.005	0.86
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.14	0.14	< 0.005	< 0.005	< 0.005	0.14
Vendor	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	0.00
Hauling	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	0.00

3.9. Site Preparation (2022) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.14	1.39	1.92	< 0.005	0.07	—	0.07	0.07	—	0.07	—	290	290	0.01	< 0.005	—	291
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.96	7.96	< 0.005	< 0.005	—	7.98

Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.32	1.32	< 0.005	< 0.005	—	1.32
Dust From Material Movement	—	—	—	—	—	—	0.00	0.00	—	0.00	0.00	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.35	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	55.0	55.0	< 0.005	< 0.005	0.27	55.9
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.04	14.7
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	1.42	1.42	< 0.005	< 0.005	< 0.005	1.44
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.38	0.38	< 0.005	< 0.005	< 0.005	0.40
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.23	0.23	< 0.005	< 0.005	< 0.005	0.24
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.06	0.06	< 0.005	< 0.005	< 0.005	0.07

Hauling	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	0.00

3.11. Grading (2022) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.33	1.12	11.5	10.1	0.01	0.53	—	0.53	0.49	—	0.49	—	1,468	1,468	0.06	0.01	—	1,473
Dust From Material Movement	—	—	—	—	—	—	4.92	4.92	—	2.53	2.53	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.1	12.1	< 0.005	< 0.005	—	12.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.00	2.00	< 0.005	< 0.005	—	2.00

Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.18	0.14	2.09	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	330	330	0.02	0.01	1.63	336
Vendor	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	0.00
Hauling	0.04	0.02	0.90	0.24	0.01	0.01	0.04	0.05	0.01	0.01	0.02	—	555	555	0.03	0.09	1.16	584
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.55	2.55	< 0.005	< 0.005	0.01	2.59
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.57	4.57	< 0.005	< 0.005	< 0.005	4.79
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.42	0.42	< 0.005	< 0.005	< 0.005	0.43
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.76	0.76	< 0.005	< 0.005	< 0.005	0.79

3.13. Grading (2022) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.33	1.12	11.5	10.1	0.01	0.53	—	0.53	0.49	—	0.49	—	1,468	1,468	0.06	0.01	—	1,473
Dust From Material Movement	—	—	—	—	—	—	4.91	4.91	—	2.53	2.53	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.09	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	12.1	12.1	< 0.005	< 0.005	—	12.1
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.00	2.00	< 0.005	< 0.005	—	2.00
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.70	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	110	110	0.01	< 0.005	0.54	112
Vendor	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	0.00
Hauling	< 0.005	< 0.005	0.08	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	50.5	50.5	< 0.005	0.01	0.11	53.1
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.85	0.85	< 0.005	< 0.005	< 0.005	0.86
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.42	0.42	< 0.005	< 0.005	< 0.005	0.44
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	0.14	0.14	< 0.005	< 0.005	< 0.005	0.14
Vendor	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	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.07	0.07	< 0.005	< 0.005	< 0.005	0.07

3.15. Building Construction (2022) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.33	3.66	2.67	0.01	0.15	—	0.15	0.14	—	0.14	—	743	743	0.03	0.01	—	745
Onsite truck	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	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.33	3.66	2.67	0.01	0.15	—	0.15	0.14	—	0.14	—	743	743	0.03	0.01	—	745
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	1.02	0.74	< 0.005	0.04	—	0.04	0.04	—	0.04	—	206	206	0.01	< 0.005	—	207
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.19	0.14	< 0.005	0.01	—	0.01	0.01	—	0.01	—	34.2	34.2	< 0.005	< 0.005	—	34.3
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.18	0.14	2.09	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	330	330	0.02	0.01	1.63	336
Vendor	< 0.005	< 0.005	0.08	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	44.9	44.9	< 0.005	0.01	0.12	47.0
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.19	0.17	0.18	1.89	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	307	307	0.02	0.01	0.04	312
Vendor	< 0.005	< 0.005	0.08	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	44.9	44.9	< 0.005	0.01	< 0.005	46.9
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.05	0.05	0.05	0.51	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	86.2	86.2	0.01	< 0.005	0.20	87.5
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.5	12.5	< 0.005	< 0.005	0.01	13.1
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	14.3	14.3	< 0.005	< 0.005	0.03	14.5
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.06	2.06	< 0.005	< 0.005	< 0.005	2.16
Hauling	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	0.00

