



Final Environmental Assessment

Mill Creek Defensible Space Project

Walla Walla County, Washington

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500 C Street, SW
Washington, DC 20472

This document was prepared for:

FEMA Region X
130 - 228th Street, SW
Bothell, WA 98021

by:

URS Group, Inc.
1501 4th Avenue, Suite 1400
Seattle, WA 98101

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APE	Area of Potential Effects
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CIG	Climate Impacts Group
dbh	Diameter at Breast Height
EA	Environmental Assessment
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FONSI	Finding of No Significant Impact
FPPA	Farmland Protection Policy Act
GLO	General Land Office
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NRHP	National Register of Historic Places
OHWM	ordinary high water mark
PDM-C	Pre-Disaster Mitigation–Competitive
SHPO	State Historic Preservation Office
SMP	Shoreline Master Program
USFWS	U.S. Fish and Wildlife Service
WDFW	Washington Department of Fish and Wildlife
WISAARD	Washington Information System for Architectural and Archaeological Records Data
WNHP	Washington Natural Heritage Program
WSDOE	Washington State Department of Ecology

Area of Potential Effects (APE): the geographic area or areas within which an undertaking may cause changes in the character or use of historic properties, if such properties exist. The APE is influenced by the scale and nature of the undertaking.

Best Management Practices: environmental protective measures for conducting projects in an environmentally responsible manner.

Crown fire: fire that involves the tops of the canopy trees in the forest; can spread rapidly.

Defensible space: clearings between wildland vegetation and structures.

Endemic: a species which is found exclusively in a particular area and not naturally found anywhere else.

Fuels reduction: removal of excess flammable vegetation through thinning, limbing, or other methods to reduce the potential for severe wildfires.

Limbing: removal of large tree limbs to reduce fuel load and the potential for crown fires.

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

Loess: deposits of silt that have been laid down by wind action.

Ordinary high water mark (OHWM): the point on a bank or shore up to which the presence and action of the water leaves a distinct mark by erosion, destruction of terrestrial vegetation, or other easily recognized characteristic.

Prescribed burn: any fire ignited for vegetation management.

Slash: vegetative debris created by property clearing, right-of-way clearing, and forest management activities.

Suppression: a response to wildland fire that results in curtailment of fire spread and elimination of all identified threats from the fire.

Thinning: partial removal of trees, branches, or shrubs from a stand to reduce fuel loads.

Wildfire: an unwanted wildland fire.

Wildland-Urban Interface: line, area, or zone where structures and other human development meet or intermingle with vegetative fuels in wildlands.

SECTION ONE INTRODUCTION

Walla Walla County applied for fiscal year 2010 funding under the Federal Emergency Management Agency (FEMA) Pre-Disaster Mitigation–Competitive (PDM-C) grant program for a fuels reduction project in southeastern Washington. The objective of the PDM-C grant program is to fund pre-disaster mitigation planning and projects for States, Territories, and federally recognized Indian Tribes that primarily address natural hazards. The Mill Creek Defensible Space Project would include a total of 31 acres in the Mill Creek drainage in southeastern Walla Walla County (Appendix A, Figure 1).

The Environmental Assessment (EA) was prepared in accordance with the National Environmental Policy Act (NEPA) of 1969, the President’s Council on Environmental Quality (CEQ) regulations to implement NEPA (40 Code of Federal Regulations [CFR] Parts 1500-1508), and FEMA’s regulations implementing NEPA (44 CFR Part 10). FEMA is required to consider potential environmental impacts before funding or approving actions and projects. The purpose of the EA was to analyze the potential environmental impacts of the Mill Creek Defensible Space Project. FEMA used the findings in the EA to determine whether to prepare an Environmental Impact Statement or a Finding of No Significant Impact (FONSI). Much of the information about the project in the EA came from a site visit in November 2010 and the PDM-C grant application package.

SECTION TWO PURPOSE AND NEED

The project area encompasses a total of 31 acres in the Mill Creek drainage area in southeastern Walla Walla County (Appendix A, Figure 1). The Mill Creek drainage area lies between the City of Walla Walla and the city's watershed, and is a heavily populated wooded landscape with 217 homes.

Wildland fires are ranked as one of the top five hazards for Walla Walla County, and the likelihood of a major wildfire in the Mill Creek drainage area is rated high (Hulbert 2006). Large wildfires have been avoided for the past 100 years due to effective fire prevention and suppression, and since 1970 no fires in the drainage area have exceeded 10 acres in size. During this time, neither mechanical vegetation removal nor the use of prescribed fire has been used. Heavy fuel loads increase the risk and severity of wildfires, because trees tend to burn longer and at a higher intensity than other vegetation (NFPA 2009). Wildfires also travel faster uphill in areas of steep slopes, like those found in the project area. If a catastrophic wildfire were to occur, there is a high probability that the fire would spread into neighboring Columbia County. Lightning strikes have caused wildfires, most recently the Wallula Gap Fire in July 2010, which consumed more than 3,500 acres approximately 40 miles west of the project area (Walla Walla County 2010b).

More than 80 percent of homes and cabins in the project area have dangerous levels of flammable vegetation nearby, access concerns, and combustible structural material (Hulbert 2006). In 2002, a Walla Walla County Emergency Management crew surveyed 217 residential structures in the project area to establish hazard ratings at individual home sites for the Mill Creek Community Wildfire Protection Plan (Appendix A, Figures 2-4). Using fuel models developed by the National Fire Protection Association, the crew determined the vegetation type surrounding residential structures and found that 113 had heavy fuel loads, 83 had medium fuel loads, 19 had light fuel loads, and 2 had only slash vegetation. For defensible space, 137 residential structures were rated as "Extreme Hazard," with combustible vegetation within 30 feet of the structure, 53 were rated as "High Hazard," 23 were rated as "Moderate Hazard," and 4 were rated as "Low Hazard" (Hulbert 2006). Heavy fuel loads and lack of defensible space around residential structures creates a serious risk for both residents and firefighters.

The purpose of the PDM-C is to reduce overall risks to vulnerable populations and structures, while also reducing reliance on funding from actual disaster declarations. The purpose of this project is to enhance protection for residents and firefighters in the Mill Creek area and reduce overall potential impacts of a catastrophic wildfire. The need for this action is detailed above.

SECTION THREE ALTERNATIVES

This section discusses the No Action Alternative, the Proposed Action, to which FEMA funding would contribute, and other alternatives that were considered and dismissed.

3.1 NO ACTION ALTERNATIVE

Under the No Action Alternative, FEMA would not provide funding to reduce fuels in the Mill Creek drainage area. People and residential structures would continue to be at risk from wildfires.

3.2 PROPOSED ACTION

The Proposed Action would reduce fuels around residential structures in the Mill Creek drainage area through vegetation removal. Homeowners and landowners with homes or cabins along portions of the following roads would be invited to participate in the project: Mill Creek Road, Blue Creek Road, Upper Dry Creek Road/Biscuit Ridge Road, Scott Road, Seamen Road, and Lewis Peak Road (Appendix A, Figures 2-4). Areas targeted for vegetation removal include a 30-foot radius around the main residential structure (Appendix A, Figure 5). The 30-foot radius around 217 targeted homes would collectively total 31 acres. Contractors would conduct vegetation removal activities by hand.

The Firewise program is co-sponsored by the U.S. Forest Service, the U.S. Department of the Interior, and the National Association of State Foresters. Firewise guidelines for defensible space would be followed. These guidelines identify the defensible space zone as a 30-foot radius around a structure's foundation. In some cases, this radius may be expanded by 5 to 10 feet to provide additional defensible space around structures that are located on steep slopes. Firewise guidelines for defensible space recommend planting grass and small "islands" of fire-resistant plants within 30 feet of structures to prevent the spread of wildfires and minimize the severity of damages (Appendix A, Figures 5 and 6). Other landscaping recommendations include trimming trees so that the lowest branches are 6 to 10 feet above the ground, spacing plants so that the plants or plant canopies do not touch (with wider spacing along slopes), and planting fire- or drought-resistant plants. Removal of all vegetation is not recommended because this could increase soil erosion, especially in the kinds of sloped areas found in much of the project area. A properly maintained defensible space zone protects the structure from surrounding wildfires and provides a relatively safe area for firefighters to work (NFPA 2009).

