Initial Study and Negative Declaration

ORLAND FIREBREAK/FUELS REDUCTION PROJECT

Orland, California

Lead Agency:

City of Orland
815 Fourth Street
Orland, California 95963

Prepared by:

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

55 Hanover Lane
Suite A
Chico, California 95973

February 2023

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NEGATIVE DECLARATION

Lead Agency:	City of Orland
Project Proponent:	City of Orland/Orland Volunteer Fire Department
Project Location:	The Proposed Project is located just outside the City of Orland, between Stony Creek and the Orland City limit, Orland, California (Figures 1). corresponds to a portion of Section 21, Township 22 North, and Range 3 West (Mount Diablo Base and Meridian) of the "Kirkwood, California" 7.5-minute quadrangle (U.S. Geological Survey [USGS] 1983, imagery 2015). The approximate center of the site is located at latitude 39.755417º and longitude -122.181522º.

Project Description:

The City of Orland proposes the construction of a 1.20-acre, 1-mile-long, approximately 10- to 20-foot-wide firebreak between Stony Creek and the City of Orland. The Project would start in the open area between Stony Creek and the end of Modoc Street, and extend east toward Road MM, stopping just past the existing stormwater basin (Figure 1). The Project Area consists of a meandering corridor that follows previously established gravel roads and footpaths so as to avoid impacts to potentially biologically sensitive areas. The majority of the Project Area will be 20 feet wide excepting a 600-foot section that will be 10 feet wide to further reduce potential impacts to sensitive areas.

To facilitate the undertaking of the project the Orland Volunteer Fire Department will acquire and utilize an excavator (bulldozer) to create the firebreak and will avoid impacts to wetland features and any cultural resources. The Project will also avoid the elderberry shrub shown on Figure 1. The Project stay outside of the dripline (20 feet) of the elderberry shrub.

Public Review Period: to be determined

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ECORP Consulting, Inc.

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ACRONYMS AND ABBREVIATIONS

Acronym/Abbreviation	Description
°F	Degrees Fahrenheit
AB	Assembly Bill
AE-20	Exclusive Agriculture
ADT	Average Daily Trips
AF	Acre-feet
AMSL	Above mean sea level
APE	Area of Potential Effect
AQAP	Air Quality Attainment Plan
bgs	Below ground surface
BMPs	Best Management Practices
BRA	Biological Resources Assessment
CAA	Clean Air Act
CAISO	California Independent System Operator
CalEEMod	California Emissions Estimator Model
CAL FIRE	California Department of Forestry and Fire Protection
CalGreen	California Green Building Standards Code
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CGS	California Geological Survey
CH_4	methane
CHL	California Historical Landmark
City	City of Orland
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	Carbon dioxide equivalent
County	Glenn County

Acronym/Abbreviation	Description
CPUC	California Public Utilities Commission
CRHR	California Register of Historic Places
dB	Decibel
dBA	Decibel is A-weighted
DEIR	Draft Environmental Impact Report
DOC	Department Of Conservation
DOE	California Department of Education
DOF	Department of Finance
DPM	Diesel particulate matter
DTSC	California Department of Toxic Substances Control
DWR	California Department of Water Resources
ECHO	Enforcement and Compliance History Online
EO	Executive Order
FEMA	Federal Emergency Management Agency
FHWA	Federal Highway Administration
FIRM	Flood Insurance Rate Map
FTA	Federal Transit Administration
GCAPCD	Glenn County Air Pollution Control District
GCWMRA	Glenn County Waste Management Regional Agency
GHG	Greenhouse Gas
gpd	Gallons per day
gpm	Gallon per minute
hp	Horsepower
HUE	Housing Unit Equivalent
I-5	Interstate 5
IS/ND	Initial Study/ Negative Declaration
kV	Kilovolt
kWh	Kilowatt hour
lbs/day	Pounds per day
L_{eq}	Measure of ambient noise
LOS	Level of Service
MBTA	Migratory Bird Treaty Act
mgd	Million gallons per day
MRZ	Mineral Resource Zone
N_2O	nitrous oxide
NHPA	National Historic Preservation Act
NIOSH	National Institute for Occupational Safety and Health
NO_x	nitrogen oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NSVAB	Northern Sacramento Valley Air Basin
NSVPA	Northern Sacramento Valley Planning Area
O_3	Ozone
OPD	Orland Police Department
OPR	Office of Planning and Research

Acronym/Abbreviation	Description
OUSD	Orland Unified School District
OVFD	Orland Volunteer Fire Department
PG&E	Pacific Gas & Electric Company
$PM_{2.5}$	Particulate Matter Less than 2.5 Microns in Diameter
PM_{10}	Particulate Matter Less than 10 Microns in Diameter
ppm	Parts per million
PPV	Peak particle velocity
PRC	Public Resources Code
Project or Proposed Project	Orland Firebreak Project
psi	Pounds per square inch
ROG	Reactive Organic Gases
SB	Senate Bill
SGMA	Sustainable Groundwater Management Act
SIP	State Implementation Plan
SMAQMD	Sacramento Metropolitan Air Quality Management District
SO_2	sulfur dioxide
SR	State Route
SWRCB	State Water Resources Control Board
TAC	Toxic air contaminant
USACE	United States Army Corps of Engineers
USBR	U.S. Bureau of Reclamation
UCMP	University of California Museum of Paleontology
USEPA	U.S. Environmental Protection Agency
USGS	U.S. Geological Survey
VMT	Vehicle Miles Traveled
WEAL	Western Electro-Acoustic Laboratory, Inc.

1.0 BACKGROUND

1.1 Summary

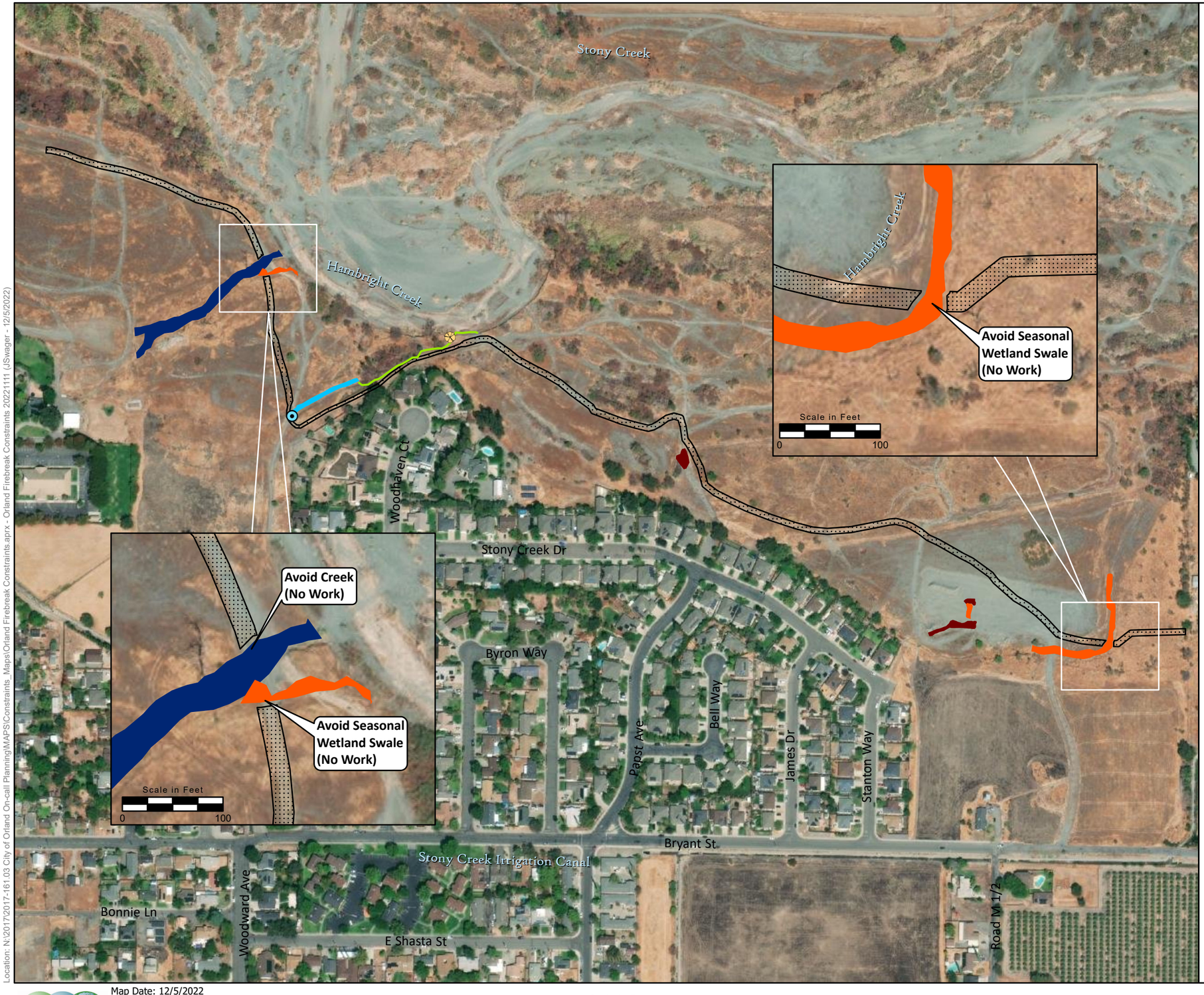
Project Title:	Orland Firebreak Project
Lead Agency Name and Address:	City of Orland 815 Fourth Street Orland, California 95963
Contact Person and Phone Number:	Scott Friend, City Planner (530) 865-1608
Project Location:	The Proposed Project is located just outside the City of Orland, between Stony Creek and the Orland City limit, Orland, California (Figures 1). corresponds to a portion of Section 21, Township 22 North, and Range 3 West (Mount Diablo Base and Meridian) of the "Kirkwood, California" 7.5-minute quadrangle (U.S. Geological Survey [USGS] 1983, imagery 2015). The approximate center of the site is located at latitude 39.755417º and longitude -122.181522º.
General Plan Designation:	Ag Transition
Zoning:	Exclusive Agriculture (AE-20)

1.2 Introduction

The City of Orland is the Lead Agency for this Initial Study/Negative Declaration (IS/ND), which has been prepared to identify and assess the anticipated environmental impacts of the proposed Orland Firebreak Project (Project or Proposed Project). This document has been prepared to satisfy the California Environmental Quality Act (CEQA) (Public Resources Code [PRC], § 21000 et seq.) and State CEQA Guidelines (14 California Code of Regulations [CCR] 15000 et seq.). CEQA requires that all state and local government agencies consider the environmental consequences of Projects over which they have discretionary authority before acting on those Projects. A CEQA IS/ND is generally used to determine the potentially significant environmental effects.

1.3 Surrounding Land Uses/Environmental Setting

Surrounding uses include a mixture of single-family residential neighborhoods, vacant parcels, and the Latter-Day Saints Church to the south, Orland High School and residential uses to the west, and vacant land, rural residential, and agricultural uses to the east and north of the Project Area.



Map Contents

- Proposed Firebreak
- Culvert
- Riparian Avoidance Line
- Elderberry Shrub

Aquatic Resources

- Creek
- Ephemeral Drainage
- Seasonal Wetland
- Seasonal Wetland Swale

Sources: ESRI, Maxar (2021)

Location: N:\2017\2017-161.03 City of Orland On-call Planning\MAPS\Constraints_Maps\Orland Firebreak Constraints 20221111 (JSwager - 12/5/2022) Constraints.aprx - Orland Firebreak

Map Date: 12/5/2022

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Scale in Feet
0
400

Figure 1. Project Regional Location Map

2017-161.03 City of Orland - OVFD Fuels Reduction

The Project Area is located on uneven terrain and is situated at an elevational range between approximately 239 to 254 feet above mean sea level (AMSL). The vegetation communities present in the vicinity include barren, ruderal, and annual grassland. Potential Waters of the U.S./State, including seasonal wetlands, were observed at several locations in the vicinity of the Project Area. All Potential Waters of the U.S./ State and any wetland features will be completely avoided. Several potential seasonal wetlands occur within the Project Area. There are two locations, one at the west end and one at the east end. However, the firebreak will avoid these features completely. The Project Area is currently undeveloped.

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2.0 PROJECT DESCRIPTION

2.1 Project Characteristics

The Proposed Project is the construction of a 1-mile-long, approximately 10- to 20-foot-wide firebreak between Stony Creek and the City of Orland. The Project would start in the open area between Stony Creek and the end of Modoc Street, and extend east toward Road MM, stopping just past the gravel pit (Figure 1). The Project Area consists of a meandering corridor that follows previously established gravel roads and footpaths so as to avoid impacts to biologically sensitive areas. Much of the Project Area will be 20 feet wide except for a 600-foot section that will be 10 feet wide.

The Orland Volunteer Fire Department will acquire and use a bulldozer to create the firebreak and will avoid impacts to biological resources. As this bulldozer will be the first bulldozer owned by the City of Orland, it will also be on standby for emergency situations to be used to protect the citizens of Orland in future fire-related incidents. In all incidents, the fire department would avoid impacts to biological resources.

City required approvals: None

2.1.1 Construction

Construction activities associated with the Proposed Project would require the use of a bulldozer to create a firebreak to minimize or eliminate any potential impacts associated with wildfires.

2.1.2 Employees and Operations

The hours of operation for the Proposed Project would be daylight hours. The anticipated length of the Project is not expected to go beyond one week with no more than 3 employees/volunteers involved (1 – operator, 1 – flag/route setter, 1 – project supervisor).

2.2 Regulatory Requirements, Permits, and Approvals

The following approvals and regulatory permits would be required for implementation of the Proposed Project.

2.2.1 Lead Agency Approval

As the lead agency, the City of Orland has the ultimate authority for Project approval. The Proposed Project may require the following discretionary approvals and permits by the City for actions proposed as part of the Project:

- Adoption of the IS/ND

In addition to the above City actions, the Project may require approvals, permits, and entitlements from other public agencies for which this IS/ND may be used, including, without limitation, the following:

- Glenn County Air Pollution Control District (GCAPCD)

2.2.2 Relationship of Project to Other Plans and Projects

2.2.2.1 City of Orland General Plan

California state law requires cities and counties to prepare a general plan describing the location and types of desired land uses and other physical attributes in the city or county. General plans are required to address land use, circulation, housing, conservation, open space, noise, and safety. The *Orland General Plan* is the City's basic planning document and provides a comprehensive, long-term plan for physical development in the city (City of Orland 2010a).

2.3 Consultation with California Native American Tribe(s)

Assembly Bill (AB) 52 requires that prior to the release of a CEQA document for a project, an agency begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the Proposed Project if:

1. the California Native American tribe requested to the lead agency, in writing, to be informed by the Lead Agency through formal notification of Proposed Projects in the geographic area that is traditionally and culturally affiliated with the tribe and

2. the California Native American tribe responds in writing within 30 days of receipt of the formal notification, and requests the consultation.

3.0 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED AND DETERMINATION

3.1 Environmental Factors Potentially Affected

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

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

Determination

On the basis of this initial evaluation:

I find that the Project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.	☒
I find that although the Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.	☐
I find that the Project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.	☐
I find that the Project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.	☐
I find that although the Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the Project, nothing further is required.	☐

Scott Friend
City Planner

Date

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4.0 ENVIRONMENTAL CHECKLIST AND DISCUSSION

4.1 Aesthetics

4.1.1 Environmental Setting

Views available from the Project Area include the Coast Range to the west, and on clear days the Cascade and Sierra Nevada and foothills to the east and northeast.

4.1.1.1 Regional Setting

The City's *General Plan Draft Environmental Impact Report* (DEIR, City of Orland 2010b) identifies views of the Coast Range and the Black Butte Recreation Area, Mount Lassen and the Cascade and Sierra Nevada, and Stony Creek, as the most significant natural scenic resource within the Planning Area of the City. The General Plan does not include any policies for the protection of views or identify any viewsheds, or scenic vistas that should be protected.

State Scenic Highways

The intent of the California Scenic Highway Program is to protect and enhance the scenic beauty of California's highways and adjacent corridors. A highway can be designated as scenic based on how much natural beauty can be seen by users of the highway, the quality of the scenic landscape, and if development impacts the enjoyment of the view. No officially designated scenic highways are located within the vicinity of the Project Area (Caltrans 2023).

4.1.1.2 Visual Character of the Project Area

The Project Area is located just outside the northern portion of the City of Orland, approximately 1.5 miles east of Interstate 5 (I-5). The Project Area is generally bound by agricultural, vacant land, and residential uses to the south and west, with residential and some commercial uses beyond; Stony Creek to the north, with some rural residential and agricultural uses beyond; rural residential, vacant land, and agricultural uses to the east, with rural residential and agricultural land beyond. The I-5 and State Route (SR) 32/Newville Road interchange is located southwest of the Project Area. Stony Creek abuts the Project's northern boundary. The Project Area is located on uneven terrain and is situated at an elevational range between approximately 239 to 254 feet AMSL.

4.1.2 Aesthetics (I) Environmental Checklist and Discussion

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	☐	☐	☐	☒

No impact.

A scenic vista is a viewpoint that provides expansive views of a highly valued landscape for the benefit of the general public. While the City's General Plan DEIR identifies views of the Coast Range and the Black Butte Recreation Area, Mount Lassen and the Cascade and Sierra mountains, and Stony Creek, the General Plan does not include any policies for the protection of views or identify any viewsheds, or scenic vistas that should be protected. Distant views of the Coast Range can be seen from the Project Area and surrounding area. However, these views are fragmented by existing development and natural features such as trees and hills.

The Orland General Plan does not identify any areas considered to be scenic vistas that need to be protected and preserved in the City. Additionally, as the Project Area is considered to be in an area of significant visual qualities abutting Stony Creek, the Project's characteristics are to create a firebreak with no proposed development. The Project would not affect the viewshed or scenic vista of the area. Therefore, The Proposed Project would have no impact on scenic vistas.

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

No impact.

The Proposed Project is not located within the vicinity of an officially designated scenic highway. No impact would occur.

Except as provided in Public Resources Code Section 21099, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?	☐	☐	☒	☐

Less than significant.

The Proposed Project Area is just outside the City of Orland, bordering the City's northern boundary. There are existing residential uses, and as well as some commercial and school uses within close proximity of the Project Area. The Project proposes to create a 20-foot-wide swath of bare land as a firebreak to help in reducing the risk of wildfires approaching the adjacent residential neighborhoods. As the firebreak

is at ground level (and for the most part not seen from public access vantage points as the surrounding grasslands shield the bare ground from view) and there are no proposed structures to be constructed as part of the Project, implementation of the Project would not degrade the visual character or quality of public views of the site and its surroundings. As such, the Proposed Project would have a less than significant impact to the existing visual character or quality of the Site and its surroundings.

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

Less than significant.