3.17. Building Construction (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.36	0.30	3.14	2.40	0.01	0.13	—	0.13	0.12	—	0.12	—	743	743	0.03	0.01	—	745
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.21	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	49.4	49.4	< 0.005	< 0.005	—	49.6
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.18	8.18	< 0.005	< 0.005	—	8.21

Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.18	0.15	0.17	1.75	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	302	302	0.02	0.01	0.04	306
Vendor	< 0.005	< 0.005	0.07	0.03	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	44.4	44.4	< 0.005	0.01	< 0.005	46.4
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	20.3	20.3	< 0.005	< 0.005	0.04	20.6
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.95	2.95	< 0.005	< 0.005	< 0.005	3.09
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	3.36	3.36	< 0.005	< 0.005	0.01	3.41
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.49	0.49	< 0.005	< 0.005	< 0.005	0.51
Hauling	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	0.00

3.19. Building Construction (2022) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.40	0.33	3.66	2.67	0.01	0.15	—	0.15	0.14	—	0.14	—	743	743	0.03	0.01	—	745
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.40	0.33	3.66	2.67	0.01	0.15	—	0.15	0.14	—	0.14	—	743	743	0.03	0.01	—	745
Onsite truck	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.07	0.06	0.61	0.45	< 0.005	0.02	—	0.02	0.02	—	0.02	—	124	124	0.01	< 0.005	—	125
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.11	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20.5	20.5	< 0.005	< 0.005	—	20.6
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.05	0.70	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	110	110	0.01	< 0.005	0.54	112
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	0.04	14.7
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.06	0.06	0.63	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	102	102	0.01	< 0.005	0.01	104

Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	14.0	14.0	< 0.005	< 0.005	< 0.005	14.7
Hauling	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	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	17.3	17.3	< 0.005	< 0.005	0.04	17.5
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.34	2.34	< 0.005	< 0.005	< 0.005	2.45
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	2.86	2.86	< 0.005	< 0.005	0.01	2.90
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.39	0.39	< 0.005	< 0.005	< 0.005	0.41
Hauling	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	0.00

3.21. Paving (2022) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.77	0.65	5.29	5.61	0.01	0.27	—	0.27	0.25	—	0.25	—	855	855	0.03	0.01	—	857
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.01	0.07	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11.7	11.7	< 0.005	< 0.005	—	11.7
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.94	1.94	< 0.005	< 0.005	—	1.94
Paving	—	0.00	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	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	0.00
Vendor	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	0.00
Hauling	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	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	0.01	0.01	0.01	0.05	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.3	12.3	< 0.005	< 0.005	0.06	12.6
Total	0.01	0.01	0.01	0.05	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12.3	12.3	< 0.005	< 0.005	0.06	12.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	0.01	0.01	0.01	0.05	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	< 0.005	11.9
Total	0.01	0.01	0.01	0.05	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.7	11.7	< 0.005	< 0.005	< 0.005	11.9
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.40	1.40	< 0.005	< 0.005	< 0.005	1.42
Total	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.40	1.40	< 0.005	< 0.005	< 0.005	1.42

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	664	664	0.11	0.01	—	671
Total	—	—	—	—	—	—	—	—	—	—	—	—	664	664	0.11	0.01	—	671
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	664	664	0.11	0.01	—	671
Total	—	—	—	—	—	—	—	—	—	—	—	—	664	664	0.11	0.01	—	671
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	110	110	0.02	< 0.005	—	111
Total	—	—	—	—	—	—	—	—	—	—	—	—	110	110	0.02	< 0.005	—	111