Local firefighters from Fire District #4 and a Walla Walla County Emergency Management Department staff member would make an individual, onsite fire threat assessment of each property in the project area using Firewise guidelines. The assessment would include structural vulnerability, access route capability, water sources, and fuel loads. Walla Walla County would provide technical assistance to residents to identify how defensible space could be created and maintained. If vegetation management is recommended as a result of the assessment, contract crews would perform these activities, including vegetation removal, thinning, trimming, and in limited cases planting grasses by hand. Mechanical vegetation removal is not proposed because many locations have steep slopes, and use of heavy equipment in sloped areas can increase erosion and sedimentation. In most cases, tree and shrub stumps and roots would not be removed. Site assessments and vegetation management activities would occur between May and

October. Participating residents would have the opportunity to provide input prior to vegetation management activities.

Vegetation management activities would not be allowed within the County's established buffers for critical areas protection (Walla Walla County 2010a). The following are the established buffers which extend from the stream's ordinary high water mark (OHWM) on each side of the stream:

- Mill Creek and Blue Creek: 100-foot buffer
- Dry Creek: 75-foot buffer
- Spring Creek: 50-foot buffer
- Little Blue Creek: 35-foot buffer

Adherence to the County's established buffers for critical areas protection would reduce the number of properties treated by 30 to 50 (from 217 homes to between 167 and 187 homes).

Residents would conduct annual maintenance of the vegetation surrounding the structures. The County recommends springtime maintenance, before the start of fire season. The County and Rural Fire District No. 4 would monitor properties every 2 years to ensure proper maintenance.

3.3 ALTERNATIVES CONSIDERED AND DISMISSED

Reducing fuel loads through prescribed burn was considered for areas beyond the 30-foot radius of structure, but the risk of an escaped fire would be high. Multiple burn locations would be required throughout the project area to effectively manage fuel loads. Prescribed burn is most effective in areas with light existing fuel loads. Where fuels are heavy or in higher elevations, the risk to the residual forest increases. This alternative was dismissed because it is considered too dangerous.

Replacement of flammable structural materials with fire-resistant materials was considered, but this would not address the lack of defensible space or heavy fuel loads. It would also be more costly and less effective than vegetation removal. No other practicable alternatives were identified.

SECTION FOUR AFFECTED ENVIRONMENT AND POTENTIAL IMPACTS

This section discusses the affected environment by resource, and the potential effects of the No Action Alternative and the Proposed Action.

For each resource category, the impact analysis follows the same general approach. When possible, quantitative information is provided to establish impacts. Qualitatively, these impacts will be measured based on the criteria below.

Impact Scale	Criteria
None/Negligible	The resource area would not be affected, or changes would be either non-detectable 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 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 both localized and regional scale impacts. Impacts would be within or below regulatory standards, but historical conditions are being 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 and 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.

Impacts are predicted based on the degree of change or loss of the resource from the baseline conditions. Impacts may be direct or indirect. Direct impacts are caused by an action and occur at the same time and place as the action. Indirect impacts are caused by an action and occur later in time or are farther removed from the area, but are still reasonably foreseeable (40 CFR Part 1508). Cumulative impacts are discussed in Section 4.6.

4.1 PHYSICAL RESOURCES

4.1.1 Geology and Soils

The majority of the County, including the project area, is part of the Walla Walla River basin. Mill Creek and its tributaries flow into the Walla Walla River, which flows into the Columbia River near Wallula, Washington. The Walla Walla River basin (and the project area) is between the physiographic regions of the Blue Mountains and the Columbia River Plateau. Geologic folding and faults in the region formed the basin. The County is underlain by the Columbia River Basalt Group that was formed by successive lava flows during the Miocene Age (15-20 million years ago). The basalt is more than 6,000 feet thick in some areas. Individual lava flows tend to be on the order of 50 to 150 feet thick.

The topography of the Walla Walla River basin consists of flat-topped ridges, steep-walled canyons, and mountain slopes that result from erosion and stream-cutting of the basalt (HDR, Inc. 2008). Per the County's Critical Area Protection code, areas with a 15 percent or greater slope are considered "erosion hazard areas" (Walla Walla County 2010a).

Soils in the project area are predominantly well-drained loam (with areas of exposed basalt bedrock) overlaying basalt, loess, and andesite deposits. Wind and water typically cause the most erosion in the project area. Major soil types include Patit Creek silt and cobbly silt loam, Klicker rocky silt loam, Palouse silt loam, Gwin rocky and very rocky silt loam, Course silt loam, Helmer silt loam, and basalt rockland (USDA 2011).

The Farmland Protection Policy Act (FPPA, 7 U.S. Code 4201 et seq.) requires that Federal agencies minimize the extent to which their programs contribute to the unnecessary conversion of prime farmland, unique farmland, and land of statewide or local importance to non-agricultural uses. Farmlands subject to FPPA requirements may be forestland, pastureland, or cropland, but cannot be urban built-up land. There are some prime farmlands and farmlands of statewide or unique importance along Mill Creek and south of Blue Creek Road (WSDOE 2008). As the project area is focused within 30 feet of residences, prime and unique farmlands are unlikely to be present.

4.1.2 Climate Change

The CEQ has recently released guidance on how Federal agencies should consider climate change in their action decision-making. The suggested threshold whereby quantitative analysis should be done in NEPA documents is for an action to release over 25,000 metric tons of greenhouse gases per year (CEQ 2010). Given the nature and small scale of the Proposed Action, and its lack of greenhouse gas releases, no detailed analysis was completed because it would not meet the above threshold.

The climate varies widely in the County, mainly due to great differences in elevation, but is considered temperate. During the winter, colder temperatures and higher precipitation occur in the Blue Mountains and the surrounding foothills, including the project area (Walla Walla County 2010b). The average annual precipitation is 42 inches of rainfall and 64 inches of snowfall. Temperatures range from highs in the 80s (Fahrenheit) in the summer to the 40s in winter, and lows in the 40s in the summer to the 20s in the winter (WRCC 2011). Severe storms and lightning are considered a high risk in the County (Walla Walla County 2010b).

In February 2009, the Climate Impacts Group (CIG) at the University of Washington published a study for the Washington State Department of Ecology (WSDOE) and the Department of Community, Trade and Economic Development, detailing the projected impacts of climate change to Washington State. Using global climate models scaled to the Pacific Northwest, CIG projects that even with moderate reductions in the rate of current global greenhouse gas emissions, Washington can expect higher temperatures (average increases of 2.2 degrees by the 2020s, 3.5 degrees by the 2040s, and 5.9 degrees by the 2080s); wetter falls and winters and hotter, drier summers; and lower water supply in the summer months. One consequence of these changes would be that, regionally, the area burned by wildfires is projected to double from current levels by the 2040s and triple by the 2080s (WSDOE 2009).

4.1.3 Consequences of Alternatives

No Action Alternative

Under the No Action Alternative, FEMA would not provide funding to reduce vegetation around residences. There would be no impacts to geology. Soil resources in the project area could be affected by erosion if vegetation were burned by a catastrophic wildfire, in particular on steep

slopes. Furthermore, a significant loss of mature vegetation along steep slopes can subsequently increase the risk of landslides. If the risk of wildfires does increase as a result of climate change, the Mill Creek area could be even more vulnerable to wildfire impacts in the decades ahead. Furthermore, although wildfires are a natural element of an ecosystem, a large wildfire can release more than 25,000 metric tons of greenhouse gases, thereby incrementally contributing to overall climate change. Adverse impacts in the Mill Creek area would range from minor to moderate, depending on the severity of a wildfire and subsequent soil erosion.

Proposed Action

Adverse impacts to geology would be negligible based on the very small scale of the project and limited ground-disturbing activities. Ground-disturbing activities may occur if grass is planted (due to tilling of the soil) or if shrub and tree roots are removed. However, in most cases thinning and limbing would provide sufficient fuel reduction and complete removal of shrubs and trees (including roots) would be limited. Some soil could be disturbed during project activities, but adverse impacts would be negligible based on the low-impact nature of vegetation removal by hand and the protective stream buffers proposed.