The current Project Area is on vacant land with no existing sources of light or glare. Surrounding land uses and infrastructure provide sources of light experienced within the Project Area. However, implementation of the Project would introduce future new sources of daytime glare and may change nighttime lighting and illumination levels during the duration of the implementation of the Project. Lighting nuisances typically are categorized by the following:

- Glare – Intense light that shines directly or is reflected from a surface into a person's eyes.
- *Skyglow*/Nighttime Illumination – Artificial lighting from urbanized sources that alters the rural landscape in sufficient quantity to cause lighting of the nighttime sky and reduction of visibility of stars and other astronomical features.
- *Spillover* Lighting – Artificial lighting that spills over onto adjacent properties, which could interrupt sleeping patterns or cause other nuisances to neighboring residents.

The main sources of daytime glare in Project vicinity are from sunlight reflecting from structures with reflective surfaces such as windows. Implementation of the Proposed Project would include potential sources of glare. Activities associated with Project construction have the potential to increase lighting and glare within and around the Project Area. Sources of additional light and glare would emanate from area lighting during any nighttime work, headlights from construction equipment, and the glare from construction equipment reflective surfaces. Although there is a potential to increase lighting and glare within and around the Project Area during construction, these sources would be temporary and would cease upon Project completion. As such, the Proposed Project would have a less than significant impact for the potential to create light or glare that would adversely affect day or nighttime views.

4.2 Agriculture and Forestry Resources

4.2.1 Environmental Setting

The California Department of Conservation (DOC) manages the Farmland Mapping and Monitoring Program, which identifies and maps significant farmland. Farmland is classified using a system of five

categories including Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, and Grazing Land. The classification of farmland as Prime Farmland, Unique Farmland, and Farmland of Statewide Importance is based on the suitability of soils for agricultural production, as determined by a soil survey conducted by the Natural Resources Conservation Service (NRCS). The DOC manages an interactive website, the California Important Farmland Finder, which can be used to identify the farmland classification of a specific area. This website program does not identify the Project Area as being Prime Farmland, Unique Farmland, and Farmland of Statewide Importance (DOC 2023). Neither the Area nor adjacent lands are subject to a Williamson Act contract (Glenn County 2023a). The Project Area is not within an area which contains forest or timber resources and is not zoned for forestland protection or timber production.

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

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

No impact.

The DOC identifies the Project Site as Other Land. Because the Project involves the clearing of a small swath of land with a bulldozer to create a firebreak to help decrease the risks associated with Wildfires in the adjacent residential neighborhoods, the Project would have no effect on Prime Farmland, Unique Farmland, or Farmland of Statewide Importance. As such, the Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland). The Project would have no impact in this area.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	☐	☐	☐	☒

No impact.

There are no Williamson Act contract lands within the vicinity of the Project Area (Glenn County 2022a). The Project would have no impact in this area.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	☐	☐	☐	☒

No impact.

The Project Area is not located in a forestland protected or timber production area. The Project would have no impact in this area.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in the loss of forest land or conversion of forest land to non-forest use?	☐	☐	☐	☒

No impact.

No identified forest lands exist on the Project Area or within the vicinity of the Project. The Project would have no impact in this area.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use or conversion of forest land to non-forest use?	☐	☐	☐	☒

No impact.

As previously addressed, the Project Area is not located in an area considered to be forest land, timberland. The Project would have no impact in this area.

4.3 Air Quality

4.3.1 Environmental Setting

The Project Area is located within Glenn County in the City of Orland. The California Air Resources Board (CARB) divides the state into air basins that share similar meteorological and topographical features. The Proposed Project is located in Glenn County, which is in the Northern Sacramento Valley Air Basin (NSVAB). The NSVAB consists of a total of seven counties: Butte, Colusa, Glenn, Shasta, Sutter, Tehama, and Yuba. The NSVAB is bounded on the north and west by the Coastal Mountain Range and on the east by the southern portion of the Cascade Mountain Range and the northern portion of the Sierra Nevada. These mountain ranges reach heights in excess of 6,000 feet AMSL, with individual peaks rising much higher. The mountains form a substantial physical barrier to locally created pollution as well as that transported northward on prevailing winds from the Sacramento metropolitan area.

Both the U.S. Environmental Protection Agency (USEPA) and CARB have established ambient air quality standards for common pollutants. These ambient air quality standards are levels of contaminants representing safe levels that avoid specific adverse health effects associated with each pollutant. The ambient air quality standards cover what are called *criteria* pollutants because the health and other effects of each pollutant are described in criteria documents. The six criteria pollutants are ozone (O_3), carbon monoxide (CO), particulate matter (PM), oxides of nitrogen (NO_x), sulfur dioxide (SO_2), and lead. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. The Glenn County region is designated as a nonattainment area for the federal O_3 standards and is also a nonattainment area for the state standards for O_3, PM_{10} (Particulate Matter less than 10 microns in diameter), and $PM_{2.5}$ (Particulate Matter less than 2.5 microns in diameter) (CARB 2019).

4.3.2 Air Quality (III) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐

Less than significant.

The North Sacramento Valley Planning Area (NSVPA) 2018 Air Quality Attainment Plan (AQAP) is the most recent air quality planning document covering Glenn County. State Implementation Plans (SIP) are a compilation of new and previously submitted plans, programs (e.g., monitoring, modeling, and permitting), district rules, state regulations, and federal controls describing how the state will attain ambient air quality standards for ozone and particulate matter. State law makes CARB the lead agency for all purposes related to the SIP. Local air districts prepare SIP elements and submit them to CARB for review and approval. The NSVPA 2018 AQAP includes forecast Reactive Organic Gases (ROGs) and NO_x

emissions (O_3 precursors) for the entire NSVPA region through 2020. These emissions are not appropriated by county or municipality.

Criteria for determining consistency with the 2018 AQAP are defined by the following indicators:

- *Consistency Criterion No. 1*: The Proposed Project would not result in an increase in the frequency or severity of existing air quality violations, or cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQAP.
- *Consistency Criterion No. 2*: The Proposed Project would not exceed the assumptions in the AQAP.

The violations to which Consistency Criterion No. 1 refers are the California ambient air quality standards and the national ambient air quality standards. The Project would not exceed the short-term construction standards (see Table 4.3-1) or long-term operational standards (see Table 4.3-2) and in so doing would not violate any air quality standards.

Concerning Consistency Criterion No. 2, the AQAP contains air pollutant reduction strategies and demonstrates that the applicable ambient air quality standards can be achieved within the time frames required under federal law. Growth projections from local general plans adopted by cities in the district are used to develop regional growth forecasts that are used to develop future air quality forecasts for the NSVPA 2018 AQAP. Development consistent with the growth projections in the County of Glenn General Plan is considered to be consistent with the 2018 AQAP. The Project Area is currently zoned Exclusive Agriculture (AE-20) and in the Glenn County General Plan as Agricultural Transition. Therefore, the Project Area is currently anticipated for transitional agriculture land uses under the Glenn County General Plan. Since the Project does not include developmental growth, is just clearing the land for future uses, and is not hindering any transitional agricultural uses, the Project is consistent with the regional growth anticipated by the AQAP and thereby consistent with the second criterion. The Project would not hinder implementation of any NSVPA Air Quality Attainment Plan control measures.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	☐	☐	☒	☐

Less than significant impact.

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. If a project's individual emissions exceed its identified significance thresholds, the project would be cumulatively considerable. Projects that do not exceed significance thresholds would not be considered cumulative considerable.

Implementations of the Proposed Project could result in air quality impacts during implementation. However, as the Project does not an operational component, only the emissions associated with the implementation of the Project (bulldozer work clearing the 20-foot-wide swath of land roughly 1-mile long) are analyzed in this IS/ND. Neither the City of Orland nor GCAPCD have established air pollution thresholds under CEQA for the assessment of air quality impacts. Therefore, the Project emissions will be compared with the thresholds established in Sacramento County. As with Glenn County and the Proposed Project Area, Sacramento County is located within the Sacramento Valley Air Basin and thus possesses similar air circulation patterns and temperature inversion layers. Therefore, air quality thresholds of significance developed in that county are appropriate. While air quality standards established in Sacramento County are not binding on Glenn County, they are instructive for comparison purposes. The air quality standards established in Sacramento County are promulgated by the Sacramento Metropolitan Air Quality Management District (SMAQMD) and are consistent with the California Clean Air Act (CCAA). The thresholds of significance are summarized in Table 4.3-1 below:

Table 4.3-1. SMAQMD Criteria Pollutant Regional Significance Thresholds

Air Pollutant	Construction-Related Emissions		Operational-Related Emissions Daily (lbs/day)
	Daily (lbs/day)	Annual (tons per year)	
ROG	--	--	65
NOx	85	--	65
PM_{10}	80	14.6	80
$PM_{2.5}$	82	15	82

Source: SMAQMD 2020

4.3.2.1 Project Implementation Impacts

Emissions generated from the implementation of the Project are temporary and short -term but have the potential to represent a significant air quality impact. Two basic sources of short-term emissions will be generated through implementation of the Proposed Project: operation of the construction vehicles (i.e., bulldozer and any tractors/backhoes used to assist the bulldozer), and the creation of fugitive dust during clearing and grading.

Emissions generated from the implementation of the Project were calculated using the CARB-approved California Emissions Estimator Model (CalEEMod) computer program, which is designed to model emissions for land use development projects, based on typical construction requirements. Where Project-specific parameters were not used, default figures for Glenn County were used in place of for the bulldozer and 2 tractor/backhoes that may be used to assist the dozer in clearing and grading tasks.

Predicted maximum daily emissions for the Proposed Project are summarized in Table 4.3-2. Project-generated emissions are short-term and of temporary duration, lasting only if firebreak-creating activities

occur, but would be considered a significant air quality impact if the volume of pollutants generated exceeds the thresholds of significance.

Table 4.3-2. Project-Related Emissions

Year	ROG		NO_X		CO		PM_{10}		$PM_{2.5}$	
	Daily (lbs)	**Annual (tons)**	**Daily (lbs)**	**Annual (tons)**	**Daily (lbs)**	**Annual (tons)**	**Daily (lbs)**	**Annual (tons)**	**Daily (lbs)**	**Annual (tons)**
Year One	0.99	0.003	9.84	0.03	7.36	0.03	7.18	0.03	3.82	0.01
SMAQMD Threshold	*None*	*None*	*85*	*None*	*None*	*None*	*80*	*14.6*	*82*	*15*
Exceeded Threshold?	**No**	**No**	**No**	**No**	NA	NA	**No**	NA	NA	NA

Source: CalEEMod version 2020.4.0

As shown in Table 4.3-2, emissions generated during Project implementation would not exceed the thresholds of significance. Therefore, criteria pollutant emissions generated during the Project firebreak clearing activities 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 standards and therefore no substantial health risks would occur and this impact would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☐	☒	☐

Less than significant.

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

The nearest sensitive land uses to the Project Area are the single-family residences and Orland High School to the east and south, rural residences to the north, and rural residences to the east of the Project Area.

Construction-related activities would result in temporary, short-term Project-generated emissions of diesel particulate matter (DPM), ROG, NO_x, PM_{10} and $PM_{2.5}$ from the exhaust of off-road, heavy-duty diesel

equipment used during potential vegetation clearing activities using the proposed bulldozer. The portion of the NSVAB which encompasses the Project area is designated as a nonattainment or unclassified area for all federal standards yet is designated a nonattainment area for the state PM_{10} standard (CARB 2019). Thus, PM_{10} levels in the Glenn County portion of the NSVAB are at unhealthy levels during certain periods. However, as shown in Table 4.3-2, the Project would not exceed the significance thresholds for any criteria air pollutant emissions, including PM_{10}.

The health effects associated with O_3 are generally associated with reduced lung function. Because the Project would not involve construction activities that would result in significant O_3 precursor emissions (ROG or NO_x) according to Project significance thresholds, the Project is not anticipated to substantially contribute to regional O_3 concentrations and the associated health impacts.

CO tends to be a localized impact associated with congested intersections. In terms of adverse health effects, CO competes with oxygen, often replacing it in the blood, reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can include dizziness, fatigue, and impairment of central nervous system functions. The Project would not involve activities that would result in CO emissions more than any common significance thresholds. Thus, the Project's CO emissions would not contribute to the health effects associated with this pollutant.

Particulate matter (PM_{10} and $PM_{2.5}$) contains microscopic solids or liquid droplets that are so small that they can get deep into the lungs and cause serious health problems. Particulate matter exposure has been linked to a variety of problems, including premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms such as irritation of the airways, coughing, or difficulty breathing. For construction activity, DPM is the toxic air contaminant (TAC) of concern. The potential cancer risk from the inhalation of DPM outweighs the potential for all other health impacts (i.e., non-cancer chronic risk, short-term acute risk) and health impacts from other TACs. PM_{10} exhaust is considered a surrogate for DPM as all diesel exhaust is considered to be DPM. Based on the emission modeling conducted, the maximum onsite daily emissions of exhaust PM_{10}, considered a surrogate for DPM and includes emissions of exhaust $PM_{2.5}$, would be 0.45 pounds per day during firebreak clearing activities (see *Attachment 4.3*). PM_{10} exhaust is considered a surrogate for DPM as most of the construction equipment (by total horsepower) is diesel fueled. The Project would not generate emissions of PM_{10} (or $PM_{2.5}$) that would exceed significance thresholds. Accordingly, the Project's PM_{10} and $PM_{2.5}$ emissions are not expected to cause any increase in related regional health effects for these pollutants.

In summary, the Project would not result in a potentially significant contribution to regional concentrations of nonattainment pollutants and would not result in a significant contribution to the adverse health impacts associated with those pollutants.

Would the Project:	Potentially Significant Impact	Less than Significant With Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☒	☐

Less than significant.

4.3.2.2 Odors

During construction, the Proposed Project presents the potential for generation of objectionable odors in the form of diesel exhaust in the immediate vicinity of the Site. However, these emissions are short-term in nature and will rapidly dissipate and be diluted by the atmosphere downwind of the emission sources. Additionally, odors would be localized and generally confined to the construction area. Therefore, construction odors would not adversely affect a substantial number of people to odor emissions.

Land uses commonly considered to be potential sources of obnoxious odorous emissions include agriculture (farming and livestock), wastewater treatment plants, food processing plants, chemical plants, composting facilities, refineries, landfills, dairies, and fiberglass molding. The Proposed Project does not include any of these uses considered to be associated with odors. Therefore, this impact is found to be less than significant.

4.4 Biological Resources

A Biological Resources Assessment (BRA) was completed by ECORP Consulting, Inc. for the Proposed Project (ECORP 2022a). This BRA is included as *Attachment 4.4*. The following information was obtained from this BRA.

4.4.1 Environmental Setting

The Project Area is located on uneven terrain and is situated at an elevational range between approximately 239 to 254 feet above mean sea level. The Project Area and surrounding lands are highly disturbed with meandering footpaths and unimproved roads. The general area was historically used as a dairy and demolition debris is piled near the western end of the firebreak.

The riparian area near the creek is mostly invasive bamboo, which grows quickly and prolifically. At two locations the bulldozer will work around wetland features depicted on Figure 1. Several seasonal wetland features occur within the Project vicinity; however, the Orland Volunteer Fire Department will construct the firebreak so those features are avoided completely. A gravel quarry is located at the eastern end of the Project Area. The general vicinity south of the Project is residential and flood-irrigated pasture.

4.4.1.1 Vegetation Communities

The vegetation communities present in the vicinity include barren, ruderal, and annual grassland. Vegetation communities associated with potential wetlands and other Waters of the U.S. are described below. Barren is defined by the absence of vegetation and typically provides very little value to wildlife as there is little to no vegetation structure to provide refuge, forage, or places to rear young. There are few species that use the barren habitat type. Ruderal vegetation is vegetation that grows on waste ground or among refuse and occurs throughout the Project Area. Annual grassland occurs scattered throughout the Project; however, this vegetation community is primarily composed of nonnative annual grasses.

4.4.1.2 Special-Status Plants and Wildlife

Based on the literature review and habitat types observed at the Project, no special-status plant species and three special-status wildlife species were identified as having potential to occur (Table 1 of the BRA).

4.4.1.3 Potential Waters of the U.S.

Potential Waters of the U.S./State, including seasonal wetlands, were observed at several locations in the vicinity of the Project Area. All Potential Waters of the U.S./ State and any wetland features will be completely avoided.

A jurisdictional delineation of Waters of the U.S./State was not conducted at the site in accordance with the *Corps of Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region* (ECORP 2023a). As such, the wetland boundaries shown on Figure 1 should be considered preliminary until they are verified by the appropriate state and federal regulatory agencies.

4.4.1.4 Seasonal Wetlands

Seasonal wetlands are ephemerally wet due to accumulation of surface runoff and rainwater within low-lying areas. Inundation periods tend to be relatively short. These wetlands are dominated by annual and perennial hydrophytic species. Several potential seasonal wetlands occur within the Project Area. There are two locations, one at the west end and one at the east end, where the firebreak will avoid these features completely.

4.4.2 Biological Resources (IV) Environmental Checklist and Discussion

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

Less than significant impact.

The Project Area provides potential habitat for some special-status species that may be subject to regulation, if impacted. Impacts to potential special-status species under federal jurisdiction will be avoided by Project design. The following practices will be implemented as part of the Project's design.

Migratory Bird Treaty Act Protected Birds (including Raptors)

All native birds, including raptors, and their active nests (i.e., containing eggs or young) are protected under the Migratory Bird Treaty Act (MBTA). As such, to ensure that there are no impacts to protected active nests, the Proposed Project has integrated the following practices:

- If feasible, implement the Project outside of the bird nesting season (September 1 through January 31) to avoid impacts to nesting birds.
- If implementation of the Project outside of the bird nesting season is not feasible, then conduct a preconstruction nesting bird survey of all suitable habitats within the Project Area and a 0.25-mile buffer no more than 14 days prior to the commencement of construction during the nesting season (February 1 through August 31).
- A no-disturbance buffer shall be established around an active nest if an active nest is found. The buffer distance shall be established by a qualified biologist and in consultation with the USFWS, if necessary. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest tree, to be determined by a qualified biologist. Once the young are independent of the nest, no further measures are necessary. Preconstruction nesting surveys are not required for construction activity that begins outside the nesting season.

With the above measures included in the design of the Proposed Project, the potential for substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status is reduced to a less than significant level.

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

Less than significant impact.

The only riparian habitat in the Project vicinity is the riparian area near the creek is mostly invasive bamboo, which grows quickly and prolifically. However, as the Project Site consists of the 20-foot-wide swath of land in the grassland area adjacent to the creek and riparian areas, the Project itself will not impact any riparian habitats during the temporary bulldozing activities. Therefore, the potential to cause adverse effects on any riparian habitat or other sensitive natural communities is reduced to a less than significant level.

