Draft Environmental Assessment

Anderson Creek Hazardous Fuels Mitigation

HMGP-5195-16

Lomakatsi Restoration Project, Jackson County, Oregon

November 2020

FEMA

Federal Emergency Management Agency
Region X
Department of Homeland Security
130 – 228th Street SW
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This document was prepared by

Contract No.: HSFE60-15-D-0015

Task Order: 70FA6018F0000024

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Acronyms and Abbreviations

AFAR	Ashland Forest All-Lands Restoration
BMP	best management practice
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
DBH	diameter at breast height
EA	environmental assessment
EO	Executive Order
EPA	U.S. Environmental Protection Agency
FEMA	Federal Emergency Management Agency
FONSI	finding of no significant impact
HMGP	Hazard Mitigation Grant Program
IPaC	Information Planning and Consultation
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHMP	Natural Hazard Mitigation Plan
NRCS	Natural Resources Conservation Service
NRF	Nesting, Roosting, and Foraging
OAR	Oregon Administrative Rules
ODEQ	Oregon Department of Environmental Quality
ODF	Oregon Department of Forestry
ODFW	Oregon Department of Fish and Wildlife
OEM	Oregon Office of Emergency Management
SHPO	Oregon State Historic Preservation Office
U.S.C.	United States Code
USDA	U.S. Department of Agriculture
USFS	U.S. Forest Service
USFWS	U.S. Fish and Wildlife Service
WBARP	West Bear All-Lands Restoration Project
WUI	wildland-urban interface

Glossary

Canopy: The cover provided by the crowns of trees. A closed canopy occurs when the crowns of adjacent trees touch to form a continuous cover over the forest floor. An open canopy occurs when trees are more widely spaced so that their crowns do not touch or where there are gaps in the canopy.

Defensible Space: An area around a building where vegetation, debris, and other types of combustible fuels have been treated, cleared, or reduced to slow the spread of fire to and from the building.

Hazardous Fuels Reduction: Includes thinning vegetation, removing ladder fuels, reducing flammable vegetative materials, and replacing flammable vegetation with fire-resilient vegetation for the protection of life and property. Vegetation may include excess fuels or flammable vegetation.

Ladder Fuels: Includes shrubs, small trees, down wood or brush, and low limbs that may provide a route for a fire to climb from ground fuels up into the forest canopy.

Limbing: Removal of tree limbs to reduce fuel loads and ladder fuels.

Loam: Well-drained soils composed of sand, silt, and clay in relatively even proportions.

Slash: Vegetative debris created by hazardous fuels reduction and other forest management activities.

Suppression: Response to wildland fire that results in the curtailment of fire spread and elimination of all identified threats from the fire; wildland fire suppression requires a variety of unique tactics to successfully curtail fires.

Thinning: Removal of some trees, branches, or shrubs from a forest stand.

Wildfire: Any uncontrolled fire that spreads through vegetative fuels such as forests, shrubs, or grasslands, exposing and possibly consuming structures.

Wildland-Urban Interface: the geographical area where buildings and structures and other human development meet or intermingle with wildland or vegetative fuels (U.S. Department of Agriculture [USDA] and U.S. Department of Interior 2001).

SECTION 1. Introduction

Lomakatsi Restoration Project (Lomakatsi) proposes to conduct hazardous fuels reduction and create defensible space around structures within the Anderson Creek community, located southwest of Talent, Oregon, in Jackson County (**Figure 1-1**). This area is at very high risk of wildfire due to excess fuels around homes and ingress/egress areas. Lomakatsi applied to the Federal Emergency Management Agency (FEMA) through the Oregon Office of Emergency Management (OEM) for a grant under FEMA's Hazard Mitigation Grant Program (HMGP). OEM is the direct recipient for the grant, and Lomakatsi is the subrecipient. The HMGP is authorized under Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act. Under the HMGP, federal funds pay 75 percent of the project cost, and the remaining 25 percent comes from nonfederal funding sources.

Lomakatsi is a nonprofit organization that has worked within low income, rural forest-based, and tribal communities throughout Oregon and Northern California to create social equity, economic opportunities, and restore ecosystems for twenty-five years. They have restored thousands of acres of forest and miles of streams in partnership with federal, state and municipal agencies, tribes, private landowners, and non-profit partners. Lomakatsi has a history of administering and managing hazardous fuels reduction projects—working in and near the Anderson Creek community, where they have established trust and rapport with many local landowners.

Lomakatsi proposes to reduce hazardous fuels and create defensible space around approximately 130 structures and along roads and ridgelines to treat approximately 450 acres within the Anderson Creek community (**Figure 1-2**). The project area is in Jackson County in a wildland urban interface (WUI), which is the zone where structures and other human development meet or mix with vegetation and wildfire fuels. The communities of Talent and Phoenix in Jackson County, which are just east and north of the Anderson Creek community, were devastated by the Almeda Fire in September 2020. The fire burned about 2,977 acres and destroyed more than 2,400 homes and businesses, emphasizing the need for wildfire hazard mitigation projects in the project area. The proposed action would create defensible space within 100 feet around structures in the project area. Hazardous fuels reduction work would be conducted within 500 feet of structures and along roads and ridgelines. The proposed action would effectively reduce the risk of wildfire spread and protect lives and property within the Anderson Creek community. Work along roads also would provide protection along vital escape routes and critical access points for fire suppression and emergency personnel.

This environmental assessment (EA) was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969; the Council on Environmental Quality (CEQ) regulations to implement NEPA (40 Code of Federal Regulations [CFR] Parts 1500 to 1508); and the U.S. Department of Homeland Security's DHS Instruction 023-01-001 and FEMA Instruction 108-01-1, NEPA implementing procedures. FEMA is required to consider potential environmental impacts before funding or approving actions and projects. The purpose of this EA is to analyze the potential environmental impacts of the proposed project. FEMA will use the findings in this draft EA to determine whether to prepare an environmental impact statement or to issue a finding of no significant impact (FONSI).

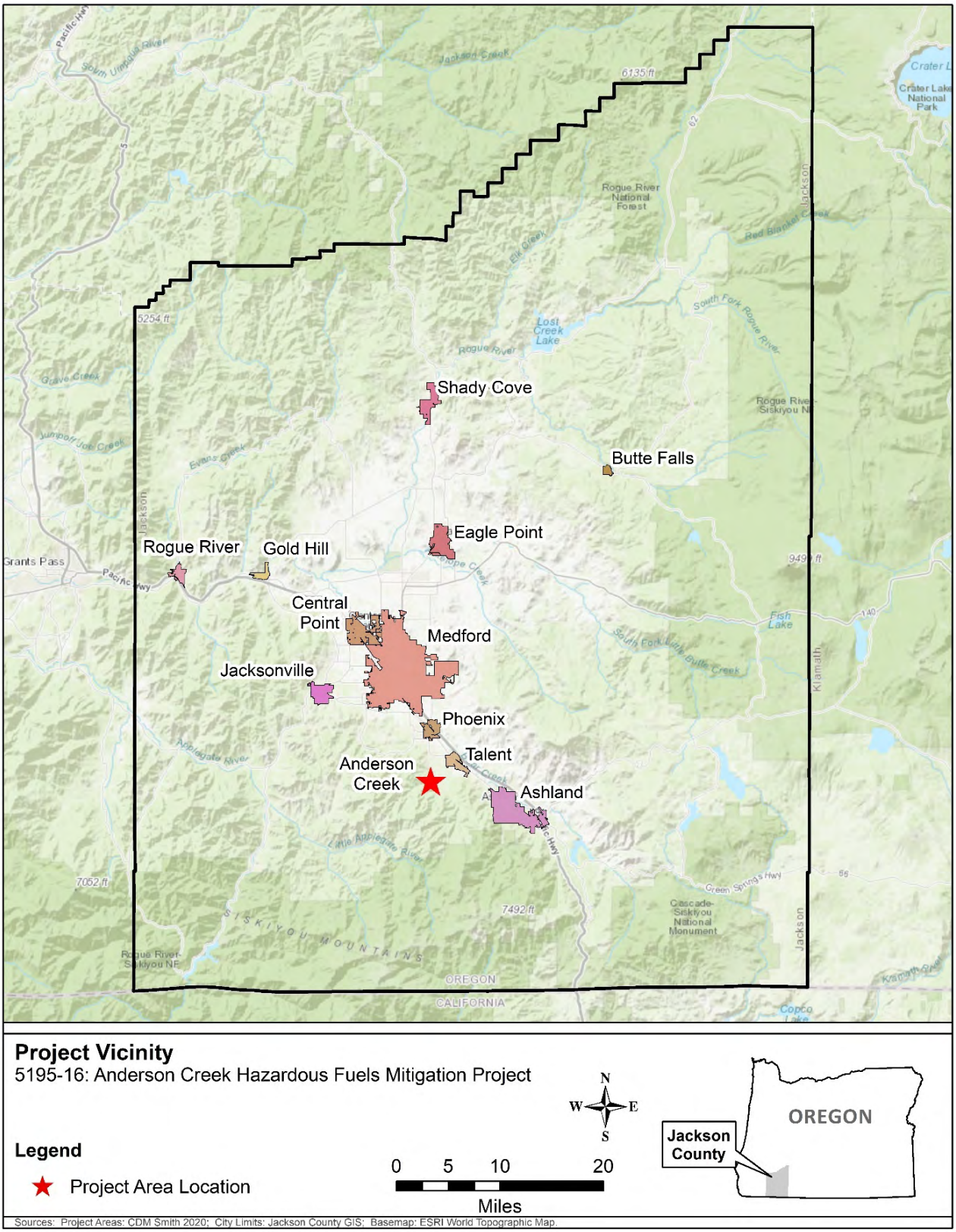

Figure 1-1. Project Vicinity

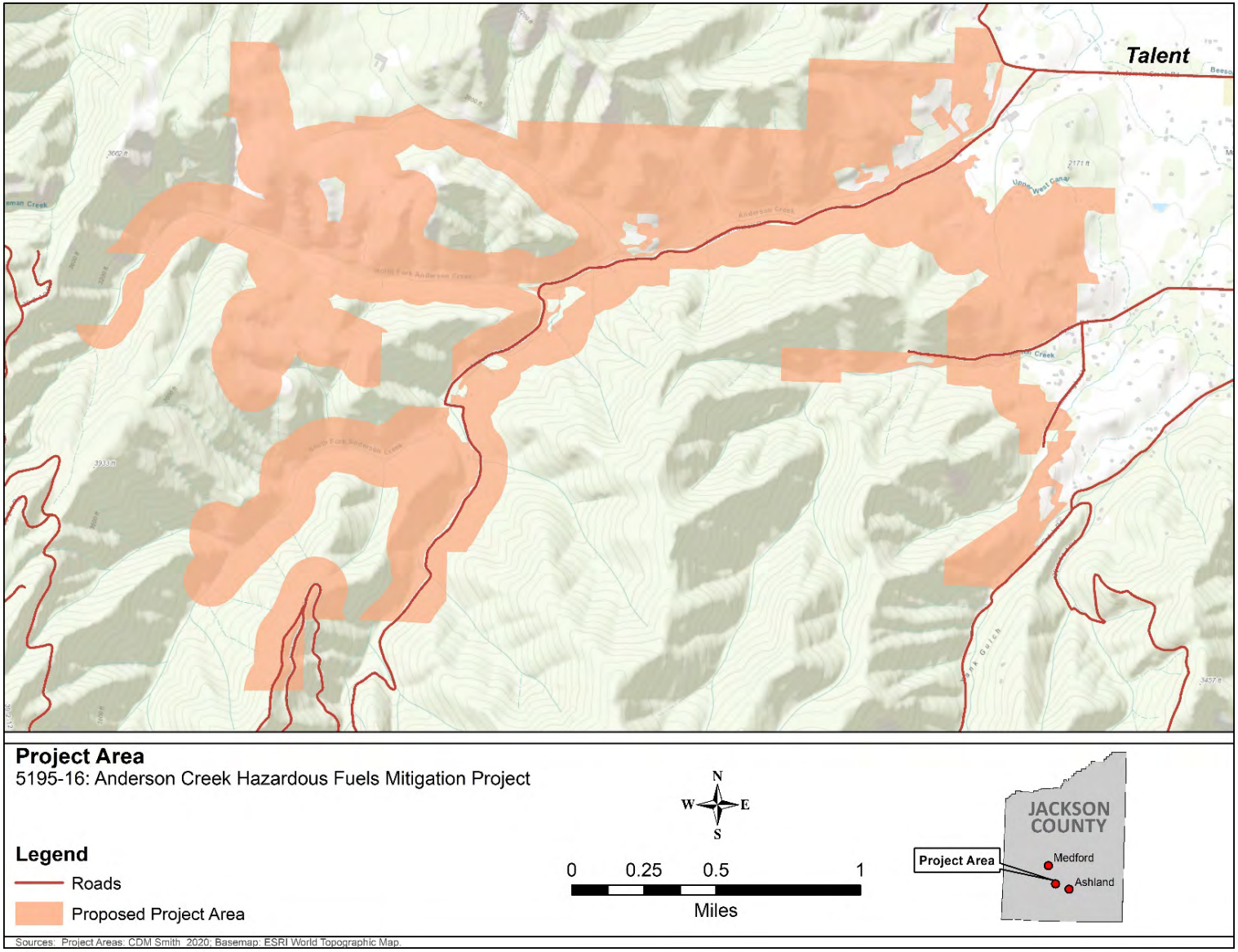

Figure 1-2. Project Area

SECTION 2. Purpose and Need

FEMA's HMGP provides funds to eligible state and local governments, federally recognized tribal governments, and nonprofit organizations to help implement long-term hazard mitigation measures after a presidential major disaster declaration. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable risk mitigation measures to be implemented during the recovery from a declared disaster. Specifically, the purpose of the proposed HMGP project is to reduce wildfire hazards in the Anderson Creek community.

The Anderson Creek community has a high risk of wildfire spread because it is located in steep and rugged terrain and contains homes and road infrastructure near and intermixed with forest and shrublands. The Oregon Forestland-Urban Interface Fire Protection Act of 1997 identifies areas where residential development has occurred in wildfire-prone areas, classifies risk in these areas, and establishes fuel reduction measures to reduce wildfire intensity around homes. Homeowners who complete fuels reduction on their properties can notify the Oregon Department of Forestry (ODF) by mailing a completed certificate. Although homeowners in high-fire risk areas are not required to implement these measures, they may be fined for fire-suppression costs if a wildfire occurs and fuel measures are not implemented (ODF n.d.). Additionally, escape routes and access for emergency personnel is limited to a single road along each drainage and fire hydrants are not present. The trees and shrubs in this area are dense because of a lack of management after past logging (**Figure 2-1** and **Figure 2-2**). Furthermore, Jackson County's road right-of-way maintenance approach is not specifically designed to reduce ingress/egress risk during a wildfire the Anderson Creek Community. The current conditions have the potential to result in a severe wildfire, which puts people and property at risk (**Figure 2-4**).

The Jackson County Natural Hazard Mitigation Plan (NHMP) ranks wildfire as a top tier hazard, which means the county has a high probability of experiencing a major wildfire within the next 10 to 35 years. In 2018, 189 fires in Jackson County, Oregon, burned over 42,000 acres. The 2020 wildfire season in Oregon has been unprecedented, with over 900,000 acres burned by the end of September, resulting in a Federal Disaster Declaration that designated 20 counties eligible for federal assistance including Jackson County. These fires caused extensive loss and damage to property and structures, led to mass evacuations, and caused fatalities. The communities of Talent and Phoenix in Jackson County, which are just east and north of the Anderson Creek community, were particularly devasted by the Almeda Fire which burned about 2,977 acres and destroyed more than 2,400 homes and businesses in September 2020 (**Figure 2-3**). According to data from the National Interagency Fire Center, the average wildfire size in the United States has increased from less than 40 acres in the 1980s and early 1990s to more than 120 acres in 2017 and 2018. Fuels mitigation and forest restoration projects can reduce loss and prevent large-scale and severe wildfire impacts.

This project is adjacent to areas treated under the Ashland Forest All-Lands Restoration (AFAR) Initiative, a cross-boundary effort to reduce the threat of high-severity fire to the community, the municipal water supply, and habitat across 58,000 acres. The AFAR Initiative has treated 5,500 acres of private and municipal lands and over 7,000 acres of U.S. Forest Service (USFS) land. However, the Anderson Creek community lies just outside the boundary of the AFAR Initiative. Treatment of just 10 to 30 percent of the landscape can reduce the intensity and spread of fires

and work within the Anderson Creek watershed would link with AFAR Initiative projects to provide coordinated wildfire hazard mitigation across the greater landscape.

The proposed project in the Anderson Creek community also forms the foundation for the emerging West Bear All-Lands Restoration Project (WBARP), which will build upon over a decade of successful collaborative forest restoration, hazardous fuels reduction, and community wildfire protection—including AFAR—and respond to recent emergencies by leveraging and deploying targeted resources into an area of urgent need. The WBARP will build on the Anderson Creek community project footprint to implement strategic forest health and wildfire reduction treatments adjacent to communities and important human and natural assets across a contiguous landscape extending from Ashland to Medford, west of the I-5 corridor, and across the Jacksonville foothills. WBARP will achieve a meaningful reduction of wildfire risk to forest lands and communities on a 28,000-acre footprint, including the Anderson Creek community, in the WUI by 2025.

Smoke from major wildfires can spread over larger areas, impacting human health far from the fire. Wildfire smoke may contribute to respiratory infections and cardiovascular concerns (Reid et al. 2016). According to an ongoing study in Montana, prolonged exposure to wildfire smoke may result in long-term health effects even several years after exposure (Houghton 2020).

Wildfire smoke can also have adverse economic impacts on communities by reducing tourism (Tornay 2018). In 2017, southwestern Oregon experienced $2.83 million in spending losses, $1.03 million in lost earnings, $31.7 million in local tax losses, and $104.5 million in state tax losses from economic impacts from wildfires. Additional losses were experienced from smoke in 2018 when Southern Oregon experienced some of the worst air quality in the country. The Oregon Shakespeare Festival in Ashland, Oregon, which is approximately 7 miles southeast of the Anderson Creek community, lost nearly $2 million in canceled or moved performances and laid off 16 employees.

Figure 2-1. Residential Development Interspersed with Forest Vegetation

Figure 2-2. Dense Vegetation Along Roadways

Figure 2-3. Aftermath of the Almeda Wildfire (2020) in Talent, Oregon

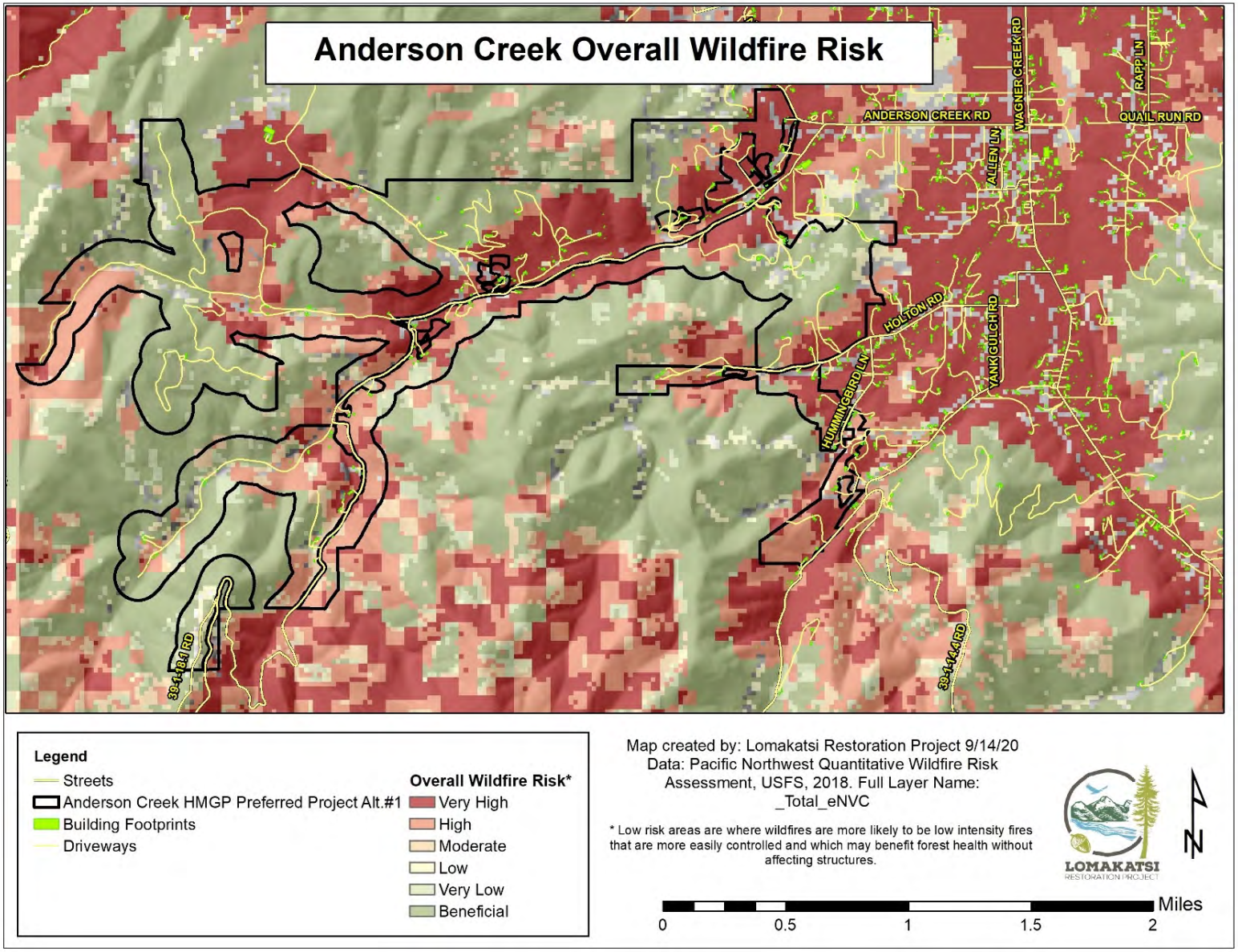

Figure 2-4. Project Area Wildfire Risk

SECTION 3. Alternatives

This section describes the no action alternative, the proposed action, and alternatives that were considered but dismissed.

