Draft Finding of No Significant Impact

Environmental Assessment for Military Operations on Urban Terrain (MOUT) Site Improvements and Construction of Additional Firebreaks at Raymond F. Rees Training Center Morrow and Umatilla Counties, Oregon

Pursuant to the National Environmental Policy Act of 1969 (NEPA), 42 USC Sections 4321 et seq., and the NEPA implementation regulations 40 CFR Part 1500, the Oregon Military Department (OMD) prepared an environmental assessment (EA) to evaluate the potential impacts resulting from two near-term (within 5 years) infrastructure projects at Raymond F. Rees Training Center (RTC). The EA is incorporated by reference into this Finding of No Significant Impact (FNSI).

Description of the Proposed Action

The OMD's Proposed Action consists of the following two components: (1) improvements to the existing Military Operations on Urban Terrain (MOUT) site, including recontouring portions of existing terrain using predominantly onsite materials, creating dry riverbeds, constructing berms, removing sections of existing paved roads, and other venue development (i.e., prison compound, cemetery, farmhouse, and residential areas), and (2) construction of additional firebreaks to augment the approved firebreaks on RTC

The purpose of implementing improvements to the MOUT site is to provide Soldiers with more effective MOUT training opportunities reflective of real-world conditions. Improvements to the existing RTC MOUT site are needed for the RTI to train Infantry tasks to the U.S. Army Training and Doctrine Command (TRADOC) standards defined in the Army's Programs of Instruction (POIs) and so that Soldiers can complete training requirements defined by the POIs, such as tactical training (fire team), urban rifle marksmanship, urban operations, and tactical training (squad tactics). Descriptions of an urban environment in Army Techniques Publication No. 3-06, *Urban Operations* (Department of the Army and U.S. Marine Corps, 2017), explain why contoured, dynamic, and complex terrain in and around a built-up area is necessary in a MOUT site. The Proposed Action would enhance the MOUT site at RTC with more complex topography and scenarios, ensuring Oregon Army National Guard (ORARNG) Soldiers are adequately prepared to fight on urbanized terrain.

The purpose of constructing additional firebreaks at RTC is to minimize the risk of wildland fire and control the spread of fires on RTC in accordance with RTC's Integrated Wildland Fire Management Plan (IWFMP; OMD, 2020). Construction of additional firebreaks on RTC to augment firebreaks approved under the *Environmental Assessment for Expanded Operations at the Oregon Army National Guard's Camp Umatilla Oregon* (ORARNG, 2018a) is needed to meet the goals and objectives established in the IWFMP, which include reducing the probability of a fire moving into high value areas on RTC or off installation. RTC's IWFMP and the onsite expertise of RTC's Wildland Fire Manager indicate the firebreaks on RTC should be wider to increase effectiveness. The ORARNG Wildland Fire Chief has determined the size and location of firebreaks needed at RTC based on weather conditions, vegetation, topography, location of high-risk areas (such as live-fire ranges), and the history of wildfires on RTC.

MOUT Site Improvements

Improvements to the existing MOUT site would occur within the approximately 400-acre G-block at RTC and would result in the disturbance of approximately 92 acres. One hundred total acres of new ground disturbance for the development of MOUT training areas in G-block, K-block, and southwest of I-block on RTC already were analyzed in the *Environmental Assessment for Expanded Operations at the Oregon Army National Guard's Camp Umatilla Oregon* (ORARNG, 2018a). The disturbance that OMD previously proposed for MOUT training areas in RTC's K-block and southwest of I-block would be relocated to G-block at RTC.

Construction of Additional Firebreaks

Fire protection measures, such as the clearing or control of vegetation in approximately 16-foot-wide strips, were approved along approximately 40 miles of roads and trails at RTC under the *Environmental Assessment for Expanded Operations at the Oregon Army National Guard's Camp Umatilla Oregon* (ORARNG, 2018). To meet the goals and objectives in RTC's *Integrated Wildland Fire Management Plan* (OMD, 2020), OMD proposes to increase the width of the existing firebreaks from 16 feet to 50 feet along 9.5 miles by disking and construct 8.1 miles of new 50-foot-wide disked firebreaks. Firebreaks would be maintained through annual disking. There would be approximately 88 total acres of ground disturbance related to the expansion of existing firebreaks and the construction of new firebreaks. Weeds within the firebreaks would be managed using biological, mechanical, and/or chemical control methods in accordance with the ORARNG's *Integrated Pest Management Plan* (OMD, 2012).

Alternatives Considered

The OMD considered the following alternatives to implementing MOUT site improvements: (1) construct improved MOUT site on alternate blocks on RTC, (2) conduct MOUT training at Biak Training Center in Powell Butte, Oregon, and (3) conduct MOUT training at Yakima Training Center in Yakima, Washington. The OMD considered the following alternative to constructing additional firebreaks: construct vegetative firebreaks instead of disked firebreaks. These alternatives were eliminated from further consideration because they did not meet one or more of the following screening criteria used by the OMD to evaluate possible alternatives for the Proposed Action: meets purpose and need, economically feasible, supports infrastructure and training efficiency and effectiveness, and is located within an area with few known environmental constraints or that is previously disturbed.

Two alternatives were examined in detail in the EA: (1) Proposed Action (Preferred Alternative), and (2) No Action Alternative. The No Action Alternative represents baseline conditions that are used for comparison to future conditions that would exist under the Proposed Action. Under the No Action Alternative, the Proposed Action would not be implemented. Existing operations would continue at current levels in the existing facilities and training areas. Under the No Action Alternative, OMD would not meet training standards and there would be increased fire risk.

Potential Environmental Impacts

As required by NEPA, the EA prepared for RTC contains a comprehensive evaluation of the existing conditions and environmental consequences of implementing the Proposed Action and the No Action Alternative. Based on the findings of the EA, there would be no significant impact on any environmental resources resulting from the Proposed Action or the No Action Alternative. The EA includes best management practices to minimize impacts to air quality, noise, soils, water resources, biological resources, cultural resources, health and safety, and hazardous and toxic materials and wastes under the Proposed Action.

Public Review and Comment

The EA and Draft FNSI are available to the public for review and comment for a period of 30 days. The public notice was published in the *East Oregonian* newspaper on July 23, 2022. Copies of the EA and Draft FNSI are available at the Hermiston Public Library until August 22, 2022, and online at https://www.oregon.gov/omd/installations/Pages/Environmental.aspx or by sending mail to: Mr. James Arnold, Oregon Military Department, AGI-ENV, 1776 Militia Way SE, Salem, Oregon, 97309, or email to: james.g.arnold22.nfg@mail.mil.

NEPA Determination

Based on the findings of the EA, there would be no significant impacts resulting from the Proposed Action or the No Action Alternative. This FNSI was prepared to accompany the EA, which concludes that preparation of an environmental impact statement is not required for this Proposed Action.

Approved by:

_____ _____

ANTHONY HAMMETT Date
Colonel, U.S. Army
Chief, G-9, Army National Guard

Final Environmental Assessment

For

Military Operations on Urban Terrain (MOUT) Site Improvements and Construction of Additional Firebreaks at Raymond F. Rees Training Center

Morrow and Umatilla Counties, Oregon

Oregon Military Department

1776 Militia Way SE
Salem, OR 97309

July 2022

Environmental Assessment Organization

This Environmental Assessment (EA) analyzes the potential environmental, socioeconomic, and cultural impacts of implementing two proposed near-term (within 5 years) infrastructure projects at Raymond F. Rees Training Center (RTC): improvements to the existing Military Operations on Urban Terrain (MOUT) training site and construction of additional firebreaks to augment approved firebreaks on RTC. The potential impacts of the Proposed Action are analyzed in this EA as required by the National Environmental Policy Act of 1969 (NEPA) (42 *United States Code* [USC] Section 4321 et seq.), the Council on Environmental Quality (CEQ) Regulations Implementing the Procedural Provisions of NEPA (*Code of Federal Regulations* [CFR] Title 40, Parts 1500–1508), and are consistent with 32 CFR Part 651 (*Environmental Analysis of Army Actions*, Final Rule), Army Regulation (AR) 200-1, and the 2011 *Army National Guard (ARNG) NEPA Handbook, Guidance on Preparing Environmental Documentation for ARNG Actions in compliance with the National Environmental Policy Act of 1969* (ARNG, 2011). This EA will facilitate the decision-making process regarding the Proposed Action and its considered alternatives, and is organized as follows:

- **Executive Summary:** Describes the Proposed Action and its considered alternatives; summarizes potential environmental, socioeconomic, and cultural impacts; and compares the potential impacts associated with the considered alternatives, including the No Action Alternative.
- **Section 1.0 – Purpose of and Need for the Proposed Action:** Summarizes the purpose of and need for the Proposed Action; provides relevant background information; and describes the scope of the EA.
- **Section 2.0 – Description of the Proposed Action and Alternatives:** Describes the Proposed Action and alternatives considered by the Oregon Military Department (OMD).
- **Section 3.0 – Affected Environment:** Describes the existing condition of each resource within the Region of Influence for which the considered alternatives are assessed.
- **Section 4.0 – Environmental Consequences:** Identifies potential direct, indirect, and cumulative impacts of implementing the considered alternatives, and identifies proposed mitigation and management measures, where appropriate.
- **Section 5.0 – Comparison of Alternatives and Conclusions:** Compares the considered alternatives with respect to their potential impacts on the resources analyzed in this EA.
- **Section 6.0 – References:** Provides bibliographical information for cited sources.
- **Section 7.0 – List of Preparers:** Identifies the primary preparers of this EA.
- **Section 8.0 – Agencies and Individuals Consulted:** Lists agencies and individuals consulted during preparation of this EA.
- **Appendices:**
  Appendix A: Agency Coordination and Native American Consultation
  Appendix B: Notice of Availability
  Appendix C: Public Involvement
  Appendix D: Air Quality Emissions Calculations and Record of Conformity Analysis
  Appendix E: IPAC Report

Funding Sources: Troop Labor, Range and Training Land Program (RTLP), and Sustainment, Restoration, and Modernization (SRM) funding sources
Proponent: OMD
Fiscal Year: 2022–2027

Environmental Assessment Signature Page

LEAD AGENCY:	National Guard Bureau
COOPERATING AGENCIES:	None
TITLE OF PROPOSED ACTION:	Military Operations on Urban Terrain Training Site Improvements and Construction of Additional Firebreaks at Raymond F. Rees Training Center
AFFECTED JURISDICTION:	Morrow County and Umatilla County, Oregon
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DOCUMENT DESIGNATION: Final Environmental Assessment

ABSTRACT: The OMD proposes to implement two near-term (within 5 years) infrastructure projects at Raymond F. Rees Training Center (RTC) in Morrow and Umatilla counties, Oregon: (1) improvements to the existing Military Operations on Urban Terrain (MOUT) site, including recontouring portions of existing terrain using onsite materials, creating dry riverbeds, constructing berms, removing sections of existing paved roads, and other venue development, and (2) construction of additional firebreaks to augment approved firebreaks on RTC. This EA provides a detailed analysis of the potential direct, indirect, and cumulative impacts that would result from the Proposed Action and the No Action Alternative. Based on the analyses conducted in this EA, there would be no significant adverse impact, either individually or cumulatively, on the environment or quality of life associated with the implementation of the Proposed Action.

Executive Summary

This Environmental Assessment (EA) analyzes the potential environmental impacts of two proposed near-term (within 5 years) infrastructure projects at Raymond F. Rees Training Center (RTC): (1) improvements to the existing Military Operations on Urban Terrain (MOUT) site, including recontouring portions of existing terrain using onsite materials, creating dry riverbeds, constructing berms, removing sections of existing paved roads, and other venue development (i.e., prison compound, cemetery, farmhouse, and residential areas), and (2) construction of additional firebreaks to augment approved firebreaks on RTC. A MOUT site is a mock city used to conduct situational training exercises intended to simulate a realistic urban environment. This EA modifies and expands the previously approved MOUT site development and firebreak projects in the *Environmental Assessment for Expanded Operations at the Oregon Army National Guard's Camp Umatilla Oregon* (ORARNG, 2018a). Camp Umatilla Oregon was renamed the Raymond F. Rees Training Center in March 2022. Installation plans and documents cited in this EA were developed prior to the name change and, therefore, refer to the installation as Camp Umatilla Oregon. This EA has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) (42 *United States Code* [USC] Sections 4321 et seq.) and the Council on Environmental Quality Regulations Implementing the Procedural Provisions of NEPA (*Code of Federal Regulations* [CFR] Title 40, Parts 1500-1508), and it is consistent with 32 CFR Part 651 (*Environmental Analysis of Army Actions*, Final Rule), Army Regulation 200-1, and U.S. Army National Guard NEPA Handbook Volumes I–III.

Purpose and Need

Component Action 1: MOUT Site Improvements

The purpose of Component Action 1 is to provide Soldiers with more effective MOUT training opportunities reflective of real-world conditions. Improvements to the existing MOUT site, which has been built progressively since 2018, are needed in order for the Regional Training Institute (RTI) to train Infantry tasks to the U.S. Army Training and Doctrine Command (TRADOC) standards defined in the Army's Programs of Instruction (POIs) and so that Soldiers can complete training requirements defined by the POIs, such as tactical training (fire team), urban rifle marksmanship, urban operations, and tactical training (squad tactics). Descriptions of an urban environment in Army Techniques Publication No. 3-06, *Urban Operations* (Department of the Army and U.S. Marine Corps, 2017), explain why contoured, dynamic, and complex terrain in and around a built-up area is necessary in a MOUT site.

Component Action 2: Construction of Additional Firebreaks

The purpose of Component Action 2 is to minimize the risk of wildland fire and control the spread of fires on RTC in accordance with RTC's draft *Integrated Wildland Fire Management Plan* (IWFMP; OMD, 2020). Construction of additional firebreaks on RTC to augment firebreaks approved under the *Environmental Assessment for Expanded Operations at the Oregon Army National Guard's Camp Umatilla Oregon* (ORARNG, 2018a) is needed to meet the goals and objectives established in the draft IWFMP, which include reducing the probability of a fire moving into high value areas on RTC or off installation.

Proposed Action

The Proposed Action consists of the following two components:

1) Improvements to the existing MOUT site (refer to Figure 2-1).
2) Construction of additional firebreaks (refer to Figure 2-2).

MOUT Site Improvements

Improvements to the existing MOUT site would occur within the approximately 400-acre G-block[1] at RTC and would result in disturbance of approximately 92 acres (refer to Figure 2-1). One hundred total acres of new ground disturbance for the development of MOUT trainings areas in G-block, K-block, and southwest of I-block on RTC already were analyzed in the *Environmental Assessment for Expanded Operations at the Oregon Army National Guard's Camp Umatilla Oregon* (ORARNG, 2018a). The disturbance that OMD previously proposed for MOUT training areas in RTC's K-block and southwest of I-block would be relocated to G-block at RTC.

The majority of the MOUT construction would be completed using one piece of heavy equipment at a time, plus the addition of a dump truck, as needed. The only potential time when multiple pieces of equipment (3 to 5) would be operating concurrently, would be if an OMD's Engineering Unit participated in construction during their 2-week Annual Training event in the summer. All temporary disturbance associated with construction activities would be reseeded with a local, native plant mix, in accordance with RTC's natural resource management strategies, once construction is complete.

To add more features to the topography at the MOUT site, berms and rolling hills would be constructed using predominately onsite materials. The heights of the berms and rolling hills would be variable, from 2 to 3 feet high and points over 12 to 16 feet high, to obscure the line of sight for training. Materials used to create the berms and hills may include crushed concrete from earthen-covered storage igloos that were demolished at RTC and local soil. Once constructed, the rolling hills and berms would be seeded with a local, native plant mix.

The constructed dry riverbeds would be approximately 65 to 98 feet wide at the top, 6.5 feet wide at the bottom, and have an average depth of 6.5 feet. At least four culverts and one bridge would be installed in locations where the proposed constructed dry riverbeds intersect maneuver trails or roadways.

Sections of the existing paved roads would be removed. The removed pavement would be ground up and used as a topcoat over existing or new trails.

The completed MOUT site would include, but not be limited to, between seven and eight training venues and scenarios. OMD would construct new buildings from a variety of materials, including CONEX boxes, concrete masonry units, concrete tilt-up facades, and wood. New training venues developed would include a prison compound, cemetery, farmhouse, and residential areas.

Construction of Additional Firebreaks

Fire protection measures, such as the clearing or control of vegetation in approximately 16-foot-wide strips, were approved along approximately 40 miles of roads and trails at RTC under the *Environmental Assessment for Expanded Operations at the Oregon Army National Guard's Camp Umatilla Oregon* (ORARNG, 2018a). RTC's draft IWFMP and the onsite expertise of RTC's Wildland Fire Manager indicate the firebreaks should be wider to increase effectiveness. To meet the goals and objections in RTC's draft IWFMP (OMD, 2020), the Oregon Military Department (OMD) proposes to increase the width of the existing firebreaks from 16 feet to 50 feet along 9.5 miles by disking and construct 8.1 miles of new 50-foot-wide, disked firebreaks. RTC's IWFMP is in draft form and is expected to be finalized and signed within the next 180 days. NEPA analysis of the IWFMP is addressed through the Army's *Programmatic Environmental Assessment for Natural Resources Management Planning Compliance at AMC Installations* (Department of the Army, 2019). Firebreaks would be maintained through annual disking. There would be

[1] Blocks refer to the original UCD grouping of storage bunkers. The blocks tended to store similar elements and were separated from other areas by open space. The grids visible in the aerial imagery on Figure 2-1 are existing or removed igloos previously used by the Army for munitions storage.

approximately 88 total acres of ground disturbance related to the expansion of existing firebreaks and the construction of new firebreaks.

OMD will evaluate weed prevention and control measures and the use of soil stabilizers on disked firebreaks to limit the growth of non-native, invasive, and noxious weed species and other plants, prevent soil erosion, and provide overall firebreak maintenance. Weeds would be managed using biological, mechanical, and/or chemical control methods in accordance with the ORARNG's Integrated Pest Management Plan (OMD, 2012).

Alternatives

Under NEPA and 32 CFR Part 651, this EA is required to analyze the potential environmental impacts of the Proposed Action, No Action Alternative, and reasonable alternatives. Screening criteria may include requirements or constraints associated with operational, technical, environmental, budgetary, and time factors. Alternatives determined to be not reasonable are eliminated from detailed analysis in this EA.

Alternatives Development (Screening Criteria)

MOUT Site Improvements – The primary criteria used to screen alternatives for improvements to the existing MOUT site (Component Action 1) included: meets purpose and need, economically feasible (within the realm of historical recorded funding levels), supports infrastructure and training efficiency and effectiveness, and located in an area with few known environmental constraints or previously disturbed.

Construction of Additional Firebreaks – The primary criteria used to screen alternatives for construction of additional firebreaks (Component Action 2) included: meets purpose and need, economically feasible (within the realm of historical recorded funding levels), and located in an area with few known environmental constraints.

Evaluated Alternatives

Proposed Action (Preferred Alternative)

The Proposed Action is to implement two identified near-term infrastructure projects at RTC, including MOUT site improvements (Component 1) and construction of additional firebreaks (Component Action 2). The Proposed Action meets all the screening criteria used to evaluate alternatives; therefore, it is a reasonable alternative and is analyzed in detail in this EA. The Proposed Action is described in detail in Section 2.1.

No Action Alternative

The No Action Alternative is to maintain existing conditions. Under the No Action Alternative, there would be no improvements to the existing MOUT site, including recontouring portions of the existing terrain using onsite materials, creating dry riverbeds, creating berms, removing sections of existing paved roads, and other venue development, and no construction of additional firebreaks to augment approved firebreaks on RTC. The MOUT site would continue to lack complex venues/scenarios and varied topography, making it difficult for Soldiers to maneuver to targets unseen. Without improvements to the MOUT site, the RTI would be unable to train Infantry tasks to the TRADOC standards defined in the Army's POIs. The ORARNG cannot meet many of the specific training requirements defined by the POIs without an updated MOUT site, including tactical training (fire team), urban rifle marksmanship, urban operations, and tactical training (squad tactics). The RTI trains nine classes per year that require the use of the MOUT site. That number may fluctuate each year and is expected to increase if the facilities at RTC can support increased training. The ability to control the risk and spread of wildland fires at RTC would continue to be impeded by ineffective firebreaks. While the No Action Alternative would not satisfy the purpose of, or need for, the Proposed Action, this alternative was retained to provide a comparative baseline against which to analyze the effects of the Proposed Action, as required under Council on Environmental Equality

Regulations (40 CFR Section1502.14). The No Action Alternative reflects the status quo and serves as a benchmark against which the effects of the Proposed Action can be evaluated.

Alternatives Eliminated from Further Consideration

Alternative 1 for Component Action 1 – Construct Improved MOUT Site on Alternate Blocks at RTC

Early discussion regarding siting of the improved MOUT site included the possibility of constructing MOUT venues on alternate blocks at RTC. The *ORARNG Umatilla Training Center Land Use Plan* (ORARNG, 2015) and the *Environmental Assessment for Expanded Operations at the Oregon Army National Guard's Camp Umatilla Oregon* (ORARNG, 2018a) proposed developing three MOUT sites on RTC, most near the boundaries of the installation. It has since been determined that having three geographically different MOUT sites is not necessary to accomplish training. To maximize the training value of the MOUT site, Soldiers must be able to approach the site from all sides. Therefore, locations that abut the property boundary were eliminated from consideration and the centrally located G-block was selected as the preferred location.

Alternative 2 for Component Action 1 – ORARNG to Conduct MOUT Training at Biak Training Center in Powell Butte, Oregon

Under this alternative, ORARNG considered using the existing MOUT site at the Biak Training Center (BTC) in Powell Butte, Oregon, to meet its training needs. The BTC is located on approximately 31,400 acres of federal public land managed by the Bureau of Land Management and is approximately 210 miles from RTC. The terrain at BTC offers more topographic complexity than RTC. Traveling to BTC from RTC by Army bus would include an approximately 4.2-hour drive plus additional time and logistics for transporting and dispersing gear and equipment. The ORARNG trains military personnel on these public lands through a special use permit provided by the Bureau of Land Management (OMD, 2001). The ORARNG recently lost the use of the live-fire range at BTC. Typically, when a unit travels to an area, they want to complete as many training, qualification, and certification tasks as possible. RTC is preferable over the BTC because RTC offers MOUT training and live-fire training, qualification, and certification at one location. In addition, the training environment at BTC is notably different from RTC, given that it is targeted towards mounted maneuver training with larger units and RTC is designed for dismounted maneuvers with smaller units. For these reasons, conducting MOUT training at BTC was eliminated from further consideration.

Alternative 3 for Component Action 1 – ORARNG to Conduct MOUT Training at Yakima Training Center in Yakima, Washington

Instead of improving the existing MOUT site at RTC, ORARNG considered having Soldiers conduct MOUT training at the Yakima Training Center (YTC) in central Washington, which is approximately 120 miles from RTC. Traveling to YTC from RTC by Army bus would include an approximately 2.4-hour drive plus additional time and logistics for transporting and dispersing gear and equipment. YTC is a 327,000-acre sub-installation of Joint Base Lewis-McChord and is the nearest military installation to RTC with MOUT sites. The MOUT site at YTC has more topography than RTC. YTC is used not only by the Joint Base Lewis-McChord and U.S. Army National Guard units, but also by Special Operations Command, Marine Corps, Air Force, Navy, and Coast Guard units, local and federal law enforcement, and allied forces from Canada and Japan (U.S. Army, 2020). ORARNG has faced difficulties in the past when attempting to schedule training at the widely used YTC, including lack of availability and being bumped off the schedule to cater to active-duty Soldiers. Additionally, further travel distances and higher costs are associated with a unit traveling out of state for training. For these reasons, ORARNG determined that conducting MOUT training at YTC is not a feasible option and eliminated it from further consideration.

Alternative 1 for Component Action 2 – Construction of Vegetative Firebreaks Instead of Disked Firebreaks

OMD considered the construction of vegetative fuel breaks, known as green strips, as an alternative to disked firebreaks. Green-stripping is the practice of establishing or using patterns of fire resilient vegetation to reduce the size and frequency of wildfires. Developing a new green strip requires the removal of the existing vegetation, preparation of a seedbed, and the seeding of adapted plant material. Since cheatgrass is a major component of the pre-existing vegetation at RTC, additional steps in seedbed preparation would be required to reduce the cheatgrass seed bank that is present in the soil. In most sagebrush-grass vegetation communities, 200 to 300 foot wide or greater green strips are recommended. Establishing green strips at RTC would require some form of irrigation. There is a lack of existing irrigation infrastructure at RTC as well as strict limits on the amount of water that can be used for irrigation. Due to the lengthy and costly process of establishing green strips, the required large width of green strips, and the lack of irrigation means at RTC, OMD eliminated the option of vegetative fuel breaks at RTC from further consideration.