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

Less than significant impact.

The Project, as proposed, completely avoids impacts to potential jurisdictional wetlands. At two locations the bulldozer will work around wetland features depicted on Figure 1. Several seasonal wetland features occur within the Project vicinity; however, the Orland Volunteer Fire Department will construct the firebreak so those features are avoided completely If impacts cannot be completely avoided, then ECORP recommends a jurisdictional determination from the U.S. Army Corps of Engineers and permits to fill wetlands under Sections 401 and 404 of the federal Clean Water Act.

The Proposed Project is designed to avoid impacts to any potential Waters of the U.S. by avoiding those areas. To prevent any incidental or indirect impacts to potential jurisdictional waters, the Orland Volunteer Fire Department can utilize these recommendations:

- Install temporary high-visibility fencing at the toe of the slope under the direction of a qualified biologist to limit construction activities to the slope and avoid areas with potential jurisdictional wetlands.
- Install silt fencing at the toe of the slope under the direction of a qualified biologist to prevent spoils from discharging fill materials into potential jurisdictional wetlands.

With these avoidance measures included as part of the Proposed Project, the potential for adverse effects on state or federally protected wetlands is reduced to a less than significant level.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	☐	☐	☒	☐

Less than significant.

The Proposed Project is the removal of small vegetation and some topsoil to create a firebreak in the area between Stony Creek and the residences south of the Site. The Project Area is not within any body of water that could affect the movement of native resident or migratory fish. All native birds, including raptors, and their active nests (i.e., containing eggs or young) are protected under the MBTA. As such, to ensure that there are no impacts to protected active nests, the Proposed Project has integrated the following practices:

- If feasible, implement the Project outside of the bird nesting season (September 1 through January 31) to avoid impacts to nesting birds.
- If implementation of the Project outside of the bird nesting season is not feasible, then conduct a preconstruction nesting bird survey of all suitable habitats within the Project Area and a 0.25-mile buffer no more than 14 days prior to the commencement of construction during the nesting season (February 1 through August 31).
- A no-disturbance buffer shall be established around an active nest if an active nest is found. The buffer distance shall be established by a qualified biologist and in consultation with the USFWS, if necessary. The buffer shall be maintained until the fledglings are capable of flight and become independent of the nest tree, to be determined by a qualified biologist. Once the young are independent of the nest, no further measures are necessary. Preconstruction nesting surveys are not required for construction activity that begins outside the nesting season.

Therefore, the Project is not expected to impact migratory wildlife corridors or nursery sites.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	☐	☐	☐	☒

No impact.

There are currently no adopted or proposed local policies or ordinances that affect the Proposed Project. Therefore, no impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) 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 Area is not covered by any local, regional, or state conservation plan. Therefore, the Project would not conflict with a local, regional, or state conservation plan. There would be no impact.

4.5 Cultural Resources

As the Project Proposes the use of a bulldozer to scrape the very top layer of vegetation and some topsoil in order to create a firebreak, with soil cuts not extending beyond 1-3 feet in depth, a cultural report was not conducted for the Project Site. The Project is subject to all local and State regulations in the handling of any archeological, paleontological, or human remains that may be discovered during the scraping of topsoil.

4.5.1 Environmental Setting

The Project Area is located just outside the northern portion of the City of Orland. The Project Area is surrounded by grasslands, orchard crops and farms, rural residences, low-density residential, commercial areas, irrigation canals, and existing country roads. The I-5 and SR 32/Newville Road interchange is located west of the Project Area. Stony Creek abuts the northern boundary of the Project Area. The Project Area is located on uneven terrain and is situated at an elevational range between approximately 239 to 254 feet above mean sea level.

4.5.1.1 Area of Potential Effects

The Area of Potential Effects (APE) consists of the horizontal and vertical limits of a project and includes the area within which significant impacts or adverse effects to historical resources or historic properties could occur as a result of the project. The APE is defined for projects subject to regulations implementing Section 106 (federal law and regulations) of the National Historic Preservation Act (NHPA). For projects subject to CEQA, the term Project Area or Project Area is used rather than APE. The terms Project Area and APE are interchangeable for the purpose of this document.

In the case of this Project, it equals the Project Area subject to environmental review under the National Environmental Policy Act and CEQA. This includes areas proposed for construction, vegetation removal,

grading, and other elements described in the official Project description. The horizontal APE is the Project Area and represents the survey coverage area. It measures approximately 1.20 acres.

The vertical APE is described as the maximum depth below the surface to which excavations for Project firebreak clearing will extend. Therefore, the vertical APE includes all subsurface areas where archaeological deposits could be affected. The subsurface vertical APE across the Project is not yet known. This study assumes the vertical APE will not extend beyond 1-3 feet below the current surface and, therefore, a review of geologic and soils maps was not necessary to determine the potential for buried archaeological sites that cannot be seen on the surface.

The vertical APE is also described as the maximum height of structures that could impact the physical integrity and integrity of setting of cultural resources, including districts and traditional cultural properties. As there are no proposed structural components of the Project, there is no vertical APE above ground.

4.5.2 Cultural Resources

Less than significant.

The Project Area is located on uneven terrain and is situated at an elevational range between approximately 239 to 254 feet AMSL. As the Project Proposes clearing of small vegetation, grasses, and the top layer of soil with depths no deeper than 1-3 feet, the Project is not expected to cause a substantial adverse change in the significance of a historical resource. The Project is required to comply with all State and local regulations pertaining to the discovery of any human remains or cultural resources found during any topsoil removal activities.

4.5.2.1 Ethnography

Prior to the arrival of European-Americans to what was to become California, indigenous groups speaking more than 100 different languages and occupying a variety of ecological settings inhabited the state. When the first European explorers entered the regions between 1772 and 1821, an estimated 100,000 people, about one-third of the state's native population, lived in the Central Valley. At least seven distinct languages of Penutian stock were spoken among these populations: Wintu, Nomlaki, Konkow, River Patwin, Nisenan, Miwok, and Yokuts. Common linguistic roots and similar cultural and technological characteristics indicate that these groups shared a long history of interaction. Historians and archeologists recognized the uniqueness of California's indigenous groups and classified them as belonging to the California culture area. As a result, California as it relates to indigenous groups, was further subdivided into four subculture areas: Northwestern, Northeastern, Southern, and Central. The Central area encompasses the current Project Area and includes the Wintu and Nomlaki. Further information regarding the Native Americans of California and potential for impacts tribal cultural resources is provided in Section 4.18.

4.5.2.2 Regional Pre-Contact History

It is generally believed that human occupation of California began at least 10,000 BP. The archaeological record indicates that between approximately 10,000 BP and 8,000 BP, a predominantly hunting economy

existed, characterized by archaeological sites containing numerous projectile points and butchered large animal bones.

Around 8,000 BP, there was a shift in focus from hunting toward a greater reliance on plant resources. Archaeological evidence of this trend consists of a much greater number of milling tools (e.g., metates and manos) for processing seeds and other vegetable matter. This period, which extended until around 5,000 BP. Projectile points are found in archaeological sites from this period, but they are far fewer in number than from sites dating to before 8,000 BP.

Archaeological evidence indicates that reliance on both plant gathering and hunting continued as in the previous period, with more specialized adaptation to particular environments in sites dating to after about 5,000 BP. Mortars and pestles were added to metates and manos for grinding seeds and other vegetable material. Flaked-stone tools became more refined and specialized, and bone tools were more common. New peoples from the Great Basin began entering Southern California during this period. These immigrants, who spoke a language of the Uto-Aztecan linguistic stock, seem to have displaced or absorbed the earlier population of Hokan-speaking peoples. During this period, known as the Late Horizon, population densities were higher than before, and settlement became concentrated in villages and communities along the coast and interior valleys. Regional subcultures also started to develop, each with its own geographical territory and language or dialect. These were most likely the basis for the groups encountered by the first Europeans during the 18th century. Despite the regional differences, many material culture traits were shared among groups, indicating a great deal of interaction. The introduction of the bow and arrow into the region sometime around 2,000 BP is indicated by the presence of small projectile points.

4.5.2.3 Local Pre-Contact History

This section provides a regional overview with contextual elements drawn from California's Central Valley Region, and the northern Sierra Nevada foothill zone. There has been more extensive research and study of Central Valley prehistory than the prehistory of the northern Sierra Nevada foothill transition zone, but a fair amount of cultural overlap exists within these regions.

California's Great Central Valley has long held the attention of archaeologists and was a focus of early research in California. Archaeological work during the 1920s and 1930s led to the cultural chronology for central California. This chronology was based on the results of excavations conducted in the lower Sacramento River Valley. This period is divided into three periods: the Paleoindian, the Archaic and the Emergent.

The Paleoindian Period began when the first people began to inhabit what is now known as the California culture area. It was commonly believed these first people subsisted on big game and minimally processed foods, (i.e., hunters and gatherers), presumably with no trade networks. More recent research indicates these people may have been more sedentary, relied on some processed foods, and traded. Populations likely consisted of small groups traveling frequently to exploit plant and animal resources.

The Archaic Period is further divided into three sub-periods, the lower Archaic, the Middle Archaic and the Upper Archaic. The Archaic Period was characterized by an increase in plant exploitation for subsistence, more elaborate burial accoutrements, and increase in trade network complexity.

The Emergent Period is most notably marked by the introduction of the bow and arrow, the emergence of social stratification linked to wealth, and more expansive trade networks signified by the presence of clam disk beads that were used as currency.

4.5.2.4 Regional History

The first European to visit California was Spanish maritime explorer Juan Rodriguez Cabrillo in 1542. Cabrillo was sent north by the Viceroy of New Spain (Mexico) to look for the Northwest Passage. Cabrillo visited San Diego Bay, Catalina Island, San Pedro Bay, and the northern Channel Islands. The English adventurer Francis Drake visited the Miwok Native American group at Drake's Bay or Bodega Bay in 1579. Sebastian Vizcaíno explored the coast as far north as Monterey in 1602. He reported that Monterey was an excellent location for a port.

Colonization of California began with the Spanish Portolá land expedition. The expedition, led by Captain Gaspar de Portolá of the Spanish army and Father Junipero Serra, a Franciscan missionary, explored the California coast from San Diego to Monterey Bay in 1769. As a result of this expedition, Spanish missions to convert the native population, presidios (forts), and pueblos (towns) were established. The Franciscan missionary friars established 21 missions in Alta California (the area north of Baja California) beginning with Mission San Diego in 1769 and ending with the mission in Sonoma established in 1823. The nearest missions to the Project Area were in the vicinity of San Francisco Bay and included Mission San Francisco de Asis (Dolores) established in 1776 on the San Francisco peninsula, Mission Santa Clara de Asis at the south end of San Francisco Bay in 1777, Mission San Jose in 1797, Mission San Rafael, established as an *asistencia* in 1817 and a full mission in 1823, and Mission San Francisco Solano in Sonoma in 1823. Presidios were established at San Francisco and Monterey.

After Mexico became independent from Spain in 1821, what is now California became the Mexican province of Alta California with its capital at Monterey. The Mexican government closed the missions in the 1830s and former mission lands, as well as previously unoccupied areas, were granted to retired soldiers and other Mexican citizens for use as cattle ranches. Much of the land along the coast and in the interior valleys became part of Mexican land grants or ranchos. There were small towns at San Francisco (then known as Yerba Buena) and Monterey during the Mexican period. The Mexican Period includes the years 1821 to 1848.

John Sutter, a European immigrant, built a fort at the confluence of the Sacramento and American rivers in 1839 and petitioned the Mexican governor of Alta California for a land grant, which he received in 1841. Sutter built a flour mill and grew wheat near the fort. Gold was discovered in the flume of Sutter's lumber mill at Coloma on the South Fork of the American River in January 1848. The discovery of gold initiated the 1849 California Gold Rush, which brought thousands of miners and settlers to the Sierra foothills east and southeast of Sacramento.

The American Period began when the Treaty of Guadalupe Hidalgo was signed between Mexico and the United States in 1848. As a result of the treaty, Alta California became part of the United States as the territory of California. Rapid population increase occasioned by the Gold Rush of 1849 allowed California to become a state in 1850.

4.5.2.5 Project Area History

The Project Area is located in the northeastern portion of Glenn County. The Sacramento River creates the eastern border of Glenn County. The county was organized in 1891 and is named after Dr. Hugh James Glenn. Dr. Glenn was a businessman, politician, and farmer who was born in Virginia in 1824. Glenn began raising stock on Stony Creek beginning in 1851 and permanently settled with his family in what became Glenn County in 1853. The Granville Perry Swift adobe house was 1.0 mile north of Orland on Hambright Creek. Swift was a pioneer settler who crossed the plains in 1843. Swift's adobe, built in 1847 at the confluence of Hambright and Stony creeks, was the headquarters for cattle operations as far south as Woodland. The site of the Swift Adobe is recognized as California Historical Landmark (CHL) #345 and is the first known structure built in Glenn County. Swift made a fortune during the Gold Rush by placer mining along the Feather River and then relocated to Sonoma County in 1854.

The City of Orland was founded in 1878 as a supply and shipping center for grain. The Northern Railway Company, a subsidiary of the Central Pacific Railroad, completed its route from Oakland to Tehama via Willows and Orland in 1882. The city was named after one of the first settler's hometown in England. The town site for Orland was surveyed in 1878, followed by the sale of town lots. Orland College was opened in the 1880s but was closed in 1890 when the Northern Branch State Normal School opened in Chico (now California State University, Chico).

After the passage of the Wright Act in 1887, which authorized the formation of local irrigation districts, the Stony Creek Irrigation Company was formed, and a few miles of canals were dug to bring water from Stony Creek to provide irrigation for 150 acres of land south of the creek near Orland. The Lemon Home Water Company provided water to land north of the creek. These two companies built 15 miles of ditches and irrigated almost 500 acres of land around Orland. However, the water provided by these companies was insufficient and in the late 19th century the Orland area was mostly used for wheat farming and ranching on large tracts owned by a few individuals.

After the formation of the U.S. Bureau of Reclamation (USBR) in 1902, Orland farmers began to ask the Bureau to initiate an irrigation project for the Orland area. In February 1906, local farmers formed the Orland Water Users' Association and petitioned the Secretary of the Interior to complete surveys to find a suitable location for a reservoir. The USBR authorized the Orland Project in 1907 and the East Park Dam was completed in 1910. The East Park Dam and Reservoir were located 33 miles southwest of Orland on upper Stony Creek in Colusa County. The reservoir provided a stable supply of water for irrigation of farmland around Orland. Two canal systems provided water to Orland area farms. The North Side Canal provided water for land on the north side of Stony Creek while the South Side Canal provided water for land on the south side of Stony Creek. Small diversion dams near Black Butte diverted water from Stony Creek into the canals. The South Side Canal, completed in 1916, travels 9.6 miles along Stony Creek southeast to Orland. The system delivered water directly to every 40-acre parcel of farmland (totaling

more than 8,000 acres) through 139 miles of canals and laterals and approximately 2,000 concrete control structures of various kinds.

After 1910, when irrigation water for farming became available, greatly increasing the number of farms in the area, wooden buildings in Orland were replaced with reinforced concrete structures and over 100 new homes were built. In 1910, the population of Orland was 600 and by 1912 the population had reached 2,000.

The irrigation system greatly increased the value of the land it supplied. Prior to the completion of the Orland Project, the value of the land around Orland totaled $605,000. In 1921, the land value had risen to $6.1 million. This led to a significant economic growth for the town of Orland, which served as a supply center for the surrounding agricultural area. Orland farmers during the 1920s suffered from a series of drought years, which led to the depletion of the East Park Reservoir in 1924. As a result, the USBR, at the request of the Orland Water Users' Association, constructed the Stony Gorge Dam and Reservoir. In the decades that followed, the Orland Project fell into disrepair due to the lack of funding for maintenance during the Great Depression and Second World War. However, USBR completed a 3-year rehabilitation project in 1951 that restored the lining of the canal system.

The U.S. Army Corps of Engineers (USACE) completed the Black Butte Dam and Reservoir, an additional storage facility closer to Orland. The USACE operates and maintains the reservoir and the diversion dam that delivers water into the South Side Canal.

Alfalfa was the primary crop in the area around Orland prior to the completion of the irrigation project. The consistent supply of water from the Orland Project also allowed for cultivation of tree crops. In 1923, the region was home to 1,100 acres of almond trees. The 1930s saw the peak production for citrus in the region, with 900 acres dedicated to the cultivation of oranges. The construction of an olive oil processing plant in 1939 was a response to the increasing acreage dedicated to olive production. In 1991, more than 1,000 acres were dedicated to olives, with nearly all of them being grown for table consumption. The Orland Project canal system still supplies the region with irrigation water.

4.5.2.6 Regulatory Framework

State

California Environmental Quality Act

Under CEQA, public agencies must consider the effects of their actions on both "historical resources" and "unique archaeological resources." Pursuant to PRC Section 21084.1, a "project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." Section 21083.2 requires agencies to determine whether proposed projects would have effects on unique archaeological resources.

"Historical resource" is a term with a defined statutory meaning (PRC, Section 21084.1 and State CEQA Guidelines, Section 15064.5 [a], [b]). The term embraces any resource listed in or determined to be eligible for listing in the California Register of Historical Resources (CRHR). The CRHR includes resources listed in

or formally determined eligible for listing in the National Register of Historic Places (NRHP), as well as some California State Landmarks and Points of Historical Interest.

Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts) or that have been identified in a local historical resources inventory may be eligible for listing in the CRHR and are presumed to be historical resources for purposes of CEQA unless a preponderance of evidence indicates otherwise (PRC, Section 5024.1 and California Code of Regulations, Title 14, Section 4850). Unless a resource listed in a survey has been demolished, lost substantial integrity, or there is a preponderance of evidence indicating that it is otherwise not eligible for listing, a lead agency should consider the resource to be potentially eligible for the CRHR.

In addition to assessing whether historical resources potentially impacted by a proposed project are listed or have been identified in a survey process (PRC 5024.1 [g]), lead agencies have a responsibility to evaluate them against the CRHR criteria prior to making a finding as to a proposed project's impacts to historical resources (PRC, Section 21084.1 and State CEQA Guidelines, Section 15064.5 [a][3]). Following CEQA Guidelines Section 21084.5 (a) and (b), a historical resource is defined as any object, building, structure, site, area, place, record, or manuscript that:

1) Is historically or archeologically significant, or is significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, or cultural annals of California; and

2) Meets any of the following criteria:

a. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

b. Is associated with the lives of persons important in our past;

c. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

d. Has yielded, or may be likely to yield, information important in prehistory or history.

Archaeological resources may also qualify as historical resources, and PRC 5024 requires consultation with the Office of Historic Preservation when a project may impact historical resources located on State-owned land.