3.1. No Action Alternative

The no action alternative is included to describe potential future conditions if no action is taken to reduce wildfire hazards. Under this alternative, no FEMA-funded defensible space or hazardous fuels reduction work would be conducted in the Anderson Creek community. Some property owners may continue to implement wildfire mitigation activities on their property on their own initiative, including longer term vegetation maintenance. Existing conditions, including wildfire hazards, would largely remain the same—threatening residents in and near the Anderson Creek community with the associated potential for loss of life and property.

Additionally, under the no action alternative, landowner education would not be implemented. Landowner education empowers landowners to consider the threats to their property, plan to minimize those threats they can control, and help their neighbors address threats on their properties. Often, landowners who do not participate in a project are inspired by their neighbors' treatments and choose to address hazardous conditions on their own property. The initial investment in treating some properties generates momentum within the community to create a cultural shift in the way landowners view hazards and the way they manage them. Under the no action alternative, such a shift would not occur.

Because current wildfire hazards in the project area may not be substantially reduced under the no action alternative, the probability of loss of life and property in the event of a wildfire would continue to be high and essential access roads to and from the community would continue to be vulnerable.

3.2. Proposed Action

Lomakatsi proposes to reduce hazardous fuels within 500 feet of structures and roadsides in the Anderson Creek community. About 130 structures would be directly mitigated, but Lomakatsi estimates that up to a total of 383 structures would be benefit from the mitigation. The project area encompasses approximately 1,700 acres, and the project would treat approximately 450 acres to achieve communitywide benefits. An additional component of the proposed project involves providing technical assistance to landowners to educate them on how to identify and mitigate wildfire hazards on their property to reduce losses from wildfire on their property and throughout the community.

The project would include work in strategic areas, such as along ridgelines and roads, to maximize effectiveness in reducing hazards. A site-specific treatment plan would be developed for each participating property. Depending on specific locations, the work would include creating defensible space and reducing hazardous fuels.

Creating defensible space involves managing vegetation within 100 feet of homes by removing flammable materials and vegetation, replacing flammable vegetation with fire-resilient

vegetation, and removing ladder fuels, such as shrubs, small trees, brush, or low limbs, that may provide a route for a fire to climb up from ground fuels to the forest canopy. Defensible space provides a buffer that limits the spread of wildfire immediately surrounding a structure and establishes an area in which firefighters can safely protect homes. Hazardous fuels reduction includes thinning, removing ladder fuels, reducing flammable vegetation, and replacing flammable vegetation with fire-resilient vegetation.

Both defensible space and hazardous fuels reduction provide a break in the forest canopy that can force a fire to the ground where fire crews can more safely and easily manage it. While some untreated forests would remain within and adjacent to the project area, defensible space and hazardous fuels reduction in the project area may contribute to containment, reducing the intensity and extent of wildfires, which ultimately reduces the risks to people living in the project area.

The five principles of creating and maintaining fire-resilient forests are (Fitzgerald and Bennett 2013):

1. Reduce surface fuels
2. Increase the height to the base of tree crowns
3. Increase spacing between tree crowns
4. Keep larger trees of more fire-resilient species
5. Promote fire-resilient forests at the landscape level

Crown fires are much less likely to occur if trees are widely spaced with crowns spaced more than one dominant tree crown width apart. Factors that tend to increase the required crown spacing include steep slopes, locations with high winds, and the presence of species like grand fir with dense, compact foliage. Tree spacing does not have to be even. Small patches of trees can be left at tighter spacing, benefiting some wildlife (Fitzgerald and Bennett 2013). The key is to reduce surface and ladder fuels and create openings.

3.2.1. Generalized Treatment Specifications

All designed treatments would extend a minimum of 100 feet from structures and roadsides. This would provide each landowner with the needed fuels treatment to protect their property. Additional treatment would be applied where it would be most effective for the entire community, such as along roads and ridgelines. Properties with the highest wildfire risk or opportunities for strategic fire suppression efforts would be prioritized for more comprehensive treatment, including both defensible space and hazardous fuels reduction, and possibly a greater degree of fuel removal.

The following activities would be applied to each participating property as needed, depending on individual circumstances.

Defensible Space Zone 1 (Up to 30 feet from homes):

- The focus within this zone would be to provide landowner education on maintenance, fire-resistant landscaping, and other landscape management techniques to reduce wildfire hazards close to structures.

- The proposed action would not include work within landscaped areas because management of these areas is not technical in nature and landowners can perform landscaping themselves or contract it for a reasonable cost.
- The proposed action may include some removal of trees or shrubs within this zone that can be removed safely without a certified arborist.

Defensible Space Zone 2 (30 to 100 feet from structures) and **Hazardous Fuel Reduction along Roadsides**:

Within these areas, the proposed action would:

- Reduce the density and continuity of the tree and shrub canopy by thinning around individuals or clumps to create space between crowns to achieve 10 feet of spacing between individual tree crowns or clumps of trees.
- Reduce potential ladder fuels that could carry fire into the crowns.
- Prune trees up to 10 feet from the ground, leaving at least 60 percent of the crown.
- Remove dead material, including snags, limbs, and surface fuels.
- Remove trees 10 inches in diameter at breast height (DBH) or less (most trees that would be removed are 6 inches or less).
- Remove trees or limbs that extend over roads or are likely to fall on roads.
- Reduce shrub cover; separating shrubs by a distance of two to three times the shrub height.
- Remove shrubs that are immediately under trees.
- Spacing between trees and shrubs that are left would be adjusted according to the flammability of the tree or shrub species.
- Zone 2 would be extended to 200 feet around structures on forested land with a greater than 40 percent slope and shrub or woodlands with a greater than 20 percent slope.

Hazardous Fuels Reduction Zone 3 (more than 100 feet from structures and roads):

Thinning within this zone would be determined by the need for treatment and would extend up to 500 feet from homes and roads.

- Work in Zone 3 would be prioritized to treat areas with:
  - High residential density
  - Strategic ridgelines for fire suppression
  - Steep slopes (but less than 80 percent)
  - Heavy shrub fuels
  - Particularly dense forest conditions

- Treatment specifications would be the same as Zone 2, but with less intensity. This would be considered a transition zone between the heavily thinned Zone 2 and unthinned forest.
- Thinning would be concentrated to remove horizontal and vertical continuity of fuels and promote healthy and resilient forest conditions.

3.2.2. Riparian Reserves

Limited vegetation would be cut and no piles would be created within riparian buffers along streams within the project areas, as prescribed by the Oregon Forest Practices Act (Oregon Administrative Rule [OAR] 629-642) and the riparian area requirements in Jackson County (Chapter 8 Section 8.6). Riparian exclusions would be delineated on the site-specific treatment plan and on-site. Work proposed within the riparian reserves would be adjusted to conform to the following restrictions.

- In accordance with Jackson County requirements, all vegetation and tree cover would be retained within 50 feet of the top of the bank of fish-bearing water areas, including perennial and intermittent streams, lakes, and ponds (excluding man-made farm ponds). However, vegetation may be removed for forestry activities that have an ODF-approved statutory plan for thinning in riparian areas and have been granted a permit under the Forest Practices Act. Fish-bearing streams are designated by OAR as Type F (fish-bearing) or type SSBT (streams with salmon, steelhead, or bull trout present).
- Trees shall not be cleared from within 20 feet of the high water level of Type D streams (streams with domestic water use but no fish use), or large and medium Type N streams (streams not used by fish or for domestic water use) found within the project area.
- Understory vegetation shall not be cleared within 10 feet of the high-water level of Type F, Type SSBT, Type D, or large and medium Type N streams.
- All trees leaning over the water channel of Type F, Type SSBT, Type D, or Type N streams shall be retained.

3.2.3. Vegetation Management and Disposal Methods

The work would be conducted with ground crews using chainsaws, pruning saws, and other hand tools because of the steep conditions in the project area. Vegetation root balls would not be disturbed in the process of thinning and clearing. Within 20 feet of roads and driveways, most cut material would be chipped using chippers parked on roads, driveways, or existing skid trails. In areas along roadways and driveways where a chipper can be made accessible, cut material would be chipped into a truck. Chipped material would not be broadcast but would be collected and donated for landscaping and compost uses in the community. No mechanical equipment would be operated off-road and no tracked equipment would be used for this project.

In areas inaccessible to a chipper, cut material would be hand-piled and burned. Burning may occur at the same time as the thinning work (swamper burning) or piles may be left to dry for 3 to 12 months before burning. Swamper burning is a modified form of pile burning where cut material is fed into a small ignited burn pile. Swamper burning can result in fewer piles per acre and can be used to lessen the impact on fragile soils and plant and animal species. Piles that are

left to dry are then generally burned during the following wet season to reduce damage to retained trees. Dry piles produce less smoke overall because they burn hot and clean when compared to burning green cut material. Piles would be small (no larger than approximately 6 feet by 6 feet by 4 feet), and all burning would follow state and local regulations and permits for smoke and air quality, as described below.

If chipping is not possible, swamper burning would be used in areas near homes to clean up the work zone in as short time as possible. Piling for burning later is the preferred method of disposal on larger parcels (e.g., 10 to 15 acres). In these larger areas, the small piles are not as intrusive and the benefits of burning the dry material the following year outweighs the impact of multiple small piles scattered around the landscape.

3.2.4. Burning and Smoke Management

Pile burning would be completed under a burn permit from ODF, which includes consideration of the wind and weather forecast, the number of burns scheduled in the area, amount of slash, and the acreage proposed to be burned. Unless ODF waives the requirement, all burning on forestland within a protection district, including Jackson County, must be registered at least 7 days in advance of the activity. Before burning, Lomakatsi would also check with the local ODF District and fire department on burning restrictions (ODF 2020). Pile burning would occur when conditions are wet or rainy with little or no wind, during daylight hours, and when air quality conditions permit. Clearing and burning activities would be conducted outside of the fire season (June to October) to minimize the potential to contribute to fire risk. Contractors would complete Smoke Management registration and accomplishment forms from ODF prior to and following all burning. Smoke activities would be restricted to dates allowed by ODF and contractors must immediately contact ODF if any burning activities escape the project area. Personnel overseeing the burns would adhere to all ODF-fire suppression gear and requirements, as described in the Oregon Forest Practices Act Oregon Administrative Rules (OAR) 629-043-0040.

Additionally, the proposed action would be conducted in accordance with OAR 629-615-0300, which defines requirements for prescribed burning. These requirements include, but are not limited to, developing a written plan to minimize effects of burning on Type F, Type SSBT, and Type D streams and wetlands and complying with Oregon's "Smoke Management Plan".

3.2.5. Avoidance and Minimization Measures

The following measures would be incorporated into the treatment approach to avoid and minimize potential harm to species listed under the Endangered Species Act (ESA) and their habitats.

- A timing restriction for the Northern spotted owl (NSO) critical breeding period (March 1 through July 30) would be applied for any project actions within the following areas:
    - Any treatment work within the 0.5-mile NSO core zone.
- Appropriate canopy coverage would be retained when conducting treatment within NSO habitat:
    - In existing NRF habitat, more than 60 percent canopy cover would be retained.

  - In existing dispersal habitat, more than 40 percent canopy cover would be retained.
- Ladder fuel reduction would not be uniform across the project area. A few (approximately five) well-spaced larger tree limbs would be retained within the 10-foot ladder fuels treatment zone for roosting and foraging.
- Vehicles would be kept on existing roads.
- Habitat piles would be built with five layers and would be 20 feet in diameter, and 6 feet high. One to three piles would be created per acre.

Additional guidelines developed by the Woodland Fish and Wildlife Group (Strong and Bevis 2016) address snags and logs, old growth trees, work timing, pruning, and seeding to maintain wildlife habitat features during defensible space and fuels reduction work. These suggestions will be incorporated when applicable and where practicable and include the following:

- Keep any large trees (greater than 14 inches DBH), including defective trees.
- Openings may vary from 0.1 to 5.0 acres in size and may comprise 5 to 15 percent of the landscape and have irregular shapes.
- Patches may be 30 to 50 feet across, 100 to 300 feet in length, and comprise 10 to 20 percent of the landscape.
- Maintain the shrub species that are most valuable for wildlife habitat and keep them in clumps beyond overhanging limbs from adjacent trees.
- Schedule activities during the fall when it is the best time to avoid wildlife nesting and denning and insect outbreaks.
- When pruning, retain one-third of the total live branches to maintain tree vigor. Prune trees during October through March when they are dormant to avoid insect infestation.
- When seeding disturbed soils or areas of burned soil, use only native and certified weed free seed mixes.

3.2.6. Project Duration

Cutting, piling, and chipping or burning activities would occur primarily between October through February to avoid both NSO breeding and potential insect infestation; however, work that does not involve pruning (i.e. vegetation cutting and removal) may also occur between August 1 and October. Work at any one property would only take a few days to a week or two. Pile burning would be conducted approximately 8 to 12 months later between fall and early summer to avoid the dry season. The total project duration would be up to 3 years.

3.2.7. Maintenance Activities

Follow-up maintenance is not part of the proposed federal grant funding; however, it is a requirement of the grant award and may be considered an effect of the proposed action. Long-term maintenance would be required for 10 years to ensure the effectiveness of fuels reduction treatments. Long-term maintenance would be the responsibility of participating landowners, and a maintenance agreement would be in place before fuels treatment would be conducted on a

specific parcel. Maintenance work can be accomplished annually with typical landscaping tools already owned by many landowners. Maintenance may include pruning hardwood sprouts, removing dead material, limbing trees, mowing, and raking. Maintenance along rights-of-way would meet or exceed the Jackson County Roads and Parks Services Vegetation Management Standards.

3.3. Additional Action Alternatives Considered and Dismissed

An alternative to the proposed action was considered; this alternative would be similar to the proposed action with the exception that it would reduce the scope of treatment to 100 feet around structures and along roadsides. Under this alternative, the goal for the number of acres treated within the project area would remain at approximately 450 acres. However, by reducing the treatment to 100 feet around structures and along roadsides, more landowners would need to participate because fewer acres per landowner would be treated. Under this alternative, 82 percent of the landowners would need to participate to achieve 450 acres of treatment. Lomakatsi's past projects have typically received between 33 and 50 percent participation, which means that only 172 to 256 acres may be treated. This smaller treated area would not be sufficient to reach the 10 to 30 percent treated area needed to achieve the necessary landscape-level effects on fire behavior and spread. Although this alternative would provide defensible space around homesites and some protection along access roads, this alternative would not be as effective at reducing the risk of wildfire spread. Thus, this alternative would not meet the purpose and need for the project.

The Oregon Forestland-Urban Interface Fire Protection Act of 1997 encourages homeowners in areas of wildfire risk to complete fuels reduction on their properties. Fines are not assessed if a landowner does not comply with the Act, but if a wildfire passes through their property and fuels reduction measures were not implemented, the landowner may be liable for fire suppression costs. The Act is not likely to encourage the same level of landowner participation in reducing fuels around properties as the proposed action. The proposed action would provide landowners with technical and financial assistance to achieve fuels reduction goals consistent with the Act.

SECTION 4. Affected Environment, Potential Impacts, and Mitigation

This section describes the environment potentially affected by the alternatives, evaluates potential environmental impacts, and recommends measures to avoid or reduce those impacts. When possible, quantitative information is provided to establish potential impacts, and the potential impacts are evaluated qualitatively based on the criteria listed in **Table 4.1**. The study area generally includes the project area and access and staging areas needed for the proposed action. If the study area for a particular resource category is different from the project area, the differences will be described in the appropriate subsection.

Table 4.1. Evaluation Criteria for Potential Impacts

Impact Scale	Criteria
None/Negligible	The resource area would not be affected, or changes or benefits would be either nondetectable or, if detected, would have effects that would be slight and local. Impacts would be well below regulatory standards, as applicable.
Minor	Changes to the resource would be measurable, although the changes would be small and localized. Impacts or benefits would be within or below regulatory standards, as applicable. Mitigation measures would reduce any potential adverse effects.
Moderate	Changes to the resource would be measurable and have either localized or regional-scale impacts/benefits. Impacts would be within or below regulatory standards, but historical conditions would be altered on a short-term basis. Mitigation measures would be necessary, and the measures would reduce any potential adverse effects.
Major	Changes would be readily measurable and would have substantial consequences on a local or regional level. Impacts would exceed regulatory standards. Mitigation measures to offset the adverse effects would be required to reduce impacts, though long-term changes to the resource would be expected.

4.1. Resources Not Affected and Not Considered Further

The following resources would not be affected by either the no action alternative or the proposed action because they do not exist in the project area or the alternatives would have no effect on the resource. These resources have been removed from further consideration in this EA.

Table 4.2. Resources Eliminated from Further Consideration

Resource Topic	Reason for Elimination
Geology	Defensible space management and hazardous fuels reduction are surface-level activities that would not affect geology.
Wild and Scenic Rivers Act	According to the National and Wild and Scenic Rivers website (National Wild and Scenic Rivers 2020), the closest wild and scenic river, the Klamath River, is approximately 33 miles south of the project area. Thus, the alternatives would have no effect on wild and scenic rivers.

Resource Topic	Reason for Elimination
Sole Source Aquifers	According to the U.S. Environmental Protection Agency's (EPA) sole source aquifer map (EPA 2020c), there are no sole source aquifers designated in Jackson County; therefore, the alternatives would have no effect on sole source aquifers.
Coastal Resources	This project area is not located in the Coastal Zone Boundary designated by the State of Oregon (Oregon Coastal Program 2020) or within a Coastal Barrier Resources Unit (U.S. Fish and Wildlife Services [USFWS] 2019).
Land Use and Zoning	This proposed action would not change existing land uses and is consistent with the current zoning. The alternatives would have no effect on land use and zoning.

4.2. Soils, Farmland Soils, and Topography

Jackson County is bounded by the Klamath Mountains to the west and south, Western Cascades in the north, and the High Cascades to the east (Jackson County 2018). The elevations within the project area range from approximately 2,120 feet NAVD88 in the northeastern portion of the project area near the Bear Creek Valley to approximately 4,040 feet NAVD88 in the southwestern portion of the project area near the Siskiyou Mountains. The topography of the project area is generally rugged and steep.

There are 13 soil map units in the treatment area (NRCS 2020). Most soil map units are gravelly or silty loams. Most of the project area is characterized by steep slopes (greater than 20 percent). Steeper slopes tend to have thinner soil layers that are primarily composed of rock fragments as organic matter erodes down the slope (Williams 2018).

The Farmland Protection Policy Act requires federal agencies to minimize the unnecessary conversion of farmland into nonagricultural uses. According to the NRCS (2020), the project area is approximately 37 percent farmland of statewide importance or prime farmland.

No Action Alternative

Under the no action alternative, property owners may continue to implement wildfire mitigation activities on their properties on their own initiative, including longer term vegetation maintenance. This would result in negligible soil disturbance from vegetation removal activities and no effect on topography. However, in the event of a major wildfire, there would be a substantial loss of vegetation. Vegetation loss would lead to an increase in erosion, especially on steep slopes such as those in the project area. Loss of vegetation may result in higher soil temperatures, increased evaporation, and reduced soil moisture. High-intensity wildfires can alter the physical and chemical properties and the moisture, temperature, and biotic characteristics of soils (USFS 2005).

Heat from wildfires can cause soils, including farmland soils, to form hydrophobic layers that repel water, resulting in decreased stormwater infiltration. Hydrophobicity occurs when plants burn in wildfires, releasing a gas into the soil that cools and solidifies into a waxy, water-repelling substance that coats soil particles. Large-pored soils such as gravelly or coarse-textured soils, like some of the soil types in the project area, are more vulnerable to becoming hydrophobic because they transmit heat more easily than heavily textured soils such as clays (USFS 2005). Silty loams are dominated by intermediate-sized particles and gravelly loams generally contain larger particles.

Following a severe wildfire, the resulting soil conditions could lead to decreased agricultural potential until the soils are able to recover. In drier portions of the project area, the accumulation of organic matter that facilitates soil formation is relatively slow and may take years (USFS 2005).

Under the no action alternative, there would be no effect on topography. In the absence of a wildfire, the no action alternative would have negligible effects on soils. Farmland soils would not be converted by forestry and occasional hazardous fuels reduction treatments. In the event of a wildfire, there could be minor to moderate adverse impacts on soils depending on the intensity and scale of a wildfire.

Proposed Action

Under the proposed action, there would be no effect on topography. Hazardous fuels work would be conducted with ground crews using hand tools due to steep conditions in the project area; no mechanical equipment would be operated off-road and no tracked equipment would be used for this project. Root balls would not be disturbed during project implementation, and some shrubs and trees would be retained according to the individualized fuels prescriptions. Thus, the risk of erosion and soil compaction from the proposed action would be short term and negligible.

Defensible space and hazardous fuels reduction activities would not convert farmland soils to nonagricultural uses, nor would they prevent the future use of the soils for farmland purposes. The proposed action would likely have minor long-term beneficial effects on soils and farmland soils by reducing the risk of soil damage from wildfires.

4.3. Visual Quality and Aesthetics

Because defensible space and hazardous fuel reduction activities alter vegetation, they have the potential to affect visual quality. The analysis of visual quality is a qualitative analysis that considers the visual context of the project area, potential for changes in character and contrast, assessment of whether the project areas include any places or features designated for protection, the number of people who can view the site and their activities, and the extent to which those activities are related to the aesthetic qualities of the area.

Approximately 130 properties would receive defensible space treatments. These properties are largely located within a rural residential neighborhood that is surrounded by a rugged, forested landscape (**Figure 2-1**). Hazardous fuels treatment work would occur in strategic locations within the project area, such as close to structures and along roadways and ridgelines.