Public and Agency Involvement

The OMD sent letters on August 30, 2021, to appropriate federal, state, and local agencies and federally recognized Native American Tribes notifying them of the project and scope of this EA and providing an opportunity for involvement in the environmental review process. Agencies, individuals, and Tribes consulted during preparation of this EA are provided in Section 8, and correspondence is included in Appendix A. A Notice of Availability was published in the *East Oregonian* newspaper to announce the 30-day availability of the Final EA and Draft Finding of No Significant Impact for public review and comment (Appendix B). Copies of the documents were made available at the Hermiston Public Library and online at https://www.oregon.gov/omd/installations/Pages/Environmental.aspx during the public review period. Comments received during the 30-day comment period will be included in Appendix C.

Summary of Environmental Consequences

The impacts on environmental and socioeconomic resources resulting from implementation of the Proposed Action and No Action Alternative are summarized in Table ES-1. Floodplains, socioeconomics, and environmental justice and protection of children are not discussed in Table ES-1 because there is no potential for significant or adverse impacts on these resources.

Table ES-1. Impacts Comparison Matrix

Technical Resource Area	Proposed Action	No Action Alternative
Land Use (Section 4.1)	**Long-term beneficial** impacts due to aligning with existing site development and master planning goals for the installation and maximizing the value of training land.	**Long-term, less-than-significant, adverse** impacts from not developing the installation in accordance with site development and master planning goals.
Air Quality (Section 4.2)	**Short-term, less-than-significant, adverse** impacts due to construction-related exhaust emissions and generation of dust and other particles in the air. Mobile source emissions also would be generated from vehicular traffic.	**No impact.** Training and operations would continue under current conditions at current locations and levels; no change to pollutant emissions.

Table ES-1. Impacts Comparison Matrix

Technical Resource Area	Proposed Action	No Action Alternative
Noise (Section 4.3)	**Short-term, less-than-significant, adverse** impacts due to construction and disking noise that would be heard only during daytime and only over the duration of the construction period and during annual firebreak maintenance.	**No impact.** No new construction would occur, and existing conditions would continue.
Geology, Topography, and Soils (Section 4.4)	**Short and long-term, less-than-significant, adverse** impacts to soils from vegetation removal, ground disturbance, and potential compaction during construction. Erosion control BMPs would be implemented as necessary. **Long-term, less-than-significant, adverse** impacts to soils from disking, which would leave soils susceptible to wind and water erosion. **Long-term, less-than-significant, adverse** impacts to topography from the creation of both positive (berms and rolling hills) and negative (dry riverbed) relief features.	**No impact.** No new construction would occur, and existing conditions would continue.
Water Resources (Section 4.5)	**Short-term, less-than-significant, adverse** impacts due to an increase in the sediment-load of stormwater discharging offsite; the potential for release of toxic or hazardous materials during disking and construction, which would be completed in accordance with permit requirements; and potential use of herbicides. BMPs would be implemented to minimize impacts. **Long-term beneficial** impacts to stormwater runoff from the removal of over 3 acres of impervious surfaces (paved roads). There would be no direct impacts on jurisdictional wetlands or surface water bodies.	**No impact.** No new construction would occur, and existing conditions would continue.
Biological Resources (Section 4.6)	**Short- and long-term, less-than-significant, adverse** impacts due to removal of vegetation, habitat loss, and disturbance to wildlife from noise generated by construction and disking of firebreaks. **Long-term beneficial** impacts to wildlife from reducing the risk of uncontrolled wildfires that could damage habitats and injure wildlife. There would be no impacts to federal or Oregon-listed threatened or endangered species.	**No impact.** No new construction would occur, and existing conditions would continue.
Cultural Resources (Section 4.7)	**No impacts** to NRHP-eligible resources or other historic or archaeological resources.	**No impact.** No new construction would occur, and existing conditions would continue.
Health and Safety (Section 4.8)	**Short-term, less-than-significant, adverse** impacts from hazards that would be associated with construction, such as loud noise, heavy machinery, debris, electricity, and hazardous	**Long-term, less-than-significant, adverse** impacts from fire and smoke hazards due to ineffective firebreaks.

Table ES-1. Impacts Comparison Matrix

Technical Resource Area	Proposed Action	No Action Alternative
	materials. With implementation of BMPs and applicable OSHA standards and procedures, impacts would be minimal. **Long-term, beneficial** impacts from a reduction in wildfires and associated smoke both on RTC and in the surrounding area.	
Infrastructure (Section 4.9)	**Short-term, less-than-significant, adverse** impacts on traffic from an increase in construction and personal vehicles along local roads during construction. **Long-term, beneficial** impacts due to enhanced efficiency and effectiveness of training infrastructure and reduced potential for wildfires to spread and damage infrastructure.	**Long-term, less-than-significant, adverse** impacts. Training infrastructure at the MOUT site would continue to lack complex venues/scenarios and varied terrain, which would result in less effective training of ORARNG Soldiers. Infrastructure at RTC would be at higher risk of sustaining damage from wildfires as a result of having inadequate firebreaks.
HTMW (Section 4.10)	**Short-term, less-than-significant, adverse** impacts due to potential for inadvertent releases of hazardous materials, such as gasoline, oils, coolant, and lubricants, during construction and disking.	**No impact.** No new construction would occur, and existing conditions would continue.
Cumulative Impacts (Section 4.12)	When added to past, present, and reasonably foreseeable actions, the Proposed Action would not have significantly adverse cumulative impacts on any resource.	When added to past, present, and reasonably foreseeable actions, the No Action Alternative would not have significantly adverse cumulative impacts on any resource.

BMP = best management practice
HTMW = hazardous and toxic materials/wastes
NRHP = National Register of Historic Places
OSHA = Occupational Safety and Health Administration

Summary of Mitigation Measures/Best Management Practices

Per established protocols, procedures, and requirements, the OMD will implement BMPs and will satisfy all applicable regulatory requirements in association with the Proposed Action. BMPs are included as components of the Proposed Alternative, as appropriate, and are described below. No project-specific mitigation measures are needed to reduce impacts to less-than-significant levels. BMPs are identified in Table ES-2 for resource areas that have the potential for less-than-significant adverse impacts.

Table ES-2. Summary of Best Management Practices for the Proposed Action

Technical Resource Area	BMPs
Land Use (Section 4.1)	• No BMPs or other impact minimization measures are necessary.
Air Quality (Section 4.2)	• Fugitive dust generated during construction activities would be controlled at the sites using BMPs, examples of which include, but are not limited to: – Minimizing surface disturbance and construction traffic to the extent practicable – Watering exposed surfaces – Stabilizing exposed soils by seeding or mulching – Applying gravel or other stabilizing material to dirt roads – Enclosing/covering stockpiled material – Covering open-top haul trucks during transit • Soil stabilizers may be used on disked firebreaks to control dust, as necessary
Noise (Section 4.3)	• Limit construction activities to typical daytime working hours. • Require workers to wear appropriate hearing protection. • Continue to adhere to Army noise limits and Statewide Operational Noise Management Plan.
Geology, Topography, and Soils (Section 4.4)	• Appropriate measures and controls would be implemented during construction activities to minimize the potential for soil erosion and sedimentation impacts. These measures and controls would be identified in the SWPPP that would be developed and implemented by OMD as part of the Construction General Permit that would be obtained from EPA for each project disturbing 1 acre or more of land. The specific measures and controls that would be implemented would be determined by OMD based on site conditions and proposed construction methods. Examples of such measures and controls include but are not limited to: – BMPs to control stormwater volume and velocity on the site and to minimize the amount of soil exposed during construction – Soil stabilization measures such as sodding, seeding, mulching, and use of geotextiles – Structural controls such as silt fences, erosion control blankets, and soil tracking prevention devices.
Water Resources (Section 4.5)	• Projects under the Proposed Action that would disturb 1 acre or more of land would be required to obtain a National Pollutant Discharge Elimination System General Permit for Discharges from Construction Activities, often referred to as a Construction General Permit, issued by ORDEQ. As part of each permit, the OMD would be required to prepare and implement an associated SWPPP, which would outline the BMPs and engineering controls to be used to prevent and minimize erosion and sediment-laden stormwater runoff from discharging offsite. The specific measures that would be implemented would be determined by the OMD based on site conditions and the specific requirements identified in the SWPPP. Examples of such practices and controls include, but are not limited to: – Installing silt fences and staked haybales along the perimeter of construction areas to trap sediment in stormwater runoff – Stabilizing exposed soils in construction areas by seeding or mulching – Using erosion control blankets or matting on steep slopes to prevent erosion

Table ES-2. Summary of Best Management Practices for the Proposed Action

Technical Resource Area	BMPs
	– Preventing release of construction materials that could contaminate water resources, such as petroleum, oil, and lubricants, onto exposed soils or into storm drainage features • Hazardous materials used during construction would be managed in accordance with all applicable environmental compliance regulations and ORARNG environmental management plans, thereby minimizing the potential for releases into groundwater. • It is recommended that firebreak maintenance in the area of the National Wetlands Inventory-mapped wetland would be conducted outside of the crop season so that machinery would not bog down.
Biological Resources (Section 4.6)	• Conduct activities in accordance with relevant federal and state laws and regulations, including, but not limited to, the Endangered Species Act (16 USC Sections 1531 *et seq.*), Migratory Bird Treaty Act (16 USC Section 703), EO 13186, and the Bald and Golden Eagle Protection Act • Ground-disturbing activities and vegetation removal would be initiated outside of the nesting season (April through August), as feasible, to reduce the potential for unintentional take of birds. • Any bird nests found during construction at RTC would be avoided to the extent practicable. In the event that a bird nest is found within or adjacent to the construction site, work would be required to immediately stop and OMD environmental staff would be consulted on the protection of the nest before resuming construction activities.
Cultural Resources (Section 4.7)	• The OMD commits to coordinating with cultural resources managers, the Oregon SHPO, and applicable Tribal Historic Preservation Officers to ensure compliance with National Historic Preservation Act requirements, and other applicable laws, regulations, and policies, as necessary. • Should archaeological materials or human remains be inadvertently discovered during construction, all activities in the immediate vicinity of the inadvertent find would immediately cease and the procedures for managing inadvertent discoveries identified in the OMD's ICRMP and SOPs would be implemented for the protection of the find, including procedures for avoidance, notification to applicable Tribes, and initial evaluation of the find.
Health and Safety (Section 4.8)	• To minimize occupational health and safety risks, workers would wear and use appropriate PPE and follow applicable OSHA standards and procedures. • Each construction contractor would be responsible for developing and implementing a health and safety plan for the construction work they conduct at the installation. • Work areas would be clearly marked with appropriate signage and secured against unauthorized entry. • Standard construction traffic control measures would be used to protect workers and installation employees and visitors.
Infrastructure (Section 4.9)	• No BMPs or other impact minimization measures are necessary.

Table ES-2. Summary of Best Management Practices for the Proposed Action

Technical Resource Area	BMPs
HTMW (Section 4.10)	• In the event of an inadvertent spill or release of HTMW, OMD would implement ORARNG's Spill Prevention, Control, and Countermeasure Plan, as well as appropriate federal and state laws and regulations. • HTMW would be handled, stored, and disposed of in compliance with federal and state requirements and installation plans. • OMD would adhere to federal, state, and local pesticide application requirements. • Herbicide applicators would wear appropriate PPE to protect their health and safety.

EPA = U.S. Environmental Protection Agency
ICRMP = Integrated Cultural Resources Management Plan
ORDEQ = Oregon Department of Environmental Quality
PPE = personal protective equipment
SHPO = State Historical Preservation Office
SOP = standard operation procedure
SWPPP = Stormwater Pollution Prevention Plan

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Appendices

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Acronyms and Abbreviations

$\mu g/m^3$	Microgram(s) per Cubic Meter
°F	Degree(s) Fahrenheit
AR	Army Regulation
Army	U.S. Army
ARNG	Army National Guard
B2H	Boardman to Hemingway
BCC	Birds of Conservation Concern
BGEPA	Bald and Golden Eagle Protection Act
BLM	Bureau of Land Management
BMP	Best Management Practice
BRAC	Base Realignment and Closure
BTC	Biak Training Center
CEQ	Council on Environmental Quality
CFR	*Code of Federal Regulations*
CO	Carbon Monoxide
CO_2e	Carbon Dioxide Equivalent
CTUIR	Confederated Tribes of the Umatilla Indian Reservation
dBA	A-weighted decibel(s)
DoD	Department of Defense
EA	Environmental Assessment
EIS	Environmental Impact Statement
EO	Executive Order
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FNSI	Finding of No Significant Impact
GHG	Greenhouse Gas
HTMW	Hazardous and Toxic Materials/Wastes
I	Interstate
ICRMP	Integrated Cultural Resources Management Plan
IPM	Integrated Pest Management
IPMP	Integrated Pest Management Plan
IWFMP	Integrated Wildland Fire Management Plan
MBTA	Migratory Bird Treaty Act
MOU	Memorandum of Understanding
MOUT	Military Operations on Urban Terrain
NAAQS	National Ambient Air Quality Standards
NAGPRA	Native American Graves Protection and Repatriation Act

NEPA	National Environmental Policy Act of 1969
NGB	National Guard Bureau
NHPA	National Historic Preservation Act
NO_2	Nitrogen Dioxide
NOAA	National Oceanic and Atmospheric Administration
NO_x	Nitrogen Oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Service
NRHP	National Register of Historic Places
NSR	New Source Review
NWI	National Wetlands Inventory
NWSTF	Naval Weapons System Training Facility
ODFDW	Oregon Department of Fish and Wildlife
OMD	Oregon Military Department
ORARNG	Oregon Army National Guard
ORDEQ	Oregon Department of Environmental Quality
OSHA	Occupational Safety and Health Administration
PA	Programmatic Agreement
PAM	Pamphlet
PLS	Planning Level Survey
PM_{10}	Particulate Matter Less Than or Equal to 10 Micrometers in Diameter
$PM_{2.5}$	Particulate Matter Less Than or Equal to 2.5 Micrometers in Diameter
POI	Program of Instruction
PPE	Personal Protective Equipment
ppm	Part(s) per Million
RCRA	Resource Conservation and Recovery Act
RTC	Raymond F. Rees Training Center
RTI	Regional Training Institute
RTLP	Range and Training Land Program
SO_2	Sulfur Dioxide
SOP	Standard Operating Procedure
SPCC	Spill Prevention, Control, and Countermeasure
SRM	Sustainment, Restoration, and Modernization
SWPPP	Stormwater Pollution Prevention Plan
TRADOC	U.S. Army Training and Doctrine Command
U.S.	United States
UCD	Umatilla Chemical Depot
USACE	U.S. Army Corps of Engineers
USC	*United States Code*
USCB	U.S. Census Bureau

USFWS	U.S. Fish and Wildlife Service
VOC	Volatile Organic Compound
YTC	Yakima Training Center

1 Purpose of and Need for the Proposed Action

1.1 Introduction

This Environmental Assessment (EA) analyzes the potential environmental impacts of two proposed near-term (within 5 years) infrastructure projects at Raymond F. Rees Training Center (RTC): (1) improvements to the existing Military Operations on Urban Terrain (MOUT) site, including recontouring portions of existing terrain using onsite materials, creating dry riverbeds, constructing berms, removing sections of existing paved roads, and other venue development (i.e., prison compound, cemetery, farmhouse, and residential areas), and (2) construction of additional firebreaks to augment approved firebreaks on RTC. A MOUT site is a mock city used to conduct situational training exercises intended to simulate a realistic urban environment. This EA modifies and expands the previously approved MOUT site development and firebreak projects in the *Environmental Assessment for Expanded Operations at the Oregon Army National Guard's Camp Umatilla Oregon* (ORARNG, 2018a). This EA has been prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) (42 *United States Code* [USC] Sections 4321 et seq.) and the Council on Environmental Quality (CEQ) Regulations Implementing the Procedural Provisions of NEPA (*Code of Federal Regulations* [CFR] Title 40, Parts 1500–1508), and it is consistent with 32 CFR Part 651 (*Environmental Analysis of Army Actions*, Final Rule), Army Regulation (AR) 200-1, and U.S. Army National Guard (ARNG) NEPA Handbook Volumes I–III.

Camp Umatilla Oregon was renamed the Raymond F. Rees Training Center in March 2022. Installation plans and documents cited in this EA were developed prior to the name change and, therefore, refer to the installation as Camp Umatilla Oregon. RTC is a 7,500-acre training installation in a portion of the former U.S. Army Umatilla Chemical Depot (UCD) that is located in both Morrow and Umatilla counties and at the northwest corner of the junction of Interstate (I)-82 and I-84 (refer to Vicinity Map, Figure 1-1). The UCD was an Army ordnance depot from 1941 until 2011, used for the management and storage of munitions and chemical agents. Base Realignment and Closure (BRAC) legislation recommended the UCD for closure on completion of the chemical demilitarization mission. The Army closed the UCD as an active military installation on August 1, 2012, and is proceeding with disposal of the property through a variety of land conveyances consistent with the requirements of the 2005 BRAC process. Approximately 7,500 acres of the property were transferred to the Oregon Army National Guard (ORARNG) (ORARNG, 2018a). RTC is home to the 249th Regional Training Institute (RTI), which is the premier ARNG training institute in the Pacific Northwest, offering Infantry transition courses and advanced Infantry leader training. This training installation is being improved to provide individual and group training for units up to battalion size, including annual training for the ORARNG. The proposed improvements to the existing MOUT site would create varied terrain and obstacles, providing Soldiers with more effective training opportunities reflective of real-world conditions, and add firebreaks to increase RTC's ability to minimize the risk of wildland fire and control the spread of fires on the installation.

1.2 Purpose and Need

The Proposed Action consists of two distinct components, herein referred to as Component Action 1 and Component Action 2. Individually, each action has its own purpose and need. The purpose and need for each component of the Proposed Action are described in the subsections that follow.

1.2.1 Component Action 1: MOUT Site Improvements

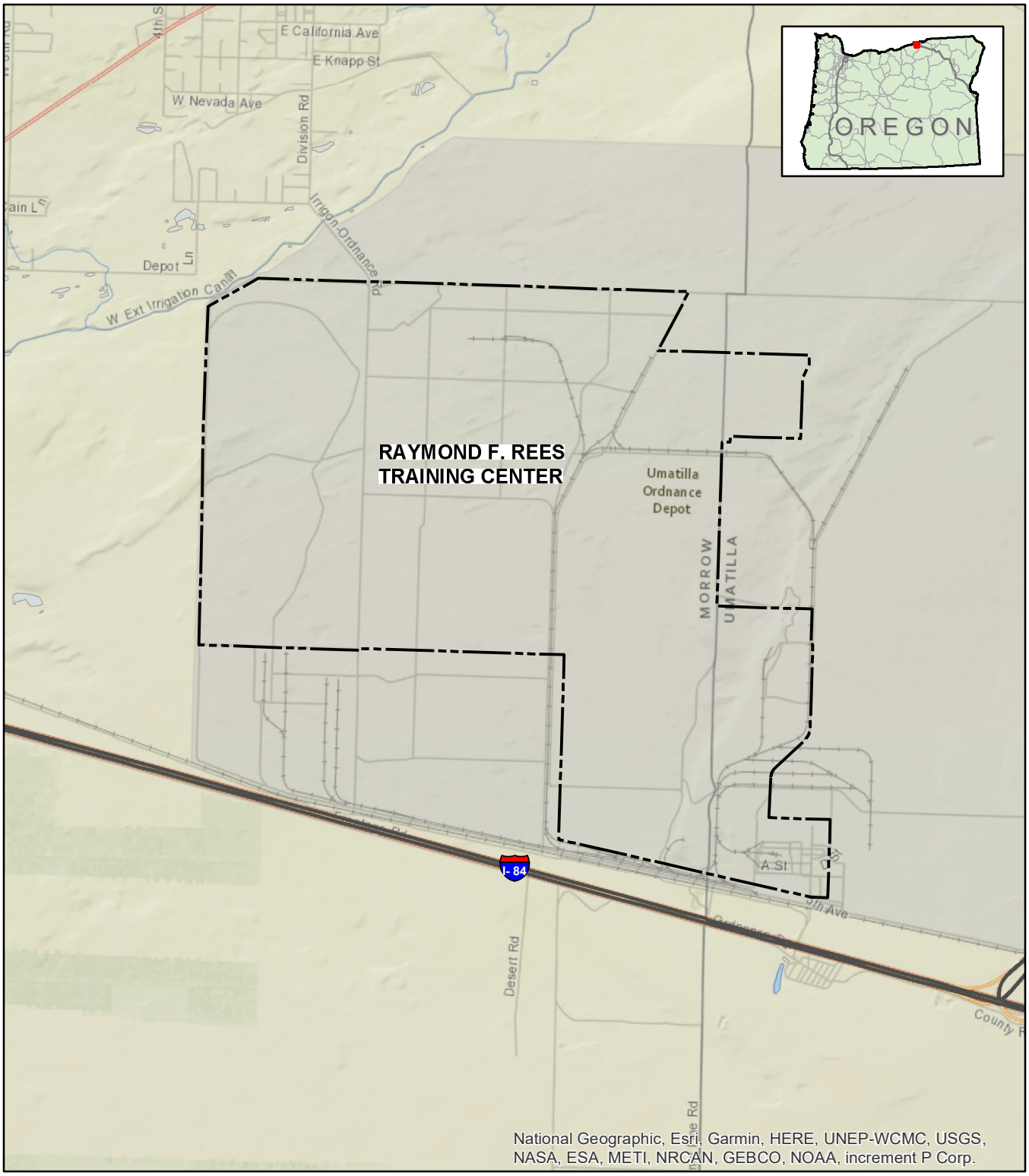
The purpose of Component Action 1 is to provide Soldiers with more effective MOUT training opportunities reflective of real-world conditions. More than 50 percent of the world's population live in urban areas and is likely to increase to 70 percent by 2050, making military operations in cities both inevitable and the norm (Department of the Army and U.S. Marine Corps, 2017). Improvements to the

existing RTC MOUT site, which has been built progressively since 2018, are needed in order for the RTI to train Infantry tasks to the U.S. Army Training and Doctrine Command (TRADOC) standards defined in the Army's Programs of Instruction (POIs) and so that Soldiers can complete training requirements defined by the POIs, such as tactical training (fire team), urban rifle marksmanship, urban operations, and tactical training (squad tactics). Descriptions of an urban environment in Army Techniques Publication No. 3-06, *Urban Operations* (Department of the Army and U.S. Marine Corps, 2017), explain why contoured, dynamic, and complex terrain in and around a built-up area is necessary in a MOUT site. A primary complaint by Soldiers using the existing RTC MOUT site is the lack of features in the topography, which makes it easy to spot an opponent far in the distance. The Proposed Action would enhance the MOUT site at RTC with more complex topography and scenarios, ensuring ORARNG Soldiers are adequately prepared to fight on urbanized terrain. The nearest MOUT site to RTC is located at the Yakima Training Center (YTC) in Yakima, Washington, approximately 120 miles away.

The following pictures are included to provide the reader with a visual example of what these training areas look like.

Photo 1: Existing MOUT site at RTC

Photo 2: MOUT Site at Camp Rilea, Oregon



Legend

- Installation Boundary
- Waterbody
- Interstates
- Oregon Roads

N

0 0.5 1 2

Miles

Figure 1-1
Vicinity Map

Raymond F. Rees Training Center

Jacobs

The need to implement the identified projects over the near term is driven by the vital functions they provide and their overall importance to the mission of the ORARNG. Not implementing the proposed projects over the near term would adversely impact unit training and readiness over the long term.

1.2.2 Component Action 2: Construction of Additional Firebreaks

The purpose of Component Action 2 is to minimize the risk of wildland fire and control the spread of fires on RTC in accordance with RTC's draft *Integrated Wildland Fire Management Plan* (IWFMP; OMD, 2020). Construction of additional firebreaks on RTC to augment firebreaks approved under the *Environmental Assessment for Expanded Operations at the Oregon Army National Guard's Camp Umatilla Oregon* (ORARNG, 2018a) is needed to meet the goals and objectives established in the draft IWFMP, which include reducing the probability of a fire moving into high value areas on RTC or off installation. The ORARNG Wildland Fire Chief has determined the size and location of firebreaks needed at RTC based on weather conditions, vegetation, topography, location of high-risk areas (such as live-fire ranges), and the history of wildfires on RTC. There is a history of wildland fires caused by human or lightning ignitions within the former UCD and RTC. Between June 2001 and August 2009, 39 wildland fires were documented either on the former UCD or threatening its boundaries. From July 2011 to May 2016, 13 wildland fires were documented within the RTC boundary. Most range fires on the former UCD or its boundaries were contained to less than 500 acres; however, several recent fires have approached 1,000 acres, with two fires (2009 and 2016) being 2,500 acres or larger. The ability to control the spread of wildland fires is critical for the ORARNG's use of the area as a training range. While the extensive road system on RTC provides some firebreak capability, a fire can jump even the widest of the installation's roads in high winds. Wildfire consultants retained by the Oregon Military Department (OMD) recommended widening the firebreaks for maximum effectiveness (OMD, 2020).