Adverse impacts to prime and unique farmlands are not anticipated because it is unlikely that these farmlands are located within 30 feet of residences. In addition, vegetation removal to create defensible space around residential structures does not constitute a conversion of farmland to a non-agricultural use.

Reducing the risk or severity of wildfires would generally be a positive effect to climate change because of the reduction in greenhouse gas releases. However, given the very small and localized scale of the proposed action, these fuel reduction activities are not expected to affect climate change conditions.

4.2 WATER RESOURCES

4.2.1 Surface Water

Numerous streams flow through the project area, including Blue Creek, Dry Creek, Little Blue Creek, Mill Creek, and Spring Creek (Appendix A, Figures 2-4). Dry Creek, Mill Creek, and Spring Creek are tributaries of the Walla Walla River, which flows into the Columbia River. Little Blue Creek feeds into Blue Creek, which is a tributary of Mill Creek. There are no other surface water bodies or lakes in the project area.

The Dry Creek watershed is about 240 square miles and is composed mainly of gently rolling farmland. Dry Creek begins at an elevation of nearly 4,800 feet in the Blue Mountains and flows for about 40 miles in a southwesterly direction until it discharges into the Walla Walla River near Lowden, approximately 20 miles west of the project area (Walla Walla County 2007).

Mill Creek can be divided into three distinct reaches: Upper Mill Creek (located in the project area), the Walla Walla portion of Mill Creek, and Lower Mill Creek. The Upper Mill Creek basin is in the steep parts of the Blue Mountains at an elevation of about 6,000 feet. It flows through the narrow, steep canyons of the Blue Mountains for about 15 miles before entering an alluvial plain several miles east of the City of Walla Walla. The upper reach of Mill Creek has a channel that averages 4 to 5 feet deep and 90 feet wide and is bounded by steep, rocky canyon

walls (Walla Walla County 2007). The average discharge for Mill Creek is 95 cubic feet per second (USGS 2011).

Mill Creek is considered a “shoreline of the state” and is regulated under the Shoreline Management Act (Revised Code of Washington 90.58) through Walla Walla County’s Shoreline Master Program (SMP). The jurisdiction of the SMP covers lands extending for 200 feet from the OHWM of designated streams and associated wetlands. The County’s current SMP was adopted by the WSDOE in 1975. Activities deemed necessary to protect properties from damage by the elements are exempt per SMP regulations (Walla Walla County 1975).

4.2.2 Water Quality

Section 303(d) of the Clean Water Act establishes requirements for States and Tribes to identify and prioritize water bodies that do not meet water quality standards. No streams in the project area are considered 303(d) impaired streams. Data from the WSDOE was queried to determine whether any streams in the project area are considered impaired or waters of concern (WSDOE 2011a).

Portions of Mill Creek in the project area are rated Category 2 for temperature. The Category 2 rating applies to streams where data are not sufficient for listing a waterbody segment as impaired but may still raise a concern about water quality. Portions of Mill Creek are also rated Category 4A for dissolved oxygen. The Category 4A rating applies to waters where data show that the waterbody is impaired by a pollutant, but a total maximum daily load addressing that impairment has already been developed and approved by the U.S. Environmental Protection Agency (EPA).

A portion of Blue Creek in the project area is rated as Category 2 for temperature. Portions of Dry Creek (both North Fork and South Fork) are rated as Category 4A for temperature.

Temperature is a water quality concern because most aquatic organisms, including salmonids, are cold-blooded and are strongly influenced by water temperature (Schuett-Hames et al. 1999). Removal of trees and shrubs for pasture, crops, or timber harvest can potentially raise the water temperature of streams due to increased solar input resulting from lack of shade along streams (WSDOE 2002).

A certain minimum amount of dissolved oxygen must be present in water for aquatic life to survive. In addition to being required by aquatic organisms for respiration, oxygen also is used for decomposition of organic matter and other biological and chemical processes. The amount of oxygen in a stream varies depending upon the amount of light entering the stream, turbidity, temperature, and season (WSDOE 2011b).

4.2.3 Wetlands

Executive Order (EO) 11990, Protection of Wetlands, requires Federal agencies, in planning their actions, to consider alternatives to wetland sites and limit potential damage if an activity affecting a wetland cannot be avoided.

According to the National Wetland Inventory, all of the wetlands in the project area are located immediately adjacent to Mill Creek and Dry Creek (USDI 2010). These riparian wetlands are forested and scrub-shrub wetlands. The rest of the project area is mapped as upland. A site visit by a wetland scientist confirmed that all wetlands in the project area appear to be located

immediately adjacent to the streams. The largest wetland observed is located adjacent to Mill Creek, just north of the Oregon State line. This is a forested wetland with alder (*Alnus* sp.), scouring rush (*Equisetum hyemale*), and bulrush (*Scirpus* sp.). Permits would not be required for hand removal of vegetation in wetlands.

4.2.4 Floodplains

EO 11988, Floodplain Management, requires Federal agencies to avoid, to the extent possible, the long- and short-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 practicable alternative. According to Flood Insurance Rate Maps for the project area, Panels 5301940455B, 5301940465B, and 5301940470B (all effective 1983), there are floodplains associated with sections of Blue Creek, Dry Creek, Mill Creek, and Spring Creek. These floodplains are designated as “Zone A,” considered subject to inundation by the 1-percent-annual-chance flood event (100-year floodplain). Portions of these floodplains are developed with residential structures. The hillsides surrounding the streams are characterized by steep slopes, resulting in fairly narrow floodplains that are less than 200 feet wide throughout the project area.

Flooding is considered a medium-risk hazard in Walla Walla County. Much of the County’s development occurs on or near floodplains. Many homes in the project area are located adjacent to streams. Due to the topography of the watershed, Mill Creek tends to have short but frequent floods. Mill Creek has flooded 29 times since 1950 (Walla Walla County 2010b). No floods have been recorded on any other creek in the project area.

4.2.5 Consequences of Alternatives

No Action Alternative

Under the No Action Alternative, FEMA would not provide funding to reduce vegetation around residences. In the event of a wildfire, impacts to water resources in terms of water quality and sedimentation would range from minor to moderate, depending on the size and intensity of the fire and on subsequent erosion due to the loss of vegetation. A significant loss of mature vegetation along steep slopes can increase the risk of landslides into below surface waters thereby locally changing hydrologic and hydraulic conditions.

Proposed Action

Local, short-term, minor impacts to surface water from sedimentation during vegetation removal are not anticipated due to the proposed stream buffers:

- Mill Creek and Blue Creek: 100-foot buffer
- Dry Creek: 75-foot buffer
- Spring Creek: 50-foot buffer
- Little Blue Creek: 35-foot buffer

If the proposed stream buffers are not followed, long-term, minor adverse impacts to water quality, including temperature and dissolved oxygen, could occur. These streams are already considered impaired by the WSDOE and the EPA for these parameters; and the level of impact is not anticipated to be increased by project activities. In addition, temperature and dissolved

oxygen is more susceptible to adverse impacts at the headwaters of the streams, not in the lower valley areas like the project area.

Most riparian wetland areas would be avoided by restricting work within the County's established stream buffers. The large wetland described in Section 4.2.3 is not within 30 feet of a residential structure; therefore, it would not be affected by fuel reduction activities. If these work-restriction buffers are not followed, there would be the potential for negligible to minor adverse impacts to wetlands.

Impacts to floodplains are not anticipated. The stream buffers described above would be required and would not result in increased flood elevations or velocities as modifications to banks would not occur and land in the floodplain would not be built-up. If these work-restriction buffers are not followed, there would be the potential for minor adverse impacts. Small scale and low impact vegetation removal around existing residential structures in the Wildland-Urban Interface would not promote development of the floodplain.

4.3 BIOLOGICAL RESOURCES

4.3.1 Vegetation

On November 15th and 16, 2010, a biologist conducted a windshield survey of the project area along the following roads in the project area: Biscuit Ridge Road, Blue Creek Road, Klicker Mountain Road, Lewis Peak Road, Mill Creek Road, Scenic Loop Road, Scott Road, Seaman Road, Spring Creek Road, and Tracy Road.

Historically, wildfire has been a widespread natural disturbance in landscapes of the western U.S. (Agee 1998; Turner and Romme 1994). The ecological diversity of riparian corridors is maintained by fire and other forms of natural disturbance (Naiman et al. 1993).