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Emergency Generator	1.36	1.24	5.54	3.16	0.01	0.18	—	0.18	0.18	—	0.18	—	634	634	0.03	< 0.005	—	636
Total	1.36	1.24	5.54	3.16	0.01	0.18	—	0.18	0.18	—	0.18	—	634	634	0.03	< 0.005	—	636
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	1.36	1.24	5.54	3.16	0.01	0.18	—	0.18	0.18	—	0.18	—	634	634	0.03	< 0.005	—	636
Total	1.36	1.24	5.54	3.16	0.01	0.18	—	0.18	0.18	—	0.18	—	634	634	0.03	< 0.005	—	636
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Emergency Generator	0.03	0.03	0.14	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.4	14.4	< 0.005	< 0.005	—	14.4
Total	0.03	0.03	0.14	0.08	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.4	14.4	< 0.005	< 0.005	—	14.4

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
R - Demolition	Demolition	8/2/2022	8/3/2022	5.00	2.00	—
D - Demolition	Demolition	8/2/2022	8/3/2022	5.00	2.00	—
R - Site Preparation	Site Preparation	8/4/2022	8/8/2022	5.00	3.00	—
D - Site Preparation	Site Preparation	8/4/2022	8/8/2022	5.00	3.00	—
N - Site Preparation	Site Preparation	8/2/2022	8/15/2022	5.00	10.0	—
R - Grading	Grading	8/9/2022	8/11/2022	5.00	3.00	—
D - Grading	Grading	8/9/2022	8/11/2022	5.00	3.00	—
R - Building Construction	Building Construction	8/12/2022	2/3/2023	5.00	126	—

D - Building Construction	Building Construction	8/12/2022	11/5/2022	5.00	61.0	—
R D - Paving	Paving	8/12/2022	8/18/2022	5.00	5.00	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
R - Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	6.00	33.0	0.73
R - Demolition	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.00	84.0	0.37
R - Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
R - Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
R - Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
R - Building Construction	Cranes	Diesel	Average	1.00	6.00	367	0.29
R D - Paving	Cement and Mortar Mixers	Diesel	Average	4.00	6.00	10.0	0.56
R D - Paving	Pavers	Diesel	Average	2.00	6.00	81.0	0.42
R D - Paving	Rollers	Diesel	Average	2.00	6.00	36.0	0.38
D - Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	6.00	33.0	0.73
D - Demolition	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
D - Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	2.00	6.00	84.0	0.37
N - Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.00	84.0	0.37
D - Grading	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40

D - Grading	Tractors/Loaders/Backh	Diesel	Average	2.00	6.00	84.0	0.37
D - Building Construction	Cranes	Diesel	Average	1.00	6.00	367	0.29
D - Demolition	Cranes	Diesel	Average	1.00	6.00	367	0.29
R - Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40
D - Site Preparation	Rubber Tired Dozers	Diesel	Average	1.00	6.00	367	0.40

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
R - Demolition	—	—	—	—
R - Demolition	Worker	36.0	11.7	LDA,LDT1,LDT2
R - Demolition	Vendor	0.00	8.40	HHDT,MHDT
R - Demolition	Hauling	0.00	20.0	HHDT
R - Demolition	Onsite truck	0.00	—	HHDT
R - Site Preparation	—	—	—	—
R - Site Preparation	Worker	35.5	11.7	LDA,LDT1,LDT2
R - Site Preparation	Vendor	0.00	8.40	HHDT,MHDT
R - Site Preparation	Hauling	0.00	20.0	HHDT
R - Site Preparation	Onsite truck	0.00	—	HHDT
R - Grading	—	—	—	—
R - Grading	Worker	36.0	11.7	LDA,LDT1,LDT2
R - Grading	Vendor	0.00	8.40	HHDT,MHDT
R - Grading	Hauling	7.33	20.0	HHDT
R - Grading	Onsite truck	0.00	—	HHDT
R - Building Construction	—	—	—	—
R - Building Construction	Worker	36.0	11.7	LDA,LDT1,LDT2