1.3 Scope of the EA

This EA provides a detailed analysis of the potential direct, indirect, and cumulative impacts that would result from the Proposed Action of implementing two identified near-term infrastructure projects at RTC, and the No Action Alternative of not implementing the near-term infrastructure projects. As appropriate, impacts are further discussed as being temporary, short term, or long term.

In this EA, the analysis of potential impacts is limited to the area and resources that have potential to be affected by the Proposed Action. The area that has the potential to be affected is referred to as the Region of Influence and may vary in location and size by the resource being analyzed. The scope of this EA and the impact analyses conducted for the Proposed Action are consistent with 32 CFR Part 651, *Environmental Analysis of Army Actions*, which states "the depth of analyses and length of documents will be proportionate to the nature and scope of the action, the complexity and level of anticipated effects on important environmental resources, and the capacity of Army decisions to influence those effects in a productive, meaningful way from the standpoint of environmental quality."

The proposed near-term infrastructure improvements that are analyzed in this EA are in various stages of planning and design. Information presented in this EA for the projects is preliminary and based on consultation with project planners, and preliminary design for the projects. Minor to moderate changes in project location, layout, and/or design are not expected to affect the overall impact analysis conducted for the projects in this EA.

1.4 Decision Making

As per 10 USC Section 10501, the National Guard Bureau (NGB) is a joint activity of the Department of Defense (DoD). Pursuant to DoD Directive 5105.77, *National Guard Bureau (NGB)*, dated October 30, 2015, the NGB serves as the principal advisor to the Army on matters involving the ARNG and is responsible for implementing DoD guidance on the structure and strength authorizations of the ARNG.

The NGB is responsible for ensuring that ARNG activities are performed in accordance with applicable policies and regulations. As such, the NGB is the lead federal agency responsible for preparing NEPA-compliant documents for projects for which the ORARNG is the proponent. In that capacity, the NGB is ultimately responsible for environmental analyses and documentation; however, the ORARNG has the local responsibility for NEPA document preparation. NEPA is required for the Proposed Action described in this EA because the training activities are being conducted on federal land using federal funding.

This EA analyzes the potential for significant effects associated with the Proposed Action and the No Action Alternative. If the analyses presented in this EA indicate that the Proposed Action would not result in significant adverse environmental or socioeconomic effects, then a Finding of No Significant Impact (FNSI) will be prepared. A FNSI briefly presents the reasons why a Proposed Action would not have a significant effect on the human environment and why an Environmental Impact Statement (EIS) would not be necessary. If the analyses presented in this EA indicate that significant environmental effects would result from the Proposed Action and the effects cannot be mitigated to insignificance, a Notice of Intent to prepare an EIS would be required or no action would be taken.

1.5 Public and Agency Involvement

The OMD invites public participation in decision making on new proposals through the NEPA process. Public participation with respect to decision making on the Proposed Action is guided by 32 CFR Part 651, which is the Army's policy for implementing NEPA. Consideration of the views of, and information provided by, all interested persons and stakeholders promotes open communication and enables better decision making. Agencies, organizations, and members of the public with a potential interest in the Proposed Action, including minority, low-income, disadvantaged, and Native American Tribes, are encouraged to participate. A record of public involvement, agency coordination, and Native American consultation associated with this EA is provided in Appendix A. Please refer to Section 8 for a complete list of agencies and individuals consulted in support of the analyses in this EA.

1.5.1 Public Review

A Notice of Availability was published in the *East Oregonian* newspaper to announce the 30-day availability of the Final EA and Draft FNSI for public review and comment (Appendix B). Copies of the documents were made available at the Hermiston Public Library and/or online at https://www.oregon.gov/omd/installations/Pages/Environmental.aspx during the public review period. The OMD Public Affairs Officer will be responsible for reviewing notices for distribution within the local newspaper and will be the primary contact for local news media inquiries. The OMD's Environmental Branch will be responsible for receiving comments submitted during the 30-day public comment period. Comments received during the 30-day public review will be included in Appendix C. If it is determined that implementation of the Proposed Action would result in significant impacts, the OMD will not implement this action as proposed, will implement only those portions of the action not having a significant impact, or will publish in the *Federal Register* a Notice of Intent to prepare an EIS.

1.5.2 Agency Coordination

The OMD consulted with the appropriate federal, state, and local agencies to seek input on the Proposed Action during the scoping process. Comments and concerns submitted by these agencies are subsequently incorporated into the analysis of potential environmental impacts conducted as part of the EA. This coordination fulfills requirements under Executive Order (EO) 12372, "Intergovernmental Review of Federal Programs" (superseded by EO 12416 and subsequently supplemented by EO 13132), which requires federal agencies to cooperate with, and consider, state and local views in implementing a federal proposal. A list of federal, state, and local agencies and entities consulted for this EA is available in Section 8.

To date, the ORARNG has received responses from Oregon Department of Fish and Wildlife (ODFW), U.S. Fish and Wildlife Service (USFWS), Bureau of Land Management (BLM), Oregon Water Resources Department, Morrow County Board of Commissioners, and the City of Irrigon. Copies of relevant correspondence can be found in Appendix A.

1.5.3 Native American Consultation/Coordination

The OMD is consulting and coordinating with federally recognized Native American Tribes as required under DoD Instruction 4710.02, *DoD Interactions with Federally Recognized Tribes*, which implements the Annotated DoD American Indian and Alaska Native Policy (dated 24 September 2018); AR 200-1, *Environmental Protection and Enhancement* (2007); NEPA; the National Historic Preservation Act (NHPA); and the Native American Graves Protection and Repatriation Act (NAGPRA).

Section 8 contains a list of the federally recognized Tribes with possible ancestral ties to RTC that were invited to consult. Correspondence sent to these Tribes is included in Appendix A. To date, the ORARNG has received a response from the Confederated Tribes of the Warm Springs Reservation of Oregon.

1.6 Related NEPA, Environmental, and Other Documents and Processes

Planning and environmental documents relevant to the Proposed Action that were reviewed during preparation of this EA include, but are not limited to, the following:

- *Integrated Cultural Resources Management Plan for the ORARNG* (OMD, 2007)
- ORARNG *Integrated Pest Management Plan* (OMD, 2012)
- ORARNG *Spill Prevention Control and Countermeasures Plan* (ORARNG, 2018b)
- *Camp Umatilla Integrated Natural Resources Management Plan* (OMD, 2021a)
- *Draft Camp Umatilla Integrated Wildland Fire Management Plan* (OMD, 2020)
- *Camp Umatilla Fauna Survey Findings Report* (OMD, 2018)
- *Camp Umatilla Training Center Land Use Plan* (ORARNG, 2015)
- *Draft Camp Umatilla Oregon Real Property Master Plan* (OMD, 2021b)
- *Draft Environmental Assessment of the Integrated Natural Resources Management Plan for Camp Umatilla* (OMD, 2021c).
- *Final Environmental Assessment for Expanded Operations at the Oregon Army National Guard's Camp Umatilla Oregon* (ORARNG, 2018a)

1.7 Regulatory Framework

Laws and regulations relevant to NEPA and the resources assessed in this EA include, but are not limited to, the following:

- 40 CFR Parts 1500–1508
- 42 USC Sections 4321–4370f
- 32 CFR Part 651, *Environmental Analysis of Army Actions*
- EO 11988, *Floodplain Management*, May 24, 1977
- EO 11990, *Protection of Wetlands*, May 24, 1977
- EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, February 11, 1994

- EO 12372, *Intergovernmental Review of Federal Programs*, July 14, 1982
- DoD Instruction 4715.9, *Environmental Planning and Analysis*, May 3, 1996
- ORARNG PAM 200-1, *Environmental Quality: Guide to Environmental Compliance*
- ARNG NEPA Handbook, *Guidance on Preparing Environmental Documentation for Army National Guard Action in Compliance with the National Environmental Policy Act of 1969* (ARNG, 2011)
- Noise Control Act (42 USC Sections 4901 et seq.)
- Clean Air Act (42 USC Sections 7401 et seq.)
- Clean Water Act (33 USC Sections 1251 et seq.)
- NHPA (54 USC Sections 300101 et seq.)
- NAGPRA (25 USC Sections 3001–3013)
- Archaeological Resources Protection Act (16 USC Section 470)
- Endangered Species Act (ESA) (16 USC Sections 1531 et seq.)
- Migratory Bird Treaty Act (MBTA) (16 USC Sections 703–712)
- Bald and Golden Eagle Protection Act (BGEPA) (16 USC Sections 668–668d)
- Resource Conservation and Recovery Act (RCRA) (42 USC Sections 6901 et seq.)

2 Description of the Proposed Action and Alternatives

2.1 Introduction

This section describes the Proposed Action and alternatives considered by the ORARNG. The Proposed Action, which is to implement two near-term infrastructure projects at RTC, is programed to be executed over a 5-year period starting in Fiscal Year 2022 using troop labor, Range and Training Land Program (RTLP), and Sustainment, Restoration, and Modernization (SRM) funding.

2.2 Proposed Action

The Proposed Action consists of the following two components:

1) Improvements to the existing MOUT site, including recontouring portions of existing terrain using predominantly onsite materials, creating dry riverbeds, constructing berms, removing sections of existing paved roads, and other venue development (refer to Figure 2-1).
2) Construction of additional firebreaks to augment approved firebreaks on RTC (refer to Figure 2-2).

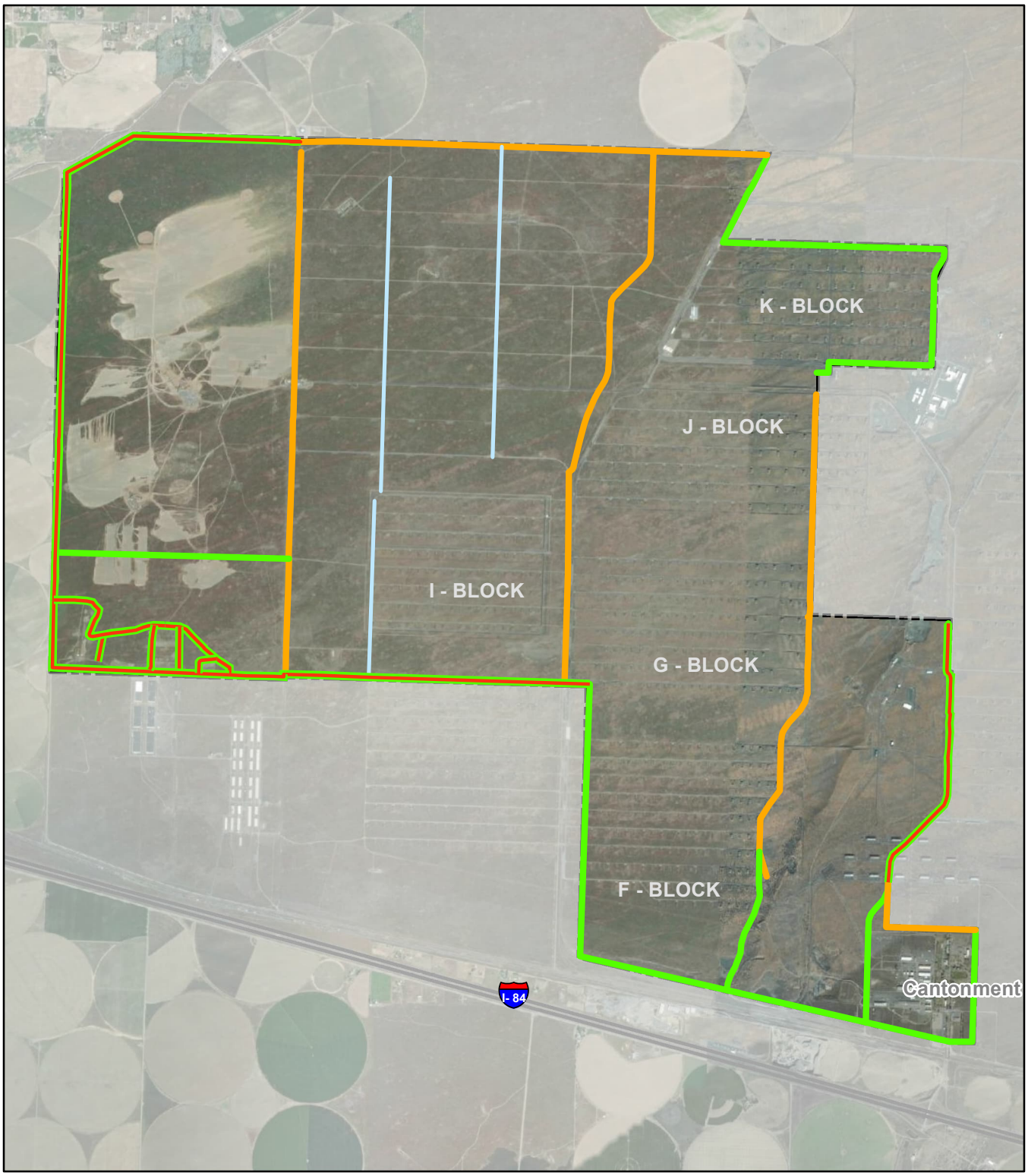
Table 2-1. List of Individual Projects Included in the Proposed Action

Project	Estimated Disturbance Area	Potential Funding Sources	Planned Dates
MOUT Site Improvements			
Recontour portions of existing terrain using predominantly onsite materials to create berms and rolling hills Create dry riverbeds Remove sections of existing paved roads Other venue development (i.e., prison compound, cemetery, farmhouse, and residential areas)	92 acres	Troop Labor/RTLP/ SRM	2022–2027
Construction of Additional Firebreaks			
Increase width of 9.5 miles of approved firebreaks from 16 feet to 50 feet	39.2 acres	Troop Labor/ RTLP/ SRM	2022–2027
Construct 8.1 miles of new, 50-foot-wide disked firebreaks	48.8 acres	Troop Labor/ RTLP/ SRM	2022–2027

Figure 2-1
Proposed Modifications to the MOUT Site

Raymond F. Rees Training Center

Jacobs



Legend

- Installation Boundary
- Existing Mowed Firebreaks
- Existing 30ft and 50ft Wide Disked Firebreaks = 10.1 Miles (56 Acres)
- Proposed New 50ft Wide Disked Firebreak Construction = 8.1 Miles (48.8 Acres)
- Proposed Widening of 9.5 miles of Existing 16 ft (18.4 acres) Disked Firebreaks to 50ft = an additional 39.2 Acres

N

0 0.375 0.75 1.5

Miles

Figure 2-2
Proposed Firebreaks

Raymond F. Rees Training Center

Jacobs

2.2.1 MOUT Site Improvements

Improvements to the existing MOUT site would occur within the approximately 400-acre G-block[2] at RTC and would result in disturbance of approximately 92 acres (refer to Figure 2-1). One hundred total acres of new ground disturbance for the development of MOUT trainings areas in G-block, K-block, and southwest of I-block on RTC already were analyzed in the *Environmental Assessment for Expanded Operations at the Oregon Army National Guard's Camp Umatilla Oregon* (ORARNG, 2018a). The disturbance that OMD previously proposed for MOUT training areas in RTC's K-block and southwest of I-block would be relocated to G-block at RTC.

The majority of the MOUT construction would be completed using one piece of heavy equipment at a time, plus the addition of a dump truck, as needed. The only potential time when multiple pieces of equipment (3 to 5) would be operating concurrently, would be if the OMD's Engineering Unit participated in construction during their 2-week Annual Training event in the summer. All temporary disturbance associated with construction activities would be reseeded with a local, native plant mix, in accordance with RTC's natural resource management strategies, once construction is complete.

To add more features to the topography at the MOUT site, berms and rolling hills would be constructed using predominately onsite materials. The heights of the berms and rolling hills would be variable, from 2 to 3 feet high and points over 12 to 16 feet high, to obscure the line of sight for training. Materials used to create the berms and hills may include crushed concrete from earthen-covered storage igloos that were demolished at RTC and local soil. Once constructed, the rolling hills and berms would be seeded with a local, native plant mix.

The constructed dry riverbeds would be approximately 65 to 98 feet wide at the top, 6.5 feet wide at the bottom, and have an average depth of 6.5 feet. At least four culverts and one bridge would be installed in locations where the proposed constructed dry riverbeds intersect maneuver trails or roadways.

Sections of the existing paved roads would be removed. The removed pavement would be ground up and used as a topcoat over existing or new trails.

The completed MOUT site would include, but not be limited to, between seven and eight training venues and scenarios. OMD would construct new buildings from a variety of materials, including CONEX boxes, concrete masonry units, concrete tilt-up facades, and wood. New training venues developed would include a prison compound, cemetery, farmhouse, and residential areas.

2.2.2 Construction of Additional Firebreaks

Fire protection measures, such as the clearing or control of vegetation in approximately 16-foot-wide strips, were approved along approximately 40 miles of roads and trails at RTC under the *Environmental Assessment for Expanded Operations at the Oregon Army National Guard's Camp Umatilla Oregon* (ORARNG, 2018a). RTC's draft IWFMP and the onsite expertise of RTC's Wildland Fire Manager indicate the firebreaks should be wider to increase effectiveness. To meet the goals and objections in RTC's draft IWFMP (OMD, 2020), OMD proposes to increase the width of the existing firebreaks from 16 feet to 50 feet along 9.5 miles by disking and construct 8.1 miles of new 50-foot-wide, disked firebreaks. RTC's IWFMP is in draft form and is expected to be finalized and signed within the next 180 days. NEPA analysis of the IWFMP is addressed through the Army's *Programmatic Environmental Assessment for Natural Resources Management Planning Compliance at AMC Installations* (Department of the Army, 2019).

[2] Blocks refer to the original UCD grouping of storage bunkers. The blocks tended to store similar elements and were separated from other areas by open space. The grids visible in the aerial imagery on Figure 2-1 are existing or removed igloos previously used by the Army for chemical munitions storage.

Firebreaks would be maintained through annual disking. There would be approximately 88 total acres of ground disturbance related to the expansion of existing firebreaks and the construction of new firebreaks.

OMD will evaluate weed prevention and control measures and the use of soil stabilizers on disked firebreaks to limit the growth of non-native, invasive, and noxious weed species and other plants, prevent soil erosion, and provide overall firebreak maintenance. Weeds would be managed using biological, mechanical, and/or chemical control methods in accordance with the ORARNG's Integrated Pest Management Plan (OMD, 2012).

2.3 Alternatives Considered

Under NEPA and 32 CFR Part 651, this EA is required to analyze the potential environmental impacts of the Proposed Action, No Action Alternative, and reasonable alternatives. Reasonable alternatives are those alternatives that meet the underlying purpose of, and need for, the Proposed Action; are feasible from a technical and economic standpoint; and meet all screening criteria that are suitable to a particular action. Screening criteria may include requirements or constraints associated with operational, technical, environmental, budgetary, and time factors. Alternatives that are determined to not be reasonable can be eliminated from detailed analysis in this EA.

2.3.1 Alternatives Development (Screening Criteria)

2.3.1.1 MOUT Site Improvements

The primary criteria used to screen alternatives for improvements to the existing MOUT site (Component Action 1) included meets purpose and need, economically feasible, supports infrastructure and training efficiency and effectiveness, and located in area with few known environmental constraints or previously disturbed (Table 2-2).

Table 2-2. Screening Criteria for Alternatives for MOUT Site Improvements (Component Action 1)

Screening Criteria	Description
1. Meets purpose and need	Must correct the deficiencies identified in Section 1.3.
2. Economically feasible	Must be an alternative that meets the purpose and need in an economically feasible (within the realm of historical recorded funding levels) way.
3. Supports infrastructure and training efficiency and effectiveness	Must utilize on-site infrastructure in a cost effective manner to provide efficient and effective training of ORARNG Soldiers.
4. Located in an area with few known environmental constraints (e.g., surface waters/wetlands, cultural resources, threatened or endangered species habitat) or previously disturbed	Should site construction and conduct activities to minimize adverse environmental impacts where possible.

The following alternatives for Component Action 1 were evaluated to determine if they meet the screening criteria identified in Table 2-2.

- **Proposed Action (Preferred Alternative)** – Implement identified near-term infrastructure projects, including improvements to the existing MOUT site at RTC.
- **Alternative 1 for Component Action 1** – Construct Improved MOUT Site on Alternate Blocks at RTC.

- **Alternative 2 for Component Action 1** – ORARNG to Conduct MOUT Training at Biak Training Center (BTC) in Powell Butte, Oregon.
- **Alternative 3 for Component Action 1** – ORARNG to Conduct MOUT Training at YTC in Yakima, Washington.
- **No Action Alternative** – Do not implement the identified near-term infrastructure projects at RTC. Under this alternative, none of the proposed near-term infrastructure projects at the installation would be implemented.

In Table 2-3, the Preferred Alternative, Alternative 1, Alternative 2, Alternative 3, and the No Action Alternative are compared to the screening criteria used to evaluate alternatives. Based on the analysis conducted, only the Preferred Alternative, which is to implement improvements to the MOUT site at RTC, met all the screening criteria used to evaluate alternatives. The Preferred Alternative was determined to be a reasonable alternative and is analyzed in detail in this EA.

Table 2-3 lists the alternatives considered and how they met or did not meet the purpose and need of each screening criteria described previously.

Table 2-3. Summary of Alternatives Considered for MOUT Site Improvements (Component Action 1)

Alternatives	Meets Purpose and Need	Economically Feasible	Supports Infrastructure and Training Efficiency and Effectiveness	Located in Area with Few Known Environmental Constraints or Previously Disturbed
Proposed Action (Preferred Alternative)	Yes	Yes	Yes	Yes
Alternative 1 for Component Action 1 – Construct Improved MOUT Site on Alternate Blocks at RTC	No	Yes	No	Yes
Alternative 2 for Component Action 1 – ORARNG to Conduct MOUT Training at BTC in Powell Butte, Oregon	No	Yes	No	Yes
Alternative 3 for Component Action 1 – ORARNG to Conduct MOUT Training at YTC in Yakima, Washington	No	No	No	Yes
No Action Alternative	No	Yes	No	Yes

2.3.1.2 Construction of Additional Firebreaks

The primary criteria used to screen alternatives for construction of additional firebreaks (Component Action 2) included meets purpose and need, economically feasible, and located in area with few known environmental constraints (Table 2-4).

Table 2-4. Screening Criteria for Construction of Additional Firebreaks (Component Action 2)

Screening Criteria	Description
1. Meets purpose and need	Must correct the deficiencies identified in Section 1.3.
2. Economically feasible	Must be an alternative that meets the purpose and need in an economically feasible (within the realm of historical recorded funding levels) way.
3. Located in an area with few known environmental constraints (e.g., surface waters/wetlands, cultural resources, threatened or endangered species habitat) or previously disturbed	Should site the firebreaks to minimize adverse environmental impacts where possible.

The following alternatives for Component Action 2 were evaluated to determine if they meet the screening criteria identified in Table 2-4.

- **Proposed Action (Preferred Alternative)** – Implement identified near-term infrastructure projects, including construction of additional firebreaks.
- **Alternative 1 for Component Action 2**– Construct vegetative firebreaks instead of disked firebreaks.
- **No Action Alternative** – Do not implement the identified near-term infrastructure projects at RTC. Under this alternative, neither of the proposed near-term infrastructure projects would be implemented at the installation.

In Table 2-5, the Proposed Action, Alternative 1, and the No Action Alternative are compared to the screening criteria used to evaluate alternatives. Based on the analysis conducted, only the Preferred Alternative, which is to implement the identified near-term infrastructure projects at RTC, met all the screening criteria used to evaluate alternatives. The Preferred Alternative was determined to be a reasonable alternative and is analyzed in detail in this EA.