No Action Alternative

Under the no action alternative, limited ongoing wildfire hazard reduction activities would not result in perceptible changes in the appearance and visual quality of the project area overall. However, properties that are treated with wildfire mitigation measures by property owners on their own initiative would undergo a visual change, from a relatively dense understory to a more open understory, which could be perceived as cleaner and safer on a localized scale. However, a major wildfire would be more likely to spread through the area under the no action alternative, which could have a minor to moderate adverse impact on the visual quality the community, depending on the extent of the fire damage.

Proposed Action

Properties that receive defensible space treatments would undergo a visual change from the vegetation management activity, from a relatively dense understory to a more open understory, which could be perceived as a cleaner and safer landscape. Visual changes would be apparent with so many properties planned for treatment and especially if they are contiguous. Hazardous fuel reduction activities conducted along ridgelines and roadways would increase the number of viewers who view the changes in vegetation. A total of 450 acres would be treated within the project area, leaving portions of the project area unchanged. Thus, defensible space and hazardous fuels activities would have negligible to minor, short-term effects on visual quality and aesthetics.

In the long-term, the risk of wildfire spread in the project area would be reduced, which would have a minor long-term beneficial effect on visual quality and aesthetics by reducing the chance that a high-intensity wildfire occurs.

4.4. Air Quality and Climate

The Clean Air Act, amended in 1990, requires EPA to set National Ambient Air Quality Standards (NAAQS) for six pollutants harmful to human and environmental health, including ozone, particulate matter, nitrogen dioxide, carbon monoxide, sulfur dioxide, and lead (EPA 2016). According to the EPA's Green Book (2020a), Jackson County is currently in attainment status for all criteria pollutants.

Air quality is negatively affected by everyday activities such as vehicle use and major events such as wildfires. Wildfire smoke is composed of carbon dioxide, water vapor, particulate matter, carbon monoxide, nitrogen oxides, organic chemicals such as hydrocarbons, and trace minerals, which affect air quality (EPA et al. 2019). Air quality also can be affected by fugitive dust, which is considered a component of particulate matter. Fugitive dust is released into the air by wind or human activities and can have human and environmental health impacts (California EPA Air Resources Board 2007). Many of the roads in the Anderson Creek community are surfaced with gravel or dirt, and dust may be released when they are driven on during dry conditions.

The project area is in the Klamath Mountain Ecoregion, which has a mild and sub-humid climate that supports northern Californian and Pacific Northwestern conifer and hardwood forests (Thorson et al. 2003). Temperatures in the City of Ashland, which is located approximately 5 miles southeast of the project area, range from an average low of 29 degrees Fahrenheit in December and January to an average high of 88 degrees Fahrenheit in July (U.S. Climate Data 2020). The City of Ashland receives an average of 20 inches of rain annually (U.S. Climate Data 2020). Most of the precipitation occurs in the fall, winter, and spring. Summer precipitation is very low, which increases the risk of wildfire spread (Jackson County 2018). Climate data are presented from the City of Ashland because it is the nearest weather reporting station to the project area. However, because of the significant range in elevation and the influence of the mountains, portions of the project area may be expected to be colder and wetter.

“Climate change” refers to changes in the Earth’s climate caused by a general warming of the atmosphere. Its primary cause is emissions of greenhouse gases, including carbon dioxide (CO_2)

and methane (CH_4). Climate change is capable of affecting species distribution, temperature fluctuations, and weather patterns. The CEQ's *Final NEPA Guidance on Consideration of Greenhouse Gas Emissions and the Effects on Climate Change* (CEQ 2016) suggested that quantitative analysis should be done if an action would release more than 25,000 metric tons of greenhouse gases per year.

Estimates indicate that average annual temperatures in the Pacific Northwest region will increase by 2 degrees Fahrenheit by the 2020s, 3.2 degrees Fahrenheit by the 2040s, and 5.3 degrees Fahrenheit by the 2080s (U.S. Fish and Wildlife Service [USFWS] 2011). Warmer temperatures would decrease mountain snowpack, resulting in higher winter and lower summer stream flows (USFWS 2011). Earlier spring snowmelt and higher temperatures also increase the risk of wildfires in the region, and North American wildfires have increased in intensity and frequency over the past 50 years (USFWS 2011).

No Action Alternative

Limited ongoing wildfire hazard reduction activities by at-risk property owners on their own initiative would have negligible, short-term impacts on air quality from vehicle and equipment use, primarily from hand tools, such as chainsaws. However, under this alternative, the risk of wildfire spread would remain high. Wildfire smoke can deteriorate air quality and expose vulnerable populations such as the young and elderly to harmful pollutants (EPA et al. 2019). Particulate matter, specifically, can have many harmful effects, including eye and respiratory tract irritation, reduced lung function, asthma, and heart failure (EPA et al. 2019). An ongoing study in Montana is finding that prolonged exposure to wildfire smoke can result in long-term health effects even several years after exposure (Houghton 2020). In addition to particulate matter in smoke, a fire in residential areas will emit a variety of other toxins that may be produced when buildings and their contents burn.

Smoke from major wildfires can affect air quality over large areas impacting people far from the fire, even several states away. Additionally, major wildfires can emit high levels of greenhouse gases into the atmosphere, thus contributing to climate change, which exacerbates the risk of wildfires. In the event of a wildfire, the no action alternative could have a minor to major impact on air quality and regional climate, depending on the intensity and scale of the wildfire.

Proposed Action

The proposed action would have negligible, short-term impacts on air quality from the additional equipment and vehicle use. Contractors would primarily use hand tools, such as chainsaws and light-duty vehicles during implementation of the proposed action. Vehicle use on dirt or gravel roadways, such as those in the treatment area, can contribute to fugitive dust while gas-powered equipment can produce particulate matter. Cut material within 20 feet of roads and driveways would be chipped and some chips would be broadcast on site, reducing vehicle travel. Vehicles would primarily be used to transport crews to the treatment areas and to haul chips to a compost or donation facility. Thus, ground disturbance would be negligible, limiting the release of fugitive dust. Vehicles and equipment running times would be kept to the minimum extent possible.

Pile burning would be conducted under an ODF burn permit and per OAR 629-043-0040, as described in **Section 3.2.4**. Additionally, based on the scattered and limited use of burn piles for

slash disposal, where chipping is not possible, and the proposed approach to allow vegetation to dry out so that it burns cleaner; the smoke released from burn piles would be limited. Piles would not be all burned concurrently; therefore, there would be very brief and localized negative effects on air quality. The overall volume of emissions released from burning the piles would not approach the need for a detailed quantitative analysis per CEQ guidance. Therefore, the proposed action would have minor, short-term air quality impacts from vehicle and equipment use, pile burning, and activities contributing to the release of fugitive dust.

By reducing the risk of wildfire spread within the project area, hazardous fuels reduction activities would have minor, long-term beneficial impacts on air quality and climate change.

4.5. Surface Waters and Water Quality

The Clean Water Act of 1977, as amended, establishes requirements for states and tribes to identify and prioritize waterbodies that do not meet water quality standards.

Most of the project area is located in the Anderson Creek-Bear Creek Watershed (17100308109). Many of the waterbodies in the Anderson Creek-Bear Creek Watershed, including Anderson Creek, are impaired for aquatic life and recreation beneficial uses because of bacteria and other microbes, low oxygen, and unsafe temperatures (EPA 2020b). The southeastern portion of the project area is located with the Wagner Creek Watershed (171003080108). The waterbodies within the Wagner Creek watershed are impaired for aquatic life because of temperatures (EPA 2020b).

The project area includes the following perennial streams: Anderson Creek in the eastern portion of the project area (**Figure 4-1**), North Fork Anderson Creek and South Fork Anderson Creek in the western portion of the project area (**Figure 4-2**), and Holton Creek in the southeastern portion of the project area (**Figure 4-1**). Anderson Creek is a medium-sized, fish-bearing, Type F stream. North Fork Anderson Creek, South Fork Anderson Creek, and Holton Creek are non-fish bearing, Type N or Type D, and small to medium in size. Additionally, there are several ephemeral and intermittent streams in the project area (ODF 2009).

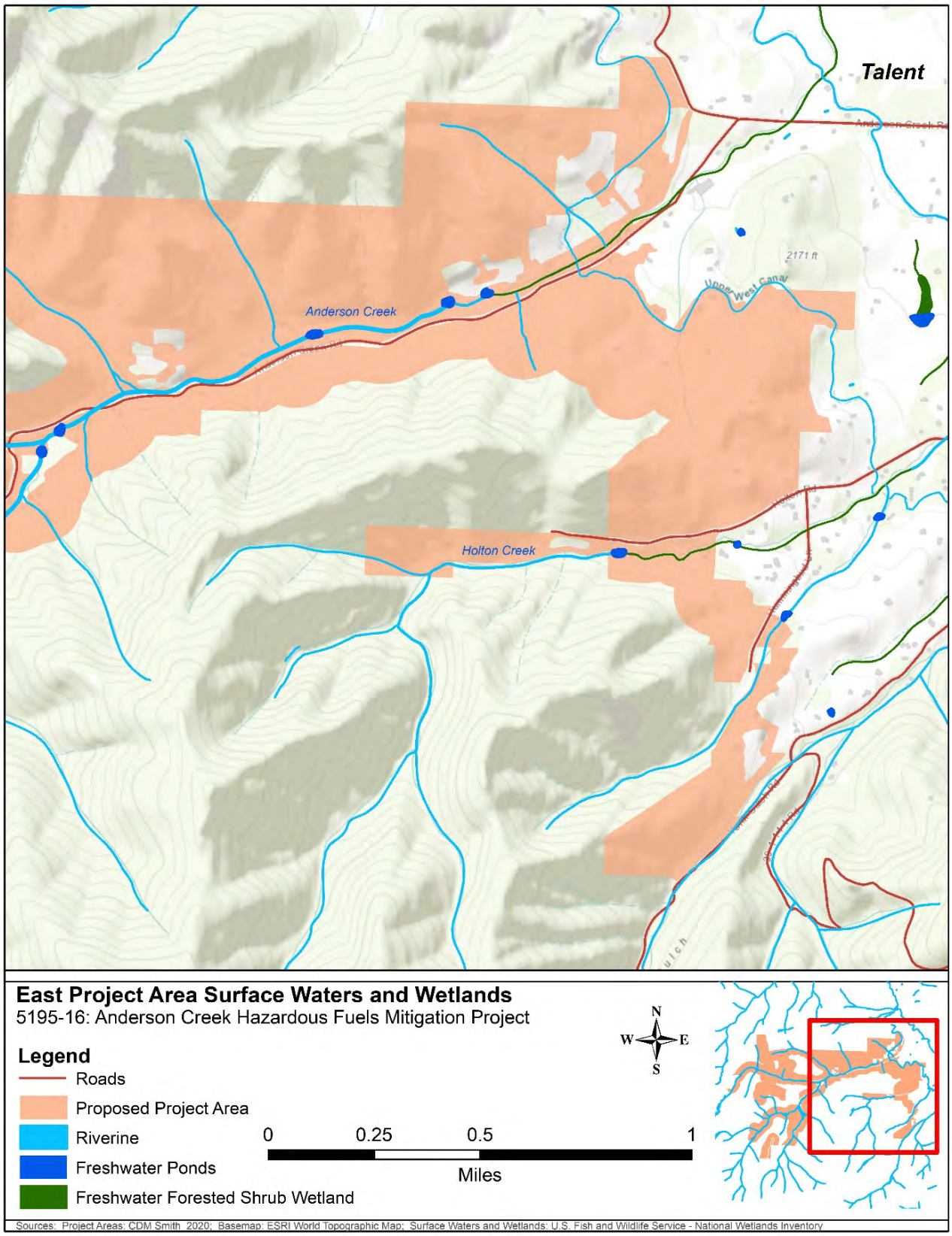

Figure 4-1. East Project Area Surface Waters and Wetlands

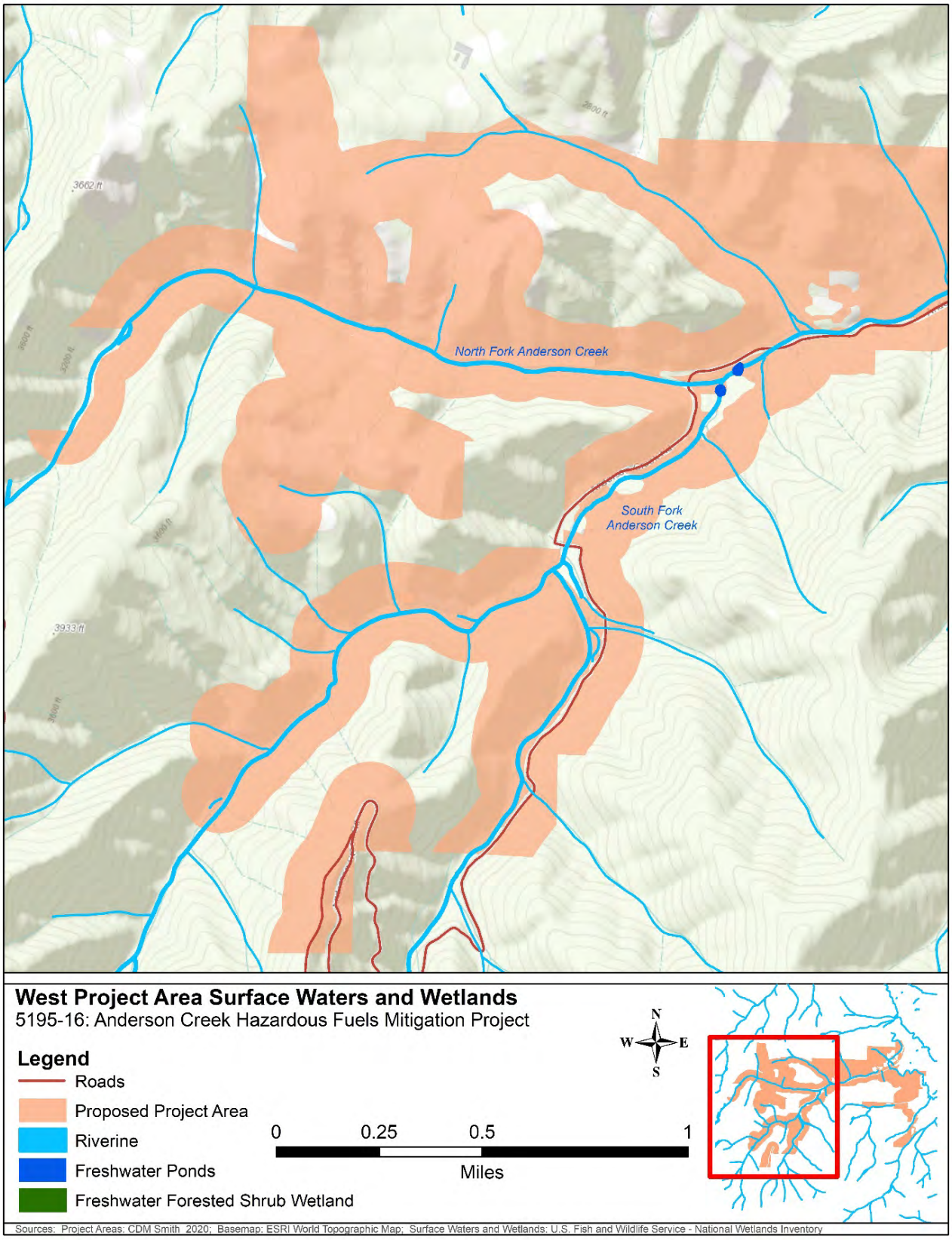

Figure 4-2. West Project Area Surface Waters and Wetlands

No Action Alternative

Under the no action alternative, limited ongoing wildfire hazard reduction activities would be conducted by property owners on their own initiative. Because these small-scale, defensible space activities are unlikely to trigger an Oregon Forest Practices Act review, work may be conducted within riparian buffers with little oversight. However, the potential impacts would be expected to be small in scale and impacts on surface waters and water quality would be negligible in the absence of a wildfire. Under the no action alternative, the risk of wildfire spread would not be substantially reduced. If a wildfire occurs and spreads, the loss of vegetation would impact surface water quality through increased soil erosion and sedimentation and increased temperatures from the loss of shade along riparian zones. Additionally, intense lasting heat from major wildfires can cause soils to form hydrophobic layers, as described in **Section 4.2**, which would decrease infiltration of stormwater and aquifer recharge while increasing runoff, erosion, sedimentation, and stream discharges. Increased stream discharges, which could include mudflows, in the short and long term could cause damage to downstream infrastructure such as bridges and culverts. The no action alternative could have a minor to major impacts on surface waters and water quality depending on the scale and intensity of the wildfire.

Proposed Action

The proposed action would not require in-water work. Defensible space and hazardous fuels reduction activities could affect water quality because they involve the removal of vegetation. The use of ground crews and hand tools and the operation of vehicles and chippers on existing roads would result in negligible soil disturbance and mobilization of fine sediments that could affect water quality. Some vegetation would be retained according to the treatment specifications (**Section 3.2.1**), helping to prevent substantial erosion from vegetation removal. The county and state riparian reserve and vegetative buffer measures described in **Section 3.2.2** would be implemented. Herbicides would not be used to manage vegetation. Burning would be conducted per OAR 629-615-0300, which protects wetlands and streams, as described in **Section 3.2.4**. Thus, impacts on water resources from project implementation would be short term and negligible.

The proposed action would reduce the risk of wildfire spread in the project area vicinity and would thus reduce the risk of impacts associated with wildfires on water resources as described in the no action alternative. Therefore, the proposed action would have minor, long-term beneficial effects on waterbodies in and near the project area.

4.6. Wetlands

Executive Order (EO) 11990, Protection of Wetlands requires federal agencies to consider alternatives to work in wetlands and limits potential impacts on wetlands if there are no practicable alternatives. FEMA regulation 44 CFR Part 9, Floodplain Management and Protection of Wetlands sets forth the policy, procedures, and responsibilities to implement and enforce EO 11990 and prohibits FEMA from funding activities in a wetland unless no practicable alternatives are available.

According to the USFWS National Wetland Inventory maps, less than 3 acres of the proposed project area encompasses freshwater forested-shrub wetlands (**Figure 4-1** and **Figure 4-2**). The wetlands within the proposed project are associated with Anderson Creek and Holton Creek in

the eastern portion of the project area. Although the National Wetlands Inventory identifies a number of aquatic features along Anderson Creek, they appear to be primarily man-made ponds based on review of USGS topographic maps, aerial photos, and a ground-level reconnaissance and may not meet the criteria for wetlands regulated under the CWA.

ODF requires riparian management areas of 100 feet around significant wetlands (larger than 8 acres) and bogs. Because less than 3 acres of the project area overlaps with wetlands as identified in the National Wetlands Inventory and that area is scattered among several sites, there would not be any "significant wetlands" in the project area. Other wetlands would be protected by OAR 629-655, which requires operators to minimize disturbance to understory vegetation and soils in and around wetlands and retain downed wood and snags in wetlands.

No Action Alternative

In the absence of a major wildfire, the no action alternative would have negligible effects on wetlands. Any wildfire mitigation activities implemented by property owners would be unlikely to be regulated by the state. Wildfire mitigation rarely involves fill of wetlands; therefore, the Oregon Removal-Fill Law (ORS 196.795-990), which protects wetlands from fills greater than 50 cubic yards, would be unlikely to apply. Small-scale, defensible space activities conducted by individual homeowners would be unlikely to be regulated under OAR 629-655. Therefore, some clearing of vegetation around and within a wetland could occur under the no action alternative if a wetland was located close to a structure. This alternative also would not substantially reduce the risk of wildfire spread within the project area, which could destroy or deteriorate vegetation in wetlands in and around the treatment areas. Vegetation destruction in surrounding wetlands would damage habitat for wildlife and lessen the effectiveness of wetlands to filter pollutants and maintain water quality.

Proposed Action

Under the proposed action, there would be a negligible short-term impact on wetlands because most defensible space and hazardous fuels treatment areas are located outside of wetlands. For treatment areas that do include wetlands, no fill would be placed in wetlands. As described in **Section 3.2.2**, vegetative buffers would be implemented along streams, which would help avoid impacts on wetlands because wetlands in the project area follow streams (**Figure 4-1** and **Figure 4-2**). Wetlands would also be protected by OAR 629-655, which requires operators to minimize disturbance to understory vegetation and soils in and around wetlands and retain downed wood and snags in wetlands. Burning would be conducted per OAR 629-615-0300, which protects wetlands and streams, as described in **Section 3.2.4**.

The proposed action would reduce the risk that a major wildfire would spread through the project area and damage wetland vegetation; therefore, there would be minor, long-term benefits on wetlands.

4.7. Floodplains

EO 11988, Floodplain Management requires federal agencies to avoid, to the extent possible, short- and long-term, adverse impacts associated with the occupancy and modification of floodplains and to avoid direct and indirect support of floodplain development wherever there is

a practical alternative. FEMA regulations (44 CFR Part 9.7) use the 1-percent-annual-chance flood as the minimal area for floodplain impact evaluation.

Based on FEMA Flood Insurance Rate Map panels 41029C2177F, 41029C2181F, and 41029C2183F, effective May 3, 2011, none of the proposed project area falls within the 1-percent floodplain. However, there is a floodplain area adjacent to the eastern portion of the project area along Anderson Creek.

No Action Alternative

In the absence of a major wildfire, the no action alternative would not affect floodplains, as the project area is not located within floodplains. However, this alternative does not meaningfully reduce the risk of wildfire spread, which could damage or eliminate existing vegetation beyond the project area, depending on the scale and intensity of a wildfire. If a wildfire were to occur, vegetation would be destroyed, which could lead to increased stormwater runoff following precipitation events. Loss of vegetation would adversely affect natural floodplain functions outside of the project area by contributing to increased stormwater runoff and sedimentation. If severe enough, additional sedimentation, such as from flash flood mudflows, could occur in the western portion of the project area where slopes are steeper. This could lead to an increase in the base flood elevation of downstream floodplains over time and thus greater flood hazard risks to structures in those floodplains in the long term. The additional sedimentation in the long term could lead to an increase in the base flood elevation and thus greater flood hazard risks to improved property in the affected floodplain. Therefore, the no action alternative could have minor to moderate adverse effects on floodplains in surrounding areas, depending on the intensity and scale of a wildfire.