The project area is located in the foothills of the Blue Mountains and is comprised of three ecological communities: mixed deciduous and coniferous forest; riparian woodland; and non-native grassland.

The mixed forest is limited to the higher elevation southeast corner of the project area along Lewis Peak Road. The dominant trees are grand fir (*Abies grandis*) and Douglas fir (*Pseudotsuga menziesii*), with scattered Ponderosa pine and western larch (*Larix occidentalis*). The understory in this area includes common snowberry (*Symphoricarpos albus*) and oceanspray (*Holodiscus discolor*). Riparian woodland is associated with narrow stream valleys in the project area, with concentrations of trees and woody species. Riparian areas contain a thin band of deciduous trees, including black cottonwood (*Populus balsamifera*) and alder. The areas of non-native grassland include fallow fields and areas likely utilized for grazing livestock. These areas are interspersed between stream valleys. These hillsides also have scattered patches of shrubs and Ponderosa pine (*Pinus ponderosa*) or cultivated areas.

Much of the potential 30-foot treatment area around residential structures is comprised of a mixture of non-native landscaping, grass, and ornamental trees. However, native shrubs and trees are present on slopes behind some structures. Common species include domestic fruit trees, rose (*Rosa* sp.), clematis (*Clematis ligusticifolia*), black locust (*Robinia pseudo-acacia*), and blackberry (*Rubus armeniacus*). Because of its position in the landscape adjacent to a water source and surrounded by treeless areas, these non-native species are still considered a relatively

valuable vegetation type. As discussed below in Section 4.3.2 Wildlife and Fish, the treatment areas may provide habitat to large mammals, fish, game birds, migratory birds and other forms of wildlife. It may provide a source of food, water, breeding sites, roosting sites, and refugia for wildlife.

Invasive species, such as prickly lettuce (*Lactuca serriola*), cheatgrass (*Bromus tectorum*), common mullein (*Verbascum thapsus*), blackberry, and Canada thistle (*Cirsium arvense*) are present in the project area along roadsides and near houses.

4.3.2 Wildlife and Fish

According to the Washington Department of Fish and Wildlife (WDFW), several large mammals use the project area, which contains winter ranges and year-round concentrations of northwest white-tailed deer (*Odocoileus virginianus ochrourus*) and mule deer (*Odocoileus hemionus hemionus*). Winter ranges for Rocky Mountain elk (*Cervus elaphus nelsoni*) have also been observed in the higher elevations, along Blue Creek Road, Biscuit Ridge Road, and Seaman Road (WDFW 2011).

Fish have been observed in Mill Creek, Blue Creek, and Dry Creek in the project area. Rainbow trout (*Oncorhynchus mykiss*) are present in all these drainages. Mountain whitefish (*Prosopium williamsoni*) and spring Chinook (*Oncorhynchus tshawytscha*) are present in Mill Creek.

Game birds have also been released in the area, including ring-necked pheasants (*Phasianus colchicus*) and wild turkeys (*Meleagris gallopavo intermedia*).

The U.S. Fish and Wildlife Service (USFWS) Office of Migratory Bird Management maintains a list of migratory birds (50 CFR 10.13). The Migratory Bird Treaty Act of 1918, as amended, provides Federal protections for migratory birds, their nests, eggs, and body parts from harm, sale, or other injurious actions. The act includes a “no take” provision. The project area provides habitat for a variety of migratory birds, including songbirds and birds of prey (Appendix B).

4.3.3 Threatened and Endangered Species and Critical Habitat

The Endangered Species Act (ESA) was established to conserve, protect, and restore Threatened and Endangered species and their habitats. Section 7 of the ESA (50 CFR 402) requires Federal agencies to ensure their actions do not jeopardize the continued existence of listed species and do not result in adverse modification to designated critical habitat.

The USFWS and the National Marine Fisheries Service identify five ESA-listed species in Walla Walla County. The gray wolf (*Canis lupus*) is listed as Endangered. The other four species are listed as Threatened: bull trout (*Salvelinus confluentus*), Middle Columbia steelhead (*Oncorhynchus mykiss*), Canada lynx (*Lynx canadensis*), and Ute ladies'-tresses (*Spiranthes diluvialis*).

Critical habitat is present for bull trout and steelhead. Critical habitat for bull trout is present in Mill Creek. Critical habitat for steelhead is present in Mill Creek, Blue Creek, and Dry Creek. Essential fish habitat is not designated within the project area.

4.3.3.1 Gray Wolf

The gray wolf is a federally and Washington State-listed Endangered species. Historically, wolves were found throughout most or all of Washington. They were extirpated from

Washington by the 1930s through targeted trapping and hunting, with the exception of a few individuals dispersing periodically into the State since then. Washington's first fully confirmed wolf pack in many years was discovered in Okanogan County (along the northern border of the State) in July 2008, and the second was found in Pend Oreille County (at the northeast corner of the State) in July 2009 (WDFW 2011). No wolves are currently known to occur in Walla Walla County.

4.3.3.2 Bull Trout

The bull trout is a federally and Washington State-listed species, listed as Threatened under the ESA and as a Candidate Species by WDFW. Bull trout are native to Washington, Oregon, Idaho, Nevada, Montana, and western Canada. Compared to other salmonids, bull trout have more specific habitat requirements which influence their distribution and abundance. They need cold water to survive and require stable stream channels, clean spawning and rearing gravel, complex and diverse cover, and unblocked migratory corridors (USDI 2011). In the project area, bull trout have been observed in Mill Creek.

4.3.3.3 Steelhead

The steelhead is a federally and Washington State-listed species. Middle Columbia steelhead is listed as Threatened under the ESA and as a Candidate Species by WDFW. The Middle Columbia population of steelhead includes all naturally spawned steelhead populations from above the Wind River in Washington and the Hood River in Oregon, upstream to and including the Yakima River in Washington (NMFS 2009). The steelhead spawn and rear in freshwater tributaries then migrate to the ocean. In the project area, Middle Columbia steelhead have been observed in Mill Creek, Blue Creek, and Dry Creek.

4.3.3.4 Canada Lynx

The Canada lynx is a federally and Washington State-listed species. The Canada lynx is listed as Threatened under the ESA and Threatened by WDFW. It is the rarest cat species in Washington, probably numbering fewer than 100 individuals. Lynx are primarily associated with subalpine and boreal forest types in the mountains of north-central and northeastern Washington, and they formerly occurred in the southern Cascades (Stinson 2001).

The historical status of lynx in the Blue Mountains is uncertain, but the Canada lynx habitat and potential recovery area designated by the WDFW for the Blue Mountains does not include any areas in Walla Walla County or the project area (Stinson 2001). The likelihood of Canada lynx in the project area is extremely low.

4.3.3.5 Ute Ladies'-tresses

The Ute ladies'-tresses is a federally and Washington State-listed species, listed as Threatened under the ESA and as Endangered by WDFW. It is a perennial orchid that has white or ivory flowers clustered into a spike arrangement at the top of the stem. The species occurs in broad low-elevation inter-montane valley plains, with meandered wetland complexes and segments of channels and swales where there is somewhat constant subsurface moisture and relatively low vegetation cover (WNHP 2000). Ute ladies'-tresses has not been observed in the project area. The only potential habitat in the project area is in wetlands adjacent to Mill Creek.

4.3.4 Special-Status Species

The yellow-billed cuckoo (*Coccyzus americanus*) and the Washington ground squirrel (*Spermophilus washingtoni*) are listed in Walla Walla County as Candidate Species under the ESA. Candidate Species are those that have been petitioned and are actively being considered for listing as Endangered or Threatened under the ESA. Candidate Species are afforded no protection under the ESA.

Data from WDFW and Washington Natural Heritage Program (WNHP) was queried for known special-status species in and near the project area (WDFW 2010 and WNHP 2011). These data show two special-status species in the project area: margined sculpin (*Cottus marginatus*) and plumed clover (*Trifolium plumosum* var. *plumosum*).