Table 2-5. Summary of Alternatives Considered for Construction of Additional Firebreaks (Component Action 2)

Alternatives	Meets Purpose and Need	Economically Feasible	Located in Area with Few Known Environmental Constraints or Previously Disturbed
Proposed Action (Preferred Alternative)	Yes	Yes	Yes
Alternative 1 for Component Action 2 – Construction of Vegetative Firebreaks Instead of Disked Firebreaks	Yes	No	Yes
No Action Alternative	No	Yes	Yes

2.3.2 Evaluated Alternatives

2.3.2.1 Proposed Action (Preferred Alternative)

The Proposed Action is to implement two identified near-term infrastructure projects at RTC, including MOUT site improvements (Component 1) and construction of additional firebreaks (Component Action 2). The Proposed Action meets all the screening criteria used to evaluate alternatives; therefore, it is a

reasonable alternative and is analyzed in detail in this EA. The Proposed Action is described in detail in Section 2.1.

2.3.2.2 No Action Alternative

The No Action Alternative is to maintain existing conditions. Under the No Action Alternative, there would be no improvements to the existing MOUT site, including recontouring portions of the existing terrain using onsite materials, creating dry riverbeds, creating berms, removing sections of existing paved roads, and other venue development, and no construction of additional firebreaks to augment approved firebreaks on RTC. The MOUT site would continue to lack complex venues/scenarios and varied topography, making it difficult for Soldiers to maneuver to targets unseen. Without improvements to the MOUT site, the RTI would be unable to train Infantry tasks to the TRADOC standards defined in the Army's POIs. The ORARNG cannot meet many of the specific training requirements defined by the POIs without an updated MOUT site, including tactical training (fire team), urban rifle marksmanship, urban operations, and tactical training (squad tactics). The RTI trains nine classes per year that require the use of the MOUT site. That number may fluctuate each year and is expected to increase if the facilities at RTC can support increased training. The ability to control the risk and spread of wildland fires at RTC would continue to be impeded by ineffective firebreaks. While the No Action Alternative would not satisfy the purpose of, or need for, the Proposed Action, this alternative was retained to provide a comparative baseline against which to analyze the effects of the Proposed Action, as required under the CEQ Regulations (40 CFR Section1502.14). The No Action Alternative reflects the status quo and serves as a benchmark against which the effects of the Proposed Action can be evaluated.

2.3.3 Alternatives Eliminated from Further Consideration

2.3.3.1 Alternative 1 for Component Action 1 – Construct Improved MOUT Site on Alternate Blocks at RTC

Early discussion regarding siting of the improved MOUT site included the possibility of constructing MOUT venues on alternate blocks at RTC. The *ORARNG Umatilla Training Center Land Use Plan* (ORARNG, 2015) and the *Environmental Assessment for Expanded Operations at the Oregon Army National Guard's Camp Umatilla Oregon* (ORARNG, 2018a) proposed developing three MOUT sites on RTC, most near the boundaries of the installation. It has since been determined that having three geographically different MOUT sites is not necessary to accomplish training. To maximize the training value of the MOUT site, Soldiers must be able to approach the site from all sides. Therefore, locations that abut the property boundary were eliminated from consideration and the centrally located G-block was selected as the preferred location.

2.3.3.2 Alternative 2 for Component Action 1 – ORARNG to Conduct MOUT Training at Biak Training Center in Powell Butte, Oregon

Under this alternative, ORARNG considered using the existing MOUT site at the BTC in Powell Butte, Oregon, to meet its training needs. The BTC is located on approximately 31,400 acres of federal public land managed by the BLM and is approximately 210 miles from RTC. The terrain at BTC offers more topographic complexity than RTC. Traveling to BTC from RTC by Army bus would include an approximately 4.2-hour drive plus additional time and logistics for transporting and dispersing gear and equipment. The ORARNG trains military personnel on these public lands through a special use permit provided by the BLM (OMD, 2001). The ORARNG recently lost use of the live-fire range at BTC. Typically, when a unit travels to an area, they want to complete as many training, qualification, and certification tasks as possible. RTC is preferable over the BTC because RTC offers MOUT training and live-fire training, qualification, and certification at one location. In addition, the training environment at BTC is notably different from RTC, given that it is targeted towards mounted maneuver training with larger units and RTC

is geared up for dismounted maneuvers with smaller units. For these reasons, conducting MOUT training at BTC was eliminated from further consideration.

2.3.3.3 Alternative 3 for Component Action 1 – ORARNG to Conduct MOUT Training at Yakima Training Center in Yakima, Washington

Instead of improving the existing MOUT site at RTC, ORARNG considered having Soldiers conduct MOUT training at the YTC in central Washington, which is approximately 120 miles from RTC. Traveling to YTC from RTC by Army bus would include an approximately 2.4-hour drive plus additional time and logistics for transporting and dispersing gear and equipment. YTC is a 327,000-acre sub-installation of Joint Base Lewis-McChord and is the nearest military installation to RTC with MOUT sites. The MOUT site at YTC has more topography than RTC. YTC is used not only by the Joint Base Lewis-McChord and ARNG units, but also by Special Operations Command, Marine Corps, Air Force, Navy, and Coast Guard units, local and federal law enforcement, and allied forces from Canada and Japan (U.S. Army, 2020). ORARNG has faced difficulties in the past when attempting to schedule training at the widely used YTC, including lack of availability and being bumped off the schedule to cater to active-duty Soldiers. Additionally, further travel distances and higher costs are associated with a unit traveling out of state for training. For these reasons, ORARNG determined that conducting MOUT training at YTC is not a feasible option and eliminated it from further consideration.

2.3.3.4 Alternative 1 for Component Action 2 – Construction of Vegetative Firebreaks Instead of Disked Firebreaks

OMD considered the construction of vegetative fuel breaks, known as green strips, as an alternative to disked firebreaks. Green-stripping is the practice of establishing or using patterns of fire-resilient vegetation to reduce the size and frequency of wildfires. Developing a new green strip requires the removal of the existing vegetation, preparation of a seedbed, and the seeding of adapted plant material. Since cheatgrass is a major component of the pre-existing vegetation at RTC, additional steps in seedbed preparation would be required to reduce the cheatgrass seed bank that is present in the soil. In most sagebrush-grass vegetation communities, 200 to 300 foot wide or greater green strips are recommended. Establishing green strips at RTC would require some form of irrigation. There is a lack of existing irrigation infrastructure at RTC as well as strict limits on the amount of water that can be used for irrigation. Due to the lengthy and costly process of establishing green strips, the required large width of green strips, and the lack of irrigation means at RTC, OMD eliminated the option of vegetative fuel breaks at RTC from further consideration.

2.3.4 Alternatives' Impacts Comparison Matrix

The potential impacts of the Proposed Action and No Action Alternative on the resources analyzed in this EA are compared in Table 2-6. Floodplains, socioeconomics, and environmental justice and protection of children are not discussed in Table 2-6 because there is no potential for significant or adverse impacts on these resources.

Overall, the Proposed Action would not result in any significant adverse effects. Less-than-significant adverse effects would be avoided or minimized to the extent practicable through implementation of best management practices (BMPs).

Table 2-6. Impacts Comparison Matrix

Technical Resource Area	Proposed Action	No Action Alternative
Land Use (Section 4.1)	**Long-term beneficial** impacts due to aligning with existing site development and master planning goals for the installation and maximizing the value of training land.	**Long-term, less-than-significant, adverse** impacts from not developing the installation in accordance with site development and master planning goals.
Air Quality (Section 4.2)	**Short-term, less-than-significant, adverse** impacts due to construction-related exhaust emissions and generation of dust and other particles in the air. Mobile source emissions also would be generated from vehicular traffic.	**No impact.** Training and operations would continue under current conditions at current locations and levels; no change to pollutant emissions.
Noise (Section 4.3)	**Short-term, less-than-significant, adverse** impacts due to construction and disking noise, that would be heard only during daytime and only over the duration of the construction period and during annual firebreak maintenance.	**No impact.** No new construction would occur, and existing conditions would continue.
Geology, Topography, and Soils (Section 4.4)	**Short and long-term, less-than-significant, adverse** impacts to soils from vegetation removal, ground disturbance, and potential compaction during construction. Erosion control BMPs would be implemented as necessary. **Long-term, less-than-significant, adverse** impacts to soils from disking, which would leave soils susceptible to wind and water erosion. **Long-term, less-than-significant, adverse** impacts to topography from the creation of both positive (berms and rolling hills) and negative (dry riverbed) relief features.	**No impact.** No new construction would occur, and existing conditions would continue.
Water Resources (Section 4.5)	**Short-term, less-than-significant, adverse** impacts due to an increase in the sediment-load of stormwater discharging offsite; the potential for release of toxic or hazardous materials during disking and construction, which would be completed in accordance with permit requirements; and potential use of herbicides. BMPs would be implemented to minimize impacts. **Long-term beneficial** impacts to stormwater runoff from the removal of over 3 acres of impervious surfaces (paved roads). There would be no direct impacts on jurisdictional wetlands or surface water bodies.	**No impact.** No new construction would occur, and existing conditions would continue.

Table 2-6. Impacts Comparison Matrix

Technical Resource Area	Proposed Action	No Action Alternative
Biological Resources (Section 4.6)	**Short and long-term, less-than-significant, adverse** impacts due to removal of vegetation, habitat loss, and disturbance to wildlife from noise generated by construction and disking of firebreaks. **Long-term beneficial** impacts to wildlife from reducing the risk of uncontrolled wildfires that could damage habitats and injure wildlife. There would be no impacts to federal or Oregon-listed threatened or endangered species.	**No impact.** No new construction would occur, and existing conditions would continue.
Cultural Resources (Section 4.7)	**No impacts** to NRHP-eligible resources or other historic or archaeological resources.	**No impact.** No new construction would occur, and existing conditions would continue.
Health and Safety (Section 4.8)	**Short-term, less-than-significant, adverse** impacts from hazards that would be associated with construction, such as loud noise, heavy machinery, debris, electricity, and hazardous materials. With implementation of BMPs and applicable OSHA standards and procedures, impacts would be minimal. **Long-term, beneficial** impacts from a reduction in wildfires and associated smoke both on RTC and in the surrounding area.	**Long-term, less-than-significant, adverse** impacts from fire and smoke hazards due to ineffective firebreaks.
Infrastructure (Section 4.9)	**Short-term, less-than-significant, adverse** impacts on traffic from an increase in construction and personal vehicles along local roads during construction. **Long-term, beneficial** impacts due to enhanced efficiency and effectiveness of training infrastructure and reduced potential for wildfires to spread and damage infrastructure.	**Long-term, less-than-significant, adverse** impacts. Training infrastructure at the MOUT site would continue to lack complex venues/scenarios and varied terrain, which would result in less effective training of ORARNG Soldiers. Infrastructure at RTC would be at higher risk of sustaining damage from wildfires as a result of having inadequate firebreaks.
HTMW (Section 4.10)	**Short-term, less-than-significant, adverse** impacts due to potential for inadvertent releases of hazardous materials, such as gasoline, oils, coolant, and lubricants, during construction and disking.	**No impact.** No new construction would occur, and existing conditions would continue.
Cumulative Impacts (Section 4.12)	When added to past, present, and reasonably foreseeable actions, the Proposed Action would not have significantly adverse cumulative impacts on any resource.	When added to past, present, and reasonably foreseeable actions, the No Action Alternative would not have significantly adverse cumulative impacts on any resource.

NRHP = National Register of Historic Places
HTMW = hazardous and toxic materials/wastes
OSHA = Occupational Safety and Health Administration

3 Affected Environment

This section describes the affected environment, which is the existing condition of each resource for which the Proposed Action and No Action Alternative are assessed. As per the scoping process prescribed in 40 CFR Part 1501.7(a)(3), resources that have the potential to be affected by the Proposed Action are analyzed in detail in this EA, whereas resources that do not have the potential to be appreciably affected by the Proposed Action are eliminated from detailed analysis in this EA.

OMD determined the Proposed Action would have no adverse impacts to the following resources: floodplains, socioeconomics, and environmental justice and protection of children.

3.1.1.1.1 Floodplains

No floodplains occur on RTC. The nearest 100-year floodplain is associated with the Umatilla River, which is located 2.6 miles east of the installation at the nearest point (FEMA, 2007). The Proposed Action components would not be adversely impacted by floods occurring within floodplains. Construction would occur outside designated floodplains and have no impacts on flood elevations upstream or downstream of the project components. Therefore, this resource does not warrant further consideration or discussion.

3.1.1.1.2 Socioeconomics

The economy of Umatilla County is driven largely by agriculture, food processing, forest products, manufacturing, recreation, aggregate production, wind power generation, and tourism (State of Oregon, 2021a). Economic contributors to Morrow County primarily include agriculture, food processing, dairies, utilities, forest products, livestock, and recreation (State of Oregon, 2021b). Implementation of the Proposed Action would not cause significant changes to the demographics, income, community services and facilities, or housing in the surrounding regions. The Proposed Action would be carried out by Troop Labor, with potential assistance from contractors, and would not require changes in personnel. No new jobs would be associated with the new infrastructure. Beneficial impacts would result if local labor and materials are used for construction of MOUT site improvements; however, these impacts would be short-term and minor because of the limited duration of construction activities. The Proposed Action would occur entirely within the installation boundary, where access is restricted, and public use of the land is not permitted. Because impacts to socioeconomic conditions would be minor and beneficial, if any, and no impacts to surrounding communities would be expected, this resource does not warrant further consideration or discussion.

3.1.1.1.3 Environmental Justice and Protection of Children

EO 12898, "Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations" (1994), requires federal agencies to achieve environmental justice "to the greatest extent practicable" by identifying and addressing "disproportionately high adverse human health or environmental effects of … activities on minority populations and low-income populations." The term "minority population" includes persons who identify themselves as African American, Asian or Pacific Islander, Native American or Alaska Native, or Hispanic.

In Morrow and Umatilla counties, the percent of the population in poverty is 12.7 and 13.9, respectively, which is comparable with the state poverty level of 11.4 percent. In both counties and the state, residents identifying as white compose the greatest percentage of the total population. Morrow County, however, contains a greater Hispanic or Latino population (37.7 percent) compared to Umatilla County (27.6 percent) and the state (13.4 percent) (USCB, 2021). Implementation of the Proposed Action would be confined to RTC. If proposed projects require contractor involvement, there could be benefits to minority

and low-income populations from a temporary increase in job opportunities. The extent of this benefit, however, would depend on the degree to which minority or low-income persons are employed. Since low-income and minority populations would not be particularly or disproportionately affected by the Proposed Action, environmental justice does not warrant further consideration or discussion.

EO 13045, "Protection of Children from Environmental Health Risks and Safety Risks," was introduced in 1997 to prioritize identifying and assessing environmental health and safety risks that may affect children and ensure that federal agency policy, programs, activities, and standards address environmental and safety risks to children. No residential populations, including children under the age of 18, are present on or near the installation. The site would be surrounded by security fence, with site access restricted. No effects to the environmental health and safety of children would result from the Proposed Action; therefore, protection of children is excluded from further discussion in this EA.

3.2 Location Description

RTC is a 7,500-acre training installation in a portion of the former UCD that is located in both Morrow and Umatilla counties and at the northwest corner of the junction of I-82 and I-84. The installation is approximately 5 miles southwest of the City of Umatilla, 4 miles west of the City of Hermiston, and 0.75 mile southeast of the City of Irrigon (refer to Figure 1-1).

RTC is in the Pleistocene Lake Basins ecoregion and is described as an arid sagebrush steppe and grassland. Mean annual precipitation varies from 7 to 10 inches (NOAA, 2021). RTC is located 2.6 miles south of the Columbia River and 4.4 miles west of the Umatilla River.

3.3 Land Use

Land use describes how land is developed and managed for different uses. Land use can be broadly categorized as urban, suburban, rural, or undeveloped; each of these broad categories can be further divided into more specific land use classifications that are appropriate for a given area. Land use planning refers to the planned development of property typically with the goal of achieving compatibility among uses within, and adjacent to, the property.

3.3.1 Regional Land Use

RTC is situated near the cities of Irrigon, Umatilla, and Hermiston and is located within both Morrow and Umatilla counties (refer to Figure 1-1). The area surrounding RTC has experienced moderate growth between 2010 and 2019. Irrigon has seen the most rapid growth, with an increase of 12.8 percent, although its population remains substantially smaller than that of Umatilla and Hermiston. None of these nearby towns share borders with RTC, and existing urban growth boundaries for each of these cities do not encroach on the installation.

Future encroachment from nearby towns in unlikely; however, regional development is expected given the continued growth of the region. Several developments are planned for the region, including the Boardman to Hemingway Transmission Project and the Columbia Development Authority Redevelopment Plan for the remaining former UCD land. Several short- and long-term developments involving the construction of new facilities and utility repairs may also be proposed for RTC once validated or funded (OMD, 2021c).

Areas in the former UCD that are outside RTC are zoned by Umatilla County as light industrial and wildlife habitat land use. Morrow County has also designated the Morrow County portion of the former UCD as the Umatilla Depot Military Zone, which allows for outright military uses of this area. The land surrounding the former UCD is predominantly privately owned agricultural land, with some areas zoned as light industrial and rural residential, and a small area zoned as agribusiness (ORARNG, 2018a).

3.3.2 RTC Land Use

RTC is divided into three areas: Live-Fire Use Area (approximately 1,759 acres), Maneuver Use Area (approximately 5,510 acres), and Cantonment Area (approximately 231 acres) (ORARNG, 2018a). Land use within the Live-Fire Use Area is classified as "range" use; ranges are used to train and test Soldier skills and proficiency on assigned weapons systems. The Maneuver Use Area is categorized as a "training" land use, where Soldiers are trained and tested on unit maneuver skills, such as mounted and dismounted maneuver, military operations in urbanized terrain, insertion and extraction activities, and helicopter training. The Live-Fire Use Area and Maneuver Use Area are undeveloped vegetated areas. The Cantonment Area has a "cantonment" land use and provides space for non-tactical organizations such as military schools, headquarters, and major commands. It also includes future readiness centers, classrooms, transient training support facilities, industrial areas, storage activities, administration areas, and dining facilities. The RTI has regular use of two buildings in the Cantonment Area for classrooms, headquarters, and cadre administration, as well as the shared use of barracks and the dining facility. The Cantonment Area is the only developed area at RTC (ORARNG, 2018a).

3.4 Air Quality

3.4.1 Air Emissions

Under the authority of the Clean Air Act, the U.S. Environmental Protection Agency (EPA) established nationwide air quality standards to protect public health and welfare. These federal standards, known as National Ambient Air Quality Standards (NAAQS), represent the maximum allowable atmospheric concentrations for six criteria pollutants: ozone, nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), lead, and particulate matter, which includes respirable particulate matter less than or equal to 10 micrometers in diameter (PM_{10}) and respirable particulate matter less than or equal to 2.5 micrometers in diameter ($PM_{2.5}$). The criteria pollutants are shown in Table 3-1.

Table 3-1. Ambient Air Quality Standards

Criteria Pollutant	Federal Standard (Averaging Period) [a]	Federal Attainment Status
CO	35 ppm (1 hour)	Attainment
	9 ppm (8 hours)	
NO_2	0.100 ppm (1 hour)	Attainment
	0.053 ppm (annual arithmetic mean)	
Ozone	0.070 ppm (8 hours)	Attainment
$PM_{2.5}$	12 $\mu g/m^3$ (annual arithmetic mean)	Attainment
	35 $\mu g/m^3$ (24 hours)	
PM_{10}	150 $\mu g/m^3$ (24 hours)	Attainment
SO_2	0.5 ppm (3 hours, secondary standard)	Attainment
	0.075 ppm (1 hour)	Attainment
Lead	0.15 $\mu g/m^3$ (rolling 3-month average)	Attainment

Source: EPA, 2021a

[a] National standards other than ozone, particulate matter, and those based on annual averages or annual arithmetic means are not to be exceeded more than once a year. The ozone standard is attained when the fourth-

Table 3-1. Ambient Air Quality Standards

Criteria Pollutant	Federal Standard (Averaging Period) [a]	Federal Attainment Status

highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, is equal to or less than the standard.

µg/m^3 = microgram(s) per cubic meter
ppm = part(s) per million, by volume

Under the Clean Air Act, the country is classified into attainment, nonattainment, and maintenance areas. Any area not meeting the NAAQS is designated as nonattainment for the specific pollutant or pollutants, whereas areas that meet the NAAQS are designated as attainment areas. Maintenance areas are those areas that were previously designated as nonattainment and subsequently re-designated to attainment, subject to the development of a maintenance plan.

Under the EPA New Source Review (NSR) program, stationary sources of air pollution are required to have permits before construction of the source begins. Approval of the NSR Prevention of Significant Deterioration permit would be required if the proposed project were either a new source, with the potential to emit 250 tons or more per year of an attainment pollutant, or an existing major source of emissions, making a major modification in an attainment area and resulting in a net emissions increase above specified levels. Nonattainment NSR approval would be required if the proposed project were a new stationary source or major source of emissions, making a major modification in a nonattainment area with the potential to emit nonattainment pollutants in excess of the NSR thresholds.

The Clean Air Act General Conformity Rule (40 CFR Parts 6, 51, and 93) requires federal agencies to make written conformity determinations for federal actions in, or affecting, nonattainment or maintenance areas. If the emissions of a criteria pollutant or its precursors do not exceed the *de minimis* level, the federal action has minimal air quality impact and, therefore, the action is determined to conform for the pollutant under study and no further analysis is necessary.

Greenhouse gases (GHGs) are compounds that may contribute to accelerated climate change by altering the thermodynamic properties of the Earth's atmosphere. GHGs consist of carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, and perfluorocarbons (EPA, 2021b). Under the EPA Mandatory Reporting Rule, facilities that emit 25,000 metric tons or more per year of carbon dioxide equivalent (CO_2e) emissions must submit annual reports to the EPA.

3.4.2 RTC Air Quality

RTC is within Morrow and Umatilla counties. Neither of these counties have nonattainment or maintenance status for any of the criteria pollutants. Therefore, a General Conformity analysis is not required.

Air emission sources at RTC include, but are not limited to, fossil fuel burning stationary sources (e.g., propane boilers), vehicles and other mobile sources (e.g., trucks, training vehicles, mechanical equipment), fugitive dust from disturbed earth, and prescribed burns (OMD, 2021c).

While the EPA is the regulatory authority for air quality throughout the U.S., the Oregon Department of Environmental Quality (ORDEQ) Air Quality Monitoring Section is the primary regulatory authority for potential air pollutant sources in the State of Oregon, including RTC. The ORARNG obtains air quality permits as necessary from the ORDEQ for stationary equipment and construction activities. For fugitive dust, the ORARNG implements dust management practices through activities such as spreading gravel on dirt roads and minimizing off-road vehicle maneuvers to the extent practicable. During prescribed burns, the ORARNG obtains burn permits from the Oregon Department of Forestry, as well as follows guidelines

in Oregon's Smoke Management Plan and RTC's draft IWFMP (ODF, 2019; OMD, 2020). RTC is not within a Smoke Management Regulated Area or a Smoke Sensitive Receptor Area (ODF, 2019).

Sensitive receptors are those who are at a higher risk of health impacts from air pollution, including, but not limited to, asthmatics, children, and the elderly, as well as specific facilities, such as healthcare facilities, retirement homes, residences that contain children, elderly, or infirmed persons, and schools. No sensitive receptors are in, or immediately adjacent to, RTC. The nearest sensitive receptor to RTC is the Irrigon Elementary School, approximately 1.5 miles from the northern boundary of RTC (OMD, 2021c).

3.4.3 Climate Change

Climate change refers to the variation in the Earth's climate over time. Climate change is known to be caused by natural processes and is also generally believed to be influenced by human activities such as GHG emissions. GHGs include water vapor, carbon dioxide, methane, nitrous oxides, and other compounds. Much of the carbon dioxide released by humans into the atmosphere is a by-product of energy use such as the burning fossil fuels. There are no established thresholds or standards for GHGs. On January 25, 2021, the President issued EO 13990, *Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis*, which establishes policy that includes reducing GHG emissions and increasing climate change resiliency. EO 13990 revoked EO 13834, *Regarding Efficient Federal Operations*, which was issued on May 17, 2018. On December 13, 2021, the President issued EO 14057, *Catalyzing Clean Energy Industries and Jobs Through Federal Sustainability*, which includes setting various sustainability-related goals for the federal government, including reducing agency GHG emissions.

The Army issued a policy, *Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in Army National Environmental Policy Act Reviews* (2021), providing guidance on the inclusion of GHG emissions and climate change, as well as social costs, as part of the environmental baseline for NEPA analyses prepared in accordance with 32 CFR Part 651, *Environmental Analysis of Army Actions*. RTC reported 259 tons per year of CO_{2e} in its last air emissions inventory, which was conducted in 2016.

For Hermiston, Oregon, which is the closest city to RTC with recent data, the average high temperature is 89 degrees Fahrenheit (°F) in July, which is the hottest month, and the average low temperature is 26°F in January, which is the coldest month. Hermiston has average annual precipitation of 10.4 inches per year. The wettest month of the year is January, with an average rainfall of 1.50 inches (U.S. Climate Data, 2022).