As noted above, CEQA also requires lead agencies to consider whether projects will impact unique archaeological resources. PRC Section 21083.2, subdivision (g), states that " 'unique archaeological resource' means an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.

- Has a special and particular quality such as being the oldest of its type or the best available example of its type.
- Is directly associated with a scientifically recognized important prehistoric or historic event or person."

Advice on procedures to identify cultural resources, evaluate their importance, and estimate potential effects is given in several agency publications such as the series produced by the Governor's Office of Planning and Research (OPR). The technical advice series produced by OPR strongly recommends that Native American concerns and the concerns of other interested persons and corporate entities, including but not limited to, museums, historical commissions, associations and societies, be solicited as part of the process of cultural resource inventory. In addition, California law protects Native American burials, skeletal remains, and associated grave goods regardless of their antiquity and provides for the sensitive treatment and disposition of those remains.

Section 7050.5(b) of the California Health and Safety code specifies protocol when human remains are discovered. The code states:

> In the event of discovery or recognition of any human remains in any location other than a dedicated cemetery, there shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent remains until the coroner of the county in which the human remains are discovered has determined, in accordance with Chapter 10 (commencing with Section 27460) of Part 3 of Division 2 of Title 3 of the Government Code, that the remains are not subject to the provisions of Section 27492 of the Government Code or any other related provisions of law concerning investigation of the circumstances, manner and cause of death, and the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the Public Resources Code.

State CEQA Guidelines Section 15064.5, subdivision (e), requires that excavation activities be stopped whenever human remains are uncovered and that the county coroner be called in to assess the remains. If the county coroner determines that the remains are those of Native Americans, the Native American Heritage Commission must be contacted within 24 hours. At that time, the lead agency must consult with the appropriate Native Americans, if any, as identified by the Native American Heritage Commission. Section 15064.5 directs the lead agency (or applicant), under certain circumstances, to develop an agreement with the Native Americans for the treatment and disposition of the remains.

In addition to the mitigation provisions pertaining to accidental discovery of human remains, the State CEQA Guidelines also require that a lead agency make provisions for the accidental discovery of historical or archaeological resources, generally. Pursuant to Section 15064.5, subdivision (f), these provisions should include "an immediate evaluation of the find by a qualified archaeologist. If the find is determined to be a historical or unique archaeological resource, contingency funding and a time allotment sufficient to allow for implementation of avoidance measures or appropriate mitigation should be available. Work could continue on other parts of the building site while historical or unique archaeological resource mitigation takes place."

Paleontological resources are classified as non-renewable scientific resources and are protected by state statute (PRC Chapter 1.7, Section 5097.5, Archeological, Paleontological, and Historical Sites, and CEQA Guidelines Appendix G). No state or local agencies have specific jurisdiction over paleontological resources. No state or local agency requires a paleontological collecting permit to allow for the recovery of fossil remains discovered as a result of construction-related earth moving on state or private land in a project site.

4.5.3 Cultural Resources (V) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?	☐	☐	☒	☐

Less than significant.

The Project Area is located on uneven terrain and is situated at an elevational range between approximately 239 to 254 feet AMSL. As the Project Proposes clearing of small vegetation, grasses, and the top layer of soil with depths no deeper than 1-3 feet, the Project is not expected to cause a substantial adverse change in the significance of a historical resource. The Project is required to comply with all State and local regulations pertaining to the discovery of any human remains or cultural resources found during any topsoil removal activities. Therefore, there is a less than significant impact on historical resources.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☐	☒	☐

Less than significant.

The Project Area is located on uneven terrain and is situated at an elevational range between approximately 239 to 254 feet AMSL. As the Project Proposes clearing of small vegetation, grasses, and the top layer of soil with depths no deeper than 1-3 feet, the Project is not expected to cause a substantial adverse change in the significance of a historical resource. The Project is required to comply with all State and local regulations pertaining to the discovery of any human remains or cultural resources found during any topsoil removal activities. Therefore, there is a less than significant impact on archeological resources.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Disturb any human remains, including those interred outside of dedicated cemeteries?	☐	☐	☒	☐

Less than significant.

The Project Area is located on uneven terrain and is situated at an elevational range between approximately 239 to 254 feet AMSL. As the Project Proposes clearing of small vegetation, grasses, and the top layer of soil with depths no deeper than 1-3 feet, the Project is not expected to cause a substantial adverse change in the significance of a historical resource. The Project is required to comply with all State and local regulations pertaining to the discovery of any human remains or cultural resources found during any topsoil removal activities. Therefore, there is a less than significant impact on historical resources.

4.6 Energy

This section describes the environmental and regulatory setting for energy, including applicable plans, policies, regulations, and/or laws. This section also describes the potential for energy impacts that would result from the Proposed Project.

4.6.1 Environmental Setting

Energy relates directly to environmental quality. Energy use can adversely affect air quality and other natural resources. The vast majority of California's air pollution is caused by burning fossil fuels. Consumption of fossil fuels is linked to changes in global climate and depletion of stratospheric ozone. Transportation energy use is related to the fuel efficiency of cars, trucks, and public transportation; choice of different travel modes (e.g., auto, carpool, and public transit); vehicle speeds; and miles traveled by these modes. Construction and routine operation and maintenance of transportation infrastructure also consume energy. In addition, residential, commercial, and industrial land uses consume energy, typically through the usage of natural gas and electricity.

4.6.1.1 Energy Types and Sources

California relies on a regional power system comprised of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. Natural gas provides California with a majority of its electricity followed by renewables, large hydroelectric and nuclear (California Energy Commissions [CEC] 2018a). Pacific Gas and Electric Company (PG&E) provides electricity and natural gas to the Project Area. It generates or buys electricity from hydroelectric, nuclear, renewable, natural gas, and coal facilities. PG&E provides natural gas and electricity to most of the northern two-thirds of California, from Bakersfield and Barstow to near the Oregon, Nevada and Arizona state lines. It provides 5.2 million people with electricity and natural gas across 70,000 square miles. In 2017, PG&E announced that 80 percent of the company's delivered electricity comes from greenhouse gas (GHG) emission-free sources, including renewables, nuclear, and hydropower.

The California Public Utilities Commission (CPUC) regulates PG&E. The CPUC has developed energy-efficiency programs such as smart meters, low-income programs, distribution generation programs, self-generation incentive programs, and a California solar initiative. Additionally, the CEC maintains a power plant data base that describes all of the operating power plants in the state by county. Glenn County contains three power plants generating electricity, of which one is solar-powered, and two are hydro-powered (CEC 2023).

4.6.1.2 Existing Transmission and Distribution Facilities

The components of transmission and distribution systems include the generating facility, switching yards and stations, primary substation, distribution substations, distribution transformers, various sized transmission lines, and the customers. The United States contains over 250,000 miles of transmission lines, most of them capable of handling voltages between 115 kilovolts (kV) and 345 kV, and a handful of systems of up to 500 kV and 765 kV capacity. Transmission lines are rated according to the amount of power they can carry, the product of the current (rate of flow), and the voltage (electrical pressure). Generally, transmission is more efficient at higher voltages. Generating facilities, hydro-electric dams, and power plants usually produce electrical energy at fairly low voltages, which is increased by transformers in substations. From there, the energy proceeds through switching facilities to the transmission lines. At various points in the system, the energy is *stepped down* to lower voltages for distribution to customers. Power lines are either high voltage (115 kV, 230 kV, 500 kV, and 765 kV) transmission lines or low voltage (12 kV, 24 kV, and 60 kV) distribution lines. Overhead transmission lines consist of the wires carrying the electrical energy (conductors), insulators, support towers, and grounded wires to protect the lines from lightening (called shield wires). Towers must meet the structural requirements of the system in several ways. They must be able to support both the electrical wires, the conductors, and the shield wires under varying weather conditions, including wind and ice loading, as well as a possible unbalanced pull caused by one or two wires breaking on one side of a tower. Every mile or so, a *dead-end* tower must be able to take the strain resulting if all the wires on one side of a tower break. Every change in direction requires a special tower design. In addition, the number of towers required per mile varies depending on the electrical standards, weather conditions, and the terrain. All towers must have appropriate foundations and be available at a fairly regular spacing along a continuous route accessible for both construction and maintenance. A right-of-way is a fundamental requirement for all transmission lines. A right-of-way must be kept clear of vegetation that could obstruct the lines or towers by falling limbs or interfering with the sag or wind sway of the overhead lines. If necessary, land acquisition and maintenance requirements can be substantial. The dimensions of a right-of-way depends on the voltage and number of circuits carried and the tower design. Typically, transmission line rights-of-way range from 100 feet to 300 feet in width. The electric power supply grid within Glenn County is part of a larger supply network operated and maintained by PG&E that encompasses a large portion of the Northern and Central California regions. This system ties into yet a larger grid known as the California Power Pool that connects with the San Diego Gas and Electric and Southern California Edison Companies. These companies coordinate the development and operation, as well as purchase, sale, and exchange of power throughout the State of California. Within Glenn County, PG&E owns most of the transmission and distribution facilities. Three 60-kV transmission lines pass through the County and two major 230-kV lines (one owned by PG&E and

the other by Western Area Power Administration), connecting Glenn County to the national power grid, allowing for the wheeling of power to locations where power is in demand (CEC 2023a).

The California Independent System Operator (CAISO) manages the flow of electricity across the high-voltage, long-distance power lines (high-voltage transmissions system) that make up 80 percent of California's and a small part of Nevada's grid. This nonprofit public benefit corporation keeps power moving to and throughout California by operating a competitive wholesale electricity market, designed to promote a broad range of resources at lower prices, and managing the reliability of the electrical transmission grid. In managing the grid, CAISO centrally dispatches generation and coordinates the movement of wholesale electricity in California. As the only independent grid operator in the western U.S., CAISO grants equal access to 26,000 circuit miles of transmission lines and coordinates competing and diverse energy resources into the grid where it is distributed to consumers. Every five minutes, CAISO forecasts electrical demand and dispatches the lowest cost generator to meet demand while ensuring enough transmission capacity for delivery of power.

CAISO conducts an annual transmission planning process that uses engineering tools to identify any grid expansions necessary to maintain reliability, lower costs, or meet future infrastructure needs based on public policies. CAISO engineers design, run and analyze complex formulas and models that simulate grid use under wide-ranging scenarios, such as high demand days coupled with wildfires. This process includes evaluating power plant proposals submitted for study into the interconnection queue to determine viability and impact to the grid. The long-term comprehensive transmission plan, completed every 15 months, maps future growth in electricity demand and the need to meet state energy and environmental goals that require the CAISO grid to connect to renewable-rich, but remote areas of the western landscape. CAISO promotes energy efficiency through resource sharing. CAISO electricity distribution management strategy designed so that an area with surplus electricity can benefit by sharing megawatts with another region via the open market. This allows the dispatch of electricity as efficiently as possible. By maximizing megawatts as the demand for electricity increases, CAISO helps keep electricity flowing during peak periods.

4.6.1.3 Energy Consumption

4.6.2 Environmental Setting

Energy relates directly to environmental quality. Energy use can adversely affect air quality and other natural resources. The vast majority of California's air pollution is caused by burning fossil fuels. Consumption of fossil fuels is linked to changes in global climate and depletion of stratospheric ozone. Transportation energy use is related to the fuel efficiency of cars, trucks, and public transportation; choice of different travel modes (auto, carpool, and public transit); vehicle speeds; and miles traveled by these modes. Construction and routine operation and maintenance of transportation infrastructure also consume energy. In addition, residential, commercial, and industrial land uses consume energy, typically through the usage of natural gas and electricity.

Energy Types and Sources

California relies on a regional power system comprised of a diverse mix of natural gas, renewable, hydroelectric, and nuclear generation resources. Natural gas provides California with a majority of its electricity followed by renewables, large hydroelectric and nuclear (CEC 2023a). PG&E provides power to Glenn County, using a diverse portfolio of energy sources, including natural gas, hydropower, geo-thermal, nuclear, wind, and solar energies. The PG&E service area spans over 70,000 square miles in the Northern California areas and provides about 5.2 million people with electricity and natural gas.

Potential energy-related impacts associated with this Project include the depletion of nonrenewable resources (e.g., oil, natural gas, coal) and emissions of pollutants during the construction and operational components of the Proposed Project. Since the Proposed Project is the rezoning and TSM approval for a single-family residential subdivision development, the impact analysis focuses on the four sources of energy that are relevant to the Proposed Project: electricity, natural gas, the equipment fuel necessary for Project construction, and the automotive fuel necessary for Project operations.

Energy Consumption

Electricity use is measured in kilowatt-hours (kWh). Natural gas is measured in therms. Vehicle fuel use is typically measured in gallons (e.g. of gasoline or diesel fuel), although energy use for electric vehicles is measured in kWh.

The electricity consumption and natural gas consumption associated with all land uses in the County of Glenn from 2017 to 2021 is shown in Table 4.6-1. As indicated, the demand for electricity has gone up and up since 2017, slightly increasing over the years. In general, demand for natural gas has remained consistent since 2017.

Table 4.6-1. Electricity and Natural Gas Consumption in Glenn County 2017-2021

Year	Electricity Consumption (kilowatt hours)	Natural Gas Consumption (therms)
2021	107,584,103	2,307,343
2020	105,432,658	2,368,116
2019	95,902,808	2,509,179
2018	92,741,180	2,235,269
2017	96,281,376	2,475,166

Source: CEC 2023b

Total automotive fuel consumption in Glenn County from 2017 to 2021 is shown in Table 4.6-2. As shown, automotive fuel consumption decreased since 2017.

Table 4.6-2. Automotive Fuel Consumption in Glenn County 2017-2021	
Year	**Fuel Consumption (gallons)**
2021	36,973,328
2020	33,512,122
2019	37,526,674
2018	37,483,351
2017	37,634,410

Source: CARB 2023

4.6.3 Regulatory Setting

4.6.3.1 State

California Energy Efficiency Standards for Residential & Nonresidential Buildings (Title 24)

Title 24, California's energy efficiency standards for residential and nonresidential buildings, were established by the CEC in 1978 in response to a legislative mandate to create uniform building codes to reduce California's energy consumption and provide energy efficiency standards for residential and nonresidential buildings. California's energy efficiency standards are updated on an approximate three-year cycle. These standards are a unique California asset that have placed the state on the forefront of energy efficiency, sustainability, energy independence and climate change issues. The *2019 Building Energy Efficiency Standards* improve upon the *2016 Energy Standards* for new construction of, and additions and alterations to, residential and nonresidential buildings. The 2019 update to the *Building Energy Efficiency Standards* focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. The 2019 standards are a major step toward meeting Zero Net Energy. According to the CEC, single-family homes built with the 2019 standards will use about 7 percent less energy due to energy efficiency measures versus those built under the 2016 standards and nonresidential buildings will use about 30 percent less energy (due mainly to lighting upgrades) (CEC 2018b). The most significant efficiency improvement to the residential standards includes the introduction of photovoltaic into the prospective package, improvements for attics, walls, water heating, and lighting. Buildings permitted on or after January 1, 2020, must comply with the 2019 Standards. These new standards apply only to certain nonresidential building types, as specified in the requirements.

California Green Building Standards

The California Green Building Standards Code (CCR, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code that was developed and adopted by the California Building Standards Commission and the California Department of Housing and Community Development. The CALGreen standards require new residential and commercial buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency and

conservation, material conservation and resource efficiency, and environmental quality. CALGreen also has voluntary tiers and measures that local governments may adopt, which encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code was adopted in 2016 and went into effect January 1, 2017.

Senate Bill 1368

On September 29, 2006, Governor Arnold Schwarzenegger signed into law Senate Bill (SB)1368 (Perata, Chapter 598, Statutes of 2006). The law limits long-term investments in baseload generation by the state's utilities to those power plants that meet an emissions performance standard jointly established by the CEC and the CPUC.

The CEC has designed regulations that:

- Establish a standard for baseload generation owned by, or under long-term contract to publicly owned utilities, of 1,100 pounds carbon dioxide per mWh. This would encourage the development of power plants that meet California's growing energy needs while minimizing their emissions of greenhouse gas emissions;
- Require posting of notices of public deliberations by publicly owned utilities on long- term investments on the CEC website. This would facilitate public awareness of utility efforts to meet customer needs for energy over the long-term while meeting the state's standards for environmental impact; and
- Establish a public process for determining the compliance of proposed investments with the emissions performance standard (Perata, Chapter 598, Statutes of 2006).

Executive Order B-55-18

In September 2018, Governor Edmund Gerald (Jerry) Brown, Jr. Signed Executive Order (EO) B-55-18, which established a new statewide goal "to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter." Carbon neutrality refers to achieving a net zero carbon dioxide emissions. This can be achieved by reducing or eliminating carbon emissions, balancing carbon emissions with carbon removal, or a combination of the two. This goal is in addition to existing statewide targets for GHG emission reduction. EO B-55-18 requires CARB to "work with relevant state agencies to ensure future Scoping Plans identify and recommend measures to achieve the carbon neutrality goal.

Senate Bill X1-2 of 2011, Senate Bill 350 of 2015, and Senate Bill 100 of 2018

SB X1-2 of 2011 required that all California electric utilities generate 33 percent of their electricity from renewables by the end of 2020. SB X1-2 also required the renewable electricity standard to be met increasingly with renewable energy that is supplied to the California grid from sources within, or directly proximate to, California.

In October 2015, SB 350 was signed by Governor Brown, which requires retail sellers and publicly owned electric utilities to procure 50 percent of their electricity from renewable resources by 2030. In 2018, SB

100 was signed by Governor Brown, codifying a goal of 60 percent renewable procurement by 2030 and 100 percent by 2045 Renewables Portfolio Standard.

4.6.4 Energy (VI) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☒	☐

Less than significant.

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

The amount of total Project implementation-related fuel use was estimated using ratios provided in the Climate Registry's General Reporting Protocol for the Voluntary Reporting Program, Version 2.1. Energy consumption associated with the Proposed Project is summarized in Table 4.6-3. (Climate Registry 2016).

Table 4.6-3. Proposed Project Energy and Fuel Consumption

Energy Type	Annual Energy Consumption	Percentage Increase Countywide
Automotive Fuel Consumption		
• Project Construction Year One[2]	455 gallons	0.001 percent

Source: [1]CalEEMod; [2]Climate Registry 2016; [3]EMFAC2021 (CARB 2023)
Notes: The Project increases in automotive fuel consumption are compared with the countywide fuel consumption in 2021, the most recent full year of data.