4.3.4.1 Yellow-Billed Cuckoo

The yellow-billed cuckoo is an ESA and a Washington State Candidate Species. It is a riparian-obligate species requiring large tracts of willow and cottonwoods. Yellow-billed cuckoos are considered extirpated in Washington, but they appear extremely rarely during summer. WDFW has no record of yellow-billed cuckoo in the project area, where they are extremely unlikely to be present.

4.3.4.2 Washington Ground Squirrel

The Washington ground squirrel is an ESA and a Washington State Candidate Species. It is endemic to the Columbia Plateau, south of the Columbia River and east of the John Day River. Historically, the species was distributed over much of the shrub-steppe habitat of southeastern Washington and northeastern Oregon, but its range has contracted due to habitat loss. The core Washington ground squirrel habitat in Walla Walla County is along the northern end of the County. The project area does not contain the appropriate shrub-steppe habitat for the Washington ground squirrels; therefore, they are extremely unlikely to be present.

4.3.4.3 Margined Sculpin

The margined sculpin has a State status of Sensitive in Washington. This species is found in the Blue Mountains of Oregon and Washington. It has the smallest range of any fish species in Washington and is only found in parts of the Tucannon and Walla Walla drainages (Mongillo and Hallock 1998).

The margined sculpin is primarily a bottom-dweller in streams. Its preference for pools does not appear to be strongly affected by seasons. The fish is locally common, but extremely restricted in distribution (Mongillo and Hallock 1998). In the project area, the margined sculpin is found in Mill Creek and Dry Creek.

4.3.4.4 Plumed Clover

The plumed clover has a State status of Threatened in Washington. The species is endemic to the Blue Mountains and Wallowa Mountains. In Washington, it has been observed less than five times in southeastern Walla Walla County (WNHP 2000).

Plumed clover is a perennial herbaceous species with an elongated flower head, with white individual flowers with reddish or pinkish tips. It grows on dry hillsides and in meadows with

Ponderosa pine, Idaho fescue (*Festuca idahoensis*), yarrow (*Achillea millefolium*), and cheatgrass (*Bromus tectorum*) (WNHP 2000).

According to WNHP, plumed clover has been observed in the Mill Creek area (WNHP 2011). The species is unlikely to occur in the potential treatment areas, which are in close proximity to residential structures and mostly disturbed. However, habitat does exist in the project area.

4.3.5 Consequences of Alternatives

No Action Alternative

Under the No Action Alternative, fuel reduction activities would not be funded. The high risk of mature vegetation loss from catastrophic wildfires would continue. Impacts are anticipated to range from minor to moderate, depending on the severity of a fire. The potential for natural vegetation regeneration processes which result from wildfire would continue.

There would be no direct effects to wildlife, including ESA-listed species, State-listed species, or special-status species in the project area. However, the potential for losses of wildlife due to wildfire would remain. Impacts would be moderate. Future uncontrolled wildfires could affect wildlife through the loss of habitat or the mortality of individuals.

Proposed Action

Vegetation. Various disturbances from work crews, removal of individual small trees and brush, and hand pruning or limbing may result in local, indirect, small adverse effects to native plant communities. However, many of the properties have non-native ornamental or weedy species in the potential treatment areas. Trimming or removing these plants would not negatively affect native plant communities. Since these activities are not ground-disturbing and would be done by hand, there is a very low likelihood new invasive plant species populations would become established or existing populations would expand due to this project.

No adverse impacts to plumed clover are anticipated from the proposed action. The species is not expected to be in the treatment areas. In addition, the treatments are not likely to be ground disturbing and plumed clover is a perennial species; therefore, any physical damage to the aboveground portion of the plant should not permanently affect the plant.

Wildlife, Fish and Threatened and Endangered Species. Wildfire fuel reduction activities are not expected to impact Threatened and Endangered wildlife species since they are not present in the project area. Minor, localized, and scattered impacts to non-listed wildlife, including migratory birds, could occur through habitat modification. Various factors, including changes in food sources, shelter, population density, and dispersal effort, would determine the severity of impacts to non-listed wildlife. To mitigate potential adverse impacts to migratory birds, vegetation removal will occur in late summer and early fall, outside of the typical migratory bird-nesting season, which ranges from March through August.

Special-status fish species, such as Middle Columbia steelhead, bull trout, and margined sculpin, do occur in streams in the project area. Many residential structures are within 30 feet of these streams; therefore, the potential treatment zone includes the vegetation on the banks of the stream. No work would occur in the streams; however, removing and reducing vegetation growing immediately next to the stream could have several negative effects on the stream and

the fish that reside there. These impacts could include loss of shade and refuge, increase in water temperature, and decrease of insects and organic input into the stream.

To mitigate these potential adverse impacts, conditions would apply to the residential structures that lie near streams. No vegetation management activities would be allowed within the County's following established stream buffers:

- Mill Creek and Blue Creek: 100-foot buffer
- Dry Creek: 75-foot buffer
- Spring Creek: 50-foot buffer
- Little Blue Creek: 35-foot buffer

If these protective stream buffers are not followed, long-term, localized, minor adverse impacts to streams could occur during vegetation removal. However, these streams are already considered impacted due to previous human settlement. These minor impacts would not affect the viability of wildlife or fish species that use the watershed. Per the USFWS, a Biological Assessment is not required for the project as work would not occur within the riparian buffer (URS 2011b).

4.4 CULTURAL RESOURCES

Cultural resources consist of locations of human activity, occupation, or use identified through field inventory, historic documentation, or oral evidence. The term encompasses historic properties as defined by the National Register of Historic Places (NRHP), including archaeological and architectural properties, as well as sites or places of traditional cultural or religious importance to Native American Tribes or other social or cultural groups. Section 106 of the National Historic Preservation Act (NHPA) of 1966 requires that activities needing Federal permits or using Federal funds undergo a review process to consider historic properties that are listed in or may be eligible for listing in the NRHP. The State Historic Preservation Office (SHPO) is the Federal agency's primary Section 106 partner. Because Section 106 is a process by which the Federal government assesses the effects of its undertakings on historic properties, it is the primary regulatory framework used in the NEPA process to determine impacts on cultural resources.

In accordance with Section 106, FEMA has delineated that the Area of Potential Effects (APE) for the proposed project encompasses about 31 acres in the Mill Creek drainage area, encompassing 217 residential structures located approximately 6 miles to the east of the City of Walla Walla (Appendix A, Figure 1). The Proposed Action consists of creating defensible space by reducing and removing hazardous or flammable fuels from a 30-foot radius around each primary residential structure.

4.4.1 Ethnographic and Historic Context

Prior to Euro-American settlement, the Walla Walla Valley and surrounding areas were traditionally used by the Cayuse, Umatilla, and Walla Walla (Walker 1998). Each of these groups was divided into smaller bands. The Walla Walla occupied villages on both banks of the Columbia River at the mouth of the Walla Walla River, the lower Snake River, and near the mouth of the Yakima River (Stern 1998). The Cayuse were subdivided into nine local groups and wintered along the northern foothills of the Blue Mountains, spreading out during the summer and fall through the Blue Mountains into the Grande Ronde and Wallowa valleys (Dickson 2010;

Affected Environment and Potential Impacts

Suphan 1974). Suphan also notes that the Cayuse, Umatilla, and Walla Walla used some of the same territory for hunting, fishing, and for gathering resources. The Umatilla and Walla Walla wintered along the Columbia. The Cayuse lived in composite villages with visiting Nez Percés.

Winter shelters consisted of “mat lodges, some 60 feet in length, set over shallow depressions, with up to 10 fires, and as many households” (Stern 1998). Spring was the time for replenishing the food supply; women and children dug roots from the streams that flowed from the Blue Mountains. Men worked nearby and repaired their fish weirs. For settlements along the Columbia, canoes were moored along the shore and used as platforms for taking Chinook salmon by harpoon, hook, or net. As the seasonal round progressed, families moved and dismantled the lodges, rebuilding flat-roofed salmon drying sheds in their stead (Stern 1998). Winters were sedentary and subsistence was based on stored roots, dried fish, and jerky, supplemented with fresh game and some fish (Dickson 2010; Anastasio 1972).

The U.S. National Park Service’s Native American Consultation Database lists the following Indian Tribes as having ancestral interest in Walla Walla County: the Confederated Tribes of the Colville Reservation (Washington) and the Confederated Tribes of the Umatilla Reservation (Oregon) (NPS 2011).