R - Building Construction	Vendor	1.60	8.40	HHDT,MHDT
R - Building Construction	Hauling	0.00	20.0	HHDT
R - Building Construction	Onsite truck	—	—	HHDT
R D - Paving	—	—	—	—
R D - Paving	Worker	0.00	11.7	LDA,LDT1,LDT2
R D - Paving	Vendor	0.00	8.40	HHDT,MHDT
R D - Paving	Hauling	0.00	20.0	HHDT
R D - Paving	Onsite truck	0.00	—	HHDT
D - Demolition	—	—	—	—
D - Demolition	Worker	12.0	11.7	LDA,LDT1,LDT2
D - Demolition	Vendor	0.00	8.40	HHDT,MHDT
D - Demolition	Hauling	0.00	20.0	HHDT
D - Demolition	Onsite truck	0.00	—	HHDT
D - Site Preparation	—	—	—	—
D - Site Preparation	Worker	12.0	11.7	LDA,LDT1,LDT2
D - Site Preparation	Vendor	0.00	8.40	HHDT,MHDT
D - Site Preparation	Hauling	0.00	20.0	HHDT
D - Site Preparation	Onsite truck	0.00	—	HHDT
N - Site Preparation	—	—	—	—
N - Site Preparation	Worker	6.00	11.7	LDA,LDT1,LDT2
N - Site Preparation	Vendor	0.50	8.40	HHDT,MHDT
N - Site Preparation	Hauling	0.00	20.0	HHDT
N - Site Preparation	Onsite truck	0.00	—	HHDT
D - Grading	—	—	—	—
D - Grading	Worker	12.0	11.7	LDA,LDT1,LDT2
D - Grading	Vendor	—	8.40	HHDT,MHDT
D - Grading	Hauling	0.67	20.0	HHDT

D - Grading	Onsite truck	—	—	HHDT
D - Building Construction	—	—	—	—
D - Building Construction	Worker	12.0	11.7	LDA,LDT1,LDT2
D - Building Construction	Vendor	0.50	8.40	HHDT,MHDT
D - Building Construction	Hauling	0.00	20.0	HHDT
D - Building Construction	Onsite truck	—	—	HHDT

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
R - Demolition	0.00	0.00	0.00	—	—
D - Demolition	0.00	0.00	0.00	—	—
R - Site Preparation	0.00	0.00	1.13	0.00	—
D - Site Preparation	0.00	0.00	1.13	0.00	—
N - Site Preparation	0.00	0.00	0.00	0.00	—
R - Grading	5.00	166	1.13	0.00	—
D - Grading	5.00	5.00	1.13	0.00	—
R D - Paving	0.00	0.00	0.00	0.00	0.00

5.6.2. Construction Earthmoving Control Strategies

Non-applicable. No control strategies activated by user.

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
User Defined Industrial	0.00	0%
User Defined Industrial	0.00	0%
User Defined Industrial	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2022	0.00	204	0.03	< 0.005
2023	0.00	204	0.03	< 0.005

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
User Defined Industrial	1.00	0.00	0.00	261	13.8	0.00	0.00	3,592
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
User Defined Industrial	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
User Defined Industrial	849,204	204	0.0330	0.0040	0.00
User Defined Industrial	339,681	204	0.0330	0.0040	0.00
User Defined Industrial	0.00	204	0.0330	0.0040	0.00

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor
Emergency Generator	Diesel	1.00	1.00	50.0	755	0.73

5.17. User Defined

Equipment Type	Fuel Type
—	—

8. User Changes to Default Data

Screen	Justification
Land Use	Project areas of disturbance across Rutherford and Dunaweal Pump Stations and Napa Meter Valve
Construction: Construction Phases	Project specific schedules for Rutherford, Dunaweal, and Napa Meter construction work.
Construction: Off-Road Equipment	Project specific equipment for each location.
Construction: Trips and VMT	Based on 36 workers for Rutherford, 12 workers for Dunaweal, and 5 for Napa. Material export/import informs trucks trips.
Operations: Vehicle Data	Based on one weekly inspections/monthly maintenance trip.
Operations: Energy Use	Based on pump station electricity requirements.