Proposed Action

There are no floodplains within the proposed project area; therefore, the proposed action would have no impact on floodplains. The proposed action would reduce the risk of wildfire spread and potential for damage to vegetation that could lead to increased stormwater runoff and sedimentation from burned areas; therefore, there would be minor, long-term beneficial effects on floodplains in surrounding areas.

4.8. Vegetation

The proposed project area is located in the Rogue/Illinois Valleys and Inland Siskiyous ecoregions in the Klamath Mountains Ecoregion of Oregon and California. Predominant vegetation includes Oregon white oak (*Quercus garryana*), California black oak (*Quercus kelloggii*), Pacific madrone (*Arbutus menziesii*), ponderosa pine (*Pinus ponderosa*), and Douglas fir (*Pseudotsuga menziesii*), with an understory chaparral community that includes California fescue (*Festuca californica*), snowberry (*Symphoricarpos alba*), serviceberry (*Amelanchier alnifolia*), Oregon grape (*Mahonia aquifolium*), and poison oak (*Toxicodendron diversilobum*).

The project area encompasses the Anderson Creek community, which is characterized by steep and rugged terrain with elevations that range between approximately 2,120 feet and 4,040 feet. The project area contains homes and road infrastructure near and intermixed with forests and shrublands. Forests within this elevation range are typically mixed conifer and are characterized predominantly by Douglas-fir and Pacific madrone on wetter, northern aspects, and ponderosa

pine on drier, southern aspects (ODF 2010; North Mountain Park Nature Center 2012). Existing vegetation conditions and terrain are shown in **Figure 4-3** and **Figure 4-4.**

Federally listed plant species that may occur in the vicinity of the proposed project areas are discussed in **Section 4.10.**

Invasive Species

EO 13112 requires federal agencies to prevent the introduction of invasive species and provide for their control to minimize the economic, ecological, and human health impacts that invasive species cause. The bark beetle (*Scolytinae*) is present in the project area and is a concern throughout the forested areas.

No Action Alternative

In the absence of a major wildfire, there would be no impacts on vegetation or from invasive species. Property owners may implement defensible space or other wildfire mitigation activities, which would remove some vegetation in disparate locations and result in minor impacts on vegetation. However, the risk of wildfire spread would remain high under this alternative. Depending on the intensity and scale of a wildfire, there could be partial or complete loss of vegetation in and around the project area. In addition, a major wildfire could result in changes to the soil characteristics as described in **Section 4.2** that would prevent regrowth of forest vegetation for many years following the fire. In the event of vegetation loss from a wildfire, nonnative or invasive species might be expected to become established over larger areas. Depending on the intensity and scale of a wildfire, there could be minor to major adverse impacts on vegetation under the no action alternative.

Proposed Action

Defensible space and hazardous fuels treatments would encompass only the activities described in **Section 3.2.1**. The proposed action would remove, and therefore impact, individual trees and shrubs. However, the proposed action would have a minor beneficial effect on existing vegetation communities, as the project would reduce dense thickets of conifers and shrubs, creating more open stand conditions conducive to the development of larger individual trees that are more fire resilient. The spread of invasive plant or animal species within the project area is not expected to occur as part of the proposed action.

Burning would be conducted in accordance with the measures in **Section 3.2.4,** including burning outside of the fire season and when conditions are wet or rainy with little or no wind to minimize the risk of fire spread and associated vegetation damage. Burn piles would be positioned to avoid harming any retained trees. Thus, burning would have a negligible, short-term impact on vegetation.

In the long term, the proposed action would have minor beneficial effects because the risk of wildfire spread, and associated vegetation damage and invasive species spread, would be reduced.

Figure 4-3. Existing Vegetation Conditions Within Project Area

Figure 4-4. Steep Slopes and Existing Vegetation Within the Project Area

4.9. Fish and Wildlife

The Rogue/Illinois Valleys and Inland Siskiyous ecoregions of the Klamath Mountains Ecoregion of Oregon and California are known for their biodiversity. Structures and roadways within the project area are not prominent and most of the project area is composed of undisturbed forest offering habitat for wildlife species. Birds and mammals that are expected to use the project area include turkey (*Meleagris gallopavo*), black bear (*Ursus americanus*), black-tailed deer (*Odocolieus hemionus*), mountain lion (*Puma concolor*), Douglas squirrel (*Tamiasciurus douglasii*), mountain quail (*Oreortyx pictus*), Lazuli bunting (*Passerina amoena*), and a variety of other birds and small mammals (Klamath Bird Observatory 2012; Oregon Forest Research Institute 2020).

The Migratory Bird Treaty Act of 1918, as amended (16 U.S.C. 703–711), provides protection for migratory birds and their nests, eggs, and body parts from harm, sale, or other injurious actions except under the terms of a valid permit issued pursuant to federal regulations. All native birds are protected by the MBTA and existing habitat in the project area has the potential to support a variety of native bird species. Several migratory bird species could occur in the project area, including species such as golden-crowned sparrow (*Zonotrichia atricapilla*), great blue heron (*Ardea Herodias*), blue-gray gnatcatcher (*Polioptila melanura*), and mountain bluebird (*Sialia currucoides*) (USFWS 2020b). The nesting season for migratory birds is generally February through July, depending on the species. The Oregon Department of Fish and Wildlife (ODFW) recommends avoiding vegetation disturbance from mid-April through July (ODFW 2010).

The Bald and Golden Eagle Protection Act of 1940 prohibits the take, possession, sale, or other harmful action of any gold or bald eagle, alive or dead, including any part, nest, or egg (16 U.S.C. 668(a)). Because of the distance of the proposed project from major rivers, the proximity of the proposed project to developed lands, and the lack of forest edge, bald eagles (*Haliaeetus leucocephalus*), and golden eagles (*Aquila chrysaetos*) are not expected to nest in the project area; although they would occasionally pass through.

Most of the streams in the proposed project area are small, intermittent upper watershed tributaries. Anderson Creek is a fish-bearing stream that flows through the proposed project area and has historically contained summer steelhead (Oregon State University and Institute for Natural Resources 2014). However, essential salmonid habitat only occurs downstream of the proposed project area. North Fork and South Fork Anderson Creek and Holton Creek are not fish bearing (ODF 2009; Oregon State University and Institute for Natural Resources 2014). Several other non-fish-bearing streams are also present within the project area (**Figure 4-1** and **Figure 4-2**).

No Action Alternative

In the absence of a major wildfire, the no action alternative would have a negligible effect on common fish and wildlife species in the project area. Defensible space created by at-risk property owners on their own initiative would remove some vegetation and habitat. However, impacts on fish and wildlife would be negligible due to the limited extent and nature of the defensible space created. Similarly, impacts on migratory birds would be negligible even if work were performed during the nesting season. However, a major wildfire would be more likely to

spread under the no action alternative and could result in the destruction of terrestrial and aquatic habitat, depending on the scale and intensity of the fire. Therefore, the no action alternative would result in minor to moderate impacts on fish and wildlife and their habitats.

Proposed Action

The proposed action has the potential to impact common wildlife species and associated habitats occurring within the project area because of the removal of understory vegetation and individual trees. The measures described in **Section 3.2.2** and **Section 3.2.5** would be implemented where applicable to maintain some wildlife habitat features. Additionally, noise and smoke impacts related to vegetation removal activities could disturb wildlife and cause individuals to move from their preferred areas or temporarily change their behavior. The bird and mammal species expected in the project area are those that are commonly found in mixed conifer forests with rugged terrain. Because the project area is sparsely developed and only a portion of the project area would be treated, wildlife species would be able to relocate to suitable habitat relatively easily. Burning for the project would be conducted under an ODF burn permit and per OAR 629-043-0040 and local restrictions, as described in **Section 3.2.4**. Therefore, impacts on common wildlife species would be minor and short term.

There would be no in-water work or herbicide use as part of the proposed action. As described in **Section 3.2.2**, riparian buffers would be implemented around most streams, providing protection for aquatic species and resulting in no short-term effects on aquatic species.

The proposed action could affect migratory birds if work were to occur during the breeding season. The disturbances in the project area could result in inadvertent nest destruction, birds abandoning nesting activities, and their displacement from preferred foraging areas. Ground-nesting and shrub-nesting birds would be impacted to a greater extent than birds that nest in the upper canopy of trees. Cavity-nesting birds such as woodpeckers and nuthatches could be also be disproportionally affected by the removal of dead or dying trees (snags). Thus, the proposed action would have minor, localized, and temporary impacts on migratory birds. Under these circumstances, the proposed action would be subject to the prohibitions of the MBTA and the Lomakatsi would be responsible for obtaining and complying with any necessary permits from USFWS before work and for documenting this on the associated project parcel assessment/treatment plan.

The proposed action would likely have a negligible effect on bald and golden eagles and their habitat because defensible space and hazardous fuels reduction treatments would primarily take place near structures and roadway infrastructure, where eagles are unlikely to occur. Additionally, the proposed action would primarily target ladder fuels, shrubs, and trees 10 inches DBH or less, which do not provide nesting or perching support for eagles.

In the long term, there would be minor beneficial effects on fish, wildlife, migratory birds, and eagles because the risk of wildfire spread and associated widespread vegetation loss (including ecologically sensitive vegetation) would be reduced.

4.10. Threatened and Endangered Species and Critical Habitat

The Endangered Species Act (ESA) of 1973 gives USFWS and the National Marine Fisheries Service authority for the protection of threatened and endangered species. This protection includes a prohibition on direct take (e.g., killing, harassing) and indirect take (e.g., destruction of habitat).

The ESA defines the action area as "all areas to be affected directly or indirectly by the federal action and not merely the immediate area involved in the action" (50 CFR 402.02). Therefore, the action area where effects on listed species must be evaluated may be larger than the project area where project activities would occur. The potential physical and biological disturbance effects of this project would be limited to areas within 0.25 miles of project activities. Noise impacts have the potential to extend the farthest based on the maximum noise generation of a chainsaw (85 decibels [dB]). This distance is derived from existing impact analysis documents that indicate no impacts on NSO are expected when habitat occurs more than 0.25 miles away from heavy equipment operation (including chainsaws) (USFWS 2014).

The USFWS Information for Planning and Consultation was used to identify proposed, threatened, and endangered species in the action area. In addition, information available from the National Marine Fisheries Service was used to identify potential fish species that could occur in the action area. All ESA-listed species that may be near the action area are listed in **Table 4.3** (USFWS 2020a) and are briefly discussed below. A biological assessment for effects on listed species was completed and is available upon request.

Table 4.3. Federally Listed Species in the Project Area

Common Name	Scientific Name	Status
Birds		
Northern spotted owl	*Strix occidentalis caurina*	Threatened
Mammals		
Gray Wolf	*Canis lupus*	Threatened
Plants		
Gentner's fritillary	*Fritillaria gentneri*	Endangered

Sources: USFWS 2020a

Designated critical habitat for the NSO occurs within the action area and adjacent to a small portion of the project area; however, none is within the project area.

Northern Spotted Owl: The NSO range includes most of the Southern Oregon Cascade Mountains. Based on their range, there is the potential for noise generated from the proposed action to affect nesting NSOs if they are present within the action area. NSO critical habitat occurs just outside the project area to the south and within the action area to the south and west. There are several documented NSO activity centers surrounding the project area. Between the extent of their 0.5-mile core zones and the amount of modeled NRF habitat within their 1.3-mile home range circle, it is assumed that there is potential NSO nesting within or near (0.25 miles) most of the project.

Gray Wolf: While the project area is within the known range of listed gray wolves, the nearest known pack use area is the Rogue pack area, which is on the east slope of the Cascade Mountains, northeast of Klamath Lakes (ODFW 2019). The nearest designated critical habitat for the species occurs in northeastern Minnesota (USFWS 2020d). Although the action area contains suitable habitat, it is likely that most of the pack activity will continue to occur in and around the Rogue wolf area, which is at least 50 miles away from the action area. Furthermore, any Rogue pack gray wolves that may range into the action area, will have already become accustomed to anthropogenic activities. Because wolves use a wide variety of habitats, fuels reduction actions would not affect gray wolf access or activities in the project area.

Gentner's Fritillary: Gentner's fritillary is a perennial herb of the lily family with red flowers with yellow dappling. This plant can be found in Jackson County in multiple habitat types. The primary habitat type is dry, open woodlands and chaparral ranging between 1,000 and 5,000 feet elevation. The Recovery Plan for *Fritillaria gentneri* (Gentner's fritillary) (USFWS 2003) contains information on the plant and recovery information. Oregon State University (2020) Oregon Biodiversity Information Center (ORBIC) GIS data places the nearest known location of Gentner's fritillary approximately 1.2 miles southeast of the project area. There is no designated critical habitat for this species.

Essential Fish Habitat: The Magnuson-Stevens Fisheries Conservation and Management Act (16 U.S.C. 1801 et seq.) designates Essential Fish Habitat for certain commercially managed marine and anadromous fish species and is intended to protect the habitat of commercially managed fish species, including anadromous fish species, from being lost because of disturbance and degradation. Pacific coast salmon are not present in the fish-bearing streams within the project area, so Essential Fish Habitat would not be present.

No Action Alternative

In the absence of a major wildfire, the no action alternative would have no effect on ESA-listed species and their habitats. Defensible space created by at-risk property owners on their own initiative would remove some vegetation in disparate locations. These treatments may not be as prescriptive as the proposed action nor include conservation measures to avoid or minimize impacts on ESA-listed species that may be present. A major wildfire would be more likely to spread under the no action alternative, which could have minor to major impacts on ESA-listed species and their habitats, depending on the scale and intensity of a fire.

Proposed Action

The proposed project would have no effect on gray wolf or their habitat because of their distance from the project area.

The nearest known population of Gentner's fritillary is approximately 1.2 miles southeast of the action area. The proposed treatment area does not include its preferred habitat of open woodlands and chaparral; therefore, the proposed action would result in no effect on the Gentner's fritillary.

The proposed action would have no effect on designated critical habitat for NSO, as there is no designated critical habitat within the project area. However, the proposed project may affect but is not likely to adversely affect NSOs. Most of the treatment would occur in the densest younger

forests stands near structures and roads and some treatment of under-canopy in mid-aged stands, which are not suitable for NSO nesting (**Figure 4-5** and **Figure 4-6**). Additionally, the proposed project conditions stipulate the retention of 40 percent canopy coverage for dispersal habitat and 60 percent canopy coverage for NRF habitat. There would be no dispersal habitat removed, but there potentially may be degradation of some existing NRF habitat. A work timing restriction for the critical breeding period (March 1 through July 30) would be applied for any project actions within 0.5-mile of an NSO core zone. Measures to protect NSOs are described in **Section 3.2.5** and would be implemented to avoid and minimize potential effects.

Indirect effects on NSO and their habitat are expected to be primarily beneficial. Conducting fuels reduction could reduce the severity of wildfires that pass through the area. Removal of small and undersized trees would reduce the potential of crown fires that would devastate the stand. The reduction of hazardous fuels would benefit overall habitat quality by reducing tree density, thereby reducing competition and stressors on trees and encouraging tree growth. Opening up the understory would improve gaps for NSO flight corridors and foraging. Informal consultation with USFWS was completed on September 18, 2020; USFWS concurred with the "may affect, but not likely to adversely affect" determination for NSO (see Appendix A).

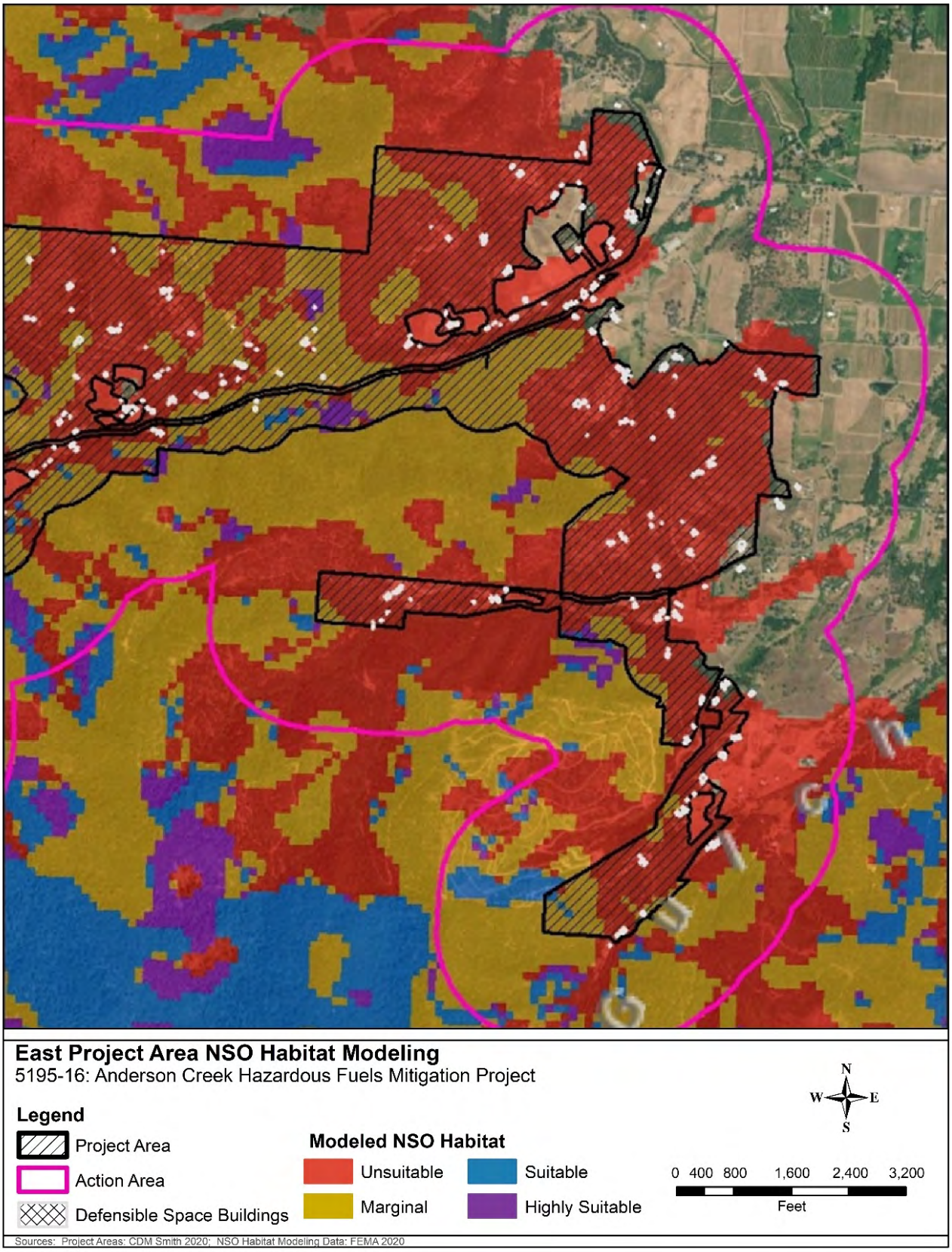

Figure 4-5. Modeled NSO Habitat, Eastern Project Area

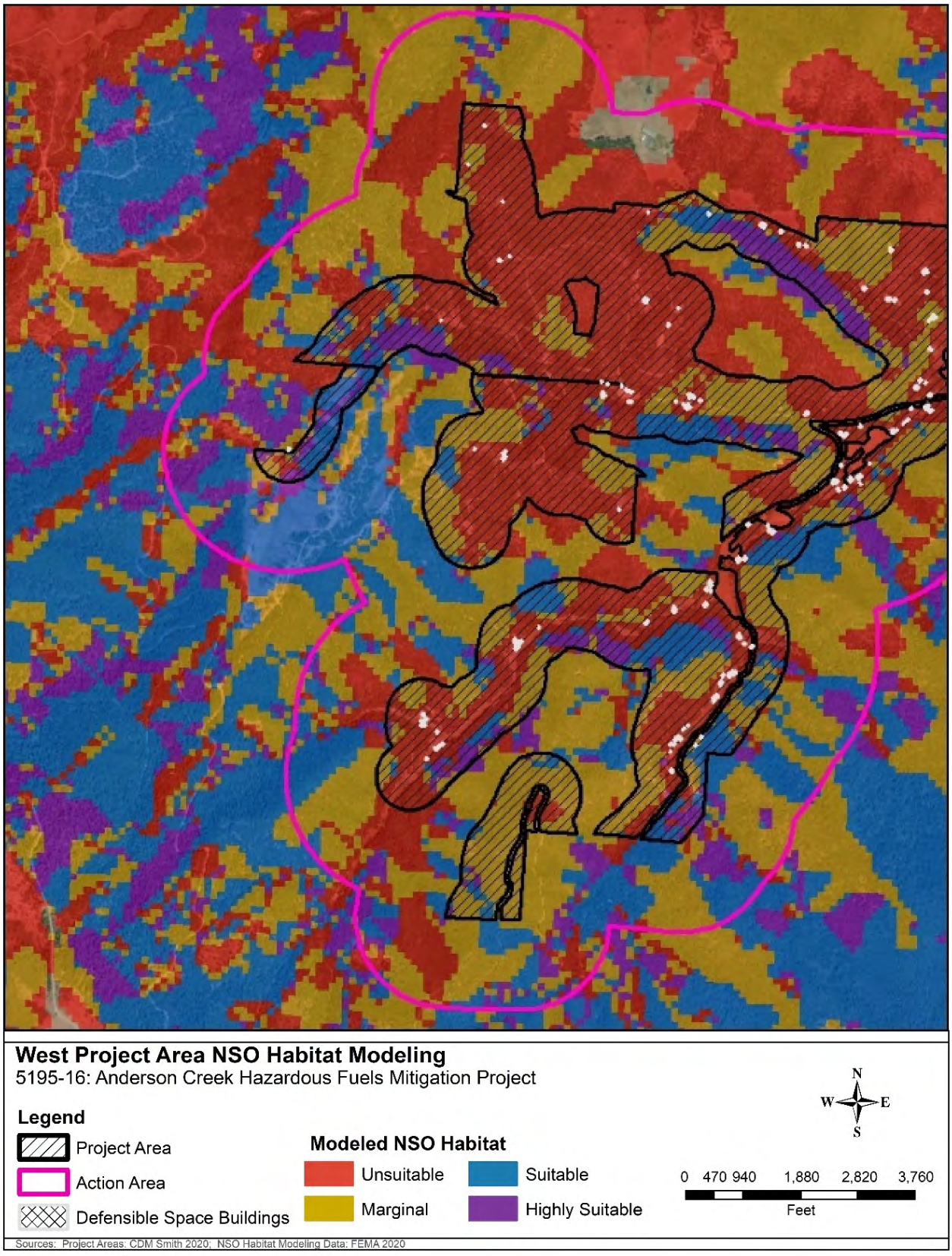

Figure 4-6. Modeled NSO habitat, Western Project Area

4.11. Cultural Resources

This section provides an overview of potential environmental effects on cultural resources, including historic properties. Section 106 of the National Historic Preservation Act of 1966, as amended (16 U.S.C. 470f), requires that activities using federal funds undergo a review process to consider potential effects on historic properties that are listed in or may be eligible for listing in the National Register of Historic Places (NRHP). Cultural resources include prehistoric or historic archeology sites; historic standing structures; historic districts; objects; artifacts; cultural properties of historic or traditional significance, referred to as Traditional Cultural Properties that may have religious or cultural significance to federally recognized Indian tribes; or other physical evidence of human activity considered to be important to culture, subculture, or community for scientific, traditional, religious, or other reasons.