Fuel necessary for Project implementation would be required for the operation and maintenance of construction equipment and the transportation of materials to the Project Area. The fuel expenditure necessary to clear and grade the firebreak would be temporary, lasting only as long as Project activities. As further indicated in Table 4.6-3, the Project's gasoline fuel consumption during the first year of implementation is estimated to be 455 gallons of fuel, respectively. This would increase the annual countywide gasoline fuel use in the County by 0.001 percent. As such, Project implementation would have

a nominal effect on local and regional energy supplies. No unusual Project characteristics would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or the State. The operators of the bulldozer would purchase their own gasoline and diesel fuel from local suppliers and would judiciously use fuel supplies to minimize costs due to waste and subsequently maximize profits. Additionally, construction equipment fleet turnover and increasingly stringent state and federal regulations on engine efficiency combined with state regulations limiting engine idling times and requiring recycling of construction debris, would further reduce the amount of transportation fuel demand during Project construction. For these reasons, it is expected that fuel consumption associated with the Project would not be any more inefficient, wasteful, or unnecessary than other similar development projects of this nature.

For these reasons, this impact would be less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	☐	☐	☒	☐

Less than significant.

The Project is the clearing of some grass and topsoil to make a 20-foot-wide swath of cleared land roughly 1 mile long that acts as a firebreak to protect the residential neighborhoods to the south of the Project Area. The implementation of the Proposed Project would not conflict with or obstruct any state or local plan for renewable energy or energy efficiency as there is no operational component to the Project. For these reasons, this impact would be less than significant.

4.7 Geology and Soils

4.7.1 Environmental Setting

4.7.1.1 Geomorphic Setting

The Project Area is located within the Great Valley Geomorphic Province (Great Valley), which includes the area known as the Great Central Valley of California. The Great Valley extends 400 miles north-south and 60 miles east-west and is encompassed by the Coast Ranges (metamorphic), the Klamath Ranges (metamorphic), the Cascade Range (volcanic), and the Sierra Nevada Range (granitic and metamorphic). The Great Valley consists of an elongated structural trough that has been filled with a sequence of sedimentary deposits ranging in age from Jurassic to recent. Geophysical evidence suggests that the Great Valley is underlain at depth with granitic rocks of the Sierra Nevada Province. The majority of rocks and deposits found within the Great Valley Geomorphic Province are sedimentary. The age of these rocks and deposits ranges from Upper Jurassic (between 154 and 135 million years ago to recent. (California Geological Survey [CGS] 2002).

4.7.1.2 Site Geology

The geology of the Sacramento Valley as a large, asymmetric, structural trough (syncline) formed by westward-tilting blocks of plutonic and metamorphic rocks on the eastern side, and highly folded and faulted blocks of metamorphic rocks (Franciscan) on the western side. This basin has been partially filled by a thick sequence (up to 12.4 miles [20km] thick) of sedimentary rocks and alluvial deposits that range from late Jurassic to Historical in age. During the Pleistocene, erosion of the Sierra Nevada led to the deposition of large alluvial fans at the base of the foothills along the eastern side of the Sacramento Valley. Glacial conditions are generally credited for the deposition of these fans, while subsequent interglacial periods are marked by landscape stability, soil formation, and channel incision. Subsequent depositional cycles during the Holocene progressively buried downstream sections of many older alluvial fans and also led to the formation of inset stream terraces and nested alluvial fans along the foothills (Rosenthal and Willis 2017).

About 4,000 years ago, most of Sacramento Valley had large amounts of alluvium deposited across it, forming a continuous plain extending from southern Glenn County through Yolo County in the west, and from northern Butte County to Sutter County in the east. Along modern streams and rivers in the lower Sacramento Valley, these late Holocene deposits were in part eventually eroded and/or buried by the Latest Holocene and historic period soil deposits. These latest Holocene deposits often bury older archaeological deposits (Rosenthal and Willis 2017).

4.7.1.3 Regional Seismicity and Fault Zones

In California, special definitions for active faults were devised to implement the Alquist-Priolo Earthquake Fault Zoning Act of 1972, which regulates development and construction in order to avoid the hazard of surface fault rupture. The State Mining and Geology Board established policies and criteria in accordance with the act, which defined an active fault as one which has had surface displacement within Holocene time (about the last 11,000 years). A potentially active fault was considered to be any fault that showed evidence of surface displacement during Quaternary time (the last 1.6 million years). Because of the large number of potentially active faults in California, the State Geologist adopted additional definitions and criteria to limit zoning to only those faults with a relatively high potential for surface rupture. Thus, the term *sufficiently active* was defined as a fault for which there was evidence of Holocene surface displacement. This term was used in conjunction with the term *well-defined*, which relates to the ability to locate a Holocene fault as a surface or near-surface feature (CGS 2010).

According to the Orland General Plan Update EIR (City of Orland 2010b), the primary seismic hazard associated with the Orland planning area is minor ground shaking. The Project Area is not located within an Alquist-Priolo earthquake hazard zone. The closest active fault system is the 40-mile-long Willows fault, located about 10 miles west of Orland.

4.7.1.4 Paleontological Resources

The Project Area is located on uneven terrain and is situated at an elevational range between approximately 239 to 254 feet AMSL. As the Project Proposes clearing of small vegetation, grasses, and the top layer of soil with depths no deeper than 1-3 feet, the Project is not expected to cause a substantial

adverse change in the significance of a paleontological resources. The Project is required to comply with all State and local regulations pertaining to the discovery of any resources found during any topsoil removal activities. According to the City of Orland General Plan Update DEIR conducted in 2010, a search of the University of California Museum of Paleontology (UCMP) collections database identified 21 paleontological resources in Glenn County. These resources primarily consist of vertebrates and invertebrates. The database search did not identify any paleontological resources in the Planning Area of the City of Orland and surrounding areas, and the geography and geology of the area suggest that it is not sensitive for paleontological resources.

4.7.2 Geology and Soils (VII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Directly or indirectly cause substantial adverse effects, including the risk of loss, injury, or death involving:	☐	☐	☐	☒
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?	☐	☐	☐	☒

No impact.

i) The Proposed Project Area is not located within an Alquist-Priolo Earthquake Zone (CGS 2011, 2015). There would be no impact related to fault rupture.

ii) According to CGS' Earthquake Shaking Potential for California mapping, the Proposed Project Area is located in an area that is distant from known, active faults and will experience lower levels of ground shaking less frequently. In most earthquakes, only weaker masonry buildings would be damaged. However, very infrequent earthquakes could still cause strong shaking in the area (CGS 2016). The Proposed Project includes the clearing of a 20-foot-wide swath of land for a firebreak to protect the adjacent residential neighborhoods from the risk of wildfire. Because there is no proposed structural components to the Project that would be at risk of seismic activity, there would be no impact related to strong ground shaking.

iii) Liquefaction occurs when loose sand and silt saturated with water behaves like a liquid when shaken by an earthquake. Liquefaction can result in the following types of seismic-related ground failure:

- Loss of bearing strength – soils liquefy and lose the ability to support structures
- Lateral spreading – soils slide down gentle slopes or toward stream banks
- Flow failures – soils move down steep slopes with large displacement
- Ground oscillation – surface soils, riding on a buried liquefied layer, are thrown back and forth by shaking
- Flotation – floating of light buried structures to the surface
- Settlement – settling of ground surface as soils reconsolidate
- Subsidence – compaction of soil and sediment

Liquefaction potential has been found to be greatest where the groundwater level and loose sands occur within a depth of about 50 feet or less. DOC provides mapping for area susceptible to liquefaction in California. According to this mapping, the Project Area is not located in an area identified for the risk of liquefaction (CGS 2023). Additionally, there are no proposed structures that would be at risk of liquefaction. As such, the Proposed Project would result in no impacts with regard to seismic-related ground failure, including liquefaction.

i) The Project Area is of minimal elevation gain and the site does not have steep hillsides or other formations susceptible to landslides during a seismic event. As such, the Project would have no impact with regard to the potential for landslides.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in substantial soil erosion or the loss of topsoil?	☐	☐	☒	☐

Less than significant.

The Project Area is mostly flat, which would reduce the potential for substantial erosion. Additionally, the Project does not include any structural components and is strictly the clearing of a swath of grass and some topsoil in order to create a firebreak that would reduce the impacts associated with wildfires that could potentially reach the adjacent residential neighborhoods. The 20-foot-wide swath would remain consistent with soils adjacent to the swath, and the root system of annual grasses will return to the swath that would help in keeping the soil matrix intact, thus reducing the risk of stormwater eroding away the topsoil. Additionally, there is no stormwater infrastructure in the Project area that would be affected by a stormwater event on the Project Site. This impact is less than significant.

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

No impact.

As discussed previously, the Project Area has no potential for landslides due to the flat topography of the site. Additionally, as the Project proposes the clearing of grass and some topsoil to create a firebreak approximately 20 feet wide and upon completion of the bulldozing work the site would be left to it's general state immediately afterwards with no development components that would be at risk of landslides, lateral spreading, subsidence, liquefaction or collapse, there would be no impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Be located on 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 types of soil that shrink or swell as the moisture content decreases or increases. Structures built on these soils may experience shifting, cracking, and breaking damage as soils shrink and subside or expand. Expansive soils can be determined by a soil's linear extensibility. There is a direct relationship between linear extensibility of a soil and the potential for expansive behavior, with expansive soil generally having a high linear extensibility. Thus, granular soils typically have a low potential to be expansive, whereas clay-rich soils can have a low to high potential to be expansive. The shrink-swell potential is low if the soil has a linear extensibility of less than three percent, moderate if three to six percent, high if six to nine percent, and very high if more than nine percent. If the linear extensibility is more than three, shrinking and swelling can cause damage to buildings, roads, and other structures and to plant roots. As the Proposed Project is the clearing of a 20-foot-wide swath of land to form a firebreak, with no structural components that would be at risk of damage from expansive soils, there would be no impact associated with expansive soils.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	☐	☐	☐	☒

No impact.

The Proposed Project does not include any structural component that would require any septic tanks or alternative waste-water disposal systems. Thus, there is no impact associated with Project Area soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☐	☒	☐

Less than significant.

According to the City of Orland General Plan Update DEIR conducted in June of 2010 , a search of the UCMP collections database identified 21 paleontological resources in Glenn County. These resources primarily consist of vertebrates and invertebrates. The database search did not identify any paleontological resources in the Planning Area, and the geography and geology of the area suggest that it is not sensitive for paleontological resources.

If paleontological or other geologically sensitive resources are identified during any soil moving activities while the construction equipment clears the 20-foot-wide swath of land that will act as a firebreak to protect the adjacent residential neighborhoods south of the Project Area, the applicant shall cease operation at the site of the discovery and immediately notify the City. The Project proponent is required to comply with all State and local regulation pertaining to the discovery of any paleontological resources during the creation of the firebreak.

Therefore, impacts to unknown paleontological resources would be less than significant.

4.8 Greenhouse Gas Emissions

4.8.1 Environmental Setting

GHG emissions are released as byproducts of fossil fuel combustion, waste disposal, energy use, land use changes, and other human activities. This release of gases, such as carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), and chlorofluorocarbons, creates a blanket around the earth that allows light to pass

through but traps heat at the surface, preventing its escape into space. While this is a naturally occurring process known as the greenhouse effect, human activities have accelerated the generation of GHGs beyond natural levels. The overabundance of GHGs in the atmosphere has led to an unexpected warming of the earth and has the potential to severely impact the earth's climate system.

Each GHG differs in its ability to absorb heat in the atmosphere based on the lifetime, or persistence, of the gas molecule in the atmosphere. CH_4 traps over 25 times more heat per molecule than CO_2, and N_2O absorbs 298 times more heat per molecule than CO_2. Estimates of GHG emissions are often presented in carbon dioxide equivalents (CO_2e). Expressing GHG emissions in CO_2e takes the contribution of all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO_2 were being emitted.

4.8.2 Greenhouse Gas Emissions (VIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☒	☐

Less than significant.

Project implementation-related activities that would generate GHG emissions include worker commute trips and off-road construction equipment (e.g., bulldozer, tractors, and backhoes). Table 4.8-1 illustrates the specific Project implementation generated GHG emissions that would result from construction-like activities of the Proposed Project.

Table 4.8-1. Project Implementation Related Greenhouse Gas Emissions

Description	CO_2e Emissions (Metric Tons/Year)
Project Total	**4.62**
Potentially Significant Impact Threshold	*1,100*
Exceed Significance Impact Threshold?	**No**

Sources: CalEEMod 2020.0.4.0

As shown in Table 4.8-1, Project implementation would result in the generation of approximately 4.62 metric tons of CO_2e over the course of firebreak-clearing activities. Once the firebreak is completed, the generation of these GHG emissions would cease. Furthermore, GHG emissions generated by the construction sector have been declining in recent years. For instance, construction equipment engine efficiency has continued to improve year after year. The first federal standards (Tier 1) for new off-road diesel engines were adopted in 1994 for engines over 50 horsepower (hp) and were phased in from 1996 to 2000. In 1996, a Statement of Principles pertaining to off-road diesel engines was signed between the

USEPA, CARB, and engine makers (including Caterpillar, Cummins, Deere, Detroit Diesel, Deutz, Isuzu, Komatsu, Kubota, Mitsubishi, Navistar, New Holland, Wis- Con, and Yanmar). On August 27, 1998, the USEPA signed the final rule reflecting the provisions of the Statement of Principles. The 1998 regulation introduced Tier 1 standards for equipment under 50 hp and increasingly more stringent Tier 2 and Tier 3 standards for all equipment with phase-in schedules from 2000 to 2008. As a result, all off-road, diesel-fueled construction equipment manufactured in 2006 or later has been manufactured to Tier 3 standards. Tier 3 engine standards reduce precursor and subset GHG emissions such as nitrogen oxide by as much as 60 percent. On May 11, 2004, the USEPA signed the final rule introducing Tier 4 emission standards, which were phased in over the period of 2008-2015. The Tier 4 standards require that emissions of nitrogen oxide be further reduced by about 90 percent. All off-road, diesel-fueled construction equipment manufactured in 2015 or later must be manufactured to Tier 4 standards. For these reasons, the Project would have a less than significant impact associated with direct or indirect GHG emissions.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☒	☐

Less than significant.

The State of California promulgates several mandates and goals to reduce statewide GHG emissions, including the goals to reduce statewide GHG emissions to 40 percent below 1990 levels by the year 2030 (Senate Bill 32) and 80 percent below 1990 levels by 2050 (Executive Order S-03-05). The SMAQMD supports state policies to reduce levels of GHG emissions through its significance thresholds, and the Proposed Project would comply with the SMAQMD's numeric, bright-line GHG threshold of 1,100 metric tons of CO2e per year, which was developed in consideration of statewide GHG reduction goals. Furthermore, the Project would not include new permanent sources of GHG emissions and would not generate new or unplanned permanent GHG emissions. Therefore, the Project would not interfere with the state's goals of reducing GHG emissions 40 percent below 1990 levels by 2030 and 80 percent below 1990 levels by 2050, as established in Senate Bill 32 and Executive Order S-03-05.

Furthermore, the Proposed Project would comply with the State Building Code provisions designed to reduce GHG emissions during construction. During construction, the Project would utilize equipment in compliance with CARB requirements. Mobile sources during construction would be subject to the requirements of California Assembly Bill 1493 (Pavley Standards), the Advanced Clean Cars Program, and the Low Carbon Fuel Standard Regulation. Additionally, the Project would be designed and constructed consistent with California Title 24 and CALGreen (2019). These regulations require projects to comply with specific standards related to energy efficiency construction practices.

For these reasons, the Project would not conflict with any applicable plan, policy or regulation related to the reduction in GHG emissions.

4.9 Hazards and Hazardous Materials

4.9.1 Environmental Setting

A material is considered hazardous if it appears on a list of hazardous materials prepared by a federal, state, or local agency or if it has characteristics defined as hazardous by such an agency. A hazardous material is defined by the California Health and Safety Code, § 25501 as follows:

> "Hazardous material" means any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and safety or to the environment if released into the workplace or the environment. "Hazardous materials" include, but are not limited to, hazardous substances, hazardous waste, and any material that a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or the environment.

A hazardous material is defined in Title 22, § 662601.10, of the CCR as follows:

> A substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed.

The release of hazardous materials into the environment could potentially contaminate soils, surface water, and groundwater supplies.

Under Government Code § 65962.5, both the Department of Toxic Substances Control (DTSC) and the State Water Resources Control Board (SWRCB) are required to maintain lists of sites known to have hazardous substances present in the environment. Both agencies maintain up-to-date lists on their websites. A search of the DTSC (2023) and SWRCB (2023) lists identified no open cases of hazardous waste violations on, or within ½ mile of the Project Area.

The USEPA maintains the Enforcement and Compliance History Online (ECHO) program. The ECHO website provides environmental regulatory compliance and enforcement information for approximately 800,000 regulated facilities nationwide. The ECHO website includes environmental permit, inspection, violation, enforcement action, and penalty information about USEPA-regulated facilities. Facilities included on the site are Clean Air Act (CAA) stationary sources; Clean Water Act facilities with direct discharge permits, under the National Pollutant Discharge Elimination System (NPDES); generators and handlers of hazardous waste, regulated under the Resource Conservation and Recovery Act; and public drinking water systems, regulated under the Safe Drinking Water Act. ECHO also includes information about USEPA cases under other environmental statutes. When available, information is provided on surrounding demographics, and ECHO includes other USEPA environmental data sets to provide additional context for analyses, such as Toxics Release Inventory data. According to the ECHO program, the Project Area is not listed as having a hazardous materials violation.

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

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	☐	☐	☒	☐

Less than significant.

The Proposed Project would allow for the clearing of a 20-foot-wide swath of land to act as a firebreak to protect the residents adjacent to the Project Site from future wildfires. These activities may result in the storage of hazardous materials typically sold or stored in stores such as antifreeze, oil and lubricants for vehicle maintenance. Typical incidents that could result in accidental release of hazardous materials involve leaking storage tanks, spills during transport, inappropriate storage, inappropriate use, and/or natural disasters. If not remediated immediately and completely, these and other types of incidents could cause toxic fumes and contamination of soil, surface water, and groundwater. Depending on the nature and extent of the contamination, groundwater supplies could become unsuitable for use as a domestic water source. Human exposure to contaminated soil or water could have potential health effects depending on a variety of factors, including the nature of the contaminant and the degree of exposure.

Hazardous materials must be stored in designated areas designed to prevent accidental release to the environment. California Building Code (CBC) requirements prescribe safe accommodations for materials that present a moderate explosion hazard, high fire or physical hazard, or health hazards.

The Proposed Project would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. These materials would be required to be used, stored, and disposed in accordance with existing regulations and product labeling and would not create a significant hazard to the public or to the environment. Therefore, the Project would have a less than significant impact in this area.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	☐	☐	☒	☐

Less than significant.