The First Euro-American contact occurred with the Lewis and Clark expedition of 1805 to 1806, which traveled the Snake and Columbia Rivers. On the return trip, the expedition traveled 1 mile up the Walla Walla River and continued overland to the Touchet River (Dickson 2010; Moulton 1991), approximately 24 miles west of the project area.

Other explorers and trappers were the next Euro-American people to visit the area. In 1818, the British company North West Company established Fort Nez Percés, later known as Fort Walla Walla, at the mouth of the Walla Walla River. This provided a central converging point for trails from the interior and the Lower Columbia River transportation corridor (Dickson 2010; Meinig 1968). In 1821, the Hudson Bay Company took over the North West Company and gained a monopoly over the fur trade, making Fort Nez Percés its District Headquarters (Dickson 2010; Lyman 1918).

Missionaries were the next to cross the Blue Mountains and, in 1836, Marcus and Narcissa Whitman set up a Presbyterian mission at Waiilatpu (3 miles west of the City of Walla Walla and 15 miles west of the project area). The 1840s brought Euro-American immigrants across the Oregon Trail, with a route leading from Pendleton north to the Whitman Mission which provided assistance and necessities to travelers en route to the confluence of the Walla Walla River and the Columbia River, which provided access west either by boat or along the southern shore of the Columbia River. The Mission also sought to convert the Cayuse to Christianity and agricultural practices. When disease brought by the Euro-Americans killed half of the Cayuse population, some tribal members responded by killing the Whitmans and 11 others in 1847 (Dickson 2010; Meinig 1968).

In 1855, three separate treaties between the U.S. government and the Cayuse, Umatilla, and Walla Walla Tribes were signed, resulting in the creation of the Umatilla Indian Reservation, the Yakama Indian Reservation, and the Nez Perce Indian Reservation. Tribes were to cede 6.4 million acres to the United States, reserving the right to fish, hunt, and gather foods and medicines on these lands, and were to live on 510,000 acres (Dickson 2010).

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Over time, Indian trails became wagon roads and wagon roads became modern highway routes. The Whitman Mission established the Walla Walla valley as a successful location for agricultural development and, as the community grew, so did the need for transportation. Between 1859 and 1862, many stage lines were opened from Walla Walla to other locales, such as The Dalles and Wallula to the west, and Lewiston to the northeast. The following decades saw stage lines extending farther northeast and southeast, moving tons of freight and passengers weekly. In 1871, the Northwestern Stage Company connected all points north and west of the Central Pacific Railroad from Kelton, Utah, to The Dalles, Oregon, and from Walla Walla to Lewiston, Washington (Dickson 2010; Lyman 1918).

The town of Walla Walla, incorporated and named the seat of Walla Walla County in 1862 was the largest city in the Washington Territory by 1880 due to the growing agricultural industry. With a surplus of wheat grown in the valley, farmers had more flour than the local market could sustain. Flour was soon being transported to Portland and San Francisco and local citizens wanted a rail connection from the Walla Walla valley to the Columbia River. In 1875, a rail line was completed from Wallula (located on the Columbia River) to Walla Walla, running along the northern side of the Walla Walla River. This line only moved the surplus of wheat to the river where there were not enough boats to transport wheat to Portland. In 1879 the Oregon Railway and Navigation Company completed a rail line from Wallula to The Dalles facilitating connections to Portland, and western Washington to Tacoma and south to California (Dickson 2010; Lewty 1987).

General Land Office (GLO) maps were reviewed to determine if any late-19th century historic features are present in the project area (BLM 2010). The project area is depicted in the original GLO survey plats dated 1861, 1867, 1872, and 1879. Mill Creek Road, one of the western roads in the project APE, is depicted as “Road from Walla Walla to the Blue Mountains.” Biscuit Ridge Road, which starts at the town of Dixie in the northern part of the APE, is unnamed and simply marked in the surveyor’s notes as “a road.” Portions of Tracy Road, in the center of the APE, and Lewis Peak Road, in the eastern part of the APE, are depicted on the 1872 GLO plat. The rest of the roads in the project area are not depicted. The GLO maps do not indicate the presence of railroads, however they do illustrate many short unnamed roads and a few trails, none of which cross or occur in the APE.

A 1909 Geo. A. Ogle & Co. Map shows just a portion of the north APE around Dixie, Washington as having the Northern Pacific Railroad running parallel to the south of present day Highway 12, through the town of Dixie south along Biscuit Ridge Road for half a mile before a switch back heading north and back to paralleling Highway 12. The rail road is still evident in a 1961 Metsker Map.

During the twentieth century the Walla Walla valley continued to develop as an agricultural center for various crops including wheat, onions, apples, peas, and wine grapes. Wheat was the principal crop, with apples reaching their peak in the 1920s, and peas in the 1960s. The wine grape became a significant crop during the latter part of the twentieth century making Walla Walla Valley the official American Viticultural Area in 1984 (Paulus 2008).

In summary, the project area and its surroundings are located in the Walla Walla Valley along the northern tip of the Blue Mountains, an area of ancestral Tribal importance to the Cayuse, Umatilla, and Walla Walla. Ethnographically, this area would have been used for travel, resource acquisition, and residential activities prior to Euro-American settlement and the establishment of

reservations. Historic development in the region includes the establishment of Fort Nez Percés and the Whitman Mission to the west of Walla Walla, both of which provided central converging points for Euro-American travelers and pioneers en route to other destinations. Intensive agricultural activities played a significant role in the Walla Walla valley that has continued to the present day, as did the development of stage and railway routes; therefore, evidence for such activities may exist in the project area. Nineteenth-century maps depict several roads, a field, and a residence in the APE, highlighting the APE's importance as a travel corridor and as an emergent agricultural community.

4.4.2 Identification of Historic Properties

A search of the confidential Washington Information System for Architectural and Archaeological Records Data (WISAARD) was conducted in November 2010 to determine the presence or absence of previously recorded properties and the extent of survey coverage in and near the APE. The results of the record search indicate that there are three previous cultural resource surveys that resulted in the identification of five archaeological sites, which includes two prehistoric sites and three historic sites in the APE. Based on these data, the majority of the APE has not been previously surveyed.

4.4.2.1 Above-ground Resources

There are no NRHP-listed properties in the APE; however, the NRHP-listed Dixie High School, which was built in 1921 and is listed under architecture for the Area of Significance, is located within 1 mile of the APE.

The Walla Walla County TaxSifter Parcel online database was consulted prior to the field survey for property construction dates (Walla Walla County 2010c). The search revealed that the majority of the 217 properties in the APE included primary structures built between the early 1960s and the early 1990s. The database revealed that approximately one quarter of the properties included structures over 50 years of age. Accordingly, a windshield survey was conducted to identify any above-ground resources that may be eligible for listing in the NRHP.

On November 15th and 16, 2010, an architectural historian meeting the Secretary of the Interior's Professional Qualification Standards for the discipline conducted a windshield survey of the project area along the following roads in the APE: Biscuit Ridge Road, Blue Creek Road, Klicker Mountain Road, Lewis Peak Road, Mill Creek Road, Scenic Loop Road, Scott Road, Seaman Road, Spring Creek Road, and Tracy Road. Structures aged 50 years or older that retain sufficient architectural integrity were identified and photo documented.

Seven properties aged 50 years or older were identified, with 4 along Mill Creek Road and 3 along Spring Creek Road (Appendix A, Figures 7a-7e). Construction dates range from 1905 to 1931; all appear in good condition. Property 6466 Mill Creek Road (Photo 1) was built in 1919. Its windows appear to be original and horizontal wood siding is visible. Property 7134 Mill Creek Road (Photo 2) was built in 1907. Horizontal wood siding is visible on the first level on two sides. An unknown siding material was observed on the second floor gable end. The windows in the gable end appear to be original; it is unknown if any others are. Property 7852 Mill Creek Road (Photo 3) was built in 1928. Horizontal wood siding is visible on two sides and the windows appear to be original. The roof is clad in metal sheets. Property 9052 Mill Creek Road (Photo 4) was built in 1908. The siding material could not be determined from the public

right-of-way. The wood-sash windows appear to be original. An associated barn (Photo 5) was observed on the property; the construction date has not been determined, but it is reasonable to suppose that it is contemporary with the primary dwelling.