Temperatures in Oregon have risen approximately 2.5°F in the last century. Winter warming has been observed through higher nighttime temperatures and a below average number of cold nights in recent history. Annual average temperatures are projected to rise by as much as approximately 7°F by 2050 and 13°F by 2100. Oregon has not experienced an increase in the frequency of extreme precipitation events. However, with projected temperature increases, future winter precipitation may increasingly fall as rain rather than snow, and the snowpack may melt earlier than usual. Summer precipitation is projected to decrease. With drier summers, warmer temperatures, and earlier melting of the snowpack, the frequency and severity of wildfires is expected to increase (Frankson et al., 2022).

3.5 Noise

Noise can be simply defined as unwanted sound. The impact of noise is influenced by the characteristics of the noise, such as sound level, frequency (pitch), and duration as well as the characteristics of the receptor (for example, a person or animal). The effects of noise on humans include annoyance, sleep disturbance, and health impacts. The effects of noise on wildlife are less well understood. Behavioral effects such as startle response have been observed; however, direct physiological effects of noise on wildlife are difficult to measure in the field (further discussed in Section 4.6).

3.5.1 Sound Measurement Metrics

Sound levels are measured on a logarithmic scale in decibels. Sound measurement may be further refined through the use of frequency weighting, which accounts for the sensitivity of human hearing to certain frequencies. Human hearing is most sensitive to sound frequencies within the range of 1,000 and 4,000 hertz. A-weighted measurements emphasize this frequency range and are expressed in terms of A-weighted decibels (dBA). In noise analyses, A-weighting is used when audible sound is the major concern, for example to assess noise generated by subsonic aircraft, construction, or traffic. Noises encountered in daily life and their typical sound levels are presented in Table 3-2.

Table 3-2. Common Sounds and Their Levels

Outdoor	Sound Level (dBA)	Indoor
Jet flyover at 1,000 feet	100	Rock band
Gas lawnmower at 3 feet	90	Food blender at 3 feet
Downtown (large city)	80	Garbage disposal
Heavy traffic at 150 feet	70	Vacuum cleaner at 10 feet
Normal conversation	60	Normal speech at 3 feet
Quiet urban daytime	50	Dishwasher in next room
Quiet urban nighttime	40	Theater, large conference room

Source: Harris, 1998

The duration and frequency of noise events influence the overall impact of noise on receptors. Several metrics are used in noise assessments to account for these factors. For example, noise impacts on humans may be measured in terms of day-night average sound level, which is the noise level averaged over a 24-hour day-night period. This metric applies a 10-decibel penalty to nighttime noise occurring between 2200 and 0700 to account for the added intrusiveness of noise during these hours. C-weighted measurements do not attenuate lower frequencies and are expressed in terms of C-weighted decibels. C-weighting is used to assess low frequency, impulsive noise, such as the noise produced by explosions and sonic booms. Impulsive noise may be felt (overpressure) as well as heard. Low frequency, impulsive noise can also be measured in terms of peak sound pressure level, which is the maximum instantaneous sound level for an individual acoustical event; this metric is unweighted.

3.5.2 Local Noise Environment

The Morrow County noise regulation prohibits "any loud and continuing noise that obstructs the free use of property so as to essentially interfere with the reasonable comfort and enjoyment of life and property" as well as any noise between the hours of 2300 to 0700 that is repeated at least three times within a 30-minute time period. There are exemptions to this regulation for military operations and construction work between 0600 and 1000 (Morrow County, 2021). The Umatilla County noise regulation is similar but only applies to noise heard within a Noise Sensitive Unit, defined as property that is normally used for sleeping or schools, churches, hospital, public parks, and public libraries (Umatilla County, 2005). Lands immediately surrounding RTC are primarily rural in nature, with noises characteristic of undeveloped and agricultural land uses. The nearest Noise Sensitive Units to RTC are Irrigon Elementary School, which is approximately 1.5 miles from the northern boundary of RTC, and rural residences approximately 0.5 mile to the south and northwest of RTC.

In accordance with AR 200-1, ORARNG adheres to Army noise guidelines and maintains an Installation Compatible Use Zone Study (ORARNG, 2019) and a noise complaint resolution process that involves logging, investigating, and correcting the problem, mission permitting. Noise sources at RTC include aircraft, small arms, blank ammunition, and simulators. Typically, training activities are conducted during the daytime. Aircraft operations at RTC are too infrequent (less than 15 per year) to generate noise zones. Simulators and blank ammunition are used far enough away from the nearest residences to avoid a negative noise impact. Although the noise zones from small arms ranges extend beyond the boundary, the land within the noise zones is used for agriculture and is not under development pressures. Based on the noise environment and land use, noise impacts are minimal and not a risk to mission sustainment (ORARNG, 2019).

3.6 Geology, Topography, and Soils

RTC is located between two geomorphic regions, the Deschutes-Umatilla Plateau and the Blue Mountains. The topography of RTC is flat to gently rolling, with the exception of the most prominent feature, Coyote Coulee. Coyote Coulee, which is located in the eastern half of RTC, is reported to have been created as a result of prehistoric and catastrophic Missoula floods. The western edge of Coyote Coulee slopes at 5 to 10 percent, with the eastern edge being an escarpment that rises 60 to 90 feet at a 30 to 45 percent slope (AMEC, 2012). Coyote Coulee directs local winds northward and upward, resulting in localized areas of wind erosion along the toe of the escarpment at the eastern edge of the valley. Exposed areas on RTC are highly susceptible to wind erosion, including the areas around igloos, unimproved roads, and Coyote Coulee (ORARNG, 2018a). Land to the west of Coyote Coulee consists mostly of gently rolling hills. Elevations on RTC range from 400 feet to 677 feet above mean sea level (AMEC, 2012).

The soils on RTC consist of sandy loam and fine sand developed primarily from alluvial deposits. Two soil map units, Quincy fine sand and Quincy loamy fine sand, cover over 80 percent of RTC. These soils are deep, excessively drained soils with a moderate erosion potential. The remainder of RTC is covered by similar soil types that range from well-drained to excessively drained, with the exception of the Coyote Coulee area, which has a low infiltration rate due to a hard duripan below the surface. The majority of the soils on RTC have either a slight or moderate erosion hazard. Severe erosion hazards exist with the soils found along Coyote Coulee and constitute 1.2 percent of the installation.

Soil types affected by implementation of the Proposed Action are described in Table 3-3 and shown on Figure 3-1.

Table 3-3. Soil Types within Proposed Project Areas

Project	Soil Type	Acreage	Percent of Project Area
MOUT Site Improvements	Quincy fine sand, 2 to 12 percent slopes	85.1	93%
	Quincy loamy fine sand, 2 to 12 percent slopes	6.9	7%
Construction of Additional Firebreaks	Quincy fine sand, 2 to 12 percent slopes	20.4	23%
	Quincy loamy fine sand, 2 to 12 percent slopes	37.9	44%
	Burbank loamy fine sand, 2 to 5 percent slopes	23.1	26%
	Quincy loamy fine sand, gravelly substratum, 0 to 5 percent slopes	3.3	4%

Table 3-3. Soil Types within Proposed Project Areas

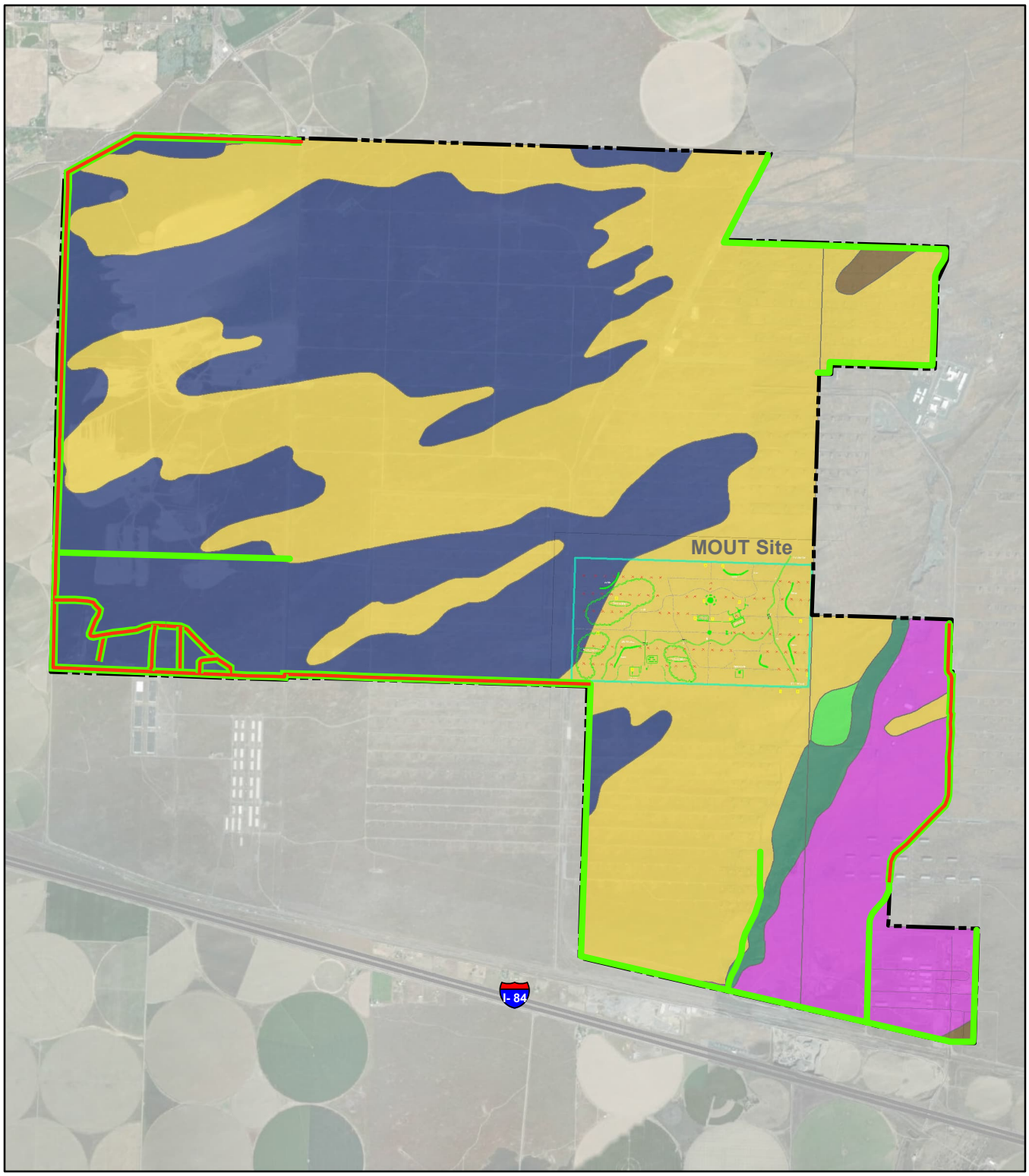
Project	Soil Type	Acreage	Percent of Project Area
	Gravden very gravelly loam, 5 to 20 percent slopes	1.6	2%
	Hezel loamy fine sand, 5 to 12 percent slopes	0.6	1%

Soils in the proposed project areas consist mostly of Quincy fine sand and Quincy loamy fine sand. Quincy fine sand is described as a very deep, excessively drained soil that formed in mixed sand. Quincy loamy fine sand is similar to the Quincy fine sand but occurs on slightly flatter slopes and has slightly more silt and clay in the upper layer, resulting in a higher water-holding capacity. These soils are highly susceptible to wind erosion and have a low susceptibility to erosion by water. Quincy loamy fine sand, gravelly substratum, 0 to 5 percent slopes is highly susceptible to wind erosion and is moderately susceptible to erosion by water (NRCS, 2021).

Burbank loamy fine sand consists of very deep, excessively drained soils formed in basaltic glacial outwash or alluvium. These soils are highly susceptible to wind erosion and have a low susceptibility to erosion by water (NRCS, 2021).

Gravden very gravelly loam consists of moderately deep to hard pan, moderately well-drained soils formed in alluvium from extrusive igneous rock. These soils have a low susceptibility to erosion by wind and water (NRCS, 2021).

Hezel loamy fine sand consists of moderately deep and excessively drained soils formed on uplands in material weathered from sandstone and phyllites. These soils have a low susceptibility to erosion by wind and water (NRCS, 2021).



Legend

Soil Types

- Gravden very gravelly loam, 5 to 20 percent slopes
- Burbank loamy fine sand, 2 to 5 percent slopes
- Hezel loamy fine sand, 5 to 12 percent slopes
- Quincy fine sand, 2 to 12 percent slopes
- Quincy loamy fine sand, 2 to 12 percent slopes
- Pits, gravel
- Quincy loamy fine sand, gravelly substratum, 0 to 5 percent slopes

- Installation Boundary
- Proposed Widening of 9.5 miles of Existing 16 ft (18.4 acres) Disked Firebreaks to 50ft = an additional 39.2 Acres
- Proposed New 50ft Wide Disked Firebreak Construction = 8.1 Miles (48.8 Acres)

Figure 3-1
Soil Types
Raymond F. Rees Training Center

N

0 1,500 3,000 6,000
Feet

Jacobs

3.7 Water Resources

3.7.1 Surface Waters

RTC is located in the Willow Creek sub-watershed of the Umatilla River watershed and the Middle Columbia Lake Walulla sub-basin of the Columbia River. No surface waterbodies are located on RTC. RTC is located 2.6 miles south of the Columbia River and 4.4 miles west of the Umatilla River at the nearest points. Development of the former UCD and other projects on the former UCD have likely disturbed the pre-development drainages that once existed. Some historic drainages are remnant, most prominently, Coyote Coulee, which runs approximately north to south and is located west of the Cantonment Area. Coyote Coulee appears to be the dividing line between the two watersheds, with the surface flows originating east of the Coulee draining towards the Umatilla River and surface flows originating west of the Coulee draining towards the Columbia River. Surface water runoff from precipitation is minimal within Camp Umatilla because of a mean annual precipitation of 8.7 inches (NOAA, 2021) and high soil infiltration capacity. Stormwater runoff from the Cantonment Area is conveyed to an infiltration basin 0.8 mile to the west (OMD, 2021a).

Under the National Pollutant Discharge Elimination System (NPDES) stormwater program, projects that propose to disturb 1 acre or more of land are required to obtain an *NPDES General Permit for Discharges from Construction Activities*, often referred to as a Construction General Permit, issued by the ORDEQ. As part of this permit, the proponent of the project is required to prepare and implement a Stormwater Pollution Prevention Plan (SWPPP), which outlines the BMPs and engineering controls to be used to prevent and minimize erosion, sedimentation, and pollution during construction.

3.7.2 Groundwater

Groundwater occurs beneath RTC in a series of relatively deep, confined basalt aquifers and in a highly productive permeable unconfined aquifer to the south of RTC (extending offsite). The unconfined aquifer consists of the alluvial deposits and the weathered surface of the Elephant Mountain Member of the Columbia River Basalt Group and is overlain by approximately 20 to 125 feet of unsaturated alluvial sand and gravel. Depth to groundwater ranges from 60 to 100 feet below ground surface. Three municipal water systems—Hermiston, Umatilla, and Irrigon—draw from groundwater within a 4-mile radius of RTC (AMEC, 2012).

RTC's water needs are supplied by seven wells that draw from a basalt aquifer which has a minimum depth of approximately 200 feet below the surface. Five of the wells are located on RTC and two are located on former UCD property scheduled to be transferred to Morrow County. The OMD has an easement to use these wells until 2024 because these wells supply drinking water to the Cantonment Area. The wells range in depth from 327 feet to 600 feet, and their pumping capacity ranges from 10 to 800 gallons per minute. Approximately 20 percent of the total capacity of the well system is used for domestic water and irrigation, with the remainder used for fire protection (OMD, 2021a).

In 1990, ORDEQ declared the Lower Umatilla Basin Groundwater Management Area be established due to elevated levels of nitrate-nitrogen concentrations (ORDEQ, 2020). The Lower Umatilla Basin Groundwater Management Area has a northern boundary of the Columbia River, extends south to Carty Reservoir, west to the western boundary of Morrow County, and east to Cold Springs National Wildlife Refuge.

3.7.3 Wetlands

EPA and U.S. Army Corps of Engineers (USACE) jointly define wetlands as "areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions." EO 11990, *Protection of Wetlands*, requires federal agencies to avoid, to the extent possible,

the long- and short-term adverse impacts associated with the destruction or modification of wetlands, and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative.

Wetlands, unless they qualify to be exempted, are under the regulatory jurisdiction of the federal Clean Water Act Section 404 program. Section 404 regulates the discharge of dredged or fill material into waters of the U.S., including wetlands. Under the federal Section 404 program, no discharge of dredged or fill material may be permitted if a practicable alternative exists that is less damaging to the aquatic environment, or if the nation's waters would be significantly degraded. The Section 404 program is jointly administered by EPA and USACE, with the USACE being responsible for Section 404 permit decisions.

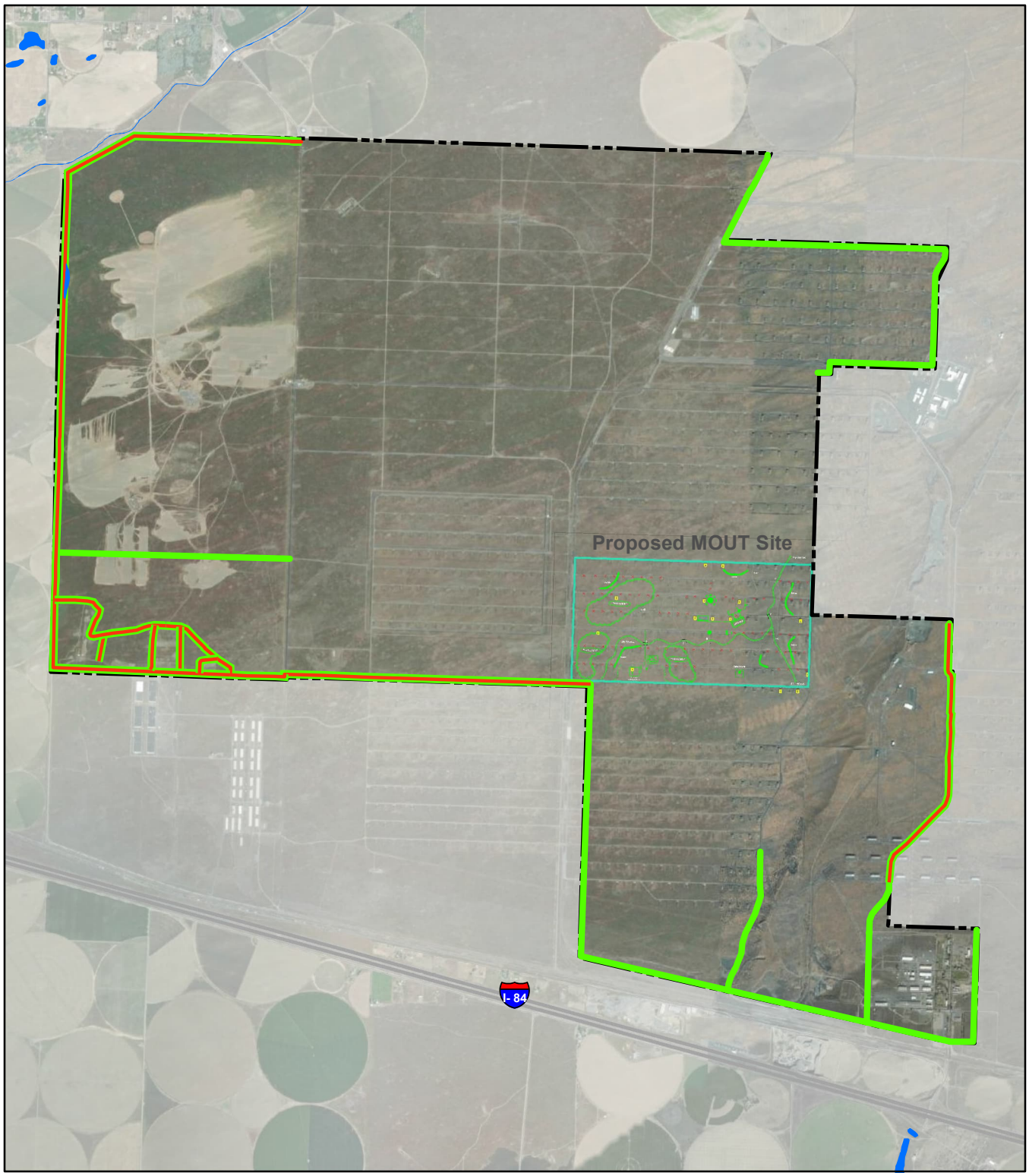
The National Wetlands Inventory (NWI) data indicate one small freshwater emergent wetland (1.65 acres) along the western boundary of RTC within the Live-Fire Use Area (Figure 3-2; USFWS, 2021a). This wetland receives its hydrology from irrigation runoff from the property west of the site. No natural wetlands occur on RTC (OMD, 2021a).

3.8 Biological Resources

3.8.1 Flora

Vegetation on RTC has been subject to extensive historical disturbance. Significant portions of the former UCD were disturbed during major construction in the early 1940s. Assessment of historical photos from 1941 indicates that much of the installation was bladed during construction to clear brush to minimize wildfire potential. Vegetation at RTC has also been disturbed and fragmented by road clearing and construction activities that have occurred throughout the installation (ORARNG, 2018A).

AR 200-1 requires the OMD to conduct and maintain a Vegetation Communities Planning Level Survey (PLS) at RTC, including field data and maps that describe the distribution and extent of dominant and co-dominant plant communities (i.e., alliances). PLS for vegetative communities and threatened and endangered species were conducted on UCD in 1999 and 2000 and from 2014 to 2017. Current vegetative cover consists primarily of invasive cheatgrass (*Bromus tectorum*) dominated grasslands interspersed with native perennial grasslands and areas of big sagebrush (*Artemisia tridentata*) and antelope bitterbrush (*Purshia tridentata*) shrublands. RTC contains nine alliance-level vegetation communities (OMD, 2021c). The locations of these vegetation alliances are shown on Figure 3-3.