As discussed in Issue a), the Project would not result in the routine transport, use, disposal, handling, or emission of any hazardous materials that would create a significant hazard to the public or the

environment. Potential Project implementation-related hazards could be created during the course of the firebreak clearing at the site, given that Project activities would involve the use of heavy equipment, which uses small and incidental amounts of oils and fuels and other potentially flammable substances. The level of risk associated with the accidental release of hazardous substances is not considered significant due to the small volume and low concentration of hazardous materials used during Project implementation. The contractor would be required to use standard construction controls and safety procedures that would avoid and minimize the potential for accidental release of such substances into the environment. Standard construction practices would be observed such that any materials released are appropriately contained and remediated as required by local, state, and federal law.

All hazardous materials on the Project Area would be handled in accordance with City and State regulations. Therefore, there would be a less than significant impact because any hazardous materials used for the Project activities would be in small quantities.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	☐	☐	☐	☒

No impact.

The nearest public school to the Project Area is Orland High School, approximately 0.5 mile from the Project Area. The Project would have no impact in this area.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	☐	☐	☐	☒

No impact.

Under Government Code § 65962.5, both the DTSC and the SWRCB are required to maintain lists of sites known to have hazardous substances present in the environment. Both agencies maintain up-to-date lists on their websites. A search of the DTSC and SWRCB lists identified no open cases of hazardous waste violations on the Project Area. Therefore, the Project Area and the Proposed Project are not on a parcel included on a list of hazardous materials sites compiled pursuant to Government Code § 65962.5 (DTSC 2023 SWRCB 2023). As a result, this would not create a significant hazard to the public or to the environment and would have no impact.

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

No impact.

The Orland Haigh Field Airport is approximately 2.7 miles southeast of the Project Area. The Project Area is not located in the airport's safety areas as shown on Map 2 of the Comprehensive Airport Land Use Plan for the Orland Haigh Field Airport (Glenn County Airport Land Use Commission 1991). Furthermore, the Project does not propose any new structures which may impede aircraft operations. Thus, no impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

No impact.

Standard evacuation routes have not been designated in Glenn County or Orland. However, the Glenn County Sheriff's Office, Office of Emergency Services has an online link to an emergency preparedness web page stating that in the event of mandatory evacuation, residents will be advised of safe routes to follow, locations of shelters, and other actions that may need to be taken.

According to the Orland General Plan DEIR, it is likely that Caltrans facilities such as SR 32 and I-5 would be used to evacuate the community in an emergency. Major county roads such as Sixth Street (County Road 99W) and South Street are also suited to evacuation, depending on the location of the emergency (City of Orland 2010b).

The Proposed Project does not include any actions that would impair or physically interfere with an adopted emergency response plan or emergency evacuation plan. All firebreak clearing activities would not impede the use of surrounding roadways in an emergency evacuation. The Project involves the creating of a 20-foot-wide firebreak and would not interfere with any emergency response or evacuation plans. Implementation of the Proposed Project would result in no impact in this area.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
g) Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	☐	☐	☒	☐

Less than significant.

The Project Area is not in an area designated by California Department of Forestry and Fire Protection (CAL FIRE, 2007) as a Fire Hazard Severity Zone. Furthermore, no Very High Fire Hazard Severity Zones are located nearby. The Project in itself is the creation of a firebreak that would reduce the risk of wildland fires that have the potential to expose people or structures to significant risk of loss, injury or death. For these reasons, this impact would be less than significant.

4.10 Hydrology and Water Quality

4.10.1 Environmental Setting

4.10.1.1 Regional Hydrology

Surface Water

The City of Orland is located in the greater Sacramento River hydrologic region. The Sacramento River hydrologic region covers approximately 17.4 million acres (27,200 square miles). The region includes all or large portions of Butte, Colusa, El Dorado, Glenn, Glenn, Lake, Lassen, Modoc, Napa, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Solano, Sutter, Tehama, Yolo, Yuba counties. Small areas of Alpine and Amador counties are also within the region. Geographically, the region extends south from the Modoc Plateau and Cascade Range at the Oregon border to the Sacramento-San Joaquin Delta (California Department of Water Resources [DWR] 2006).

The City of Orland and the Project Area are located within the boundaries of the Stony Creek watershed. The Stony Creek watershed encompasses approximately 700 square miles and is the second largest Sacramento River tributary on the west side of the Sacramento Valley (City of Orland 2010b). There are three major impoundments on Stony Creek: Black Butte, East Park, and Stony Gorge reservoirs.

Groundwater

The Project Area is underlain by the Sacramento Valley Groundwater Basin and the Colusa Subbasin (DWR 2023a). The City of Orland uses groundwater as the source for potable water in the city. This groundwater is extracted from the Colusa Groundwater Subbasin. According to the California DWR, the Colusa Subbasin covers an area of approximately 1,434 square miles (918,380 acres) (DWR 2006). The storage capacity of the subbasin was projected based on estimates of specific yield for the Sacramento Valley as developed in DWR Bulletin 118 (DWR 2006). The estimated storage capacity to a depth of 200 feet is approximately 13,025,887 acre-feet or 4.24 trillion gallons. Estimates of groundwater extraction for the Colusa Subbasin are based on surveys conducted by the California DWR during 1993, 1994, and 1999.

Surveys included land use and sources of water. Estimates of groundwater extraction for agricultural, municipal, and industrial, and environmental wetland uses are 310,000 acre-feet (AF), 14,000 AF, and 22,000 AF, respectively. Deep percolation from applied water is estimated to be 64,000 AF. The DWR has not identified the Colusa Subbasin as overdrafted in its DWR Bulletin 118. Also, there has been no indication of any existing or anticipated overdraft condition in studies prepared by other entities (DWR 2006).

The DWR Sustainable Groundwater Management Act (SGMA) provides groundwater levels throughout the state. Among other things, this interactive online tool can illustrate the change in groundwater depth of a certain time period for a particular location, such as the City of Orland. According to the SGMA information, the distance from groundwater to ground surface in the Project area has increased by approximately 50 feet between spring 2012 and spring 2022. In other words, the groundwater water surface was 40 feet below ground surface (bgs) in 2012 and was approximately 90 feet below ground surface in 2022 (DWR 2023b).

Table 4.10-1. Depth to Groundwater

Year	Season	
	Spring (ft bgs[1])	Fall (ft bgs[1])
2012	40	n/a
2013	30	55
2014	50	65
2015	50	65
2016	50	60
2017	45	60
2018	50	80
2019	65	60
2020	55	90
2021	75	100
2022	90	N/A

Source: DWR 2023b
Note: 1) ft bgs = feet below ground surface

The SGMA directs DWR to identify groundwater basins and subbasins in conditions of critical overdraft. As defined in the SGMA, "A basin is subject to critical overdraft when continuation of present water management practices would probably result in significant adverse overdraft-related environmental, social, or economic impacts." The Colusa groundwater subbasin is not listed as a critically overdrafted basin (DWR 2018a). DWR is currently working on an update to the Bulletin 118 groundwater report. However, more up-to-date information of the Colusa subbasin is not available at this time.

4.10.1.2 Site Hydrology and On-Site Drainage

The are no existing natural hydrological features on the 1.20-acre Project Area. There is creek (Stony Creek) adjacent to the northern boundary of the Project Area. The topography of the Site is uneven terrain and is situated at an elevational range between approximately 239 to 254 feet AMSL over the 1.20-acre Site. Upon completion of the Proposed Project, the Project Area topography would be the same of pre-Project conditions.

Orland experiences extreme seasonal variation in monthly rainfall. The rainy period of the year lasts for 8.9 months, from September 17 to June 15, with a sliding 31-day rainfall of at least 0.5 inch. The most rain falls during the 31 days centered around February 16, with an average total accumulation of 5.9 inches. The rainless period of the year lasts for 3.1 months, from June 15 to September 17. The least rain falls around July 31, with an average total accumulation of 0.0 inches (Weather Atlas 2023).

The Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (FIRM) for the Project Area (Map No. 06021C0170D) shows that the Project Area is in Zone AE, meaning that the area is within the 1 percent annual chance (500-year) floodplain (FEMA 2010).

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

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or ground water quality?	☐	☐	☒	☐

Less than significant.

In accordance with NPDES regulations, the State of California requires that any construction activity affecting 1 acre or more obtain a General Construction Activity Stormwater Permit (General Permit) to minimize the potential effects of construction runoff on receiving water quality. Performance standards for obtaining and complying with the General Permit are described in NPDES General Permit No. CAS000002, Waste Discharge Requirements, Order No. 2009-0009-DWQ.

As the Project includes clearing a 20-foot-wide swath of land on 1.20 acres to create a firebreak to help reduce the risk of wildfires impacting adjacent residential neighborhoods, it does not include construction activities associated with structural building. Therefore, there is no risk of substantially degrading surface or ground water quality or violating any water quality standards or waste discharge requirements as there would be no waste from the Project activities that would enter the adjacent Stony Creek watershed or groundwater wells nearby. Once the clearing activities are complete, the Project would cease, and the area would return to its normal conditions. There are no new impervious surfaces proposed, nor any physical structures being built. For these reasons, there would be a less than significant impact associated with water quality standards and degradation of water quality.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?	☐	☐	☐	☒

No impact.

The City of Orland uses groundwater as the source for potable water in the city. This groundwater is extracted from the Colusa Groundwater Subbasin, part of the Sacramento Valley Groundwater Basin.

The Proposed Project would not increase the demand for groundwater in the City as there is no operational component included in the Proposed Project. Additionally, the Project would not remove any portion of the Site's potential groundwater recharge area due to the fact there is no development of this area with impervious surfaces proposed. Therefore, the Project would have no impact to groundwater recharge.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner that would:				
i) result in substantial erosion or siltation on- or off-site;	☐	☐	☒	☐
ii) substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or offsite;	☐	☐	☒	☐
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.

i) Stony Creek exists nearby the Project Area to the north. As such, siltation of on- or offsite waterways has the potential to occur. However, the bulldozer work would include compaction of

the soil within the 20-foot-wide swath, reducing the amount of loose soil that could be carried away and deposited into Stony Creek during a stormwater event. Additionally, there exists vegetation between the firebreak and Stony Creek that would act as a natural silt screen in the event some of the loose dirt were to migrate off-site during a stormwater event. Furthermore, as grass seeds sprout and root balls form within the firebreak, this will increase the firebreak's soil cohesion (ability of soil to hold together) making siltation of Stony Creek even less likely.

This will reduce potential runoff, erosion, and siltation associated with implementation of the Proposed Project. The effects of the Proposed Project on onsite and offsite erosion and siltation, therefore, would be less than significant.

ii) Implementation of the Proposed Project would not alter the existing drainage patterns on the Site as there are no impermeable surfaces included as part of the Proposed Project. Therefore, the Project would have a less than significant impact on causing flooding on- or offsite.

iii) See discussion of Issues i) and ii), above.

iv) FEMA flood hazard maps (Map 06021C0170D) show that the Project Area is in Zone AE. The Project Area is located within a flood zone. However, as there are no impervious surfaces or structures of any kind proposed, implementation of the Proposed Project will not have an impact related to impeding or redirecting flood flows.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	☐	☐	☐	☒

No impact.

The Project Area is not protected by levees from any flood hazard. Stony Creek is a natural waterway adjacent to the Project Area. No large bodies of water exist near the Proposed Project Area. The Project Area is not located within a potential tsunami or seiche inundation area. Damage due to a seiche, a seismic-induced wave generated in a restricted body of water would not occur as there is no operational component to the Project that would have pollutants available to be released in the case the Project Site was inundated.

Dam failure, the collapse or failure of an impoundment that causes significant downstream flooding, is a potential hazard for Orland. Flooding of the area below the dam may occur as a result of structural failure of the dam or overtopping. The collapse and structural failure of a dam may be caused by a severe storm, earthquakes, or internal erosion of piping caused by embankment and foundation leakage. Larger dams whose waters could inundate significant portions of the City include the Shasta Dam in Shasta County and Black Butte Dam on Stony Creek. Black Butte Dam is subject to flooding the City of Orland Planning Area in approximately two hours as a result of a dam failure.

Black Butte Dam is a federal dam project and is owned, operated, and maintained by the USACE. USACE's dam safety professionals carry out a dam safety program which provides continuous assessment of the dam structure and operation. Therefore, an event such as the failure of Black Butte Dam has an extremely low probability of occurring and is not considered to be a reasonably foreseeable event. Based on the discussion above, there would be no impact in this area.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	☐	☐	☒	☐

Less than significant.

The City of Orland is a participating member of the Glenn Groundwater Authority formed in 2017. However, the Groundwater Sustainability Plan is not yet completed and was planned for completion in 2022 (Glenn County 2023b). As such, the Project would have no impact to the groundwater management plan.

The Project Area is also located within the Water Quality Control Plan (Basin Plan) for the Central Valley Region - Sacramento River Basin (DWR 2018b). The Project would not conflict with the water quality control plan as there is no development of structures or use of toxic substances that would penetrate the groundwater in the Project Area. As such, the Project would have a less than significant impact in this area.

4.11 Land Use and Planning

4.11.1 Environmental Setting

The 1.20-acre Site is within the Glenn County General Plan Agricultural Transition land use designation and identified for Agricultural uses in the General Plan. The Proposed Project would not result in a change in use. Surrounding uses include open space, agricultural, and rural residential uses to the north of the Project Area. To the east is agricultural, rural residential uses and vacant land. To the west of the Project Area is rural residential uses, agricultural uses, the Church of Latter-Day Saints, and Orland High School. Vacant land and single-family residential neighborhoods are to the south, a portion of which is approved for development as a single-family residential neighborhood.

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

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Physically divide an established community?	☐	☐	☐	☒

No impact.

The Project Area is located just beyond and abutting the outer edge of the City limits and therefore would not divide an existing community. The Project would be accommodated by existing roadways and would not require construction of new roadways that would preclude access to the surrounding area. The Project would be consistent with the surrounding open space and vacant land uses and does not propose and development of structural components that would change the land use designation. As such, the Proposed Project would not physically divide an established community, and no impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

No impact.

As explained above, the Project is consistent with the County of Glenn General Plan land use designations. The Project would rely on the General Plan policies and actions, especially those adopted to assist in the protection of the environment. As analyzed in each section of this IS/ND, the Project would not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. Additionally, the very nature of the Project is to create a firebreak to protect the adjacent residential uses from wildfire dangers. No impact would occur.

4.12 Mineral Resources

4.12.1 Environmental Setting

The State-mandated Surface Mining and Reclamation Act of 1975 requires the identification and classification of mineral resources in areas within the State subject to urban development or other irreversible land uses that could otherwise prevent the extraction of mineral resources. These designations categorize land as Mineral Resource Zones (MRZ) MRZ-1 through MRZ-4.

Stony Creek is located on the northern border of the City and abuts the northern border of the Project Area. Lower Stony Creek traverses its alluvial fan from Black Butte Dam to the Sacramento River, following one of three major fingers of gravelly soil that represent former channel courses. In-stream gravel mining has been particularly intensive in Lower Stony Creek. Generally, Stony Creek aggregates consist of stream channel deposits, including flood and over bank deposits in the upper reaches, and are classified as MRZ-2a (marginal reserves) (City of Orland 2010b). However, there is currently no mining activity occurring within, nor is it allowed in, the Project vicinity. Furthermore, neither the Glenn County General Plan Draft Review nor the Orland General Plan identifies any mineral resource zones within the City of Orland (City of Orland 2010a) or the Project vicinity (Glenn County 2023a).

4.12.2 Mineral Resources (XII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒

No impact.

As discussed above, neither the County's nor the City's existing General Plans identify any mineral resources in the Project vicinity, including on the Project Area. Therefore, no impacts would occur to mineral resources.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

No impact.

The Project Area is not identified as a mineral resource recovery site in the Orland General Plan or County's General Plan. There would be no impact in this area.

4.13 Noise

4.13.1 Environmental Setting

4.13.1.1 Noise Fundamentals

Noise is generally defined as sound that is loud, disagreeable, or unexpected. The selection of a proper noise descriptor for a specific source is dependent on the spatial and temporal distribution, duration, and fluctuation of the noise. The noise descriptors most often encountered when dealing with traffic, community, and environmental noise include the average hourly noise level (in L_{eq}) and the average daily noise levels/community noise equivalent level (in L_{dn}/CNEL). The L_{eq} is a measure of ambient noise, while the L_{dn} and CNEL are measures of community noise. Each is applicable to this analysis.

Noise can be generated by a number of sources, including mobile sources, such as automobiles, trucks and airplanes, and stationary sources, such as construction sites, machinery, and industrial operations.

Sound spreads (propagates) uniformly outward in a spherical pattern, and the sound level decreases (attenuates) at a rate of approximately six decibels (dB) for each doubling of distance from a stationary or

point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics (Federal Highway Administration [FHWA] 2011). Soft surfaces, such as soft dirt or grass, can absorb sound, so an excess ground-attenuation value of 1.5 dB per doubling of distance is normally assumed (FHWA 2011).

Noise levels may also be reduced by intervening structures; generally, a single row of detached buildings between the receptor and the noise source reduces the noise level by about five dBA (A-weighted decibels) FHWA 2006), while a solid wall or berm generally reduces noise levels by 10 to 20 dBA (FHWA 2011). However, noise barriers or enclosures specifically designed to reduce site-specific construction noise can provide a sound reduction 35 dBA or greater (Western Electro-Acoustic Laboratory, Inc. [WEAL] 2000). To achieve the most potent noise-reducing effect, a noise enclosure/barrier must physically fit in the available space, must completely break the *line of sight* between the noise source and the receptors, must be free of degrading holes or gaps, and must not be flanked by nearby reflective surfaces. Noise barriers must be sizable enough to cover the entire noise source and extend lengthwise and vertically as far as feasibly possible to be most effective. The limiting factor for a noise barrier is not the component of noise transmitted through the material, but rather the amount of noise flanking around and over the barrier. In general, barriers contribute to decreasing noise levels only when the structure breaks the *line of sight* between the source and the receiver.

4.13.1.2 Noise Sensitive Land Uses

Noise-sensitive land uses are generally considered to include those uses where noise exposure could result in health-related risks to individuals, as well as places where quiet is an essential element of their intended purpose. Residential dwellings are of primary concern because of the potential for increased and prolonged exposure of individuals to both interior and exterior noise levels. Additional land uses such as hospitals, historic sites, cemeteries, and certain recreation areas are considered sensitive to increases in exterior noise levels. Schools, churches, hotels, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses.

The nearest existing noise-sensitive land uses to the Project Area are residential properties adjacent to the southwestern Project Area boundary with the closest being approximately 50 feet distant.

4.13.1.3 Vibration Fundamentals

Ground vibration can be measured several ways to quantify the amplitude of vibration produced, including through peak particle velocity (PPV) or root mean square velocity. These velocity measurements measure maximum particle at one point or the average of the squared amplitude of the signal, respectively.

Vibration impacts on people can be described as the level of annoyance and can vary depending on an individual's sensitivity. Generally, low-level vibrations may cause window rattling but do not pose any threats to the integrity of buildings or structures.