Three additional properties are located adjacent to each other along Spring Creek Road. Property 5542 Spring Creek Road (Photo 6) was built in 1931. Horizontal wood siding is visible on two sides and the windows may be original, although they are mostly obscured by storm windows. The property also exhibits a collection of associated structures, including a barn (Photo 7). Property 4422 Spring Creek Road (Photo 8) was built in 1905. Horizontal wood siding is visible and the windows appear to be original. An associated barn (Photo 9) was observed. Property 4328 Spring Creek Road (Photo 10) was built in 1920. Horizontal wood siding is visible and the windows appear to be original. No other above-ground resources were observed during the windshield survey. Subsequently, Historic Inventory Report forms were filed by URS Group, Inc. to the SHPO's WISAARD database (URS 2011a).

4.4.2.2 Archaeological Resources

Five previously recorded archaeological sites are located in the APE. Four were documented as a result of a 1965 survey (Sprague and Combes 1965), which included interviews with local residents in 1965. The survey itself did not yield any archaeological finds, but local residents recounted past finds and their locations, and gave oral accounts from relatives. The following sites were documented by this survey: 45WW26 is described as a seasonal pre-contact camp that has since been destroyed by several major floods; 45WW27 consists of projectile points; 45WW28 is the site of a log structure dating to circa 1890 that was in disrepair and has been removed to Fort Walla Walla City Park; and 45WW29 is the site of the Whitman Mission Saw Mill that has since been destroyed by stream widening and straightening along this portion of Mill Creek. None of these sites have been evaluated for eligibility for listing in the NRHP, and they are not included in the State register. The fifth site, 45WW300, was recorded as the result of a bridge replacement project in 2010. It consists of a collapsed barn with associated debris that will be removed for the placement of a detour road (Dickson 2010).

4.4.3 Consequences of Alternatives

No Action Alternative

Under the No Action Alternative, FEMA would not provide funding to reduce fuels in the Mill Creek drainage area. The seven properties identified above, which may be NRHP-eligible, would continue to be at risk from wildfires.

Proposed Action

The Proposed Action would reduce fuels around structures through vegetation removal in the Mill Creek drainage area. Areas targeted for vegetation removal include a 30-foot radius around main residential structures. Contractors would conduct vegetation removal activities by hand, including thinning and trimming.

Above-ground Resources. According to the SHPO, the three barns and the single-family residence at 6466 Mill Creek Road are eligible for listing in the NRHP. However, due to the nature of the project activities, SHPO has concurred that the Proposed Action would have no effect on National Register eligible or listed historic and cultural resources.

Archaeological Resources. As noted in Section 4.4.2.2, five archaeological sites have been documented in the APE. Further investigation of these sites would be necessary to determine whether they are eligible for listing in the NRHP. The project area contains many tributaries of the Walla Walla River and is an area generally considered to be archaeologically sensitive, where surface or deeply buried cultural resources could be present, as evidenced by these five previously recorded sites. However, the proposed vegetation thinning and trimming around residential structures would have little potential to affect archaeological resources because of the low impact methodology, and no additional identification or evaluation efforts were determined necessary. Thus it is determined the Proposed Action would have no effect on archaeological historic properties.

Furthermore, wildfire mitigation projects are conditioned to protect cultural resources during site work. In the event of an unanticipated discovery, and in compliance with State and Federal laws protecting cultural resources, including Section 106, all work is required to cease in the immediate vicinity of a find until the appropriate parties (including the SHPO and Tribes) are consulted and an appropriate resolution plan is established.

Consultation was completed with the SHPO on June 9, 2011, which concurred with FEMA's determination of no adverse effect (Appendix C). To help determine if there may be historic properties of religious or cultural interest within or near the APE, the Confederated Tribes of the Colville Reservation (Washington) and the Confederated Tribes of the Umatilla Reservation (Oregon) were also consulted and no comments were received.

4.5 SOCIOECONOMIC RESOURCES

4.5.1 Environmental Justice

EO 12898, Environmental Justice, directs Federal agencies to identify and address, as appropriate, disproportionately high and adverse human health or environmental effects on minority and low-income populations resulting from Federal programs, policies, and activities. Socioeconomic and demographic data for residents in the project vicinity were studied to determine if the Proposed Action would have disproportionate impacts on minority or low-income persons.

Data from the 2000 Census for Walla Walla County were used to identify the minority¹ and low-income² compositions of the project area, which is located in Block Group 5 (in Census Tract 9201). In the project area, the minority population was approximately 1 percent. The poverty rate of the study area population was approximately 4 percent (U.S. Census Bureau 2000). Because these levels are consistent with the County and State as a whole, minority and low-income populations are not considered to be present.

¹ A minority is "a person who is: (1) Black (a person having origins in any of the black racial groups of Africa); (2) Hispanic (a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race); (3) Asian American (a person having origins in any of the original peoples of the Far East, Southeast Asia, the Indian subcontinent, or the Pacific Islands); or (4) American Indian and Alaskan Native (a person having origins in any of the original people of North America and who maintains cultural identification through Tribal affiliation or community recognition)."

² Low-income is identified as "one whose median household income is at or below the Department of Health and Human Services poverty guidelines." Income data based on Department of Health and Human Services guidelines are difficult to gather, so U.S. Census Bureau data are often used for environmental justice analyses.

4.5.2 Consequences of Alternatives

No Action Alternative

Under the No Action Alternative, FEMA would not provide funding to reduce fuels. There are no minority or low-income populations in the project area; therefore, no disproportionately high and adverse effect would occur.

Proposed Action

The project area was chosen as high-priority for mitigation based solely on the need to protect residences from wildfires; demographics was not a factor in the decision. Furthermore, there are no minority or low-income populations in the project area.

4.6 CUMULATIVE IMPACTS

CEQ regulations for implementing NEPA require an assessment of cumulative effects during the decision-making process for Federal projects. Cumulative effects are defined as “the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions” (40 CFR 1508.7). Cumulative effects were determined by combining the effects of these alternatives with other past, present, and reasonably foreseeable future actions.

Vegetation management activities in the greater Mill Creek Municipal Watershed (which includes Umatilla and Wallowa Counties to the south in Oregon), similar in scale to those of the Proposed Action, would further reduce the possibility of an intense fire in the project area. Vegetation management across a wider area would result in both adverse and beneficial impacts to vegetation and wildlife. Beneficial cumulative effects would include the preservation of largely intact existing stands of wildlife-dependent trees and other vegetation. These beneficial effects may occur if catastrophic loss of wildlife habitat is prevented. Adverse impacts would include the removal of some vegetation suitable for wildlife. However, these adverse impacts are considered minor.

The Proposed Action and other vegetation management activities that are planned within the greater Mill Creek Municipal Watershed are not expected to have adverse cumulative impacts to geology, soils, and climate; water resources, wetlands, and floodplains; fish (including ESA-listed species and habitat); historic, archaeological, and cultural resources; or socioeconomic and environmental justice, as no project impacts are anticipated.

Although the Proposed Action, when combined with other planned wildfire mitigation activities in the region, would reduce the risk of large wildfire-caused greenhouse gas emissions, the cumulative beneficial effects would be negligible from an overall climate change standpoint.

SECTION FIVE AGENCY COORDINATION AND PUBLIC INVOLVEMENT

During project development, the project subapplicant coordinated with surrounding jurisdictions, local agencies, homeowners, and landowners in the project area. During preparation of this EA, the SHPO and the following Tribes were also contacted for comment: the Confederated Tribes of the Colville Reservation (Washington) and the Confederated Tribes of the Umatilla Reservation (Oregon). SHPO concurrence was received June 6, 2011. The Tribes did not have any comments on the draft EA.

A public notice was required for the draft EA (Appendix D). The public, Tribes, and agencies had the opportunity to comment on the EA for 30 days after the publication of the notice, from May 25, 2011 through June 24, 2011. The notice identified the action, location of the proposed site, participants, location of the draft EA, and who to write to provide comments. No public substantive comments were received.

The following plans are relevant to public involvement efforts supporting this EA.