Legend

- Installation Boundary
- Proposed Widening of 9.5 miles of Existing 16 ft (18.4 acres) Disked Firebreaks to 50ft = an additional 39.2 Acres
- Proposed New 50ft Wide Disked Firebreak Construction = 8.1 Miles (48.8 Acres)
- National Wetlands Inventory (NWI) Wetlands

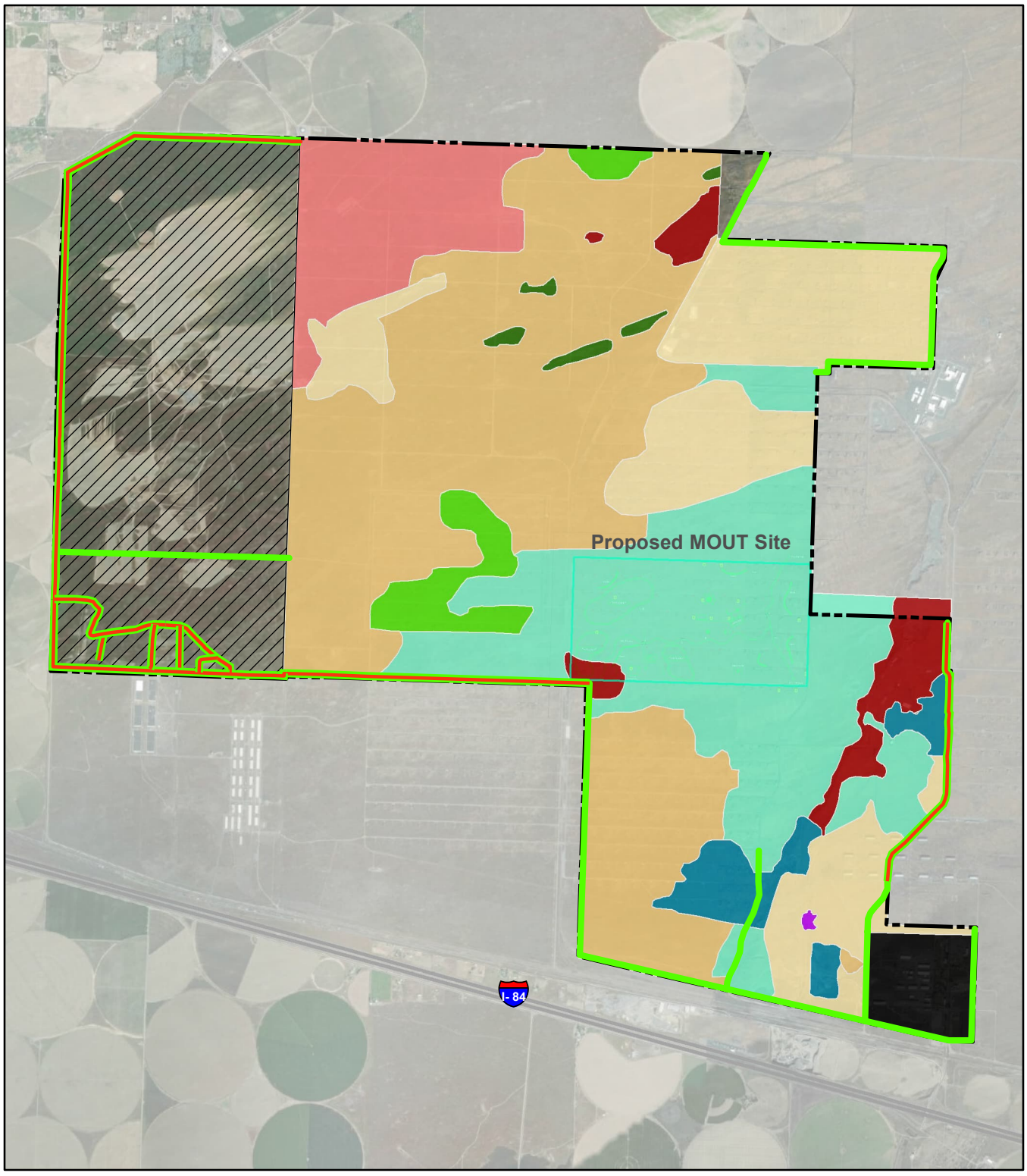
N

0 1,500 3,000 6,000

Feet

Figure 3-2
Wetlands
Raymond F. Rees Training Center

Jacobs



Legend

- Installation Boundary
- Proposed New 50ft Wide Disked Firebreak Construction = 8.1 Miles (48.8 Acres)
- Proposed Widening of 9.5 miles of Existing 16 ft (18.4 acres) Disked Firebreaks to 50ft = an additional 39.2 Acres

Vegetation Class

- Cantonment Area
- Big sagebrush shrubland
- Bitterbrush native forb shrubland
- Bitterbrush non-native forb shrubland
- Crested wheatgrass grassland
- False goldenaster grassland
- Mixed bitterbrush and rabbitbrush shrubland
- Mixed rabbitbrush shrubland
- Scurf pea grassland
- Thickspike wheatgrass sand dunes
- Live Fire Use Area – Not Inventoried

N

0 1,500 3,000 6,000

Feet

Figure 3-3
Vegetation Communities
Raymond F. Rees Training Center

Jacobs

Six of the nine vegetation communities on RTC are within the proposed project areas, including the following:

- **False goldenaster grassland:** This community includes hairy false goldenaster (*Heterotheca villosa* var. *villosa*) and occurs on coarse gravelly substrates in the southern half of RTC. Exotic forbs such as yellow salisfy (*Tragopogon dubius*), Russian thistle (*Salsola tragus*), and tall tumble mustard (*Sisymbrium altissimum*) are abundant within this community.
- **Scurf pea grassland:** This community is composed mainly of scurf pea (*Psoralidium lanceolatum*) and cheatgrass. Snow buckwheat (*Eriogonum niveum*) is also common where exotic forbs have not overrun the community.
- **Bitterbrush native forb shrubland:** This community consists of antelope bitterbrush and native forbs such as scurfpea, turpentine wavewing (*Pteryxia terebinthina* var. *terebinthina*), and pale evening primrose (*Oenothera pallida* ssp. *Pallida*).
- **Bitterbrush and exotic forb shrubland:** This community consists of antelope bitterbrush and exotic forbs such as rush skeletonweed (*Chondrilla juncea*), prickly lettuce (*Lactuca serriola*), and tall tumble mustard. Some native forbs do exist in this community, such as hairy false goldenaster (*Heterotheca villosa* var. *villosa*) and turpentine wavewing.
- **Mixed bitterbrush and rabbitbrush shrubland:** This community primarily consists of antelope bitterbrush and both rubber rabbitbrush (*Ericameria nauseosa* var. *speciosa*) and yellow rabbitbrush (*Chrysothamnus viscidiflorus* ssp. *Viscidiflorus*). A mix of native and exotic forbs are also present in this community.
- **Mixed rabbitbrush shrubland:** The dominant shrub canopy is provided by rubber rabbitbrush and yellow rabbitbrush, with a high abundance of native plants such as slender hawksbeard (*Crepis atribarba*), pale evening primrose, and silverleaf phacelia (*Phacelia hastata* var. *hastata*).

Table 3-4. Vegetation Communities within Proposed Project Areas

Project	Vegetation Community	Total Mapped Acreage on RTC	Acreage within Proposed Project Area
MOUT Site Improvements	False goldenaster grassland	1,387.0	87.5[a]
	Bitterbrush native forb shrubland	206.3	4.5[a]
Construction of Additional Firebreaks[b]	Mixed bitterbrush and rabbitbrush shrubland	1,044.6	17.9
	Scurf pea grassland	2,137.0	13.0
	False goldenaster grassland	1,387.0	8.0
	Bitterbrush native forb shrubland	206.3	1.9
	Bitterbrush non-native forb shrubland	171.6	1.6
	Mixed rabbitbrush shrubland	454.6	0.1

[a] Acreage includes existing disturbed/developed unvegetated areas, such as paved roads, trails, igloos, and removed igloo footprints

[b] Does not include firebreaks in the Live Fire Use Area where vegetation has not been inventoried or the developed Cantonment Area.

A floristic PLS at RTC was conducted between 2014 and 2015. The floristic PLS recorded 106 plant taxa on RTC, approximately 69 percent (75 taxa) being native species and 31 percent (33 taxa) being exotic species. Most of these species were grasses or forbs (OMD, 2021c).

Past disturbance and human use of RTC has contributed to the presence of non-native, invasive weed species, including noxious weeds, throughout the area. Six Oregon-listed noxious weed species were documented on RTC during surveys in 2015: diffuse knapweed (*Centaurea diffusa*), rush skeletonweed, Canada thistle (*Cirsium arvense*), Scotch thistle (*Onopordum acanthium*), milk thistle (*Silybum marianum*), and tree-of-heaven (*Ailanthus altissima*) (OMD, 2021a). These species are classified as Oregon Department of Agriculture B-listed noxious weed species, which indicates they are of economic importance, regionally abundant, and with limited distribution in some counties (ODA, 2020). Treatment of B-listed noxious weeds is recommended by Oregon Department of Agriculture but is not mandatory. Additionally, rush skeletonweed and Scotch thistle are classified as A-list noxious weeds in Morrow County. Rush skeleton weed is also an A-list noxious weed in Umatilla County. An A-listed noxious weed is of known economic importance that occurs in the state in small enough infestations to make eradication or containment possible, or is not known to occur, but its presence in neighboring states make future occurrence in Oregon seem imminent (ODA, 2020). County ordinances mandate that landowners treat county-listed A-list noxious weeds. Following prescriptions in the ORARNG Integrated Pest Management Plan (IPMP), populations of noxious weeds on RTC are currently treated with herbicides when they are detected. Locations of infestations of these species have not been tracked over time, although infestations have generally been found along roadways and other disturbed areas (OMD, 2012).

3.8.1.1 Special-status Plants

No federal- or state-listed threatened, endangered, or candidate plant species have been identified at RTC (OMD, 2021a).

3.8.2 Fauna

RTC contains shrub-dependent species, including sagebrush obligates, grassland-dependent species, bare ground nesting species, and tree cavity-dependent nesting species, among others. Wildlife documented at RTC includes 46 bird species, 12 mammal species, and 1 reptile species. Faunal surveys of RTC (excluding the range area) were most recently conducted in 2017 and 2018. In addition, an invertebrate survey conducted in 2020 identified 6,741 invertebrate species, including, but not limited to, butterflies, beetles, true bugs, isopods, and spiders (OMD, 2021a).

3.8.2.1 Special-status Wildlife

A list of special-status wildlife occurring, or with potential to occur, on RTC is presented in Table 3-5. The USFWS Information, Planning, and Consultation Official Species List (Appendix E) prepared for the proposed projects indicates that the monarch butterfly (*Danaus plexippus*), a candidate species for listing under the ESA, has the potential to occur within the proposed project areas. Correspondence from the USFWS, ODFW, and BLM identified the Washington ground squirrel as having the potential to occur within the proposed project areas (Appendix A).

Table 3-5. Special-Status Wildlife Occurring or with Potential to Occur on RTC

Common Name	Scientific Name	Federal Status[a]	State Status[b]	Other Designations[c]
Invertebrates				
Monarch butterfly	*Danaus plexippus*	Candidate	--	--
Birds				
Brewer's sparrow	*Spizella breweri*	--	S; CS	BCC; DoD M-S
Chipping sparrow	*Spizella passerina*	--	CS	--
Common nighthawk	*Chordeiles minor*	--	S; CS	DoD M-S
Grasshopper sparrow	*Ammodramus savannarum*	--	S; CS	DoD M-S
Lewis's woodpecker	*Melanerpes lewis*	--	SC; CS	BCC; DoD M-S
Loggerhead shrike	*Lanius ludovicianus*	--	S; CS	BCC; DoD M-S
Long-billed curlew	*Numenius americanus*	--	SC; CS	BCC; DoD M-S
Peregrine falcon	*Falco peregrinus*	--	CS	BCC
Sage sparrow	*Artemisiospiza nevadensis*	--	SC; CS	BCC; DoD M-S
Sage thrasher	*Oreoscoptes montanus*	--	--	BCC
Short-eared owl	*Asio flammeus*	--	CS	--
Western burrowing owl	*Athene cunicularia*	SOC	SC; CS	DoD M-S
Western meadowlark	*Sturnella neglecta*	--	CS	--
Willow flycatcher	*Empidonax traillii*	--	CS	BCC
Mammals				
Silver-haired bat	*Lasionycteris noctivagans*	--	S	--
Washington ground squirrel	*Urocitellus washingtoni*	Candidate	--	--

Source: OMD, 2021a; ODFW, 2021; USFWS, 2021b

[a] Federal Status Designations

SOC = USFWS Species of Concern

[b] State and Regional Status Designations

[c] Other Status Designations

BCC = USFWS-designated Bird of Conservation Concern

CS = a "Conservation Strategy" species for the ecoregion designated in the Oregon State Wildlife Action Plan

DoD M-S = Department of Defense Partners in Flight Mission-Sensitive Priority Species

S = State-designated "sensitive" species

SC = State-designated "critical" species

3.8.2.2 Federally Listed Species

Species that are federally listed as Endangered or Threatened are afforded legal protection under the ESA. The ESA requires federal agencies to ensure that actions they authorize, fund, or carry out will not likely jeopardize the continued existence of federally listed species, or result in the destruction or adverse modification of designated critical habitat of such species. Critical habitat is defined by the ESA as specific areas within or outside the geographical area occupied by a listed species that contain physical or biological features essential to the species' conservation, and that may require special management considerations or protection. The ESA also requires that federal agencies implement measures to conserve, protect, and, where possible, enhance any listed species and its habitat. The ESA is administered by the USFWS and National Marine Fisheries Service. Section 7 of the ESA requires that federal actions determined to potentially impact federally listed species be consulted with the USFWS or National Marine Fisheries Service. No federally listed threatened, endangered, or candidate wildlife species are known or suspected to occur on RTC (OMD, 2021c). Surveys for the Washington ground squirrel were conducted at RTC in 2017 and 2018. No Washington ground squirrels or signs of ground squirrels were identified on the installation during the surveys. It is suspected that larger fossorial mammals, such as ground squirrels, are absent from RTC because the soils are too sandy to support their burrows (OMD, 2018).

The USFWS also identifies Species of Concern, which refers to those species that may require some conservation actions but which are not threatened with extinction. Species of Concern are not provided legal protection under the ESA and the use of the term does not necessarily mean that the species will eventually be proposed for listing as a threatened or endangered species. Only one Species of Concern, the western burrowing owl (*Athene cunicularia* ssp. *hypugaea*), has been observed at RTC (OMD, 2021a).

The USFWS BCC list identifies the migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) with the highest conservation priorities. Eight BCC for USFWS Bird Conservation Region 9 (Great Basin) have been identified at RTC (Table 3-4) (OMD, 2021a).

3.8.2.3 State-listed Species

Under state law (ORS 496.171-496.192), the Fish and Wildlife Commission through ODFW maintains a list of native wildlife species in Oregon that have been determined to be threatened or endangered according to criteria set forth by Oregon Administrative Rule 635-100-0105. No state-listed threatened or endangered species have been documented at RTC (OMD, 2021c).

A state sensitive species list is also maintained by ODFW in accordance with Oregon's Sensitive Species Rule (Oregon Administrative Rule 635-100-0040). "Sensitive" species are defined as having small or declining populations due to threats to their populations or habitats and are of management concern. "Critical" species are imperiled with extirpation from a specific geographic area of the state because of small population size, habitat loss or degradation, and/or immediate threats. Several ODFW-designated sensitive wildlife species have been documented on RTC and the immediate area (refer to Table 3-4).

3.8.2.4 Migratory Birds and Eagles

The ARNG is responsible under the MBTA (50 CFR Part 21) and EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds* to promote, support, and contribute to the conservation of migratory birds. As per 50 CFR Part 21.15, *Authorization of Take Incidental to Military Readiness Activities*, DoD is authorized to incidentally take migratory birds in the course of military readiness activities, with limitations. The specific DoD branch must confer and cooperate with the USFWS to develop and implement appropriate conservation measures for actions that, determined through the NEPA process, may result in a significant adverse effect on a population of migratory bird species.

There are 64 migratory bird species known to occur at RTC (OMD, 2021c). EO 13186, *Responsibilities of Federal Agencies to Protect Migratory Birds*, requires each federal agency to develop a Memorandum of

Understanding (MOU) with the USFWS that promotes the conservation of migratory birds. Pursuant to EO 13186, the DoD entered into an MOU with the USFWS, last updated September 2014, that outlines a collaborative approach to promote the conservation of migratory bird populations while sustaining the use of military managed lands and airspace for testing, training, and operations. This MOU specifically pertains to actions that are not classified as military readiness activities and places emphasis on migratory bird species of concern, which are species that may experience greater degrees of impacts from direct or indirect disturbances.

In addition to the MBTA, bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) are protected under the BGEPA (16 USC Sections 668-668c) of 1940. No bald or golden eagles were identified during recent fauna surveys at RTC (OMD, 2021a). In addition, no suitable habitat exists for bald eagles (i.e., forest edge and large expanses of shallow water). Grasslands and shrublands on RTC may be used by golden eagles.

3.9 Cultural Resources

Cultural resources include historic architectural properties (buildings, structures, districts, and objects), prehistoric and historic archaeological sites, and traditional cultural properties. The primary federal laws that apply to cultural resources are NEPA and Section 106 of the NHPA, as amended. The NHPA created the NRHP and criteria to determine if cultural resources are eligible for listing in the NRHP. The Oregon State Historic Preservation Office is responsible for overseeing federal agency compliance with the NHPA in Oregon and was included in the Interagency and Intergovernmental Coordination for Environmental Planning process for this EA. A record of this agency coordination is provided in Appendix A.

Historic property is defined under 36 CFR Part 800.16 (l)(1) as "any prehistoric or historic district, site, building, structure, or object included in, or eligible for inclusion in, the NRHP maintained by the Secretary of the Interior." Generally, properties must be at least 50 years old to be eligible for listing in the NRHP, unless they are determined to possess exceptional importance. Section 106 of the NHPA requires federal agencies to consider the effects of their actions on such properties, following regulations issued by the Advisory Council on Historic Preservation (36 CFR Part 800).

Archaeological resources on federal lands are protected under the Archeological Resources Protection Act (16 USC Section 470dd). Native American human remains, burials, and associated burial goods are protected under Section 3 (c) of the Native American Graves and Protection and Repatriation Act (25 USC Section 3001) and its implementing regulations (43 CFR Part 10).

The ORARNG Integrated Cultural Resources Management Plan (ICRMP) is the ORARNG Commander's decision document for the conduct of cultural resources management actions and specific compliance procedures at ORARNG facilities. The most recent ICRMP was published in 2007 and does not specifically include RTC; however, SOPs included in the 2007 ORARNG ICRMP still apply to RTC. ORARNG is currently drafting an updated ICRMP to address cultural resource management at RTC.

3.9.1 Archaeological and Architectural Resources

Surveys for archaeological resources have been conducted on 2,248 acres of RTC and 3,075 acres are previously disturbed and would not warrant archaeological survey. As of April 2021, 1,963 acres of RTC remain to be surveyed or re-surveyed prior to ground-disturbing actions (OMD, 2021c).

Cultural resource surveys conducted on RTC to date have identified five archaeological sites including UCD Cantonment Military Site, one linear resource (1875 Global Land Office Wagon Road), and three other unnamed sites including one historic district (UCD Historic District), in addition to one property of traditional religious and cultural significance (Coyote Coulee). The UCD Historic District and the 1875 Global Land Office Wagon Road have been determined eligible for listing on the NRHP. The UCD

Cantonment Military Site and the three unnamed sites have been determined not eligible, and the Coyote Coulee has been determined potentially eligible (ORARNG, 2018a).

Aboveground or architectural resources within RTC include hundreds of military-affiliated structures and features, which are summarized as part of the UCD Historic District. There are 563 buildings and structures inside the boundaries of RTC that are contributing properties to the NRHP-eligible UCD Historic District. In 2018, the NGB, ORARNG, Oregon State Historic Preservation Office, and the Advisory Council on Historic Preservation entered into a Programmatic Agreement (PA) to address potential adverse effects on historic properties due to proposed expansion, development, and operations at RTC. Stipulations agreed to in the PA include, but are not limited to, designating a smaller discontinuous historic district in the Cantonment Area and area of ammunition storage; maintaining the architectural integrity of historic buildings and structures indefinitely; completing additional archaeological surveys in previously un-surveyed areas; and treating Coyote Coulee as eligible for the NRHP by limiting off-road vehicular traffic or new construction (ORARNG, 2018a).

3.9.2 Native American Sites and Consultation

The Confederated Tribes of the Umatilla Indian Reservation (CTUIR) Cultural Resources Protection Program conducted a traditional use investigation of the former UCD. This study identified 14 sites of cultural significance to the CTUIR including permanent village locations, fishing camps, and legendary sites. One of these sites, Coyote Coulee, is within RTC. This site is a traditionally used travel route, hunting location, and plant-gathering area that was used seasonally by the CTUIR. The PA stipulates that ORARNG consult with the CTUIR to develop a written protocol allowing CTUIR tribal member access on RTC to carry out cultural practices (OMD, 2021c).

The ORARNG regularly consults with Native American Tribes that have a cultural or historical affiliation with the lands encompassed in the installation. For this EA, consultation letters were sent to four Tribes known to have patrimonial ties to the region of RTC: CTUIR, Confederated Tribes of the Warm Springs Reservation of Oregon, Yakama Nation Tribal Council, and the Nez Perce Tribe. A record of Native American consultation associated with this EA is provided in Appendix A. To date, the Confederated Tribes of the Warm Springs Reservation of Oregon has responded and deferred comment on cultural resources issues related to this project to the CTUIR.

3.10 Health and Safety

A safe environment is one in which there is no, or an optimally reduced, potential for death, serious bodily injury or illness, or property damage. OMD is committed to protecting the health and safety of personnel at RTC, area residents, and the public at large. Public access onto RTC is restricted due to safety concerns (e.g., presence of unexploded ordinance). The nearest police station is the Umatilla Police Department, located 5.3 miles northeast in the City of Umatilla. The nearest hospital is the Good Shepherd Medical Group, located 5.5 miles east in the City of Hermiston (OMD, 2021c).

Wildfires can pose a significant threat to RTC personnel and facilities as well as to area residents. The Umatilla County Fire District #1 is the nearest fire station, located 6.2 miles east in the City of Hermiston. RTC has a Mutual Aid Agreement with Naval Weapons Training Facility Boardman (approximately 6 miles southwest of RTC) for wildland fire response and a fee response agreement with Fire District #1 for structural fire, emergency medical services, and wildland fire response. RTC has a full-time firefighting team (OMD, 2020).

The IWFMP is the primary planning tool for managing wildland fires at RTC. This plan presents a comprehensive approach to help reduce the frequency of wildfires and the associated costs and damages. The plan lays out specific guidance, procedures, and protocols in the prevention and suppression of

wildfires, with the goal of conveying the methods and protocols necessary to minimize wildfire frequency, severity, and size (OMD, 2020).

3.11 Infrastructure

Infrastructure on RTC includes utilities (electricity, potable water, wastewater, communications), bunkers formerly used for UCD operations, buildings associated with the Cantonment Area, seven water wells, a road network, and both active and inactive railroads (ORARNG, 2018a).

With the exception of electricity and communication (which enter RTC via a combination of overhead and underground lines), utilities are contained within RTC. RTC's potable water is supplied through an onsite network of wells, pipelines, and storage reservoirs. The wastewater system consists of a piped sewer system in the Cantonment Area, which carries wastewater to a treatment facility approximately 5,000 feet west. Heating is accomplished via individual propane heating systems, with propone storage tanks adjacent to each structure (ORARNG, 2018a).

RTC is accessed via two main interstates: I-84 and I-82. The main gate is on the southeast side of the cantonment off I-84/U.S. Highway 30. Roads providing circulation routes in the Cantonment Area, warehouse, and ammunition storage complexes are present on RTC (ORARNG, 2015). In total, RTC contains approximately 50 miles of active and inactive railroad tracks (ORARNG, 2018a).

3.12 Hazardous and Toxic Materials/Wastes

AR 200-1, *Environmental Protection and Enhancement*, sets forth the requirements for implementing laws, regulations, and policy pertaining to the management of HTMW by the ARNG. RCRA (42 USC 82 Sections 6901 et seq.) provides the framework for the proper management of hazardous and nonhazardous solid waste.

3.12.1 Hazardous Materials and Wastes

Hazardous materials have been declared hazardous through federal listings, including Extremely Hazardous Substances listed in Appendix A of 40 CFR Part 355, *Emergency Planning and Notification*; those listed as hazardous if released, under the Comprehensive Environmental Response, Compensation, and Liability Act in 40 CFR Part 302.4, *Designation of Hazardous Substances*; and by definition of hazardous chemicals by OSHA in 29 CFR Part 1910.1200, *Hazard Communication*. A toxic substance is a substance that when ingested or absorbed is harmful or fatal to living organisms. As discussed previously, toxicity is an attribute of some hazardous waste. Through the Toxic Substances Control Act, EPA regulates toxic substances such as asbestos, lead-based paint, polychlorinated biphenyls, and radon.

Hazardous waste is any solid, liquid, or contained gas waste that is dangerous or potentially harmful to human health or the environment. Hazardous wastes are classified under RCRA in 40 CFR Part 261, *Identification and Listing of Hazardous Waste*, as either characteristic wastes or listed wastes. Characteristic hazardous wastes exhibit one or more of the following traits: ignitability, reactivity, corrosivity, or toxicity. Listed hazardous wastes are wastes specifically listed as being hazardous and are from specific sources, non-specific sources, or discarded chemical products.

RTC is classified as a Conditionally Exempt Small Quantity Generator of hazardous waste under RCRA. Hazardous wastes at RTC are controlled and managed in accordance with ORARNG PAM 200-1, *Environmental Quality: Guide to Environmental Compliance*, and ORARNG Regulation 420-47, *Installations: Hazardous Material, Waste, and Spill Management Plan*. These guidelines and regulations describe management practices to control the procurement, use, and storage of hazardous materials to prevent pollution from being generated; minimize hazards of chemical use to the health of employees and the environment; and provide waste minimization.

RTC maintains a Spill Prevention, Control, and Countermeasure Plan (SPCC) Plan (ORARNG, 2018b) to identify potential oil and hazardous spill sites and established procedures and resources to respond to and clean up spills. RTC also adheres to ORARNG's statewide IPMP (OMD, 2012). Integrated Pest Management (IPM) is the use of multiple techniques in a compatible manner to avoid damage and minimize adverse environmental effects while achieving control of target pests. The goal of IPM is to utilize non-chemical procedures to control pests, including invasive and exotic plant and animal species, when feasible. The IPMP serves as a tool to reduce pesticide use, enhance environmental protection, and maximize the use of IPM techniques. It is the policy of the ORARNG to use non-chemical control methods to the maximum extent practicable before resorting to pesticides, including herbicides, at the installation. OMD is currently drafting an updated IPMP to address pest management on RTC.