The project area is in the traditional homeland of the Takelma Indians. The Takelma speak a Penutian language closely related to their northern neighbors the Kalapuya (Kendall 1990). The Takelma have been divided into as many as five distinct linguistic groups (Kendall 1990). Many of the descendants today are represented by Grand Ronde, Crow Creek Band of Umpqua Tribe of Indians, and Siletz Tribes of Oregon. The traditional economy was tied to the seasonal cycle of plant and animal harvesting. Acorns were a primary food source, and various game animals and fish (primarily salmon), camas, berries, and seeds provided a significant food source.

The first non-native peoples in the Rogue River Valley were fur trappers employed by the Hudson's Bay Company after 1824. The systematic exploration of southern Oregon was conducted by the Hudson's Bay Company to establish holdings in areas with previously untapped fur resources (Brauner and Honey 1981). These endeavors ultimately established the Siskiyou Trail, which connected Fort Vancouver to the Sacramento Valley and generally followed the path of present-day I-5. In 1846, The Applegate Trail was established, providing a southern alternative to the Oregon Trail. The Applegate Trail was not as heavily used as other wagon trails at the time but was directly responsible for an increased number of emigrants in the Rogue River Valley, particularly following the discovery of gold in the Rogue Basin in 1850 and the passage of the Donation Land Act in the same year, which encouraged the development of new communities (Beckham 1971; Haines 1976; LaLande 2019). The Land Act legislation ultimately shaped a Eurocentric vision of the northwest, and policy was continually used to consolidate power and limit the opportunities of minorities in the region (Millner 2019; Riddle 2010).

During the 1840s, settlers began moving *en masse* into the river valleys of Oregon where they claimed ownership of traditional Native lands, consuming the most agriculturally and timber rich tracts in the region and often choosing to build homes in open areas that had been maintained by prescribed burning and other land management techniques employed by indigenous populations. The discovery of gold and the desire to claim agriculturally attractive lands in the Rogue Valley led to increased settlement in the area during the 1850s. Following the Rogue River Wars of 1855–1856, indigenous populations of southern Oregon, including the Takelma, had begun to be forcibly removed to reservation lands on the coast.

Mining in southern Oregon provided economic possibilities for a diverse array of immigrants, including a substantial population of mobile Cantonese-Chinese gold miners during the 1850s and 1860s. Between the 1860s and 1880s, the significant expansion of railroads in the west was

achieved through the labor of Chinese rail workers. Establishment of the railroad opened up new towns and cities where Chinese communities settled, including nearby Ashland.

A review of the Oregon Archaeological Records Remote Access database revealed no records of prehistoric or historic resources in the project area. It is unlikely that archaeological resources are located in the project area due to steep slope conditions. And based on the low impact nature of treatment work, around residential structures and along roads, the potential for archeological resource impacts is low, should they be present. Based on these factors no systematic survey of the project area was determined necessary.

On August 5, 2020, consultation was initiated with the Confederated Tribes of the Siletz Indians and Tolowa Dee-ni' Nation to solicit comments and request any additional information about cultural resources that may be impacted by the proposed action; no responses have been received to date. Consultation also was completed with Oregon State Historic Preservation Office (SHPO), which responded on October 13, 2020 with no concerns with the finding that the project would result in No Historic Properties Affected. Appendix A contains all agency and tribal correspondence.

No Action Alternative

Under the no action alternative, some property owners may continue to implement wildfire mitigation activities, which could disturb the ground or alter the appearance of structures, potentially affecting cultural resources that may be present in the action area. However, the risk of wildfire spread would remain high, despite the potential for some scattered wildfire mitigation activities to occur. A wildfire could have minor to moderate adverse impacts on unidentified archeological resources or historic structures in the project area vicinity depending on the scale and intensity of the fire.

Proposed Action

Hazardous fuels work would be conducted with ground crews using hand tools, and no heavy mechanical equipment would be operated off road. It is unlikely that any archaeological resources exist in the project area due to the steep slope conditions. The proposed action would not alter any structures. Therefore, the proposed action would result in No Historic Properties Affected. In the event that any archeological resources are discovered during project implementation, work would immediately cease, the area would be secured, and Lomakatsi would notify the SHPO and FEMA for further evaluation.

4.12. Environmental Justice

Environmental justice is defined by EO 12898 (59 Federal Register 7629) and CEQ guidance (1997). Under EO 12898, demographic information is used to determine whether minority populations or low-income populations are present in the areas potentially affected by the range of project alternatives. If so, a determination must be made whether implementation of the program alternatives may cause disproportionately high and adverse human health or environmental impacts on those populations.

This environmental justice analysis is focused at the local (i.e., census block group) level. The local area included in this analysis is where project-related impacts would occur, potentially

causing an adverse and disproportionately high effect on neighboring minority and low-income populations. Minority or low-income census tracts are defined as meeting either or both of the following criteria:

- Census block group contains 50 percent or more minority persons or 25 percent or more low-income persons.
- Percentage of minority or low-income persons in any census tract is more than 10 percent greater than the average of the surrounding county.

The treatment area is within two census block groups in Jackson County, Oregon. **Table 4.4** depicts the percentage of minority and low-income population for these census block groups and the county for comparison.

Table 4.4. Environmental Justice Demographics

Area	Percent Minority Population	Percentage Low-Income Population
Block Group: 410290023001	14%	31%
Block Group: 410290023002	4%	36%
Jackson County	18%	39%

Source: EPA 2019

Minority Populations

CEQ (1997) defines the term "minority" as persons from any of the following groups: Black, Asian or Pacific Islander, American Indian or Alaskan Native, and Hispanic. According to EPA's Environmental Justice Screening tool (EPA 2019), the minority population in the census block groups encompassing the project area is as high as 14 percent, as compared to Jackson County with 18-percent minority population (EPA 2019). These census block groups do not contain minority populations because they does not meet the criteria listed above.

Low-Income Populations

Residents of areas with a high percentage of people living below the federal poverty level may be considered low-income populations. As shown in **Table 4.4**, the low-income population in the census block groups encompassing the project area are 31 and 36 percent as compared to Jackson County with 39 percent (EPA 2019). This census block groups are considered to contain low-income populations because the low-income population is greater than 25 percent. However, the census block groups are large and both of them extend south to the California border. Many of the homes in the project area are valued at or above the median house value for the county, indicating that the census data on low-income populations may not fully represent the project area. This analysis will conservatively assume that a low income population is present.

No Action Alternative

Under the no action alternative, some scattered hazardous fuels reduction and defensible space work may be implemented by at-risk property owners over time; however, the risk of wildfire spread would remain high. In the event of a wildfire, the population within the census tract, including low income populations, may experience adverse health impacts such as those described in **Section 4.17** or damage or loss of property and assets. Because of their low income,

this population could be disproportionately and adversely affected by a wildfire because of their limited resources to recover from losses. Therefore, minor to moderate impacts may occur on low-income populations in the project area vicinity depending on the scale and intensity of a fire.

Proposed Action

The proposed action would implement defensible space and hazardous fuels treatment to reduce the risk of wildfire spread in the project area. Temporary and localized impacts from the proposed action, such as noise, would impact those proximate to the work location, including low-income populations. However, these effects would not disproportionately impact low-income residents, as these short-term effects would affect all residents near project activities. The benefits of reduced risk of wildfire spread would be applicable to the entire population of the project area, including low-income populations. Therefore, no disproportionately high and adverse impacts on low-income populations would result from the proposed action.

4.13. Hazardous Materials

Hazardous materials are those substances defined by the Comprehensive Environmental Response, Compensation, and Liability Act, as amended by the Superfund Amendments and Reauthorization Act, and the Toxic Substances Control Act. The Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act (RCRA), which was further amended by the Hazardous and Solid Waste amendments, defines hazardous wastes. In general, both hazardous materials and waste include substances that, because of their quantity, concentration, physical, chemical, or infectious characteristics, may present substantial danger to public health or to the environment when released or otherwise improperly managed.

Hazardous materials may be encountered in the course of a project or they may be generated by the project activities. To determine whether any hazardous waste facilities exist in the vicinity or upgradient of the proposed treatment area or whether there is a known and documented environmental issue or concern that could affect the proposed treatment area, a search for Superfund sites, toxic release inventory sites, industrial water dischargers, hazardous facilities or sites, and multiactivity sites was conducted using EPA's NEPA Assist website (EPA 2020d). According to the database, no hazardous materials are present within 1 mile of the project area.

No Action Alternative

Under the no action alternative, existing conditions would not substantially change. At-risk property owners may implement some fuels reduction work, which would pose a negligible threat of release of hazardous materials from equipment and potentially localized and negligible site contamination from leaks or spills. The risk of wildfire spread would not be effectively reduced under this alternative. In the event of a major wildfire, fire-retardant materials could be applied to the forest. The proposed project area may be a likely area for application, as it buffers rural residential areas from larger areas of timberland. Fire retardants are generally considered to be nontoxic, but there may be risks to small mammals and other wildlife from concentrated exposures (Modovsky 2007). However, exposures would likely be short term as the application "footprint" of these chemicals is limited in terms of foraging areas and species habitat for any individual animal, and the ingredients generally degrade in the environment (Modovsky 2007). Therefore, the potential for adverse effects is likely to be negligible. Wildfire damage in residential areas also directly releases hazardous materials into the air, soil, and water as plastics

burn and materials that are otherwise safely stored are damaged and released (CalRecycle 2020). Because of the low residential density in this area, the potential for the project area to produce hazardous materials from burning homes, even in the event of a large scale fire, would be expected to be minor.

Proposed Action

No hazardous materials sites are present in the project area so there would be no impact on hazardous sites from project implementation. The proposed actions would include the use of mechanical equipment such as chainsaws, chippers, and vehicles, which would pose the threat of leaks and spills. The short-term duration of the use of equipment at any individual treatment area and the use of equipment in good condition would reduce any potential effect to an insignificant level. All equipment and project activities would adhere to local regulations to reduce the risk of hazardous leaks and spills. Any spills during implementation would be immediately contained and cleaned. Thus, there would be a negligible contamination threat from vehicle and equipment use.

4.14. Noise

Sounds that disrupt normal activities or otherwise diminish the quality of the environment are considered noise. Noise events that occur during the night (10 p.m. to 7 a.m.) are more annoying than those that occur during normal waking hours (7 a.m. to 10 p.m.). Assessment of noise impacts includes the proximity of the proposed action to sensitive receptors. A sensitive receptor is defined as an area of frequent human use that would benefit from a lowered noise level. Typical sensitive receptors include residences, schools, churches, hospitals, nursing homes, and libraries. Sensitive receptors near the project area consists of residences, including those which would receive treatment, as well as nearby residences, schools, churches, hospitals, and libraries. Any noise-generating activities in proximity to residences could have the potential to adversely affect these receptors.

The Anderson Creek community is a rural community in the WUI. Typical noise events in the project area are presently associated with climatic conditions (wind, rain), light traffic noises from nearby roadways, and other intermittent residential conditions such as lawnmowers and leaf blowers.

No Action Alternative

Under the no action alternative, some defensible space or hazardous fuels reduction work may be conducted by at-risk property owners over time. The tools and equipment used for these activities would be similar to those already in use for general landscape maintenance around these rural residences, including chainsaws and small chippers. Therefore, there would be negligible change in existing noise levels that could affect sensitive receptors in the project area.

Proposed Action

Under the proposed action, noise would be generated by the operation of equipment, such as chainsaws. The loudest equipment likely to be used would be chainsaws, which can produce noise levels up to 85 dB when perceived from approximately 50 feet away (Federal Highway Administration 2017).

The implementation of the proposed action would increase noise levels within the immediate vicinity of the work for the duration of the work. Defensible space work would occur within 100 feet from primary residences and hazardous fuels work between 100 and 500 feet of structures. However, increases in noise levels would be minor and of short duration at any one location, and all work would occur during normal waking hours. Vehicle and equipment runtimes would be kept to a minimum. Additionally, only willing participants would receive defensible space treatments on their properties. No long-term noise impacts would occur.

4.15. Transportation

Access into the Anderson Creek Community for residents and emergency responders is limited to a single road along each drainage. The primary roadway providing access to the project area is Anderson Creek Road, which is paved, with secondary access provided by dirt roads extending along creek valleys and up onto ridgelines. The southeastern portion of the project area is accessed by Holton Road, Yank Gulch Road, and other unnamed dirt roadways. These roadways are lined with dense vegetation (**Figure 2-2**) that poses a risk for wildfire spread and hazards for residents and firefighters in the event of a fire.

No Action Alternative

Under the no action alternative, some hazardous fuels and defensible space work may be implemented by at-risk property owners over time; thus, transportation in the project area would not be directly affected. However, the potential for a major wildfire to spread would remain high. Wildfire may encroach upon roadways and wildfire smoke may inhibit the ability to see roadways clearly. In recent years, fires close to I-5 in southern Oregon have required the closure of this major interstate transportation corridor because of reduced visibility from smoke. Furthermore, with limited emergency vehicle and escape route access, the spread of wildfire could inhibit the ability for evacuation or increase the risk for firefighters.

Proposed Action

Under the proposed action, crews would access treatment areas from existing roads and driveways. Work on each treatment area would require a small number of vehicles for a short duration. There may be negligible, localized, short-term impacts on transportation and traffic from vehicle staging on roadsides. Out of the 3-year project duration, work along roadsides would occur over approximately 18 months. The work may require several crews to be working at any given time and would require vehicle staging at several points along roadsides in the road network. No road closures would be expected. No heavy tracked equipment would be used; therefore, no damage to unpaved road surfaces is expected. Pile burning has the potential to obstruct visibility on roadways by generating smoke. However, piles would be small and burned per the ODF permit and OAR 629-043-0040, as described in **Section 3.2.4**. Thus, there would be no effects on transportation from pile burning.

In the long term, the proposed action would reduce the risk of wildfire spread, which would reduce potential impacts of wildfire smoke and damage to transportation infrastructure. In addition, the proposed action would improve safety and access for residents and emergency responders in the event of a fire.

4.16. Utilities

The project area is outside of the service area for public utilities from Talent, Oregon. Power to this rural residential area is provided via overhead power lines by Pacific Power Corp (Oregon.Gov 2020). Most rural residences are expected to get water from on-site wells and wastewater would be treated by on-site septic systems.

No Action Alternative

Although some scattered defensible space or hazardous fuels reduction work may be implemented by at-risk property owners under the no action alternative, the risk of wildfire spread would remain high. Electrical services provided via overhead power lines would continue to be at risk of damage from wildfires. Water wells could be physically damaged by wildfires or experience microbial contamination due to loss of pressure during a fire (Montana Department of Environmental Quality 2012). Ash, sediment, and debris from wildfires may contaminate uncovered wells or storage tanks. Intense heat from wildfires could adversely impact water system components on the surface and underground. If intense heat modifies the chemical properties of water system components, chemicals might leach into the water, causing contamination (FEMA 2019). Most of the functional components of a septic system are several feet belowground and therefore are typically resistant to fire damage. However, it is possible that firefighting activities, such as digging fire breaks, may damage septic systems (Montana Department of Environmental Quality 2012). Thus, impacts on public utilities could be minor to major, depending on the intensity and scale of a wildfire.

Proposed Action

The proposed action would not directly affect utilities. Some of the proposed tree thinning and limbing could provide protection to overhead power lines and reduce the potential for powerlines to spark a fire; although, tree trimming to protect power lines is not the focus of this project. In the long term, the proposed action would reduce the risk of damage to public and private utilities from wildfire spread. Therefore, the proposed action could have minor, long-term beneficial effects on utilities.

4.17. Public Health and Safety

As described in **Section 2**, Jackson County and the Anderson Creek community have a history of wildfire and wildfire smoke can exacerbate respiratory health issues, such as asthma and chronic obstructive pulmonary disease. Wildfire smoke may contribute to respiratory infections and cardiovascular concerns (Reid et al. 2016).

The Anderson Creek community is at high risk because residences are interspersed with large tracts of forest land and wildfires can spread directly into forested vegetation close to homes. The risk of wildfire is exacerbated by the project area's steep and rugged terrain.

Emergency medical services are provided by Mercy Flights, a nonprofit air and ground emergency services organization and fire response is provided by Jackson County Fire District No. 5 (Jackson County Emergency Medical Services 2020a, 2020b). The Jackson County sheriff's office provides patrols, search and rescue, investigations, and corrections services to unincorporated portions of the county, including the Anderson Creek community.

No Action Alternative

Although some defensible space and hazardous fuels reduction work would be implemented by at-risk property owners over time, current conditions would not significantly change, and the risk of wildfire spread would remain high. In the event of a wildfire, there is an increased risk to public health and safety and to services provided to protect public safety, such as firefighters. Wildfires can generate substantial amounts of particulate matter, which can affect the health of people breathing smoke-laden air. This is a particular concern for vulnerable populations, such as the youth and elderly, as described in **Section 4.4**. Wildfires can generate substantial amounts of carbon monoxide, which can pose a health concern for frontline firefighters. In addition, fires that are burning residences can release toxic materials into the air, soils, and water, posing health risks to populations both during the fire and later during cleanup and recovery (CalRecycle 2020).

Heavy rain conditions following wildfires can contribute to sediment and debris in nearby waterways, which can affect downstream water quality and damage structures, roads, and utilities critical to the safety and well-being of citizens. Under the no action alternative, there could be minor to major impacts on public health and safety depending on the scale and intensity of the fire.

Proposed Action

Under the proposed action, the creation of defensible space and reduction of hazardous fuels would help to reduce the spread of wildfire in the project area. This would create a safer environment for firefighters and allow them to more easily control the spread of a wildfire. These activities would not prevent wildfires but could contribute to containment, reducing the intensity and frequency of wildfires, which would ultimately reduce the risks for people living in and near the project area. In addition, when wildfires are controlled more quickly, a smaller area is burned and less sediment and debris may be transported downstream during future precipitation events that could potentially affect water quality. The proposed action could reduce the probability that emergency services would be focused on firefighting and would allow emergency responders to remain available to respond to other emergencies throughout the county. Therefore, the proposed action would have a moderate long-term beneficial effect on public health and safety.

4.18. Summary of Effects and Mitigation

Table 4.5 provides a summary of the potential environmental effects from implementation of the proposed action, any required agency coordination efforts or permits, and any applicable proposed mitigation or best management practices (BMPs).

Table 4.5. Summary of Impacts and Mitigation

Affected Resource Area	Impacts	Agency Coordination or Permits	Mitigation/BMPs
Soils, Farmland Soils, and Topography	Negligible, short-term impact on soils and no short-term effect on farmland soils; minor, long-term benefit on soils, including farmland soils, by reducing the risk of wildfire spread. No effect on topography.	N/A	• Treatment work would be conducted with ground crews using hand tools due to steep conditions in the project area. • Root balls would not be disturbed during project implementation and some shrubs and trees would be retained according to the individualized fuels prescriptions.
Visual Quality and Aesthetics	Negligible to minor short-term effects; minor, long-term beneficial effects by reducing the risk of wildfire spread.	N/A	N/A
Air Quality and Climate	Minor, short-term impacts from vehicle and equipment use, pile burning, and activities contributing to the release of fugitive dust; minor, long-term beneficial effect by reducing the risk of wildfire spread.	N/A	• Hand tools would be used to implement defensible space and hazardous fuels reduction treatments. • Vehicles and equipment running times would be kept to the minimum extent possible. • Pile burning would be conducted under an ODF burn permit and per OAR 629-043-0040 and local restrictions, as described in **Section 3.2.4**.
Surface Waters and Water Quality	Negligible short-term impact; minor long-term beneficial effect by reducing the risk of wildfire spread and associated vegetation loss and sedimentation effects.	N/A	• Some riparian vegetation would be retained according to the treatment specifications (**Section 3.2.1**), to prevent erosion from vegetation removal to affect water quality. • State and County riparian reserve and vegetative buffer measures described in **Section 3.2.2** would be implemented (vegetation within up to 50 feet from the top of stream banks would be retained). • Burning would be conducted per OAR 629-615-0300, which protects wetlands and streams, as described in **Section 3.2.4**.
Wetlands	Negligible short-term impact; minor long-term beneficial effect by reducing the risk of wildfire spread and associated vegetation loss.	N/A	Implement conditions described in Surface Waters and Water Quality, **Section 4.5**.