5.1 WALLA WALLA COUNTY MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

The County updated the Walla Walla County Multi-Jurisdictional Hazard Mitigation Plan in 2010. The plan identifies hazard mitigation goals, objectives, and proposed projects that will reduce or prevent injury or damage from hazards. The lead agency developing the plan was the Walla Walla County Emergency Management Department. Other consulting entities included cities, fire districts, schools, flood control districts, other local agencies, and the public.

The four primary natural hazards are earthquakes, severe storms, wildfires, and floods. The likelihood of a major wildfire in the County in the next 25 years is rated as high. The Proposed Action is listed in the plan as a primary mitigation action (Walla Walla County 2010b).

5.2 MILL CREEK COMMUNITY WILDFIRE PROTECTION PLAN

The Mill Creek Community Wildfire Protection Plan (2006) includes the Mill Creek Municipal Watershed and surrounding National Forest lands. The purpose of the plan is to assess wildfire hazards in and around the Mill Creek drainage area, consider options for reducing the risk of a major wildfire, and detail the effects that may occur in the event of a major wildfire. A Steering Committee with representatives from agencies and public interest groups was formed to provide guidance for the planning process.

Creating defensible space, improving access for firefighters, and reducing hazard loads were listed as high priorities of the plan (Hulbert 2006).

Permitting, Project Conditions, and Mitigation Measures

SECTION SIX PERMITTING, PROJECT CONDITIONS, AND MITIGATION MEASURES

Permits are not required for the proposed project. Activities at the Proposed Action sites will comply with the project's scope of work methodology as described in Section Three. The County will comply with the following project conditions and mitigation measures:

- Project activities will not occur within the County's established stream buffers:
 - Mill Creek and Blue Creek: 100-foot buffer
 - Dry Creek: 75-foot buffer
 - Spring Creek: 50-foot buffer
 - Little Blue Creek: 35-foot buffer
- Vegetation removal should occur in late summer and early fall, outside of the typical migratory bird-nesting season, which ranges from March through August. If removal activities must take place during the nesting season, a qualified professional will conduct a breeding bird survey before removal activities begin to avoid or minimize disturbance.
- The County is responsible for selecting, implementing, monitoring, and maintaining Best Management Practices to control erosion and sedimentation, reduce spills and pollution, and provide habitat protection.
- The County is responsible for securing all applicable local, state, and federal permitting before site work and complying with conditions therein.
- In the event that potentially significant cultural resources are discovered during project activities, and in compliance with State and Federal laws protecting cultural resources, including Section 106 of the NHPA, work in the immediate vicinity will cease, the area will be secured, and the SHPO and FEMA will be notified.
- Any change to the approved scope of work will require re-evaluation for compliance with NEPA and other laws and EOs, before implementation.

SECTION SEVEN CONCLUSION

The draft EA evaluated environmental and historic resources that could be affected by the Proposed Action. The evaluation did not identify any significant adverse impacts associated with the resources of geology, soils, and climate; water resources, wetlands, and floodplains; wildlife, fish, and vegetation (including ESA-listed species and critical habitat); historic, archaeological, and cultural resources; and socioeconomic and environmental justice. Implementing the Proposed Action, along with any conditions associated with permits or approvals, is expected to avoid or minimize adverse effects associated with the action. FEMA will issue a Finding of No Significant Impact for the Proposed Action.

SECTION EIGHT LIST OF PREPARERS

URS Group, Inc.

Anisa Becker, Architectural Historian
Julie Blakeslee, AICP, Senior Planner
Marissa Gifford, Environmental Planner
Mike Kelly, RPA, Archaeologist
Bill Mavros, Senior Fisheries Biologist
Sarah McDaniel, RPA, Archaeologist
Jennifer Pretare, PhD, Senior Biologist
Jeff Walker, PWS, Biologist

FEMA

Science Kilner, FEMA Reviewer

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Appendix A
Figures

Figure 1–Project Vicinity Map

Figure 2–Proposed Project–Overview

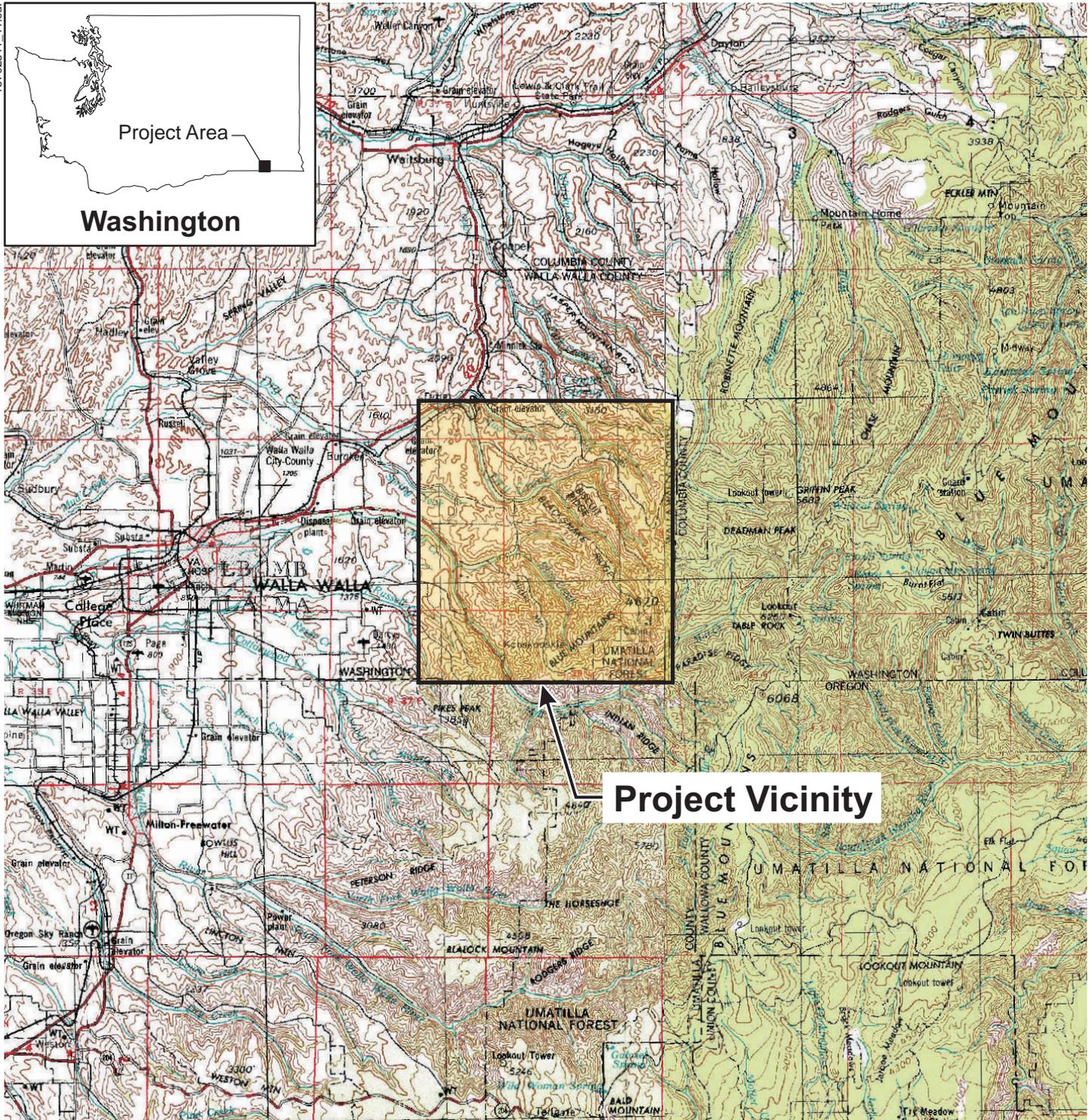
Figure 3–Proposed Project–South

Figure 4–Proposed Project–North

Figure 5–Treatment Methodology

Figure 6–Treated Home (example)

Figures 7a-7e–Properties Potentially Eligible for listing in the National Register of Historic
Places



Source: USGS 1x2 degree topographic quadrangles: Pendleton, Oregon, 1973; Grangeville, Oregon, 1978; Walla Walla, Washington, 1980; and Pullman, Washington, 1974

Figure 1
Project Vicinity Map