3.12.2 Site-Specific Contamination

3.12.2.1.1 MOUT Site Improvements (Component Action 1)

No release, disposal, and/or migration of hazardous substances has been documented within G-block (AMEC, 2012).

3.12.2.1.2 Construction of Additional Firebreaks (Component Action 2)

The proposed firebreaks are not within any areas of surface-level contamination (AMEC, 2012).

4 Environmental Consequences

This section presents the environmental consequences, which are potential direct, indirect, and cumulative impacts of the Proposed Action and No Action Alternative on each resource described in Section 3.0. Direct impacts are those that would result from the action at the same time and in the same place the action is being implemented. Indirect impacts are those that would result from the action at a later time or would be farther removed in distance from the action but are still reasonably foreseeable. Cumulative impacts are those that would result from the incremental impacts of the action when added to other past, present, and reasonably foreseeable future actions. As appropriate, impacts are further discussed as being temporary, short-term, or long-term.

4.1 Land Use

4.1.1 Significance Criteria

The threshold level for a significant adverse impact to land use is defined as changes in land use that would conflict with zoning, planning documents, or planning goals.

4.1.2 Impacts of the Proposed Action

4.1.2.1 MOUT Site Improvements (Component Action 1)

Implementation of MOUT site improvements would have long-term beneficial impacts to land use at RTC from aligning with existing site development and master planning goals for the installation and maximizing the value of training land. The Proposed Action would be consistent with existing land use and zoning in and adjacent to RTC, and no adverse or significant impacts to land use would occur.

4.1.2.2 Construction of Additional Firebreaks (Component Action 2)

Construction of additional firebreaks would have no impacts on land use. The additional firebreaks would not conflict with zoning, planning documents, or planning goals at RTC.

4.1.3 Impacts of the No Action Alternative on Land Use

Under the No Action Alternative, the identified near-term infrastructure projects at RTC would not be implemented. There would be long-term, less-than-significant, adverse impacts to land use at RTC from not developing the installation in accordance with site development and master planning goals.

4.1.4 Mitigation Measures/Best Management Practices

No mitigation measures are required under the Proposed Action to reduce adverse impacts to below significant levels. No BMPs or other impact minimization measures are necessary under the Proposed Action to manage impacts.

4.2 Air Quality

4.2.1 Significance Criteria

The threshold level for a significant adverse impact to air quality is defined as a violation of an ambient air quality standard or regulatory threshold.

4.2.2 Impacts of the Proposed Action

Air quality impacts associated with the Proposed Action were evaluated based on whether emissions would be localized and whether a reasonable potential exists for a violation of an ambient air quality standard or regulatory threshold.

Implementation of the Proposed Action at RTC would result in short-term, less-than-significant, adverse impacts on overall air quality from construction activities. The operation of various equipment during construction activities would create exhaust emissions and generate dust and other particles in the air during the execution of the Proposed Action. Mobile source emissions also would be generated from vehicular traffic.

4.2.2.1 MOUT Site Improvements (Component Action 1)

Under the Proposed Action, short-term, less-than-significant, adverse impacts on air quality would occur during construction activities. Table 4-1 summarizes projected air emissions from MOUT Site Improvements under the Proposed Action. A copy of the calculations used to develop these estimates is provided in Appendix D.

Table 4-1. Proposed Action Construction Emissions for MOUT Site Improvements

Emission Source	Emissions for 2022 (tons per year)					
	VOC	**CO**	**NO_X**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Construction Emissions	0.181	0.975	1.19	0.003	166	0.049
Total Emissions	**0.181**	**0.975**	**1.19**	**0.003**	**166**	**0.049**
de minimis levels (tons per year)	250	250	250	250	250	250
Threshold Exceeded for Any Activity?	No	No	No	No	No	No
Emission Source	**Emissions for 2023 (tons per year)**					
	VOC	**CO**	**NO_x**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Construction Emissions	0.290	1.97	1.82	0.004	166	0.076
Total Emissions	**0.290**	**1.97**	**1.82**	**0.004**	**166**	**0.076**
de minimis levels (tons per year)	250	250	250	250	250	250
Thresholds Exceeded for Any Activity?	No	No	No	No	No	No
Emission Source	**Emissions for 2024 (tons per year)**					
	VOC	**CO**	**NO_x**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Construction Emissions	0.276	1.95	1.69	0.004	166	0.067
Total Emissions	**0.276**	**1.95**	**1.69**	**0.004**	**166**	**0.067**
de minimis levels (tons per year)	250	250	250	250	250	250
Thresholds Exceeded for Any Activity?	No	No	No	No	No	No
Emission Source	**Emissions for 2025 (tons per year)**					
	VOC	**CO**	**NO_x**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Construction Emissions	0.264	1.93	1.56	0.004	166	0.059
Total Emissions	**0.264**	**1.93**	**1.56**	**0.004**	**166**	**0.059**
de minimis levels (tons per year)	250	250	250	250	250	250
Thresholds Exceeded for Any Activity?	No	No	No	No	No	No
Emission Source	**Emissions for 2026 (tons per year)**					

Table 4-1. Proposed Action Construction Emissions for MOUT Site Improvements

	VOC	CO	NO_x	SO_2	PM_{10}	$PM_{2.5}$
Construction Emissions	0.259	1.93	1.52	0.004	166	0.056
Total Emissions	**0.259**	**1.93**	**1.52**	**0.004**	**166**	**0.056**
de minimis levels (tons per year)	250	250	250	250	250	250
Thresholds Exceeded for Any Activity?	No	No	No	No	No	No
	Emissions for 2027 (tons per year)					
Emission Source	**VOC**	**CO**	**NO_x**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Construction Emissions	0.102	0.995	0.598	0.002	0.035	0.021
Total Emissions	**0.102**	**0.995**	**0.598**	**0.002**	**0.035**	**0.021**
de minimis levels (tons per year)	250	250	250	250	250	250
Thresholds Exceeded for Any Activity?	No	No	No	No	No	No

Source: Record of Conformity Analysis (Appendix D)
Note: No lead emissions would be generated during construction activities.
NO_x = Nitrogen Oxides
VOC = volatile organic compound

4.2.2.2 Construction of Additional Firebreaks (Component Action 2)

Under the Proposed Action, short-term, less-than-significant, adverse impacts on air quality would occur during construction activities. Table 4-2 summarizes projected air emissions from constructing additional firebreaks under the Proposed Action. A copy of the calculations used to develop these estimates is provided in Appendix D.

Table 4-2. Proposed Action Construction Emissions for Construction of Additional Firebreaks

	Emissions for 2022 (tons per year)					
Emission Source	**VOC**	**CO**	**NO_X**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Construction Emissions	0.020	0.099	0.138	0.000	7.65	0.005
Total Emissions	**0.020**	**0.099**	**0.138**	**0.000**	**7.65**	**0.005**
de minimis levels (tons per year)	250	250	250	250	250	250
Threshold Exceeded for Any Activity?	No	No	No	No	No	No
	Emissions for 2023 (tons per year)					
Emission Source	**VOC**	**CO**	**NO_x**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Construction Emissions	0.019	0.097	0.128	0.000	7.65	0.005
Total Emissions	**0.019**	**0.097**	**0.128**	**0.000**	**7.65**	**0.005**
de minimis levels (tons per year)	250	250	250	250	250	250
Thresholds Exceeded for Any Activity?	No	No	No	No	No	No
	Emissions for 2024 (tons per year)					
Emission Source	**VOC**	**CO**	**NO_x**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**

Table 4-2. Proposed Action Construction Emissions for Construction of Additional Firebreaks

Construction Emissions	0.019	0.095	0.119	0.000	7.65	0.005
Total Emissions	**0.019**	**0.095**	**0.119**	**0.000**	**7.65**	**0.005**
de minimis levels (tons per year)	250	250	250	250	250	250
Thresholds Exceeded for Any Activity?	No	No	No	No	No	No
Emission Source	**Emissions for 2025 (tons per year)**					
	VOC	**CO**	**NO_x**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Construction Emissions	0.018	0.093	0.110	0.000	7.65	0.004
Total Emissions	**0.018**	**0.093**	**0.110**	**0.000**	**7.65**	**0.004**
de minimis levels (tons per year)	250	250	250	250	250	250
Thresholds Exceeded for Any Activity?	No	No	No	No	No	No
Emission Source	**Emissions for 2026 (tons per year)**					
	VOC	**CO**	**NO_x**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Construction Emissions	0.018	0.093	0.110	0.000	7.65	0.004
Total Emissions	**0.018**	**0.093**	**0.110**	**0.000**	**7.65**	**0.004**
de minimis levels (tons per year)	250	250	250	250	250	250
Thresholds Exceeded for Any Activity?	No	No	No	No	No	No

Source: Record of Conformity Analysis (Appendix D)
Note: No lead emissions would be generated during construction activities.

4.2.3 Impacts of the No Action Alternative on Air Quality

Under the No Action Alternative, the identified near-term infrastructure projects would not be implemented, and existing conditions would continue. There would be no impacts to air quality from the No Action Alternative.

4.2.4 Mitigation Measures/Best Management Practices

No mitigation measures are required under the Proposed Action to reduce adverse impacts to below significant levels. BMPs that OMD would implement to minimize impacts to air quality from the Proposed Action are identified in Section 4.11.

4.3 Noise

4.3.1 Significance Criteria

The threshold level for a significant adverse noise impact is defined as a permanent increase in noise or prolonged periods of nighttime noise in noise-sensitive areas.

4.3.2 Impacts of the Proposed Action

4.3.2.1 MOUT Site Improvements (Component Action 1)

Under the Proposed Action, short-term, less-than-significant adverse noise impacts would occur during construction of MOUT site improvements. Construction activities would temporarily increase ambient noise levels in and around the MOUT site intermittently over the next 5 years. The increased noise levels

would be limited to daytime working hours and the overall construction periods. Heavy equipment, such as bulldozers, graders, backhoes, excavators, dump trucks, front-end loaders, and water trucks would generate noise that could affect onsite workers. Construction equipment typically emits noise in the 75- to 89-dBA range at a distance of 50 feet (Table 4-1). If multiple pieces of construction equipment are operating simultaneously, then the noise is increased due to the additional equipment. Therefore, noise from the construction site could be up to 94 dBA at 50 feet with several large pieces of equipment operating at the same time. When distance is the only factor considered (free-field conditions), noise levels are estimated to decrease by approximately 6 dBA with every doubling of distance from a noise source (Table 4-1); the presence of obstructions such as vegetation and structures can further decrease noise levels with increasing distance. (Table 4-3). Construction workers would use hearing protection and follow OSHA standards and procedures to protect themselves from construction noise and/or noise generated by surrounding training activities.

Table 4-3. Noise Levels of Construction Equipment

Equipment	Noise Level at 50 Feet (dBA)	Noise Level at 0.25 Mile (dBA)	Noise Level at 1.3 Miles (dBA)
Earthmovers			
Front Loaders	79	51	36
Backhoes	78	50	35
Dozers	82	54	39
Tractors	84	56	41
Graders	85	57	42
Pavers	77	49	34
Trucks	75	47	32
Materials Handling			
Concrete Mixers	79	51	36
Concrete Pump	81	53	38
Crane	81	53	38
Stationary			
Pumps	81	53	38
Generator	81	53	38
Compressors	78	50	35
Impact			
Jack Hammers	89	61	46
Pneumatic Tools	85	56	42
Other			
Vibrators	87	59	44

Source: USDOT, 2006

The nearest off-post noise-sensitive land uses to the MOUT site include rural residences south of the installation. On-post noise-sensitive land uses at RTC exist only within the Cantonment Area and primarily include administrative offices and classrooms. Based on the noise dissipation estimated to occur over the distance from the proposed MOUT site to the nearest residence, which is 1.4 miles, construction noise from the MOUT site on average is expected to be between 31 and 45 dBA outside the residence. Noise levels within this range are expected to be less than those generated by normal conversation (Table 3-2). Construction noise outside the administrative and classroom facilities within the Cantonment Area, which are 1.3 miles southwest of the MOUT site, would be between 32 and 46 dBA, and also less than the range of normal conversation. Buildings would provide an environment free from excessive noise. Based on the expected noise levels, implementation of improvements to the MOUT site would have negligible construction noise impacts on noise-sensitive land uses. The generated construction noise would be heard only during daytime and only over the duration of the construction period.

Training activities at the MOUT site would not increase noise in the training area of RTC above existing levels. Noise sources would include vehicles, weapons, and weapons simulators. Typically, training activities would be conducted during daytime hours. Given that the MOUT site would be positioned in the center of the installation and RTC is surrounded primarily by agricultural activities, no exposure to nearby residences would be expected.

4.3.2.2 Construction of Additional Firebreaks (Component Action 2)

Under the Proposed Action, short-term, less-than-significant adverse noise impacts would occur during construction and maintenance of additional firebreaks. Disking activities would temporarily increase ambient noise levels in and around the proposed firebreaks. The increased noise levels would be limited to daytime working hours and only while disking was occurring. Tractors that would be used for disking typically emit noise around 84 dBA at a distance of 50 feet (Table 4-1). Noise levels would decrease by approximately 6 dBA with every doubling of distance from a noise source (Table 4-1). Equipment operators would use hearing protection and follow OSHA standards and procedures to protect themselves from equipment noise and/or noise generated by surrounding training activities.

The nearest off-post noise-sensitive land uses to the proposed firebreaks include rural residences south of the installation. On-post noise-sensitive land uses at RTC exist only within the Cantonment Area and primarily include administrative offices and classrooms. Based on the noise dissipation estimated to occur over the distance from the proposed firebreaks to the nearest residence, which is 0.25 mile, disking noise on average is expected to be around 56 dBA outside the residence. Noise levels within this range are expected to be less than those generated by normal conversation and would be consistent with noise from agricultural activities in the area (Table 3-2). Disking noise outside the administrative and classroom facilities within the Cantonment Area, which are 0.1 mile away from the proposed firebreaks, would be around 64 dBA. Given the mobile nature of disking, noise sensitive receptors would not be exposed to noise levels for extended periods and buildings would provide an environment free from excessive noise. Based on the expected noise levels, construction and maintenance of additional firebreaks would have negligible noise impacts on noise-sensitive land uses.

4.3.3 Impacts of the No Action Alternative on Noise

Under the No Action Alternative, the identified near-term infrastructure projects would not be implemented, and existing conditions would continue. There would be no impacts to the noise environment from the No Action Alternative.

4.3.4 Mitigation Measures/Best Management Practices

No mitigation measures are required under the Proposed Action to reduce adverse impacts to below significant levels. BMPs that OMD would implement to minimize noise impacts from the Proposed Action are identified in Section 4.11.

4.4 Geology, Topography, and Soils

4.4.1 Significance Criteria

The threshold level for a significant impact to geology, topography, and soils is defined as (1) a substantial alteration of subsurface geological formations or mineral resources, topography, or soil, or (2) substantial soil erosion or sedimentation impacts.

4.4.2 Impacts of the Proposed Action

4.4.2.1 MOUT Site Improvements (Component Action 1)

Under the Proposed Action, there would be short-term, less-than-significant adverse impacts to soils from construction activities. Construction of MOUT site improvements would result in up to approximately 92 acres of ground disturbance. The soils within G-block have been previously disturbed by past land development activities. Adverse impacts to soils could include compaction from heavy equipment, piling up of materials to create berms and rolling hills, and erosion and disturbance of soils during excavation and earth-moving activities. Disturbed areas would be kept to the minimum required to complete the work and would be confined within site boundaries. Vegetation removal would increase the potential for erosion. Appropriate measures and controls would be implemented during construction activities to minimize the potential for soil erosion and sedimentation impacts. Examples of such measures and controls include, but are not limited to, BMPs to control the volume and velocity of stormwater runoff, soil stabilization measures such as sodding or seeding, and structural controls such as silt fences (further discussed in Section 4.5.4). The OMD would be required to obtain a Construction General Permit from the EPA for projects that disturb 1 acre or more of land and to develop and implement a SWPPP as part of the permit. The specific measures and controls that would be implemented by the OMD to prevent and minimize erosion, sedimentation, and pollution during construction would be identified in the SWPPP.

Construction of proposed improvements to the MOUT site would be conducted using standard methods that would not adversely affect subsurface geological formations or mineral resources. Under the Proposed Action, there would be long-term, less-than-significant, adverse impacts to topography from the creation of both above-grade (berms and rolling hills) and below-grade (dry riverbed) relief features. Berms and rolling hills would be a maximum of 16 feet high and the dry riverbed would have an average depth of 6.5 feet. Alterations to the baseline topographical conditions of G-block would affect onsite drainage patterns; however, since there are no surface water bodies or stormwater conveyance systems in the vicinity or G-block, effects would be negligible.

Training activities at the MOUT site would have no potential to affect geology or topography. There would be long-term, less-than-significant, adverse impacts to soils from compaction of surface soils and disruption of soil integrity from vehicles using new trails. Foot traffic on bare or grassed soils in the MOUT site would have relatively minor physical impacts on soils.

4.4.2.2 Construction of Additional Firebreaks (Component Action 2)

Construction of additional firebreaks would have long-term, less-than-significant, adverse impacts to soils. Disking and maintenance of the proposed firebreaks would result in approximately 88 acres of ground disturbance that would be repeated at regular intervals. Disking can negatively impact soil quality by disrupting soil structure and accelerating surface runoff and soil erosion (ISU, 2021). Disturbance of vegetation from disking also leaves soils subject to wind and water erosion. OMD would evaluate methods

to reduce soil erosion along firebreaks, such as the use of soil stabilizers, and implement as necessary. Construction of additional firebreaks would have no impact on subsurface geological formations or mineral resources or topography.

4.4.3 Impacts of the No Action Alternative on Geology, Topography, and Soils

Under the No Action Alternative, the identified near-term infrastructure projects would not be implemented, and existing conditions would continue. There would be no impacts to geology, topography, or soils from the No Action Alternative.

4.4.4 Mitigation Measures/Best Management Practices

No mitigation measures are required under the Proposed Action to reduce adverse impacts to below significant levels. BMPs that OMD would implement to minimize impacts to soils from the Proposed Action are identified in Section 4.11.

4.5 Water Resources

4.5.1 Significance Criteria

The threshold level for a significant adverse impact to water resources is defined as (1) a net loss of wetland acreage or substantial degradation of existing wetland quality, including sedimentation, (2) discharge of stormwater during construction that causes excessive offsite erosion, or (3) a reduction of the quantity or quality of groundwater.

4.5.2 Impacts of the Proposed Action

4.5.2.1 MOUT Site Improvements (Component Action 1)

4.5.2.1.1 Surface Waters and Wetlands

No impacts to surface water bodies or wetlands would occur from implementation of MOUT site improvements as no ground-disturbing activities would occur in the vicinity of wetlands or surface water bodies.

Implementation of MOUT site improvements would have long-term beneficial impacts to stormwater runoff from the removal of over 3 acres of impervious surfaces (paved roads). Short-term, less-than-significant adverse impacts to stormwater would occur due to excavation and earth-moving activities associated with construction that could result in erosion and an increase in the sediment-load of stormwater runoff discharging offsite. These impacts are expected to be minimal because the majority of stormwater runoff would infiltrate onsite as a result of the high permeability of onsite soils. The OMD would be required to obtain a Construction General Permit from the EPA for projects that disturb 1 acre or more of land and to develop and implement a SWPPP as part of the permit. The SWPPP would outline the BMPs and engineering controls to be used to prevent and minimize erosion and sediment-laden stormwater runoff from discharging offsite during construction. Examples of such practices and controls are provided in Section 4.5.4.

4.5.2.1.2 Groundwater

Under the Proposed Action, short-term, less-than-significant adverse impacts to groundwater could occur during construction activities from inadvertent releases of contaminants, such as equipment fuel. This risk would be minimized by practicing good housekeeping in accordance with the SWPPP, such as properly storing materials and fueling and maintaining equipment offsite or in designated areas with appropriate control and containment. All spills would be addressed in accordance with RTC's SPCC Plan (ORARNG, 2018b). With implementation of these measures and because the depth of groundwater is 60 feet or

more, no impacts to groundwater quality from construction activities would be expected. Improvements to the MOUT site would not involve discharges to groundwater or withdrawals of groundwater.

4.5.2.2 Construction of Additional Firebreaks (Component Action 2)

4.5.2.2.1 Surface Waters and Wetlands

No impacts to surface water bodies would occur from the construction of additional firebreaks. The proposed expansion of the firebreak along the western border of RTC would occur within the NWI-mapped wetland that is a result of irrigation runoff. This wetland has no connection with regulated waters and is not subject to Clean Water Act jurisdiction; therefore, construction of additional firebreaks would have no direct impacts to waters of the U.S.

4.5.2.2.2 Groundwater

Under the Proposed Action, short-term, less-than-significant impacts to groundwater quality could result if herbicides are used to control non-native, invasive, and noxious weeds along the expanded and new firebreaks. Herbicides can contaminate groundwater through spills or leaching of herbicides; however, concentrations of herbicides are typically reduced from the combination of sorption, dispersion, dilution, and transformation as water infiltrates the land surface and moves through soil and aquifer materials before reaching most wells (USGS, 2007). The use of herbicides would be minimized in accordance with IPM strategies and ORARNG's IPMP (OMD, 2012). Herbicides would be properly handled to avoid spills in accordance with label directions and ORARNG's IPMP (OMD, 2012). With implementation of these measures and because the depth of groundwater is 60 feet or more, impacts to groundwater from herbicide use would be negligible. Construction and maintenance of additional firebreaks would not involve discharges to groundwater or withdrawals of groundwater.

4.5.3 Impacts of the No Action Alternative on Water Resources

Under the No Action Alternative, the identified near-term infrastructure projects would not be implemented, and existing conditions would continue. There would be no impacts to water resources from the No Action Alternative.

4.5.4 Mitigation Measures/Best Management Practices

No mitigation measures are required under the Proposed Action to reduce adverse impacts to below significant levels. BMPs that OMD would implement to minimize impacts to water resources from the Proposed Action are identified in Section 4.11.

4.6 Biological Resources

4.6.1 Significance Criteria

The threshold level for a significant adverse impact to biological resources is defined as (1) excessive loss or impairment of vegetative communities; (2) loss of wildlife that negatively affects the regional population of the respective species; or (3) unpermitted take of a species protected under the ESA, MBTA, or BGEPA.

4.6.2 Impacts of the Proposed Action

4.6.2.1 MOUT Site Improvements (Component Action 1)

4.6.2.1.1 Vegetation

Implementation of MOUT site improvements would result in short and long-term, less-than-significant, adverse impacts to vegetation during the construction phase. Impacts on vegetation would be expected

from temporary disturbances during construction activities (e.g., trampling and removal) and from the permanent removal of vegetation. Approximately 92 acres would be disturbed and/or developed to include terrain features, a dry riverbed, trails, training venues, culverts, and a bridge (Table 4-4). However, G-block has a history of extensive disturbance and an estimated 20 percent or more (83 acres or more) of the entire 400-acre site is already disturbed/developed and unvegetated, including paved roads, trails, igloos, and removed igloo footprints. Implementation of MOUT site improvements would disturb approximately 6 percent of the false goldenaster grassland and approximately 2 percent of the bitterbrush native forb shrubland on RTC. This loss would be less-than-significant given there would still be over 3,693 acres (98 percent) of grassland vegetation and over 1,875 acres (99 percent) of shrubland vegetation remaining on RTC. Vegetation would be restored within all temporary disturbance areas upon completion of construction by reseeding with a local, native plant mix, in accordance with RTC Integrated Natural Resources Management Plan. The proposed rolling hills and berms would also be seeded with a local, native plant mix post-construction. Because disturbance would occur on previously disturbed land, primarily in vegetation communities that are already dominated by non-native and invasive species, and because there would be no impacts to ESA-listed or Oregon state-listed plant species, impacts to vegetation would be less than significant.

Table 4-4. Estimated Permanent Impacts to Vegetation Communities from Implementation of MOUT Site Improvements

Vegetation Community	Total Mapped Acreage on RTC	Proposed Project Disturbance[a] (acres)	Percentage of Vegetation Community Mapped on RTC that would be Impacted
False goldenaster grassland	1,387.0	87.5	6%
Bitterbrush native forb shrubland	206.3	4.5	2%

Source: ORARNG, 2018a
[a] An estimated 20 percent of acreage is disturbed/developed and unvegetated

Soil and vegetation disturbance from construction can create suitable conditions for the establishment of invasive plants. Since non-native, invasive plant species already occur throughout the proposed project area and adjacent areas, no significant impact to native flora from construction would be expected. Post-construction, seed mixes used for revegetation would not include plants known to be non-native, invasive, or noxious weeds.