Affected Resource Area	Impacts	Agency Coordination or Permits	Mitigation/BMPs
Floodplains	No effect; however, there would be minor, long-term beneficial effects on floodplains in surrounding areas from the reduced risk of wildfire spread.	N/A	N/A
Vegetation	Impact on individual trees and shrubs but minor beneficial effect on existing vegetation communities; negligible short-term impact from burning; minor long-term beneficial effects by reducing the risk of wildfire spread and vegetation loss.	N/A	• Burning would be conducted in accordance with the measures described in **Section 3.2.4.** • Burn piles would be positioned to avoid harming any retained trees.
Fish and Wildlife	Minor short-term impact on wildlife and migratory birds from vegetation removal; negligible short-term impact on eagles; no short-term effect on fish species. Minor long-term beneficial effect by reducing the risk of wildfire spread and vegetation loss.	N/A	• Measures to maintain wildlife habitat features during fuels reduction work as described in **Section 3.2.5**, would be implemented to the extent practicable. • Burning would be conducted in accordance with the measures described in **Section 3.2.4.** • Riparian buffers would be implemented around most streams, as described in **Section 3.2.2.**
Threatened and Endangered Species	The project would have no effect on gray wolf and Gentner's fritillary. The project may affect but would not likely adversely affect NSO.	USFWS Informal Consultation	• Measures to protect NSOs would be implemented and are described in detail in **Section 3.2.5.** • Work would not occur between March 1 and July 30 if within the 0.5-mile NSO core zone. • Retain more than 60 percent canopy coverage in existing NRF habitat, and more than 40 percent dispersal habitat. • Ladder fuel reduction would not be uniform, some well-spaced larger tree limbs would be retained. • One to three habitat piles would be created per acre.

Affected Resource Area	Impacts	Agency Coordination or Permits	Mitigation/BMPs
Cultural Resources	No Historic Properties Affected	N/A	In the event that any archeological resources are discovered during project implementation, work would immediately cease, the area would be secured, and Lomakatsi would notify the SHPO and FEMA for further evaluation.
Environmental Justice	No disproportionately high and adverse impacts on low-income populations.	N/A	N/A
Hazardous Materials	Negligible contamination threat from vehicle and equipment use.	N/A	• Equipment would be kept in good condition. • Any spills or leaks from equipment would be contained and cleaned up right away. • All equipment and project activities would adhere to local regulations to reduce the risk of hazardous leaks and spills.
Noise	Minor temporary impacts from increased noise within the project area and the immediate vicinity of the work; no long-term noise impacts.	N/A	• Noise-producing equipment use would occur during less-sensitive, waking hours (7 a.m. to 10 p.m.). • Vehicle and equipment runtimes would be kept to a minimum.
Transportation	Minor short-term impact from vehicle staging on roadsides. Minor long-term beneficial effect by reducing the risk of wildfire spread.	N/A	N/A
Utilities	No short-term impact; minor long-term beneficial effects by reducing the risk of wildfire spread.	N/A	N/A
Public Health and Safety	No short-term impact; moderate long-term beneficial effects by reducing the risk of wildfire spread.	N/A	N/A

SECTION 5. Cumulative Impacts

This section addresses the potential cumulative impacts associated with the implementation of the proposed action. Cumulative impacts can be defined as the impacts of a proposed action when combined with impacts of past, present, or reasonably foreseeable future actions undertaken by any agency or person. CEQ's regulations for implementing NEPA require an assessment of cumulative effects during the decision-making process for federal projects. Cumulative impacts can result from individually minor but collectively significant actions.

Since 1995, Lomakatsi has successfully implemented forest and watershed restoration projects across thousands of acres of state and federal forest lands in Oregon and northern California. Lomakatsi aims to create sustainable economic opportunities by restoring dry forest ecosystems and creating fire adapted communities. Lomakatsi works in cooperation with a broad range of partners including federal and state land management agencies, The Nature Conservancy, land trusts, private landowners, watershed councils, local governments, and tribes. Lomakatsi is currently working with the City of Ashland, The Nature Conservancy, and USFS on the AFAR initiative, a cross-boundary effort to reduce the threat of high-severity fire across 58,000 acres, as described in **Section 2**. The AFAR Initiative has treated 5,500 acres of private and municipal lands and over 7,000 acres of USFS land. The project area is adjacent to lands treated under the AFAR Initiative.

Lomakatsi stresses landowner education as an important part of its wildfire mitigation and forest health work. The proposed action would include an education component to empower landowners to consider the threats to their property, minimize those threats they can control, and help their neighbors address threats on their properties. The proposed action may inspire and encourage other landowners in the Anderson Creek community to conduct wildfire mitigation projects on their properties.

Lomakatsi's work is consistent with ongoing efforts to initiate landscape treatments across the Rogue Basin and achieve forest management objectives. Notably, the Bureau of Land Management (BLM) completed hazardous fuels reduction work, primarily hand cutting with small pile burns ("hand pile burn"), in areas adjacent to the project area in 2013 and 2017, as shown in **Figure 5-1**. The Rogue Basin Cohesive Forest Restoration Strategy provides guidance to these ongoing efforts. The strategy identifies and prioritizes project areas in which to promote resilient landscapes; diverse wildlife habitats, with a particular focus on NSO habitat; fire-adapted human communities; and a predictable flow of economic benefits and other ecosystem services (The Nature Conservancy and Southern Oregon Forest Restoration Collaborative 2017).

The recent Almeda Fire in the project area vicinity has resulted in additional efforts to reduce wildfire hazards. Currently, Lomakatsi and other partners are conducting soil stabilization work in the wake of the fire along Bear Creek to protect soils, water quality, fish habitat, and other environmental values. New hazardous fuels reduction treatment initiatives have also been proposed. The WBARP aims to treat approximately 28,000 acres within the foothills west of Bear Creek, extending from Talent along the WUI to Medford and Jacksonville. Another initiative would engage a proposed public/private partnership with BLM to conduct hazardous fuels reduction treatments on private properties within the Anderson Creek project area that are

near BLM-owned land (parcel 20130201 on **Figure 5-1**). Because the proposed action would not treat all of the properties within the project area, this partnership would be complimentary to the proposed action and would result in more properties being treated within the project area over time.

The Oregon Forestland-Urban Interface Fire Protection Act of 1997 encourages and initiates aid to help homeowners in areas of wildfire risk to complete fuels reduction on their properties. Once a fuels reduction project is complete, homeowners return a certification form to ODF. There is no fine for not complying with the Act; however, homeowners could risk being fined if a wildfire passes through their property and fuels reduction measures have not been implemented.

There is the potential for these various wildfire mitigation efforts to combine potential effects with the proposed action with respect to effects on soils, visual quality and aesthetics, air quality, surface waters and water quality, vegetation, fish and wildlife, hazardous materials, noise, and transportation. However, it is unlikely that there would be significant cumulative impacts because, in most cases, there would be temporal and spatial separation between activities. However, these activities would result in long-term cumulative beneficial effects and would complement the proposed action by reducing the severity and risk of wildfire spread in the project area and vicinity.

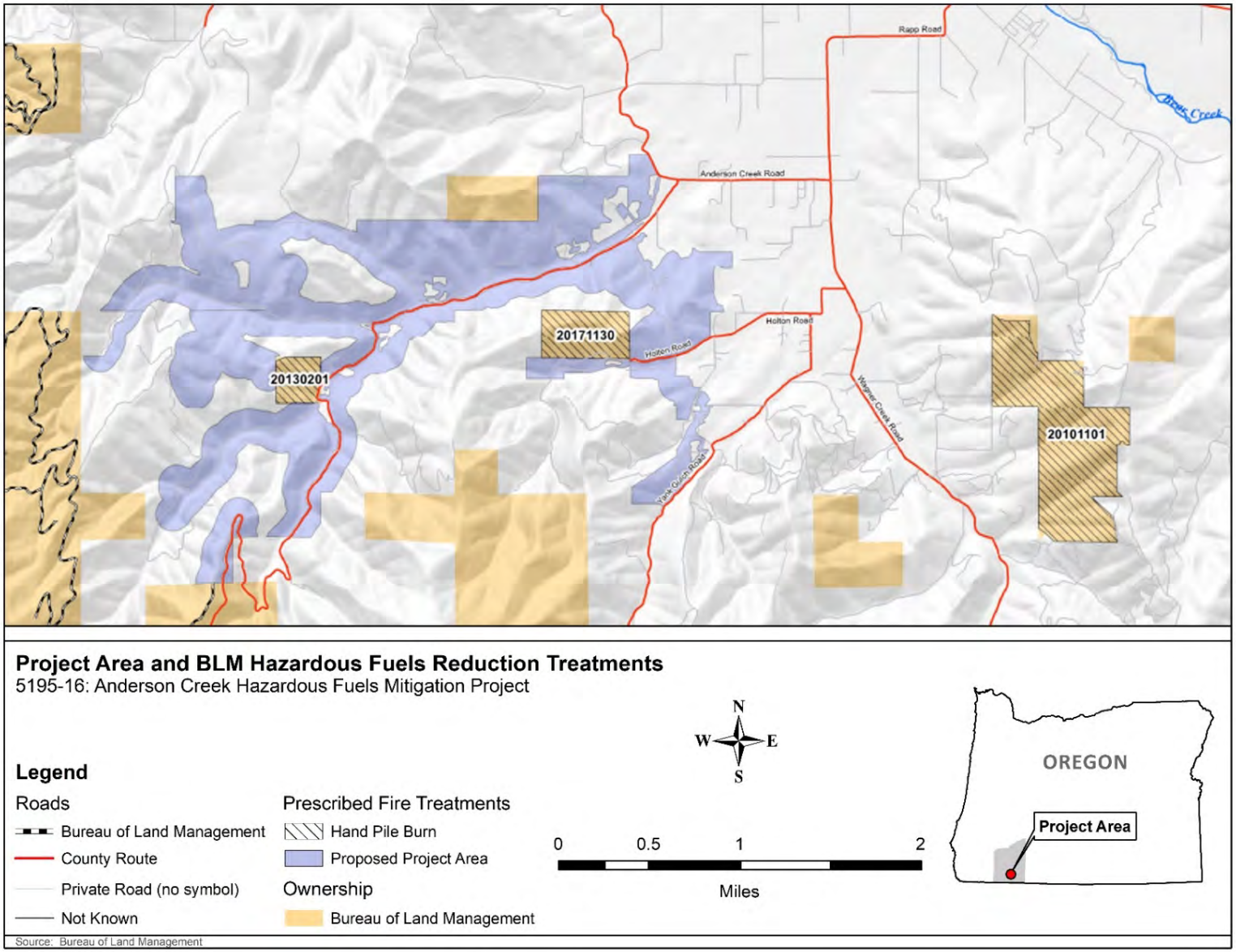

Figure 5-1. BLM Hazardous Fuels Treatment near the Project Area

SECTION 6. Agency Coordination, Public Involvement, and Permits

This section provides a summary of the agency coordination efforts and public involvement process for the proposed Jackson County, Anderson Creek Hazardous Fuels Mitigation project. In addition, an overview of the permits that would be required under the proposed action is included.

6.1. Agency Coordination

Consultation with the Confederated Tribes of the Siletz Indians and Tolowa Dee-ni' Nation was initiated on August 5, 2020 per the NHPA. Neither Tribe has responded to date. Similarly, consultation was initiated with the SHPO on August 5, 2020, which responded on October 13, 2020 with a determination that the proposed action would have extremely minimal impact. Appendix A provides a copy of all agency and tribal correspondence.

Informal consultation with USFWS was completed on September 18, 2020; USFWS concurred with the "may affect but not likely to adversely affect" determination for NSO. The biological assessment of effects is available upon request. Appendix A provides a copy of all agency and tribal correspondence

6.2. Public Participation

In accordance with NEPA, this draft EA will be released to the public and resource agencies for a 30-day public review and comment period. Comments on this draft EA will be incorporated into the final EA, as appropriate. This draft EA reflects the evaluation and assessment of the federal government, the decision-maker for the federal action; however, FEMA will take into consideration any substantive comments received during the public review period to inform the final decision regarding grant approval and project implementation. If no substantive comments are received from the public or agency reviewers, this draft EA will be assumed to be final and a FONSI will be issued by FEMA.

A public scoping notice and fact sheet about the proposed project was published at lomakatsi.org/FEMA-AndersonCk/ and in the *Mail Tribune* newspaper on August 6, 2020, to notify and provide the public with an opportunity to comment on the proposed action, potential alternatives, and preliminary identification of environmental issues. The scoping notice was sent to the following state agencies for comment: Oregon Department of Environmental Quality, ODFW, Oregon Department of Forestry, Oregon Department of Land Conservation and Development, Oregon Department of State Lands, OEM, Oregon Parks and Recreation Department, and Oregon Watershed Enhancement Board. The notice was distributed to the following federal agencies: U.S. Department of the Interior, BLM, National Marine Fisheries Service, USDA, EPA, and USFWS. The notice was sent to the following Tribes: the Confederated Tribes of the Siletz Indians, Tolowa Dee-ni' Nation, the Confederated Tribes of Grand Ronde, Confederated Tribes of Warm Springs, Coquille Indian Tribe, Cow Creek Band of Umpqua Tribe of Indians, and the Klamath Tribes. The notice was also distributed by Lomakatsi to City of Talent, City of Phoenix, Jackson County Commissioner's, and Jackson County Fire

District Five. The public comment period on the public notice closed on September 6, 2020. One comment from BLM was received with information about projects that may have cumulative effects with the proposed action.

The Lomakatsi Restoration Project will make the draft EA available on its website at lomakatsi.org/FEMA-AndersonCk/. The draft EA also will be available on FEMA's website. Hard copies of the draft EA will be made available at Lomakatsi's main office at 645 Washington Ave, Ashland, Oregon. The comment period for the draft EA will start when the public notice of EA availability is published and will extend for 30 days. Comments on the draft EA may be submitted to FEMA-R10-EHP-Comments@fema.dhs.gov (include "Anderson Creek" in the subject line). Comments also may be submitted via mail to:

Science Kilner
Regional Environmental Officer
FEMA Region 10
130 228th Street SW,
Bothell, WA 98021

6.3. Permits

The Lomakatsi Restoration Project will be responsible for obtaining any necessary local, state, or federal permits needed to conduct the proposed work. It is anticipated that a burn permit from ODF will be required to implement the project.

SECTION 7. List of Preparers

The following is a list of preparers who contributed to the development of the Anderson Creek Hazardous Fuels Mitigation draft EA for FEMA. The individuals listed below had principal roles in the preparation of this document. Many others, including senior managers, administrative support personnel, and technical staff, contributed, and their efforts were no less important to the development of this EA.

CDM Smith

Preparers	Experience and Expertise	Role in Preparation
Argiroff, Emma	Environmental Planner	NEPA Documentation
Fogler, Wilson	Biologist	NEPA Documentation
Shepard, Brian	GIS Specialist	GIS
Stenberg, Kate	PhD, Senior Biologist, Senior Planner	Project Manager, Technical Review
Weddle, Annamarie	Environmental Planner	NEPA Documentation

Federal Emergency Management Agency

Reviewers	Role in Preparation
Fisher, Philip	NHPA/consultations
Kilner, Science	Technical Review and Approval
Parr, Jeffrey	ESA/BA

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Appendix A Agency and Tribal Coordination

U.S. Department of Homeland Security
FEMA, Region X
130 228th Street, SW
Bothell, WA 98021-8627

FEMA

August 5, 2020

Ms. Christine Curran
Deputy State Historic Preservation Officer
Oregon State Historic Preservation Office
725 Summer Street, NE Suite C
Salem, Oregon 97301

Re: FEMA HMGP 5195-16, Lomakatsi-Anderson Creek Fuels Reduction

Dear Ms. Curran:

The Lomakatsi Restoration Project (Applicant) has applied for funding from the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) for a wildfire fuels reduction project (Undertaking). This funding is available from FEMA's Hazard Mitigation Grant Program (HMGP), administered by the Oregon Office of Emergency Management (OEM), from 2018 wildfires in Oregon. The proposed Undertaking is being reviewed pursuant to Section 106 of the National Historic Preservation Act, as amended and the Programmatic Agreement (PA) in effect with your office and OEM. FEMA is also preparing an Environmental Assessment for this project per the National Environmental Policy Act.

Proposed Undertaking
The proposed Undertaking will create defensible space and reduce hazardous fuels around approximately 130 structures as well as along driveways and roads to treat approximately 450 acres in the Anderson Creek community southwest of Talent, in Jackson County (Figure 1). Work entails creating defensible space by managing vegetation within 100 feet of homes by removing flammable materials and vegetation, replacing flammable vegetation with fire-resistant vegetation, and removing ladder fuels, such as shrubs, small trees, brush, or low limbs, that may provide a route for a fire to climb up from ground fuels to the forest canopy. Hazardous fuels reduction includes thinning, removing ladder fuels, reducing flammable vegetation, and replacing flammable vegetation with fire-resistant vegetation. Thinning would be concentrated to remove horizontal and vertical continuity of fuels and promote healthy and resilient forest conditions.

The fuels reduction Undertaking will involve Two Defensible Zones. Although activities in Zone 1 fall under Allowance Tier II: F.3 in the PA this consultation is for the entire Undertaking.

Defensible Space Zone 1 (Up to 100 feet from structures) and **Hazardous Fuel Reduction along Roadsides**:
Within these areas, the proposed action would:

- Reduce the density and continuity of the tree and shrub canopy by thinning around individuals or clumps to create space between crowns to achieve 10 feet of spacing between individual tree crowns or clumps of trees.
- Reduce potential ladder fuels that could carry fire into the crowns.
- Prune trees up to 10 feet from the ground, leaving at least 60 percent of the crown.
- Remove dead material, including snags, limbs, and surface fuels.
- Remove trees 10 inches in diameter at breast height (DBH) or less (most trees that would be removed are 6 inches or less).
- Remove trees or limbs that extend over roads or are likely to fall on roads.
- Reduce shrub cover; separating shrubs by a distance of two to three times the shrub height.
- Remove shrubs that are immediately under trees.
- Spacing between trees and shrubs that are left would be adjusted according to the flammability of the tree or shrub species.
- Zone 1 will be extended up to 200 feet around structures on forested land with a greater than 40 percent slope and shrub or woodlands with a greater than 20 percent slope.

Hazardous Fuels Reduction Zone 2 (more than 100 feet from structures and roads):
Thinning within this zone would be determined by the need for treatment and would extend up to 500 feet from homes and roads.

- Work in Zone 2 would be prioritized to treat areas with:
    - High residential density
    - Strategic ridgelines for fire suppression
    - Steep slopes (but less than 80 percent)
    - Heavy shrub fuels
    - Particularly dense forest conditions
- Treatment specifications would be the same as Zone 1, but with less intensity. This would be considered a transition zone between the heavily thinned Zone 1 and un-thinned forest.

Work will be completed by ground crews using chainsaws, pruning saws, and other hand tools due to the steep conditions in the project area. Vegetation root balls would not be disturbed in the process of thinning and clearing. Within 20 feet of roads and driveways, most cut material would be chipped using chippers parked on roads, driveways, or existing skid trails. In areas along roadways and driveways where a chipper can be made accessible, cut material would be chipped into a truck and transported away. No mechanical equipment will be operated off-road and no tracked equipment will be used for this project. In areas inaccessible to a chipper, cut material would be hand-piled and burned. Piles will be approximately 6 feet by 6 feet by 4 feet with an average diameter of five feet.

Area of Potential Effects
FEMA has determined that there is one large, irregular shaped, Area of Potential Effects (APE) for the proposed Undertaking as delineated on Figure 2. The APE totals approximately 1,700 acres as the 450 acres proposed for fuels reduction could take place within this area. The APE is located in T38S R1W Sections 31, 32, 33, and 34 and T39S R1W Sections 3, 4, 5, 6, 7, and 8, as illustrated in Figure 2.

Historic Property Identification and Evaluation
A review of the Oregon Archaeological Records Remote Access (OARRA) found that there are no prehistoric or historic resources within the APE. According to OARRA, no archaeological surveys have been conducted within the APE either. Due to the low impact nature of the Undertaking around existing structures, driveways, and roads no additional identification or evaluation efforts are planned. We have also initiated consultation with the Confederated Tribes of the Siletz Indians and the Tolowa Dee-ni' Nation.

Determination of Effects
Barring additional information from the Tribes or your office, based on the low impact nature of the activities, FEMA has determined that the Undertaking will result in No Historic Properties Affected. Furthermore, the project will be conditioned to protect any unanticipated discoveries during fuels reduction work. We respectfully request your concurrence with these findings, or additional comments. To assist your review please find enclosed project maps. Should you have any questions, please contact me or Philip Fisher (425) 471-9018 or philip.fisher@fema.dhs.gov. Thank you.