4.13.1.4 Existing Ambient Noise Environment

The most common and significant source of noise in the City of Orland and the County of Glenn is mobile noise generated by transportation-related sources. Other sources of noise are the various land uses (i.e., industrial facilities, agricultural uses, residential and commercial) that generate stationary-source noise. The Project Area is bound by rural residences and agricultural uses beyond Stony Creek to the north; vacant land, the Church of Latter-Day Saints, and Orland High School to the west; single-family residential neighborhoods to the south; rural residential, vacant land, and agricultural land to the east.

4.13.2 Noise (XIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Result in generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	☐	☐	☒	☐

Less than significant.

4.13.2.1 Project Construction Noise

Construction noise associated with the Proposed Project would be temporary and would vary depending on the nature of the activities being performed. Noise generated would primarily be associated with the operation of off-road equipment for onsite firebreak creating activities. Construction noise typically occurs intermittently and varies depending on the nature or phase of construction (e.g., land clearing and grading). Noise generated by construction equipment, including earth movers and material handlers can reach high levels. Typical operating cycles for these types of construction equipment may involve 1 or 2 minutes of full power operation followed by 3-4 minutes at lower power settings. Other primary sources of acoustical disturbance would be random incidents, which would last less than 1 minute (such as dropping large pieces of equipment). During Project implementation, exterior noise levels could negatively affect sensitive land uses in the vicinity of the Site.

Nearby noise-sensitive land uses consist of residences adjacent to the southern Project Area boundary with the closest being approximately 50 feet distant. The residences located on the southern Project Area boundary are located within the City limits. There are no sensitive land uses located in the Project vicinity that are within County land. The City and County both limit the time that construction can take place but do not promulgate numeric thresholds pertaining to the noise associated with construction. Specifically, Policy 6.1.I of *Orland General Plan* states that noise associated with construction activities shall be exempt from the City's noise standards. Further, Policy 6.1.J states that construction activities shall be limited to the hours of 7:00 a.m. to 5:00 p.m. unless an exemption is received from the City to cover special circumstances. Similarly, Chapter 15.560.100 of Glenn County's Municipal Code exempts construction

noise as long as it takes place between 7:00 a.m. and 7:00 p.m. Due to the fact that implementation of the Proposed Project will be occurring near noise-sensitive land uses in the City of Orland and the City's limit on construction timing is more stringent, the City's construction noise standard is the most applicable to the Project. It is typical to regulate construction noise with time limits as opposed to numeric noise thresholds since construction noise is temporary, short term, intermittent in nature, and would cease on completion of the Project. Furthermore, the City of Orland is a developing urban community and construction noise is generally accepted as a reality within the urban environment. Additionally, construction would occur through the Project Area and would not be concentrated at one point.

To estimate the worst-case onsite construction noise levels that may occur at the nearest noise-sensitive receptor in the Project vicinity in order to evaluate the potential health-related effects (physical damage to the ear) from construction-type noise, the equipment noise levels were calculated using the Roadway Noise Construction Model and compared against the construction-related noise level threshold established in the *Criteria for a Recommended Standard: Occupational Noise Exposure* prepared in 1998 by National Institute for Occupational Safety and Health (NIOSH). A division of the US Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of exposure to the source. The NIOSH construction-related noise level threshold starts at 85 dBA for more than 8 hours per day; for every 3-dBA increase, the exposure time is cut in half. This reduction results in noise level thresholds of 88 dBA for more than 4 hours per day, 92 dBA for more than 1 hour per day, 96 dBA for more than 30 minutes per day, and up to 100 dBA for more than 15 minutes per day. For the purposes of this analysis, the lowest, more conservative threshold of 85 dBA L_{eq} is used as an acceptable threshold for construction noise at the nearby sensitive receptors.

The anticipated short-term construction noise levels generated for the necessary equipment were calculated using the Roadway Noise Construction Model for the site grading anticipated for the Proposed Project. It is acknowledged that the majority of equipment is not situated at any one location during construction activities, but rather spread throughout the Project Area and at various distances from sensitive receptors. Therefore, this analysis employs Federal Transit Administration (FTA) guidance for calculating construction noise, which recommends measuring construction noise produced by all construction equipment operating simultaneously from the center of the Project (FTA 2018), which in this case is approximately 50 feet distant from the nearest sensitive receptor. The anticipated short-term construction noise levels generated for the necessary equipment is presented in Table 4.13-1.

Table 4.13-1. Construction Average (dBA) Noise Levels at Nearest Receptor - Project Area			
Equipment	**Estimated Exterior Construction Noise Level at Nearest Residences**	**Construction Noise Standards (dBA L_{eq})**	**Exceeds Standards?**
Grading			
Tractors/Loaders/Backhoes (2)	84.0 (each)	*85*	**No**
Dozer	81.7	*77.7*	**No**
Combined Site Preparation Equipment	**84.1**	*85*	**No**

Source: Construction noise levels were calculated by ECORP Consulting using the FHWA Roadway Noise Construction Model (FHWA 2006). Refer to Attachment 4.13 for Model Data Outputs.
Notes: Construction equipment used during construction derived from the Project applicant. Consistent with FTA recommendations for calculating construction noise, construction noise was measured from the center of the Project Area (FTA 2018), which is 50 feet from the nearest residence.
L_{eq} = The equivalent energy noise level, is the average acoustic energy content of noise for a stated period of time. Thus, the L_{eq} of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night.

As shown in Table 4.13-1, during the firebreak clearing activities no individual or cumulative piece of construction equipment would not exceed the NIOSH threshold of 85 dBA L_{eq} at the nearest potential receptors to onsite construction and therefore no health effects from construction noise would occur. It is noted that construction noise was modeled on a worst-case basis. It is very unlikely that all pieces of construction equipment would be operating at the same time for the various phases of Project construction as well as at the point closest to residences. Therefore, a less than significant impact would occur.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Result in generation of excessive groundborne vibration or groundborne noise levels?	☐	☐	☒	☐

Less than significant.

4.13.2.2 Construction-Generated Vibration

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

Construction-related ground vibration is normally associated with impact equipment such as pile drivers, jackhammers, and the operation of some heavy-duty construction equipment, such as dozers and trucks. It is not anticipated that pile drivers would be necessary during Project construction. Vibration decreases rapidly with distance and it is acknowledged that land clearing activities would occur throughout the Project Area and would not be concentrated at the point closest to sensitive receptors. Groundborne vibration levels associated with construction equipment at 25 feet distant are summarized in Table 4.13-2 below

Table 4.13-2. Representative Vibration Source Levels for Construction Equipment

Equipment Type	Peak Particle Velocity at 25 Feet (inches per second)
Large Bulldozer	0.089
Caisson Drilling	0.089
Loaded Trucks	0.076
Hoe Ram	0.089
Jackhammer	0.035
Small Bulldozer/Tractor	0.003
Vibratory Roller	0.210

Source: FTA 2018

The City does not regulate vibrations associated with construction. The Glenn County Municipal Code, Section 15.560.130, states that vibration associated with construction are exempt from the County's standards (Glenn County 2023c). However, a discussion of construction vibration is included for full disclosure purposes. For comparison purposes, the Caltrans (2020b) recommended standard of 0.2 inches per second PPV with respect to the prevention of structural damage for older residential buildings is used as a threshold. This is also the level at which vibrations may begin to annoy people in buildings. Consistent with FTA recommendations for calculating vibration generated from construction equipment, construction vibration was measured from the center of the Project Area (FTA 2018). The nearest structure of concern to the construction site are residences located approximately 50 feet south of the Project Area center.

Based on the representative vibration levels presented for various construction equipment types in Table 4.13-2 and the construction vibration assessment methodology published by the FTA (2018), it is possible to estimate the potential Project construction vibration levels. The FTA provides the following equation:

$$[PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}]$$

Table 4.13-3 Vibration Levels at 50 Feet							
Receiver PPV Levels (in/sec)[1]					Peak Vibration	Threshold	Exceed Threshold
Large Bulldozer, Caisson Drilling, & Hoe Ram	Loaded Trucks	Jackhammer	Small Bulldozer	Vibratory Roller			
0.031	0.027	0.012	0.001	0.074	**0.074**	0.2	**No**

Notes: [1]Based on the Vibration Source Levels of Construction Equipment included on Table 4.13-2 (FTA 2018). Distance to the nearest structure of concern is approximately 50 feet measured from Project Area center.

As shown in Table 4.13-5, vibration as a result of construction activities would not exceed 0.2 PPV at the nearest structure. Thus, Project implementation would not exceed the recommended threshold. A less than significant impact would occur.

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

No impact.

The Project Area is located approximately 2.60 miles northwest of the Haigh Field Airport. According to Figure 6-1 of the City's General Plan, *Orland Haigh Field Airport Noise Contour Lines*, the Project Area is located outside of the 55 CNEL Noise Contour. Thus, the Proposed Project would not expose people working on the Project Area to excess airport noise levels. No impact would occur.

4.14 Population and Housing

4.14.1 Environmental Setting

According to the California Department of Finance (DOF), which provides estimated population and housing unit demographics by year throughout the state, the City's population increased 17.0 percent between 2011 and 2022, from 7,291 to 8,267. DOF estimates that there were 2,978 total housing units in

the City, and a 4.0 percent vacancy rate as of January 1, 2022. The average household size was estimated to be 2.89 persons per household during the same time period. (DOF 2023).

4.14.2 Population and Housing (XIV) Environmental Checklist and Discussion

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

No impact.

No new roads or extensions of existing roads are proposed. The Project does not include the construction of any new homes and no increase of employment opportunities. Therefore, direct or indirect increases in population growth would not occur as a result of the Proposed Project.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

No impact.

The Project Area is vacant land. No residences would be removed as a result of the Proposed Project. The Project would not result in the displacing of any persons. The Project would have no impact on persons or housing.

4.15 Public Services

4.15.1 Environmental Setting

Public services include fire protection, police protection, parks and recreation, and schools. Generally, impacts in these areas are related to an increase in population from a residential development. Levels of service are generally based on a service to population ratio, except for fire protection, which is usually based on a response time. For example, the Orland General Plan Policy PFS-8.11 provides a Police Department staffing ratio of 1.9 officers per 1,000 population. Further, in 2003, the Orland City Council set the park dedication standard at 8.4 acres per 1,000 residents. Finally, the average response time for fire protection and emergency medical services in Orland is 3-5 minutes for arrival at the station,

approximately one minute to prepare and leave the station, and an additional two to three minutes to the actual call site (City of Orland 2010b).

4.15.1.1 Fire Services

The City of Orland Volunteer Fire Department (OVFD) provides fire protection and emergency medical response to the Project Area. OVFD responds to various emergency and non-emergency incidents including, but not limited to, all types of fire; medical emergencies; public assists and hazardous situations. As of January 2021, the OVFD has 46 volunteers along with a part-time office assistant that is shared with the police department (OVFD 2019). There were 582 calls, 285 within the city limits and 29 mutual aid calls in 2020. (City of Orland 2021a). The City's Fire Station is located at 810 Fifth Street, approximately one mile southwest of the Project Area.

4.15.1.2 Police Services

The Orland Police Department (OPD) provides law enforcement services to the Project Area. OPD reported total calls for service was 2,686 in 2018 and arrests had increased to 458; 33 were Driving-Under-the-Influence-related and 1/3 were a combination of drugs and alcohol (City of Orland 2018a). The OPD has patrol service 24 hours a day. The Police Department also offer the following services: certified child seat installation, free bike helmets, Alice Training (Active Shooter Training), and Volunteers in Polices Services Program. The OPD hired two additional patrol officers in 2018, however two new additional officers, one Community Service Officer, a Lieutenant or additional Sergeant position, a full-time Narcotics Task Force officer and a full-time School Resource Officer are planned for the future (City of Orland 2018a). As of January 2021, there are 11 officers, two full-time non-sworn and one part-time non-sworn staff members (City of Orland 2021b). The City's police station is located at 817 Fourth Street, approximately one mile southwest of the Project Area.

4.15.1.3 Schools

The Orland Unified School District (OUSD) provides educational services for the City of Orland. The District has two elementary schools (one for grades K-2 and one for grades K-5), one middle schools (grades 6-8), one high school (grades 9-12), and one continuation high school, one community day school (OUSD 2021a). The District had 2,231 students in the 2019-2020 school year (OUSD 2021b). According to the California Department of Education, (DOE), the City also has one private school, the Providence Christian School (DOE 2023).

4.15.1.4 Parks

The City of Orland has six parks ranging in size from 0.26 to 23 acres for a total acreage of 47.35 acres (City of Orland 2021c). Based on the DOF 2021 estimated City population of 8,527, the City's parkland to population ratio is 5.6 acres of parks/1,000 population[1].

[1] 47.35 acres of parks/(8,527/1,000) population = 5.59 acres of parks/1,000 population.

4.15.1.5 Other Public Facilities

Other public facilities include Orland City Hall, the Orland Free Library, and the Orland Recreation Center which is located in Lely Park. Orland City Hall, located at 815 Fourth Street, accommodates the city administration, building, planning and public works departments and City Council chambers The Orland Free Library, located at 333 Mill Street, is part of the Glenn County Public Library system and is open Monday through Saturday. The Recreation Center features a full-size indoor gym and offers many different programs year-round such as basketball games, summer camps, tiny tots tumbling, volleyball, pickleball, and exercise classes.

4.15.2 Public Services (XV) Environmental Checklist and Discussion

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

Less than significant.

4.15.2.1 Fire Protection

The Project Area is located approximately 1.0 mile from the City's fire station. The Project Area is currently served by the City for fire protection and the firebreak created to reduce the risk of wildfire danger to the residential neighborhood adjacent to the Site would not increase the response time required for the OVFD. The Project would not require additional fire facilities. The Proposed Project would not require any additional OVFD facilities and is not anticipated to create an additional burden on exiting fire facilities. The very nature of the Proposed Project is to reduce the risk of wildfire to residents adjacent to the site, which in turn reduces the need for firefighters in the area. Therefore, the Project would have a less than significant impact in this area.

4.15.2.2 Police Services

The Proposed Project would not result in a significant increase in demand for police protection resulting in new or expanded police facilities. Police facilities and the need for expanded facilities are based on the staffing levels these facilities must accommodate. Police staffing levels are generally based on the population/police officer ratio, and an increase in population is usually the result of an increase in housing or employment. The Proposed Project would not result in employment opportunities.

Because the Proposed Project would neither increase the population nor result in employment gains, the Proposed Project would not result in the need for increase in police protection or police facilities. Therefore, the Proposed Project would have a less than significant impact in this area.

4.15.2.3 Schools

The Proposed Project is the creation of a firebreak line to reduce the risk of wildfire exposure to the adjacent residences. Because the Proposed Project would not increase the population or result in employment gains, an increase of student population in Orland would not occur nor would require additional educational facilities. Therefore, the Proposed Project would have no impact in this area.

4.15.2.4 Parks

As stated previously, the need for additional parkland is primarily based on an increase in population to an area. Given that the Proposed Project would not increase the City's population, the Project would not burden any parks in the surrounding area beyond capacity by generating additional recreational users. Therefore, the Proposed Project would not require the construction or expansion of park and recreational facilities and would also not result in an increase in demand for parks and recreation facilities in the surrounding area. There would be no impact to parks from construction of the Proposed Project.

4.15.2.5 Other Public Facilities

The Proposed Project does not result in an increase in housing or population in the City resulting in an increased use of other public facilities such as the Orland Free Library, the Recreation Center, or City Hall. Therefore, the Project would have no impacts on other public facilities.

4.16 Recreation

4.16.1 Environmental Setting

As stated previously, the City has 47.35 acres of parkland and a community recreation center. Additionally, the City also provides recreational programs, such as adult and youth sports leagues for the enjoyment of city residents. Regional recreation areas in the City or within 10 miles of the City include the Glenn County Fairgrounds, the Sacramento River, and the Black Butte Lake Recreation Area.

4.16.2 Recreation (XVI) Materials Checklist

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒

No impact.

As stated previously, the need for additional parkland is primarily based on an increase in population to an area. Given that the Proposed Project would not increase the City's population, the Project would not burden any parks in the surrounding area beyond capacity by generating additional recreational users. Therefore, the Proposed Project would not increase the use of park and recreational facilities resulting in substantial physical deterioration of the facility. There would be no impact to recreational facilities from construction of the Proposed Project.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?	☐	☐	☐	☒

No impact.

The Proposed Project is a precautionary action to reduce the risk of wildfire exposure to the adjacent residences. No recreational facilities are a part of the Project. The Proposed Project would have a no impact in this area.

4.17 Transportation

4.17.1 Environmental Setting

As discussed previously, the Project proposes the use of a bulldozer to cut a firebreak line between Stony Creek and the residential neighborhoods to the south. Once this firebreak is finished, the Project would cease. During the period in which the bulldozer would be used, only occasional traffic from the few workers would be on Project vicinity roadways. These occasional trips would not impact traffic on local roadways, and upon completion of the firebreak, there would be no additional traffic generated by the Proposed Project. Therefore, a traffic impact analysis was not necessary for this Project.

4.17.2 Regulatory Setting

4.17.2.1 City of Orland 2010 General Plan

The Proposed Project will be served by several major roadways. Regional access is provided by I-5 and SR 32, which link the Project Area with the other Northern California communities to the north and south. Local access to the Project Area is provided via Modoc Street and Stony Creek Drive. The City of Orland General Plan contains the transportation goals and policies. However, these goals and policies relate to development projects, of which the Proposed Project is not as there is no proposed structural components.

Traffic impacts are considered significant if they result in traffic that exceeds the Level of Service (LOS) thresholds (LOS C) for roadway segments based on maximum daily traffic volume, as defined below:

- Local: Greater than 3,600 Average Daily Trips (ADT);
- Minor Collector: Greater than 6,400 ADT
- Major Collector: Greater than 10,160 (15,240 with the inclusion of future second eastbound lane promulgated from Flying J DEIR or by adding a second southbound land on Commerce Street)
- Arterial: Greater than 12,000 ADT for two lanes; greater than 18,000 for two lanes (with the inclusion of future second eastbound lane promulgated from Flying J DEIR or by adding a second southbound land on Commerce Street; and greater than 24,000 for four lanes.

As the Proposed Project would not be generating more than a handful of trips per day, and the Project is not expected to last longer than a week, at most, the ADTs generated by the Project would be miniscule and cease upon completion of the Project.

4.17.2.2 Caltrans LOS Guidelines

The Caltrans guide *Preparation of Traffic Impact Studies* (dated December 2002) states the following:

> Caltrans endeavors to maintain a target LOS at the transition between LOS "C" and LOS "D" on State highway facilities, however, Caltrans acknowledges that this may not be always feasible and recommends that the lead agency consult with Caltrans to determine the appropriate target LOS.