Sincerely,

SCIENCE A KILNER Digitally signed by SCIENCE A KILNER Date: 2020.08.06 12:09:28 -07'00'

Science Kilner
Acting Regional Environmental Officer

Enclosures

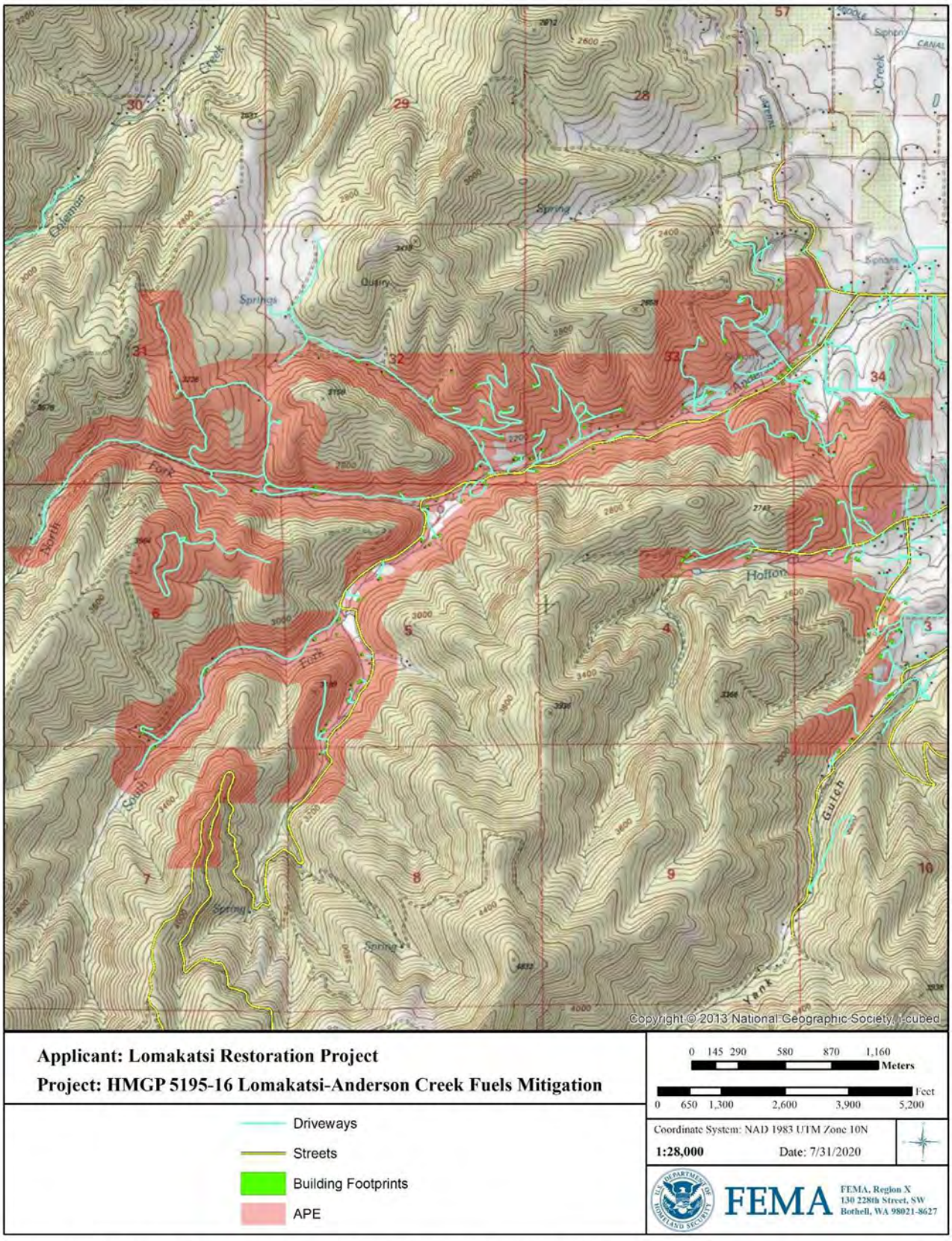

Figure 1. The Lomakatsi-Anderson Creek Fuels Reduction APE, roads, driveways, and structures shown on the Talent, OR 1:24,000 USGS topographic map.

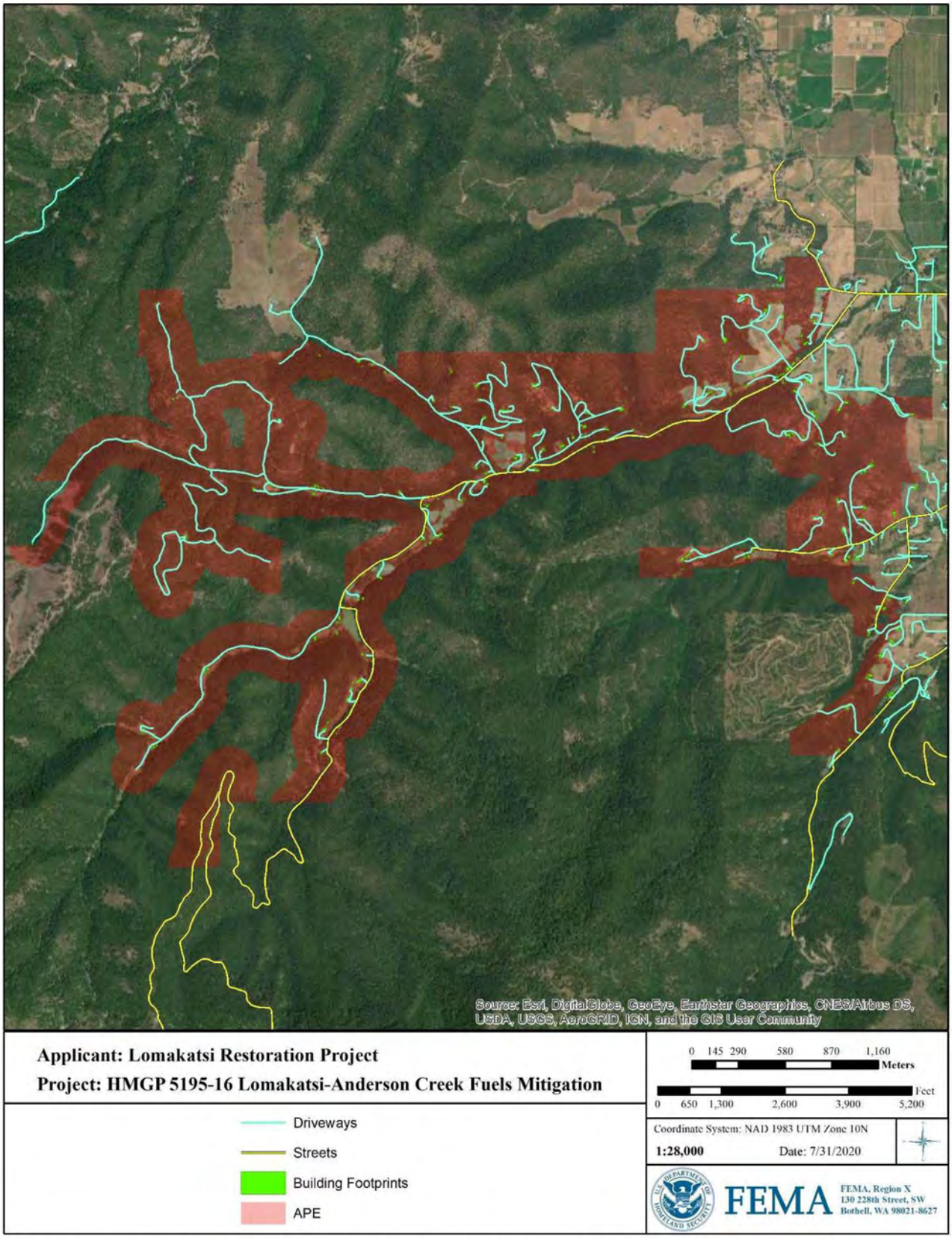

Figure 2. The Lomakatsi-Anderson Creek Fuels Reduction APE, roads, driveways, and structures shown on a recent aerial image.

U.S. Department of Homeland Security
FEMA, Region X
130 228th Street, SW
Bothell, WA 98021-8627

FEMA

August 5, 2020

Delores Pigsley, Chairman
Confederated Tribes of the Siletz Indians
PO Box 549
Siletz, Oregon 97801
Via email

Re: FEMA HMGP 5195-16, Lomakatsi-Anderson Creek Fuels Reduction

Dear Chairwoman Pigsley:

The Lomakatsi Restoration Project (Applicant) has applied for funding from the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) for a wildfire fuels reduction project (Undertaking). This funding is available from FEMA's Hazard Mitigation Grant Program (HMGP), administered by the Oregon Office of Emergency Management (OEM), from 2018 wildfires in Oregon. The proposed Undertaking is being reviewed pursuant to Section 106 of the National Historic Preservation Act, as amended. FEMA is also preparing an Environmental Assessment for this project per the National Environmental Policy Act.

Proposed Undertaking
The proposed Undertaking will create defensible space and reduce hazardous fuels around approximately 130 structures as well as along driveways and roads to treat approximately 450 acres in the Anderson Creek community southwest of Talent, in Jackson County (Figure 1). Work entails creating defensible space by managing vegetation within 100 feet of homes by removing flammable materials and vegetation, replacing flammable vegetation with fire-resistant vegetation, and removing ladder fuels, such as shrubs, small trees, brush, or low limbs, that may provide a route for a fire to climb up from ground fuels to the forest canopy. Hazardous fuels reduction includes thinning, removing ladder fuels, reducing flammable vegetation, and replacing flammable vegetation with fire-resistant vegetation. Thinning would be concentrated to remove horizontal and vertical continuity of fuels and promote healthy and resilient forest conditions.

The fuels reduction Undertaking will involve Two Defensible Zones

Defensible Space Zone 1 (Up to 100 feet from structures) and **Hazardous Fuel Reduction along Roadsides**:
Within these areas, the proposed action would:

- Reduce the density and continuity of the tree and shrub canopy by thinning around individuals or clumps to create space between crowns to achieve 10 feet of spacing between individual tree crowns or clumps of trees.

- Reduce potential ladder fuels that could carry fire into the crowns.
- Prune trees up to 10 feet from the ground, leaving at least 60 percent of the crown.
- Remove dead material, including snags, limbs, and surface fuels.
- Remove trees 10 inches in diameter at breast height (DBH) or less (most trees that would be removed are 6 inches or less).
- Remove trees or limbs that extend over roads or are likely to fall on roads.
- Reduce shrub cover; separating shrubs by a distance of two to three times the shrub height.
- Remove shrubs that are immediately under trees.
- Spacing between trees and shrubs that are left would be adjusted according to the flammability of the tree or shrub species.
- Zone 1 will be extended up to 200 feet around structures on forested land with a greater than 40 percent slope and shrub or woodlands with a greater than 20 percent slope.

Hazardous Fuels Reduction Zone 2 (more than 100 feet from structures and roads):
Thinning within this zone would be determined by the need for treatment and would extend up to 500 feet from homes and roads.

- Work in Zone 2 would be prioritized to treat areas with:
  - High residential density
  - Strategic ridgelines for fire suppression
  - Steep slopes (but less than 80 percent)
  - Heavy shrub fuels
  - Particularly dense forest conditions
- Treatment specifications would be the same as Zone 1, but with less intensity. This would be considered a transition zone between the heavily thinned Zone 1 and un-thinned forest.

Work will be completed by ground crews using chainsaws, pruning saws, and other hand tools due to the steep conditions in the project area. Vegetation root balls would not be disturbed in the process of thinning and clearing. Within 20 feet of roads and driveways, most cut material would be chipped using chippers parked on roads, driveways, or existing skid trails. In areas along roadways and driveways where a chipper can be made accessible, cut material would be chipped into a truck and transported away. No mechanical equipment will be operated off-road and no tracked equipment will be used for this project. In areas inaccessible to a chipper, cut material would be hand-piled and burned. Piles will be approximately 6 feet by 6 feet by 4 feet with an average diameter of five feet.

Area of Potential Effects
FEMA has determined that there is one large, irregular shaped, Area of Potential Effects (APE) for the proposed Undertaking as delineated on Figure 2. The APE totals approximately 1,700 acres as the 450 acres proposed for fuels reduction could take place within that entire area. The APE is located in T38S R1W Sections 31, 32, 33, and 34 and T39S R1W Sections 3, 4, 5, 6, 7, and 8, as illustrated in Figure 2.

Historic Property Identification and Evaluation
A review of the Oregon Archaeological Records Remote Access (OARRA) found that there are no prehistoric or historic resources within the APE. According to OARRA, no archaeological surveys have been conducted within the APE either. Due to the low impact nature of the Undertaking around existing structures, driveways, and roads no additional identification or evaluation efforts are planned. We have also initiated consultation with the Oregon State Historic Preservation Office.

Determination of Effects
Barring additional information from the Tribe, based on the low impact nature of the activities, FEMA has determined that the Undertaking will result in No Historic Properties Affected. Furthermore, the project will be conditioned to protect any unanticipated discoveries during fuels reduction work. We respectfully request your concurrence with these findings, or additional comments. To assist your review please find enclosed project maps. Should you have any questions, please contact me or Philip Fisher (425) 471-9018 or philip.fisher@fema.dhs.gov. Thank you.

Sincerely,

SCIENCE A KILNER Digitally signed by SCIENCE A KILNER Date: 2020.08.06 12:02:29 -07'00'

Science Kilner
Acting Regional Environmental Officer

Enclosures

cc Robert Kentta, Cultural Resource Director (via email)
Peter Hatch, Cultural Resources (via email
Alfred Lane III, Vice Chairman (via email)
Bev Youngman, Programs II Manager (via email)

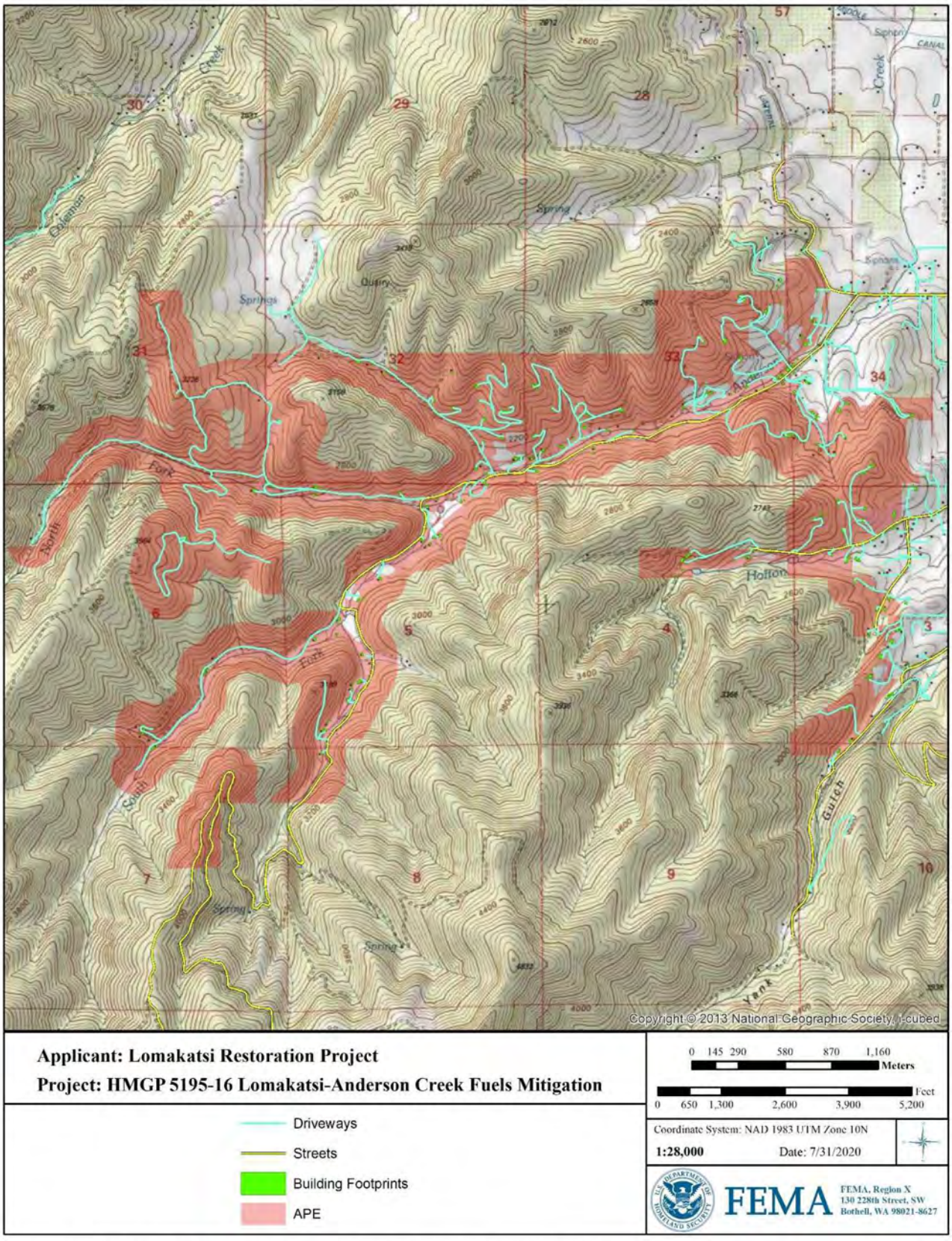

Figure 1. The Lomakatsi-Anderson Creek Fuels Reduction APE, roads, driveways, and structures shown on the Talent, OR 1:24,000 USGS topographic map.

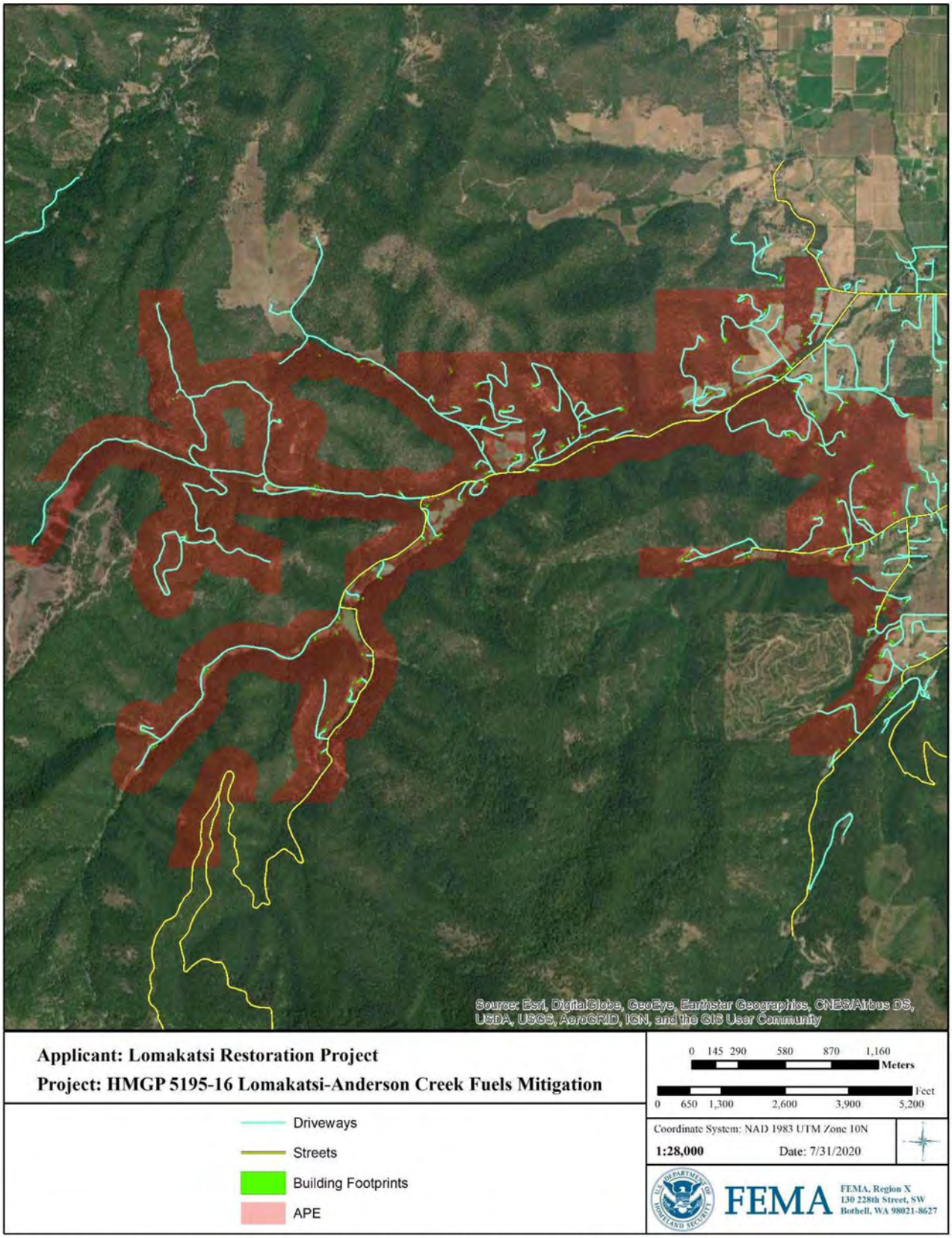

Figure 2. The Lomakatsi-Anderson Creek Fuels Reduction APE, roads, driveways, and structures shown on a recent aerial image.

U.S. Department of Homeland Security
FEMA, Region X
130 228th Street, SW
Bothell, WA 98021-8627

FEMA

August 5, 2020

Leann Babcock-McCallum, Tribal Chair
Tolowa Dee-ni' Nation
140 Rowdy Creek Road
Smith River, California 95567
Via email to Briannon.Fraley@tolowa.com

Re: FEMA HMGP 5195-16, Lomakatsi-Anderson Creek Fuels Reduction

Dear Chair Babcock-McCallum:

The Lomakatsi Restoration Project (Applicant) has applied for funding from the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) for a wildfire fuels reduction project (Undertaking). This funding is available from FEMA's Hazard Mitigation Grant Program (HMGP), administered by the Oregon Office of Emergency Management (OEM), from 2018 wildfires in Oregon. The proposed Undertaking is being reviewed pursuant to Section 106 of the National Historic Preservation Act, as amended. FEMA is also preparing an Environmental Assessment for this project per the National Environmental Policy Act.

Proposed Undertaking
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- Remove shrubs that are immediately under trees.
- Spacing between trees and shrubs that are left would be adjusted according to the flammability of the tree or shrub species.
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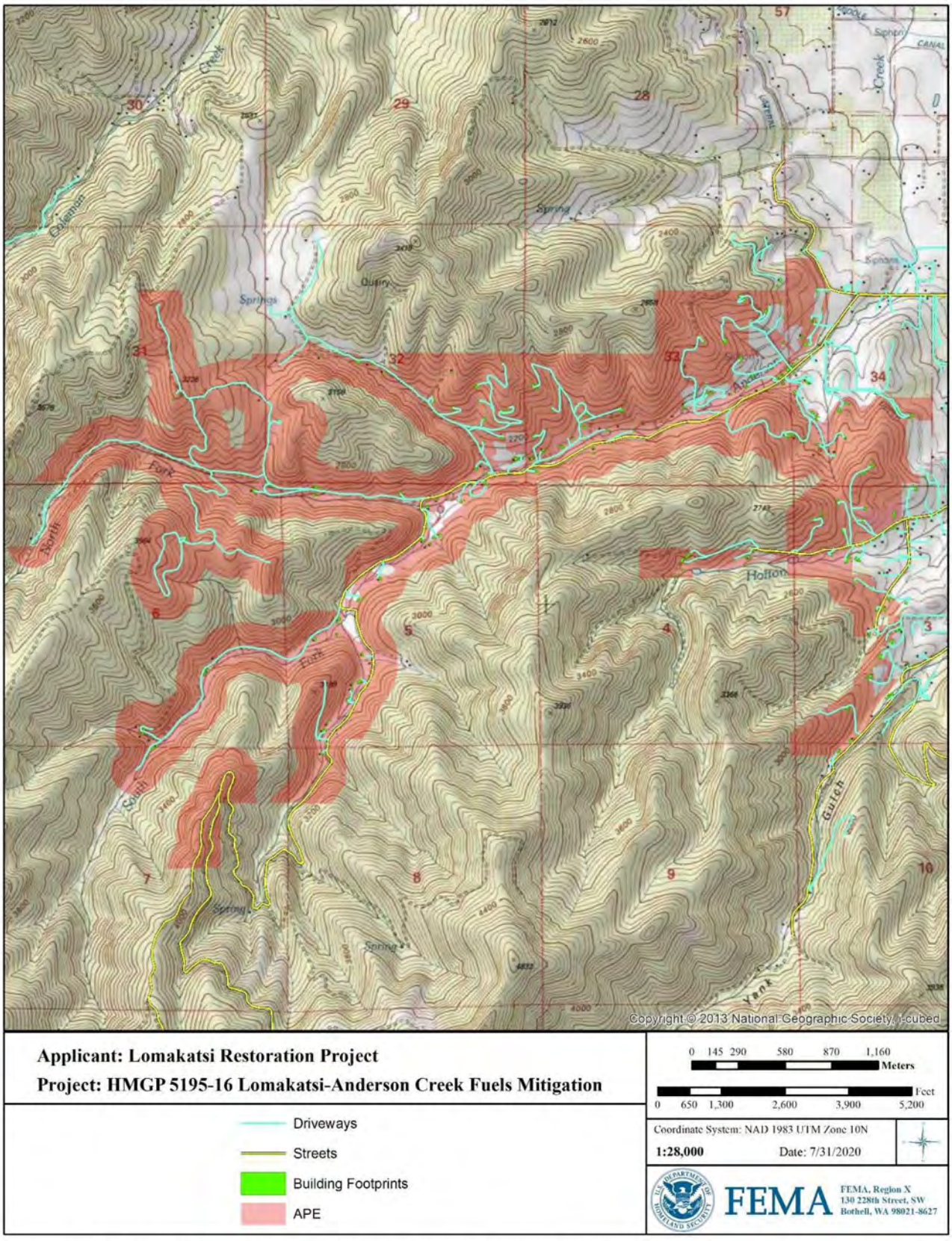
Sincerely,

SCIENCE A KILNER
Digitally signed by SCIENCE A KILNER
Date: 2020.08.06 12:06:24 -07'00'

Science Kilner
Acting Regional Environmental Officer

Enclosures

cc Amanda O'Connell, Tribal Historic Preservation Officer (via email)



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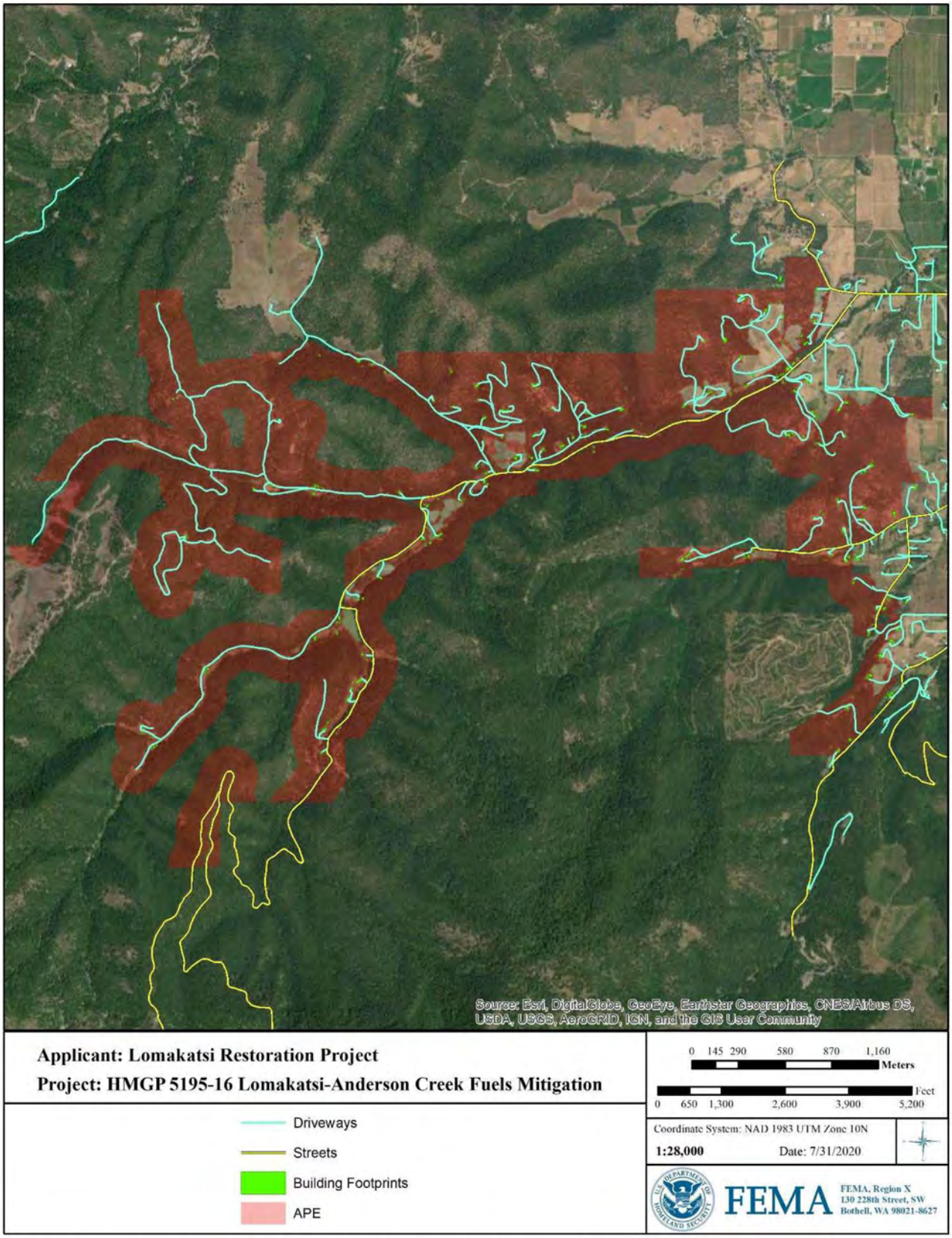

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U.S. Department of Homeland Security
FEMA, Region X
130 228th Street, SW
Bothell, WA 98021-8627

FEMA

October 30, 2020

Cheryle Kennedy, Chairwoman
Confederated Tribes of the Grand Ronde
9615 Grand Ronde Rd
Grand Ronde, Oregon 97347
Via email

Re: FEMA HMGP 5195-16, Lomakatsi-Anderson Creek Fuels Reduction

Dear Chairwoman Kennedy:

The Lomakatsi Restoration Project (Applicant) has applied for funding from the U.S. Department of Homeland Security's Federal Emergency Management Agency (FEMA) for a wildfire fuels reduction project (Undertaking). This funding is available from FEMA's Hazard Mitigation Grant Program (HMGP), administered by the Oregon Office of Emergency Management (OEM), from 2018 wildfires in Oregon. The proposed Undertaking is being reviewed pursuant to Section 106 of the National Historic Preservation Act, as amended. FEMA is also preparing an Environmental Assessment for this project per the National Environmental Policy Act.

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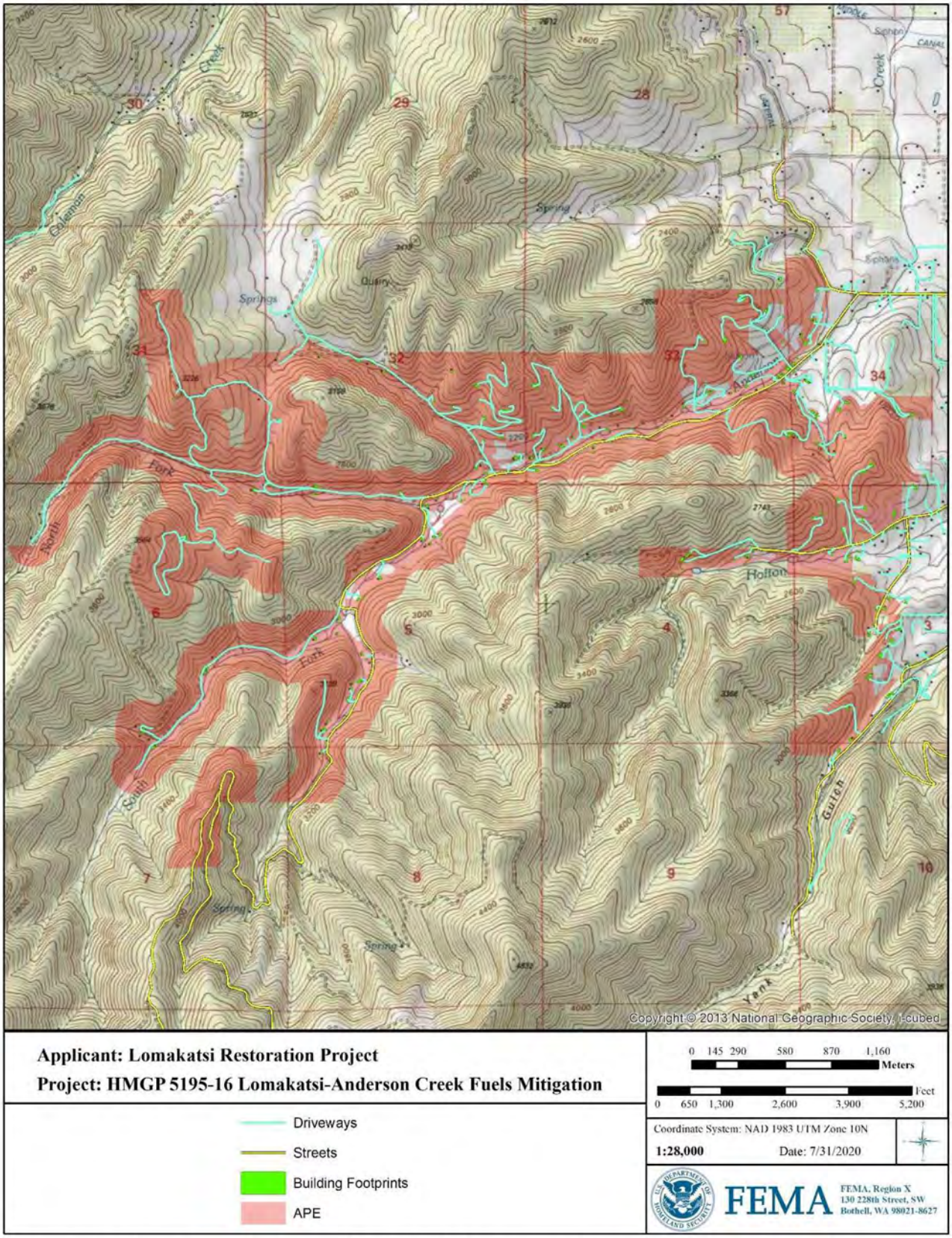
Sincerely,

SCIENCE A KILNER Digitally signed by SCIENCE A KILNER Date: 2020.10.30 08:54:10 -07'00'

Science Kilner
Regional Environmental Officer

Enclosures

cc Jordan Mercier, Tribal Historic Preservation Officer (via email)
Cheryl K. Pouley, Cultural Protection Coordinator (via email)



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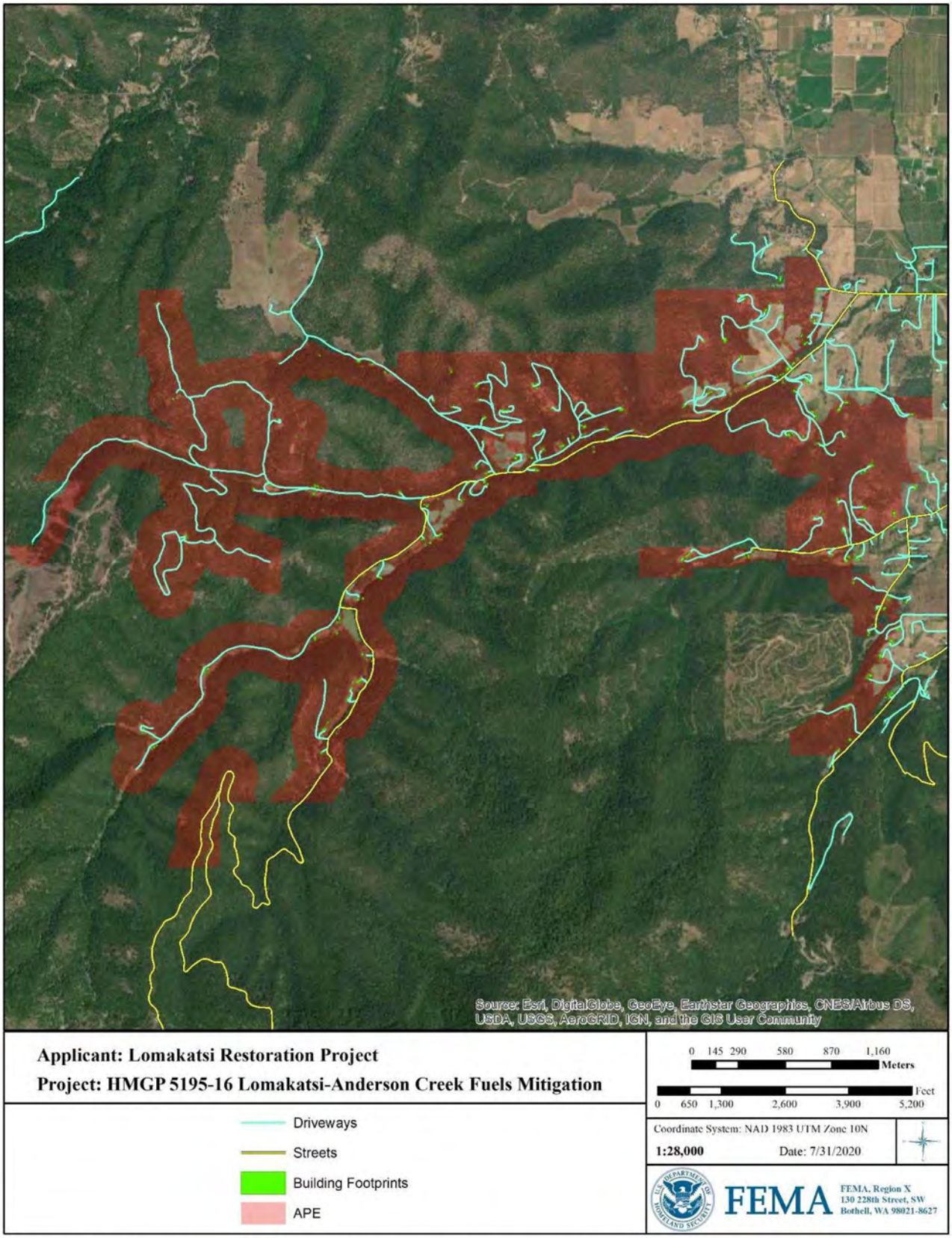

Figure 2. The Lomakatsi-Anderson Creek Fuels Reduction APE, roads, driveways, and structures shown on a recent aerial image.

From: GROVER MaryBeth * OPRD
To: Fisher, Philip
Subject: RE: FEMA HMGP 5195-16 Lomakatsi-Anderson Creek Fuels Reduction Consultation (SHPO 20-1110)
Date: Tuesday, October 13, 2020 4:11:53 PM
Attachments: image001.png

Philip,
Thank you for your follow up. Following are the notes in our database from John Pouley, Assistant State Archaeologist for the Oregon SHPO. In addition is a response regarding "if you don't hear from us in 30 days"

1. Notes in our database by John Pouley…" The 30-day review began before the transition memo was finalized. In any event, there is no need to respond. The undertaking is extremely minimal impact and there are no known archaeological sites."

Mary Beth Grover | Preservation Specialist

Oregon Parks and Recreation Department, Heritage Division
State Historic Preservation Office
725 Summer St NE, Suite C, Salem OR 97301-1266
503-689-6619

PLEASE MAKE NOTE OF THE CHANGE IN MY TELEPHONE NUMBER. The Oregon Parks and Rec Dept is moving employees to cell phones exclusively and my desk number will be disconnected.

Visit our website, Like us on Facebook, Visit our Blog,

From: Fisher, Philip <philip.fisher@fema.dhs.gov>
Sent: Tuesday, October 13, 2020 3:14 PM
To: GROVER MaryBeth * OPRD <MaryBeth.Grover@oregon.gov>
Subject: RE: FEMA HMGP 5195-16 Lomakatsi-Anderson Creek Fuels Reduction Consultation (SHPO 20-1110)

Good Afternoon Mary Beth,

I hope all is well with you. I was wondering if there is any information regarding the status of the FEMA HMGP 5195-16 Lomakatsi-Anderson Creek Fuels Reduction project (SHPO 20-1110)? I received an email response on 8/27 that the submittal was received on 8/6 but that there was an error during processing that required fixing and I just wanted to check in. Thank you for all of your help and have a great afternoon.

Best,
Phil

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Roseburg Field Office
777 N.W. Garden Valley Boulevard
Roseburg, OR 97471
Phone: (541) 957-3474 FAX: (541) 440-4948

Reply To: 01EOFW00-20208-I-0585
File Name: AndersonCreek_FEMA_Lomakatsi_FuelsReductionProject Informal.docx
TS Number: 20-621
TAILS: 01EOFW00-20208-I-0585
Doc Type:WORD

September 18, 2020

Science A. Kilner, Acting Regional Environmental Officer
Federal Emergency Management Agency
Region X
Department of Homeland Security
130-228th Street SW
Bothell, WA 98021

Subject: Informal Consultation on the Anderson Creek Hazardous Fuels Treatment Project (# 01EOFW00-2020-I-0585).

Dear Ms. Kilner:

This document transmits the U.S. Fish and Wildlife Service's (Service) Letter of Concurrence (Letter) addressing the Anderson Creek Hazardous Fuels Treatment Project (Project or proposed action), as proposed by the Federal Emergency Management Agency (FEMA). At issue are the effects of the proposed action on the threatened northern spotted owl (*Strix occidentalis caurina*) (spotted owl). This Letter was prepared in accordance with the requirements of section 7 of the Endangered Species Act (ESA) of 1973, as amended (16U.S.C. 1531 et seq.).

The Letter is based on information provided in the FEMA's Biological Assessment dated September 4, 2020. A complete decision record for this consultation is on file at the Service's Roseburg Field Office.

The action area for the FEMA's Project is located within a fire-prone portion of Southwest Oregon which has experienced multiple wildfire events during the past couple of decades, including this year. The private and industrial properties within the Wildland Urban Interface (WUI) the Project is located is considered at risk to the effects of potential wildfire events. The FEMA proposal would contribute to wildfire risk reduction within the WUI by reducing fuel load levels on up to 450 treated acres.

The Assessment describes a proposal whereby most trees less than or equal to 10 inches diameter at breast height (dbh) and brush will be removed, the slash piled and cured and burned during the wet season; retention of 40 and 60 percent canopy cover when treating in spotted owl dispersal-only and nesting, roosting, foraging habitat, respectively, is identified as a treatment criteria.

The Assessment indicates all proposed treatments will occur within the Anderson Creek community on parcels owned by various entities, totaling 450 acres primarily characterized by young second-growth conifer-dominated forests. Gentner's Fritillary *(Fritillaria gentneri)* is not known to occur within the action area for the proposed action and FEMA has determined no effect to *Fritillaria gentneri.* Spotted owl home ranges overlap the action area, but no nesting is known to occur in the proposed treatment areas, some of which do currently support spotted owl nesting habitat. Whereas designated spotted owl critical habitat does occur within the action area, it does not occur within the actual proposed treatment areas.

Because the direct effects of the proposed vegetation management activities will not remove existing habitat for northern spotted owls, nor will the future development of their habitats be precluded by the proposed action, we concur with your determination that the project will not likely adversely affect listed species due to direct habitat modification.

Various avoidance and minimization measures are described in your request, a portion of which would directly reduce impacts to spotted owls, e.g. seasonal restrictions on burning and equipment use near potential nest sites between March 1 and July 30.

Due to these timing restrictions and the provisions to not remove spotted owl habitat, the Service concurs your proposed action will not likely adversely affect the threatened spotted owl.

This concludes informal consultation on the proposed Anderson Creek Hazardous Fuels Treatment Project. If you have any questions, please contact Scott Center at our Office (541-957-3474)

Sincerely,

JAMES THRAILKILL

Digitally signed by JAMES THRAILKILL
Date: 2020 .09. 18 09:12:32 -07'00'

Jim Thrailkill
Field Supervisor

cc: Office Files, FWS-RFO, Roseburg, Oregon (e)
Jan Johnson, USFWS, Roseburg, Oregon (e)
Michael Asch, USFWS, Roseburg, Oregon (e)