4.17.2.3 Transit Service

Public transportation bus service is provided to the City of Orland through Glenn Ride, a transit service provided by Glenn County. It is a fixed-route bus system with seven round trips every weekday and three round trips on Saturday from Willows to Chico. There are currently eight bus stops in Orland serviced by Glenn Ride, which conducts seven runs daily from 5:46 a.m. to 5:48 p.m. Monday thru Friday, with three runs on Saturday. The stop closest to the Proposed Project is at the Walker Street (Hwy 32) and A Street intersection, approximately 0.75 mile south of the Project Area.

4.17.2.4 Pedestrian and Bicycle Facilities

City standards require sidewalks along all improved streets except in the industrial areas. The City has several plans and projects underway to increase pedestrian facilities throughout the city including a multi-use path along Stony Creek and within the rights-of-way of underground canals for pedestrian and bicycle use. There are presently no formally designated bicycle lanes or bicycle facilities in the vicinity of the Project Area. However, bike lanes have been installed elsewhere in the City of Orland, and the City acknowledges the need to move people throughout the community. The *Glenn County Active Transportation Plan* (Glenn County 2019) identifies the need for future bicycle facilities within the community.

4.17.3 Transportation (XVII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Conflict with a program, plan, ordinance, or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	☐	☐	☐	☒

Less than significant.

As discussed previously, the Proposed Project is the temporary use of a bulldozer to create a firebreak between Stony Creek and the residential neighborhood to the south. There would be occasional trips on local roadways from the handful of workers over the duration of the Project that would not conflict with any program, ordinance, or policy addressing and of the circulation system, including transit, roadway, bicycle, and pedestrian facilities. Once the Project is complete, the occasional use of the vicinity roadways to get workers to the Project Site would cease. For this reason, implementation of the Proposed Project would have no impact with respect to the circulation system.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?	☐	☐	☒	☐

Less than significant.

SB 743 was signed into law in 2013, with the intent to better align CEQA practices with statewide sustainability goals related to efficient land use, greater multimodal choices, and greenhouse gas reductions. The provisions of SB 743 became effective statewide on July 1, 2020. Under SB 743, impacts will be determined by changes to Vehicle Miles Traveled (VMT). VMT measures the number and length of vehicle trips made on a daily basis. VMT is a useful indicator of overall land use and transportation

efficiency, where the most efficient system is one that minimizes VMT by encouraging shorter vehicle trip lengths, more walking and biking, or increased carpooling and transit.

Because of SB 743, for a CEQA analysis, determining the potential for exceeding a city's LOS thresholds transportation/traffic impacts is no longer valid and VMT thresholds are used instead. However, the City of Orland has not yet established VMT thresholds. In order to assist in this type of circumstance, in December 2018, the California Governor's OPR released its final *Technical Advisory on Evaluating Transportation Impacts in CEQA* (OPR 2018). Generally, the OPR recommends that a reduction of 15 percent or more in existing VMT should be the target. Following is a summary of OPR's recommended VMT impact thresholds and methodologies for land use projects:

- The extent to which the Proposed Project's VMT impacts can be presumed to be less than significant has been determined based on review of the OPR directive's screening criteria and general guidance.
- The OPR Small Project criteria is applicable to this Project. The Project is not projected to generate any daily vehicle trips as there is no operational component to the Proposed Project. As the 110 ADT threshold for automobile trips is not exceeded, the Project's VMT impacts can be presumed to be less than significant.
- The Project is not an Affordable Housing Project, and this OPR screening criteria does not apply.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	☐	☐	☒	☐

Less than significant.

The Proposed Project would not substantially increase hazards to vehicle safety due to increased traffic at locations with geometric design features (e.g., sharp curves or dangerous intersections). Regular Project Area traffic and vehicles visiting the Project Area during implementation will be comprised of automobiles and trucks permitted under the California Vehicle Code and no farm equipment is expected. The Project does not introduce incompatible users (e.g., farm equipment) to a roadway or transportation facility not intended for those users. The Project's impact with regard to roadway design and users is less than significant.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Result in inadequate emergency access?	☐	☐	☒	☐

Less than significant.

Access to the Project Area is provided via Modoc Street and Stony Creek Drive, that would provide adequate emergency access upon Project completion. There is no development proposed and no demolition of any existing emergency access. A less than significant impact would occur.

4.18 Tribal Cultural Resources

As the Project proposes to utilize its newly acquired bulldozer to clear a 20-foot-wide swath of land that will act as a firebreak to reduce the risk of wildfires in the area causing property damage, injuries, and even death to the residences south of the Site by removing small vegetation and scraping the topsoil of depths up to 1-3 feet deep, impacts to tribal resources are not anticipated to be a result of the Project. Additionally, as discussed in Section 4.5 above, the Project will comply with all local and State regulations pertaining to the accidental discovery of any tribal resources.

4.18.1 Environmental Setting

Ethnographically, the Project area is located in a region known to have been occupied by the Nomlaki, who spoke a Wintuan language which was part of the Penutian language family and was closely related to Wintu and Patwin. Nomlaki territory encompassed portions of present-day Tehama and Glenn counties. The territory is bounded on the north by Cottonwood Creek and occupied the foothill land extending from the Coast Range in western Glenn and Tehama counties. There are two distinct Nomlaki Indian groups: Hill Nomlaki and River Nomlaki. The Nomlaki hunted deer, grizzly bears, fish, quails, rabbits, rats, squirrels and birds. family units would collect acorns, roots, wild seeds, and fruit.

Little evidence is provided in the archaeological record for the Nomlaki; however, studies on neighboring tribes to the south suggest that the Nomlaki may have been part of the latter end of a developmental sequence characterized with flexed burials containing offerings of clamshell disk beds, bird-bone whistles, stone pipes, and other funerary gifts signifying wealth.

Village structures included headman houses, dance houses, and menstrual huts. Houses were built near water sources, with the Chief houses facing toward the stream. Men would plunge into the stream after participating in sweating ceremonials. Dance houses were a post-contact addition to the village structure and were placed away from the village. Menstrual huts were built at the opposite end of the village, away from the water supply.

The Nomlaki population prior to contact with Europeans is estimated to have been more than 2,000. A malaria epidemic swept through the Central and Upper Sacramento Valley from 1830-1833, killing 75 percent of the indigenous population and severely hampering the ability of the Nomlaki to resist settlers' incursions into their territory. As settlers moved into the region, the Nomlaki faced the destruction of vital resources by livestock, the pollution of fishing areas by gold miners, and violent conflict with settlers. These factors further diminished the Nomlaki population and, by 1910, the Wintu population is estimated to have been 1,000.

4.18.2 Tribal Consultation

As discussed in Section 2.3 above, AB 52 requires that prior to the release of a CEQA document for a project, an agency begin consultation with a California Native American tribe that is traditionally and culturally affiliated with the geographic area of the Proposed Project if:

1. the California Native American tribe requested to the lead agency, in writing, to be informed by the lead agency through formal notification of Proposed Projects in the geographic area that is traditionally and culturally affiliated with the tribe and

2. the California Native American tribe responds, in writing, within 30 days of receipt of the formal notification, and requests the consultation. The City of Orland has not received any formal notification requests by any California Native American tribes.

As of March 1, 2005, SB 18 (Government Code Sections 65352.3 and 65352.4) requires that, prior to the adoption or amendment of a general plan proposed on or after March 1, 2005, a city or county must consult with Native American tribes with respect to the possible preservation of, or the mitigation of impacts to, specified Native American places, features, and objects located within that jurisdiction. This Project does not require an adoption or amendment to the Orland General Plan.

4.18.3 Tribal Cultural Resources (XVIII) Environmental Checklist and Discussion

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
i) Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code Section 5020.1(k), or	☐	☐	☒	☐

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
ii) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American Tribe.	☐	☐	☒	☐

Less than significant.

As discussed previously, the Project proposes to utilize its newly acquired bulldozer to clear a 20-foot-wide swath of land that will act as a firebreak to reduce the risk of wildfires in the area causing property damage, injuries, and even death to the residences south of the Site by removing small vegetation and scraping the topsoil of depths up to 1-3 feet deep. Impacts to tribal resources are not anticipated to be a result of the Project. Additionally, as discussed in Section 4.5 above, the Project will comply with all local and State regulations pertaining to the accidental discovery of any tribal resources.

4.19 Utilities and Service Systems

4.19.1 Environmental Setting

The City of Orland Public Works Department is responsible for water, wastewater, and storm drainage for the City. The City contracts with Waste Management to provide solid waste collection services in the City.

4.19.1.1 Water Service

The source of water supply for Orland is groundwater pumped from six wells that produce between 350 and 1,090 gallons per minute (gpm). The wells are located throughout the City and range in depth from 150 feet to 400 feet. Gravity flow from an 80,000-gallon elevated storage tank provides the water pressure in the City. The water transmission and distribution systems consist of approximately 34 miles of pipeline ranging in diameter from 4 inches to 10 inches. The water system is operated at 50 pounds per square inch (psi) to 65 psi pressure under normal demand. The six wells are capable of producing 5,130 gpm at 55 psi system pressure. The average daily water demand per Housing Unit Equivalent (HUE) is 571 gallons. The commercial HUE is 3,985 gpd, while the high-density residential HUE is 255 gpd (City of Orland 2015).

City water is obtained from the Colusa Groundwater Subbasin. There is not a regulated limit to the amount of groundwater that can be pumped by the various groundwater users, including the City of Orland, in this subbasin. The only limitation to groundwater extraction, and consequently the City's water supply, would be the pumping capacity of the six wells and the availability of future groundwater. As

discussed in Section 4.10, the estimated storage capacity of the groundwater subbasin to a depth of 200 feet is approximately 13,025,887 AF or 4,244.5 trillion gallons. Estimates of groundwater extraction for the Colusa Subbasin are based on surveys conducted by the California DWR during 1993, 1994, and 1999. Surveys included land use and water sources. Estimates of groundwater extraction for agricultural, municipal, and industrial, and environmental wetland uses are 310,000, 14,000, and 22,000 AF, respectively. Deep percolation from applied water is estimated to be 64,000 AF. The DWR has not identified the Colusa Subbasin as overdrafted in DWR Bulletin 118. Also, there has been no indication of any existing or anticipated overdraft condition in studies prepared by other entities (DWR 2006).

The DWR SGMA provides groundwater levels throughout the state. Among other things, this interactive online tool can illustrate the change in groundwater depth of a certain time period for a particular location, such as the City of Orland. According to the SGMA information, the distance from groundwater to ground surface in the Project area has increased by approximately 50 feet between spring 2012 and spring 2022. In other words, the groundwater water surface was 40 feet below ground surface (bgs) in 2012 and was approximately 90 feet bgs in 2022 (DWR 2023b).

4.19.1.2 Wastewater

All sewage is collected and processed by the Orland Wastewater Facility. The facility utilizes a primary treatment process consisting of a bar-screen located at the headworks building with screened effluent disposed into a rotating series of four sewage disposal ponds located west of the airport. These four primary settling ponds, along with two specially lined and isolated brine ponds, are located on a 50-acre, City-owned land parcel.

The wastewater facility is currently operating under Waste Discharge Requirements Order No. 96-129, which was adopted by the Central Valley Regional Water Quality Control Board on May 3, 1996. The City's Waste Discharge Requirements indicate that the design capacity in 1996 for the four stabilization ponds and disposal field was 2.1 million gallons per day (mgd), with an average domestic wastewater flow of 1.3 mgd (City of Orland 2010b). The City has recently updated the wastewater facility by adding the Blue Frog Aeration System to the facility’s aeration ponds. The addition of the Blue Frog Aeration System allows for better wastewater processing.

According to the City's Public Works Department, during the last quarter, the City reported receiving approximately 0.65 mgd at the treatment plant. The City also received an average of approximately 0.64 mgd over the past year. The treatment plant capacity is 2.1 mgd. The City completed improvements to the headworks and domestic ponds in 2016. The improvements help the City obtain better measurements of the inflow into the plant, help digest and process the sludge in the ponds, and help with wastewater transfer between ponds. The City has certified operators in charge of the treatment facility and has to sample and test various parameters for quarterly reporting to the state.

4.19.1.3 Storm Drainage

The City of Orland stormwater drainage system consists primarily of surface water conveyance utilizing curbs and gutters that lead to underground drainage pipes that eventually discharge into the Lely Aquatic Pond, the Stony Creek Basin Tributary Area, or onsite retention basin and leach field systems.

Approximately 80 percent of the City's area is served by, and discharges into, the Lely Aquatic Pond. The City Engineer estimates that this pond is capable of accommodating all storm events up to and including a 50-year storm (City of Orland 2010b). Storm events that exceed this return interval will cause some localized ponding of runoff throughout the City within street roadbeds. Should the groundwater table become elevated due to cumulative stormwater runoff and percolation (likely occurring in late winter through early spring), the Lely Aquatic Pond capacity decreases, thereby resulting in a situation where larger storm events may cause the pond to exceed its capacity. When this occurs, runoff flows southeasterly along East South Street (County Road 200) until it reaches the Tehama-Colusa Canal, which thereafter becomes a dike preventing further street flow (City of Orland 2010b).

4.19.1.4 Solid Waste

The City of Orland is a member of the Glenn County Waste Management Regional Agency (GCWMRA). The California Department of Resources Recycling and Recovery (CalRecycle) provides solid waste disposal and recycling information for jurisdictions in the state, including the GCWMRA.

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

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?	☐	☐	☐	☒

No impact.

The Proposed Project is the clearing of a 20-foot-wide swath of land which would act as a firebreak to protect the residents of the City of Orland. The Project does propose any development of any structures that would otherwise cause for new or expanded facilities to accommodate any influx of water use, wastewater treatment, storm water drainage, electric power, natural gas, or telecommunications that the construction of could cause significant environmental effects. The Project would cease upon completion of the bulldozer work. Therefore, there would be no impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒

No impact.

Refer to Item a) above.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒

No impact.

Refer to Item a) above.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?	☐	☐	☐	☒

No impact.

As discussed previously, the Project does not propose any development that would generate solid waste. Upon completion of the firebreak, the Project would cease, and no further operational component would exist. Any solid waste generated by the handful of workers during the cutting of the firebreak would be miniscule and would be disposed of in a proper receptacle offsite. There is no impact.

Would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☒	☐

Less than significant.

The Proposed Project is required to comply with all state and federal statutes regarding solid waste. This impact is considered less than significant.

4.20 Wildfire

4.20.1 Environmental Setting

The risk of wildfire is related to a variety of parameters, including fuel loading (vegetation), fire weather (winds, temperatures, humidity levels and fuel moisture contents), and topography (degree of slope). Steep slopes contribute to fire hazard by intensifying the effects of wind and making fire suppression difficult. Fuels such as grass are highly flammable because they have a high surface area-to-mass ratio and require less heat to reach the ignition point, while fuels such as trees have a lower surface area-to-mass ratio and require more heat to reach the ignition point.

The Project Area is not in an area designated by CAL FIRE (2007) as a Fire Hazard Severity Zone. The nearest fire hazard severity zone is located 2.4 miles north and beyond Stony Creek. Finally, the location of the Project Area makes it readily accessible by emergency personnel and vehicles in the event of a wildland fire, and the very nature of the Proposed Project is to cut a firebreak between Stony Creek (direction of fire hazard severity zone) and the residential neighborhoods south of the Project Site.

4.20.2 Wildfire (XX) Environmental Checklist and Discussion

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?	☐	☐	☐	☒

No impact.

The Project Area is not in an area designated by CAL FIRE (2007) as a Fire Hazard Severity Zone. Furthermore, no Very High Fire Hazard Severity Zones are located nearby. Also, the Project Area is not located in a state responsibility area, and as discussed above, the very nature of the Proposed Project is to cut a firebreak between Stony Creek (direction of fire hazard severity zone) and the residential neighborhoods south of the Project Site. The Project would have no impact in this area.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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 Area is not in an area designated by CAL FIRE (2007) as a Fire Hazard Severity Zone. Furthermore, no Very High Fire Hazard Severity Zones are located nearby. Also, the Project Area is not located in a state responsibility area, and as discussed above, the very nature of the Proposed Project is to cut a firebreak between Stony Creek (direction of fire hazard severity zone) and the residential neighborhoods south of the Project Site. The Project would have no impact in this area.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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?	☐	☐	☐	☒

No impact.

The Project Area is not in an area designated by CAL FIRE (2007) as a Fire Hazard Severity Zone. Furthermore, no Very High Fire Hazard Severity Zones are located nearby. Also, the Project Area is not located in a state responsibility area, and as discussed above, the very nature of the Proposed Project is to cut a firebreak between Stony Creek (direction of fire hazard severity zone) and the residential neighborhoods south of the Project Site. The Project would have no impact in this area.

If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
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.

The Project Area is not in an area designated by CAL FIRE (2007) as a Fire Hazard Severity Zone. Furthermore, no Very High Fire Hazard Severity Zones are located nearby. Also, the Project Area is not located in a state responsibility area, and as discussed above, the very nature of the Proposed Project is to cut a firebreak between Stony Creek (direction of fire hazard severity zone) and the residential neighborhoods south of the Project Site. The Project would have no impact in this area.

4.21 Mandatory Findings of Significance

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

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

Less than significant.

As discussed above, the Project will avoid all sensitive habitats in the Project Area and has included measures within the scope of the Project to ensure this avoidance occurs. The Project is required to comply with all local, State, and Federal regulations regarding sensitive habitats or wildlife populations and therefore any potential impacts to such species and their habitats would be less than significant.

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

Less than significant.

Implementation of the Proposed Project, in conjunction with other approved or pending projects in the region, has the potential to result in cumulatively considerable impacts to the physical environment. However, these potential impacts would be reduced to a level that is considered less than significant with implementation of City of Orland General Plan Policies and Programs, compliance with local, state, and federal rules and regulations, and implementation of best management practices (BMPs) where applicable and as proposed in the relevant subsections of this IS/ND.

Does the Project:	Potentially Significant Impact	Less than Significant with Mitigation Incorporated	Less than Significant Impact	No Impact
c) Have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	☐	☐	☒	☐

Less than significant.

As discussed in the above sections, the Project as proposed would not have any substantial adverse effects on human beings, either directly or indirectly. Additionally, as the very nature of the Project is to create a firebreak between Stony Creek (the direction in which a potential wildfire would emanate from) and the residences south of the Site, the Project in and of itself is protecting the lives of residents of the City of Orland. Lastly, the Project is required to comply with all local, State, and Federal regulations pertaining to the safety human beings and would therefore have a less than significant impact.

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LIST OF ATTACHMENTS

Attachment 4.3 – CalEEMod Output files for Air Quality and Greenhouse Gas Emissions

Attachment 4.4 – Biological Resources Assessment Orland Firebreak Project
ECORP Consulting, Inc.

Attachment 4.13 – Noise Levels Experienced by Sensitive Receptors