There would be long-term, less-than-significant, adverse impacts to vegetation during training activities at the MOUT site. Impacts would primarily be from Soldiers as they traverse the area performing dismounted training activities, which would result in vegetation being trampled and crushed, but not completely removed. With implementation of vegetation management measures in RTC Integrated Natural Resources Management Plan (OMD, 2021a), which include avoidance and minimization measure to protect vegetation (including rare plants) from impacts due to operation and maintenance activities, impacts to vegetation from training activities would be less than significant.

4.6.2.1.2 Wildlife

Under the Proposed Action, implementation of MOUT site improvements would result in short-term, less-than-significant, adverse impacts to wildlife due to disturbances from noise, construction activities, and heavy equipment use. The effects of noise on wildlife are not well-understood and are mostly based on observations of behavioral responses. Animals rely on hearing for a variety of functions, including obtaining food, mating, and predator avoidance. Noise may mask or interfere with these functions. Animal

response to noise has been shown to vary with species (Manci et al., 1988). A general behavioral reaction by some wildlife species when exposed to noise is the startle response. Startle responses in animals include flight, jumping, running, or movement of the head in the apparent direction of the noise source (Manci et al., 1988). Direct physiological effects of noise on wildlife are difficult to measure in the field but may include some health effects, depending on the noise levels. Serious effects such as decreased reproductive success depends on the species, the characteristics of the noise, and many other factors. Noise generated during construction activities under the Proposed Action may temporarily disturb wildlife that occurs in or near the project area; however, any disturbance experienced by wildlife would be limited to the construction period.

Proposed construction would result in long-term, less-than-significant impacts to wildlife from the loss of small portions of grassland and shrubland habitats on RTC. Impacts would be less-than-significant given only 1 to 2 percent of these habitats on RTC would be lost and the availability of large areas of similar quality habitat for displaced wildlife adjacent to and throughout RTC, which would be expected to continue to support wildlife found on RTC and the proposed project area. The proposed projects would not result in habitat fragmentation or disruption of wildlife corridors.

During ground-disturbing construction activities and vegetation removal, limited incidental animal injury or mortality could occur. However, it is expected that wildlife would avoid the active construction sites and adjacent areas during construction. No habitat would be lost outside the boundaries of the project areas. Incidental losses of animals during construction would not seriously affect regional animal population levels.

The overall potential for unintentional physical impacts to migratory birds and eagles from construction activities would be relatively low due to the mobility of birds. Ground-disturbing activities and vegetation removal would be initiated outside of the nesting season (April through August), as feasible, to reduce the potential for an unintentional take of birds. Any bird nests found during construction would be avoided to the extent practicable. In the event that a bird nest is found within or adjacent to the construction site, the OMD would be required to immediately stop work and consult with ORARNG environmental staff on the protection of the nest before resuming construction activities. For these reasons, proposed construction activities would have less-than-significant potential impacts on migratory birds and eagles.

Training activities at the MOUT site would have long-term, less-than-significant impacts to wildlife due to disturbances from noise and human activity.

4.6.2.1.3 Threatened and Endangered Species

No federal or Oregon-listed threatened or endangered species are known to occur on RTC; therefore, no impacts to listed species would be anticipated from the implementation of MOUT site improvements.

4.6.2.2 Construction of Additional Firebreaks (Component Action 2)

4.6.2.2.1 Vegetation

Construction and maintenance of additional firebreaks would have long-term, less-than-significant adverse impacts to vegetation from the disturbance/removal of vegetation on approximately 88 acres of land. As presented in Table 4-5, less than 1 to 2 percent of each vegetation community would be impacted by the construction of additional firebreaks. The Cantonment Area is heavily altered and developed under existing conditions; therefore, vegetation impacts in this area would be minimal. Invasive and noxious weeds are prevalent throughout RTC; however, disking would likely result in an increase in invasive and noxious weeds within the disked firebreaks. Disked firebreaks can become nurseries for weeds such as Russian thistle, an annual shrub that matures late in the fire season and then becomes a tumbleweed. Tumbleweeds are a prominent fire fuel on RTC (OMD, 2020). OMD would implement weed

prevention and control measures in accordance with the IPMP, which may include biological, mechanical, and chemical control methods. With implementation of weed management, there would not be a substantial increased potential for infestation or spread of noxious weeds.

Table 4-5. Estimated Impacts to Vegetation Communities from Construction of Additional Firebreaks

Vegetation Community	Total Mapped Acreage on RTC[a]	Estimated Impacts[a] (acres)	Percentage of Vegetation Community Mapped on RTC that would be Permanently Impacted
Mixed bitterbrush and rabbitbrush shrubland	1,044.6	17.9	1.7%
Scurf pea grassland	2,137.0	13.0	0.6%
False goldenaster grassland	1,387.0	8.0	0.6%
Bitterbrush native forb shrubland	206.3	1.9	0.9%
Bitterbrush non-native forb shrubland	171.6	1.6	0.9%
Mixed rabbitbrush shrubland	454.6	0.1	0.02%
Live Fire Use Area – Not Inventoried	1,744.0	37.3	0.2%
Cantonment Area	153.9	8.2	5.3%

Source: ORARNG, 2018a

[a] Includes areas with existing disturbance/development that are unvegetated

4.6.2.2.2 Wildlife

Construction of additional firebreaks would have short-term, less-than-significant, adverse impacts to wildlife due to disturbances from noise and heavy equipment use. Impacts would be limited to times when disking was occurring. During disking, limited incidental animal injury or mortality could occur. However, it is expected that wildlife would leave the vicinity to avoid harm. Incidental losses of animals during disking would not seriously affect regional animal population levels.

There would be long-term, less-than-significant, adverse impacts to wildlife from vegetation and habitat removal. Given the cleared areas would be relatively narrow and there are large areas of similar quality habitat for displaced wildlife adjacent to the proposed firebreaks and throughout RTC, impacts would be minimal.

The overall potential for unintentional physical impacts to migratory birds and eagles from disking activities would be relatively low due to the mobility of birds. Disking would be conducted outside of the nesting season (April through August) to reduce the potential for an unintentional take of birds. OMD would consult with ORARNG environmental staff on any bird nests found within the proposed firebreaks prior to disking. For these reasons, proposed disking activities would have less-than-significant potential impacts on migratory birds and eagles.

Constructing additional firebreaks would have long-term beneficial impacts to wildlife by reducing the risk of uncontrolled wildfires that could damage habitats and injure wildlife.

4.6.2.2.3 Threatened and Endangered Species

No federal or Oregon-listed threatened or endangered species are known to occur on RTC; therefore, no impacts to listed species would be anticipated from the construction of additional firebreaks.

4.6.3 Impacts of the No Action Alternative on Biological Resources

Under the No Action Alternative, the identified near-term infrastructure projects would not be implemented, and existing conditions would continue. There would be no impacts to biological resources from the No Action Alternative. There would be no beneficial impacts to wildlife from reducing the threat of uncontrolled wildfires that could damage habitats and injure wildlife.

4.6.4 Mitigation Measures/Best Management Practices

No mitigation measures are required under the Proposed Action to reduce adverse impacts to below significant levels. BMPs that OMD would implement to minimize impacts to biological resources from the Proposed Action are identified in Section 4.11.

4.7 Cultural Resources

4.7.1 Significance Criteria

The threshold level for a significant adverse impact to cultural resources is defined as the destruction or other adverse physical alteration of an archaeological site, historic property, or other cultural resource that is listed, or eligible for listing, in the NRHP and that cannot be mitigated through a Memorandum of Agreement in accordance with the NHPA.

4.7.2 Impacts of the Proposed Action

4.7.2.1 MOUT Site Improvements (Component Action 1)

Implementation of the Proposed Action would have no impacts to NRHP-eligible resources or other historic or archaeological resources. The proposed project area has previously been disturbed and there are no known archaeological resources, architectural resources, or traditional cultural properties within the project area. Construction activities would be conducted in accordance with the NHPA, NEPA, and other applicable laws, regulations, and policies, including OMD's ICRMP and standard operating procedures (SOPs). The OMD would adhere to all stipulations put forth in the PA. Should archaeological materials or remains be inadvertently discovered during land-disturbing activities, all work would cease immediately and OMD would implement the appropriate procedures identified in ORARNG's ICRMP and SOPs. BMPs that OMD would implement to further limit cultural resources impacts are identified in Section 4.7.4.

4.7.2.2 Construction of Additional Firebreaks (Component Action 2)

The effects on cultural resources from the construction of additional firebreaks would be comparable to those described for Component Action 1 in Section 4.7.2.1.

4.7.3 Impacts of the No Action Alternative on Cultural Resources

Under the No Action Alternative, the identified near-term infrastructure projects would not be implemented, and existing conditions would continue. There would be no impacts to cultural resources from the No Action Alternative.

4.7.4 Mitigation Measures/Best Management Practices

No mitigation measures are required under the Proposed Action to reduce adverse impacts to below significant levels. BMPs that OMD would implement to minimize impacts to cultural resources from the Proposed Action are identified in Section 4.11.

4.8 Health and Safety

4.8.1 Significance Criteria

The threshold level for a significant adverse impact to health and safety is defined as (1) the creation of conditions that increase the risk of serious injury or fatality to the public, personnel, or contractors; and (2) an increase in the demand for emergency services that would exceed existing or future capabilities.

4.8.2 Impacts of the Proposed Action

4.8.2.1 MOUT Site Improvements (Component Action 1)

Implementation of MOUT site improvements would result in short-term, less-than-significant, adverse impacts to health and safety during the construction phase Occupational health and safety hazards that would be associated with construction would include loud noise, heavy machinery, debris, electricity, and hazardous materials used or encountered during work. To minimize occupational health and safety risks, workers would wear and use appropriate personal protective equipment (PPE) and follow applicable OSHA standards and procedures. Each construction contractor would be responsible for developing and implementing a health and safety plan for their construction work at the installations. Work areas would be clearly marked with appropriate signage and secured against unauthorized entry. Standard construction traffic control measures would be used to protect workers and installation employees and visitors.

4.8.2.2 Construction of Additional Firebreaks (Component Action 2)

Under the No Action Alternative, there would be short-term, less-than-significant, adverse impacts on health and safety during the construction and maintenance of additional firebreaks. Occupational health and safety hazards would include loud noise, heavy machinery, debris, and hazardous materials used during work. To minimize occupational health and safety risks, workers would wear and use appropriate PPE and follow applicable OSHA standards and procedures.

Long-term, beneficial impacts to health and safety would occur from a reduction in wildfires spreading on RTC. A reduction in wildfires benefits human health from reduced smoke and risk of injury or death from fire both on RTC and in the surrounding area.

4.8.3 Impacts of the No Action Alternative on Health and Safety

Under the No Action Alternative, there would long-term, less-than-significant, adverse impacts to health and safety. The ability to control the risk and spread of wildland fires at RTC would continue to be impeded by ineffective firebreaks. There would be no benefits to human health from reduced fire risk and smoke on RTC and in the surrounding area.

4.8.4 Mitigation Measures/Best Management Practices

No mitigation measures are required under the Proposed Action to reduce adverse impacts to below significant levels. BMPs that OMD would implement to minimize impacts to air quality from the Proposed Action are identified in Section 4.11.

4.9 Infrastructure

4.9.1 Significance Criteria

The threshold level for a significant adverse impact to utilities and transportation is defined as (1) an exceedance of the existing utility service capacity or (2) a permanent increase in traffic volume in a given area or an increase in road hazards.

4.9.2 Impacts of the Proposed Action

4.9.2.1 MOUT Site Improvements (Component Action 1)

Implementation of MOUT site improvements would have long-term, beneficial impacts to the training area infrastructure at RTC. Improvements would enhance the efficiency and effectiveness of MOUT training infrastructure available to ORARNG Soldiers. The proposed removal of sections of paved roads within G-block would not affect activities on RTC.

Construction work would temporarily increase traffic at RTC. The overall associated impact on commuter traffic at and near the installation is expected to be minor as it would be intermittent, localized (limited to defined haul routes), and temporary (limited to the construction period). Construction work would not involve permanent personnel relocations or permanent employee hires. Therefore, construction would not have a permanent effect on traffic levels in the local area.

MOUT site improvements would have no impacts to utilities at RTC. The improvements would not encounter or alter utilities or infrastructure systems on or outside RTC.

4.9.2.2 Construction of Additional Firebreaks (Component Action 2)

Construction of additional firebreaks would have long-term, beneficial impacts to infrastructure at RTC. The proposed additional and expanded firebreaks would reduce the potential for wildfires to spread and damage infrastructure on RTC. There would be no impacts to traffic or utilities at RTC from construction of additional firebreaks.

4.9.3 Impacts of the No Action Alternative on Infrastructure

Under the No Action Alternative, there would be long-term, less-than-significant, adverse impacts on infrastructure. Training infrastructure at the MOUT site would continue to lack complex venues/scenarios and varied terrain, which would result in less effective training of ORARNG Soldiers. Infrastructure at RTC would be at higher risk of sustaining damage from wildfires as a result of having inadequate firebreaks.

4.9.4 Mitigation Measures/Best Management Practices

No mitigation measures are required under the Proposed Action to reduce adverse impacts to below significant levels. No BMPs or other impact minimization measures are necessary under the Proposed Action to manage impacts.

4.10 Hazardous and Toxic Materials/Wastes

4.10.1 Significance Criteria

The threshold level for a significant adverse impact to HTMW is defined as (1) a release of hazardous or toxic materials/wastes, or (2) a violation of regulations pertaining to HTMW.

4.10.2 Impacts of the Proposed Action

4.10.2.1 MOUT Site Improvements (Component Action 1)

Implementation of MOUT site improvements could result in short-term, less-than-significant, adverse impacts to HTMW if an inadvertent release of hazardous materials such as gasoline, oils, coolant, and lubricants commonly used by construction equipment occurred. Management of HTMW during construction activities, including measures to prevent releases, would be required in accordance with all applicable environmental compliance regulations and ORARNG environmental management plans.

Worker safety during construction would be required to be in compliance with OSHA safety requirements pertaining to worker exposure and with all applicable worker safety regulations. All construction contractors would be responsible to fulfill their obligation under 29 CFR Part 1910.120, *Occupational*

Safety and Health Administration Standards, Hazardous Waste Operations and Emergency Response, to address the health and safety of their employees during construction activities under the Proposed Action with respect to worker exposure to hazardous waste. If any form of potential contamination is encountered during construction activities, the construction contractor would be required to immediately stop work and notify the OMD.

4.10.2.2 Construction of Additional Firebreaks (Component Action 2)

Construction of additional firebreaks could result in short-term, less-than-significant, adverse impacts to HTMW if an inadvertent release of hazardous materials such as gasoline, oils, coolant, and lubricants commonly used by disking equipment occurred. Management of HTMW during firebreak construction and maintenance activities, including measures to prevent releases, would be required in accordance with all applicable environmental compliance regulations and ORARNG environmental management plans.

Long-term, less-than-significant adverse impacts to HTMW could occur if herbicides are used to control noxious weeds in disked firebreaks. With implementation of BMPs identified in Section 4.10.4, any potential impacts would be maintained at less-than-significant levels. RTC personnel using the herbicides would adhere to all BMPs to protect their health and safety as well as minimize unintended and adverse environmental consequences. All herbicides would be handled, stored, and disposed of in compliance with federal and state requirements and installation plans to minimize potential impacts.

4.10.3 Impacts of the No Action Alternative on Hazardous and Toxic Materials/Waste

Under the No Action Alternative, the identified near-term infrastructure projects would not be implemented, and existing conditions would continue. There would be no impacts to HTMW from the No Action Alternative.

4.10.4 Mitigation Measures/Best Management Practices

No mitigation measures are required under the Proposed Action to reduce adverse impacts to below significant levels. BMPs that OMD would implement to minimize HTMW impacts from the Proposed Action are identified in Section 4.11.

4.11 Summary of Mitigation Measures and Best Management Practices

No project-specific mitigation measures are required under the Proposed Action to reduce adverse impacts to below significant levels for any resource analyzed in this EA. The measures identified in this EA to minimize potential impacts associated with the Proposed Action consist mostly of BMPs and required regulatory permits and actions necessary to maintain compliance with applicable laws, policies, and plans. The BMPs identified for the Proposed Action are summarized in Table 4-6.

Table 4-6. Summary of Best Management Practices for the Proposed Action

Technical Resource Area	BMPs
Land Use (Section 4.1)	• No BMPs or other impact minimization measures are necessary.
Air Quality (Section 4.2)	• Fugitive dust generated during construction activities would be controlled at the sites using BMPs, examples of which include, but are not limited to: – Minimizing surface disturbance and construction traffic to the extent practicable – Watering exposed surfaces – Stabilizing exposed soils by seeding or mulching – Applying gravel or other stabilizing material to dirt roads – Enclosing/covering stockpiled material

Table 4-6. Summary of Best Management Practices for the Proposed Action

Technical Resource Area	BMPs
	– Covering open-top haul trucks during transit • Soil stabilizers may be used on disked firebreaks to control dust, as necessary
Noise (Section 4.3)	• Limit construction activities to typical daytime working hours. • Require workers to wear appropriate hearing protection. • Continue to adhere to Army noise limits and Statewide Operational Noise Management Plan.
Geology, Topography, and Soils (Section 4.4)	• Appropriate measures and controls would be implemented during construction activities to minimize the potential for soil erosion and sedimentation impacts. These measures and controls would be identified in the SWPPP that would be developed and implemented by OMD as part of the Construction General Permit that would be obtained from EPA for each project disturbing 1 acre or more of land. The specific measures and controls that would be implemented would be determined by OMD based on site conditions and proposed construction methods. Examples of such measures and controls include, but are not limited to: – BMPs to control stormwater volume and velocity on site and minimize the amount of soil exposed during construction – Soil stabilization measures such as sodding, seeding, mulching, and use of geotextiles – Structural controls such as silt fences, erosion control blankets, and soil tracking prevention devices.
Water Resources (Section 4.5)	• Projects under the Proposed Action that would disturb 1 acre or more of land would be required to obtain an NPDES General Permit for Discharges from Construction Activities, often referred to as a Construction General Permit, issued by ORDEQ. As part of each permit, the OMD would be required to prepare and implement an associated SWPPP, which would outline the BMPs and engineering controls to be used to prevent and minimize erosion and sediment-laden stormwater runoff from discharging offsite. The specific measures that would be implemented would be determined by the OMD based on site conditions and the specific requirements identified in the SWPPP. Examples of such practices and controls include, but are not limited to: – Installing silt fences and staked haybales along the perimeter of construction areas to trap sediment in stormwater runoff – Stabilizing exposed soils in construction areas by seeding or mulching – Using erosion control blankets or matting on steep slopes to prevent erosion – Preventing release of construction materials that could contaminate water resources, such as petroleum, oil, and lubricants, onto exposed soils or into storm drainage features • Hazardous materials used during construction would be managed in accordance with all applicable environmental compliance regulations and ORARNG environmental management plans, thereby minimizing the potential for releases into groundwater. • It is recommended that firebreak maintenance in the area of the NWI-mapped wetland would be conducted outside of the crop season so that machinery would not bog down.

Table 4-6. Summary of Best Management Practices for the Proposed Action

Technical Resource Area	BMPs
Biological Resources (Section 4.6)	• Conduct activities in accordance with relevant federal and state laws and regulations, including, but not limited to, the ESA (16 USC Sections 1531 *et seq.*), MBTA (16 USC Section 703), EO 13186, and the BGEPA. • Ground-disturbing activities and vegetation removal would be initiated outside of the nesting season (April through August), as feasible, to reduce the potential for unintentional take of birds. • Any bird nests found during construction at RTC would be avoided to the extent practicable. In the event that a bird nest is found within, or adjacent to, the construction site, work would be required to immediately stop and OMD environmental staff would be consulted on the protection of the nest before resuming construction activities.
Cultural Resources (Section 4.7)	• The OMD commits to coordinating with cultural resources managers, the Oregon SHPO, and applicable Tribal Historic Preservation Officers to ensure compliance with NHPA requirements and other applicable laws, regulations, and policies, as necessary. • Should archaeological materials or human remains be inadvertently discovered during construction, all activities in the immediate vicinity of the inadvertent find would immediately cease and the procedures for managing inadvertent discoveries identified in the OMD's ICRMP and SOPs would be implemented for the protection of the find, including procedures for avoidance, notification to applicable Tribes, and initial evaluation of the find.
Health and Safety (Section 4.8)	• To minimize occupational health and safety risks, workers would wear and use appropriate PPE and follow applicable OSHA standards and procedures. • Each construction contractor would be responsible for developing and implementing a health and safety plan for the construction work they conduct at the installation. • Work areas would be clearly marked with appropriate signage and secured against unauthorized entry. • Standard construction traffic control measures would be used to protect workers and installation employees and visitors.
Infrastructure (Section 4.9)	• No BMPs or other impact minimization measures are necessary.
HTMWs (Section 4.10)	• In the event of an inadvertent spill or release of HTMW, OMD would implement ORARNG's SPCC Plan, as well as appropriate federal and state laws and regulations. • HTMW would be handled, stored, and disposed of in compliance with federal and state requirements and installation plans. • OMD would adhere to federal, state, and local pesticide application requirements. • Herbicide applicators would wear appropriate PPE to protect their health and safety.

4.12 Cumulative Impacts

A cumulative impact is defined by CEQ regulations at 40 CFR Part 1508.7 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. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time."

This section addresses the potential for cumulative impacts resulting from interaction of the Proposed Action and No Action Alternative with other past, present, and reasonably foreseeable actions occurring at RTC and in the surrounding area.

Past, present, and reasonably foreseeable actions in the immediate vicinity of RTC include the following:

- **BRAC Land Use Realignment Process –** The Army closed the UCD as an active military installation on August 1, 2012, and is proceeding with disposal of the property through a variety of land conveyances consistent with the requirements of the 2005 BRAC process. Approximately 7,500 acres of the property were transferred to ORARNG. The remaining 9,555 acres will be transferred to a number of local government entities to be developed for commercial and industrial uses, with approximately 5,700 acres to be conserved as wildlifehabitat. The Columbia Development Authority estimated that full redevelopment of the former UCD would generate approximately 4,249 new positions for the region, $285 million in direct and indirect payroll benefits, and $3.6 million in property taxes to support community services. However, these beneficial economic impacts could take decades to be realized (ORARNG, 2018a).
- **Expanded Operations at RTC –** The expansion of military training operations and related infrastructure development by the ORARNG at RTC includes the following projects that are either completed nor planned for completion between 2018 and 2022 (ORARNG, 2018a):
  - Construct and operate up to four additional firing lanes at the Modified Record Fire range.
  - Construct and operate a large, gravel tent pad site for a battalion element/multiple companies with adjacent latrine/ shower buildings, covered training/mess shelters, and pads for Mobile Containerized Kitchens.
  - Construct and operate helicopter landing zones and two parachute drop zones for personnel and cargo.
  - Construct and operate an ammunition supply point by repurposing 4 to 12 existing igloos.
  - Construct and operate new maneuver lanes and a tracked/fighting maneuver course (non-live fire), including new connector trails, staging areas, and enhanced firebreaks as needed.
  - Repair and operate the potable water system.
  - Repair and operate the wastewater system.
  - Construct perimeter roads and fencing.
- **Additional RTC Improvements –** Several activities that were considered for inclusion with the Proposed Action in the 2018 EA for Expanded Operations were removed because they are not currently validated or funded projects; however, they may still occur in the reasonably foreseeable future. These actions are as follows:
  - Construct permanent field latrine facilities at live-fire range complex.
  - Construct a Light Demolition Range (within existing range surface danger zone area).
  - Construct multi-use sports field with running track.
  - Construct two tactical training bases: one improved and the other unimproved.

  - Construct Tank Commanders Proficiency Course in the surface danger zone area for heavy (off-road) maneuver.
  - Construct unit training equipment site.
  - Construct centralized vehicle wash facility with soaking capability.
  - Construct 400-person dining facility.
  - Construct a multi-story RTI "schoolhouse" consisting of the RTI Headquarters/administrative area, educational or general instruction building area, and student/cadre barracks.
  - Construct two enlisted barracks (2 story, 168 person each).
  - Construct multi-story Readiness Center of approximately 28,000 to 44,000 square feet with privately owned vehicle parking.
  - Construct centralized heat plant (biomass) or replace individual building heat sources.
  - Demolish unneeded buildings and structures.
  - Construct a Leadership Reaction Course.
  - Construct a Structural Collapse Venue Site with nearby staging area.
  - Designate Engineer Medium/Heavy-Equipment Training Area.
  - Designate one aviation Forward Area Refueling Point site.
  - Continue use of existing Land Navigation Course.
  - Construct a chemical, biological, radiological, nuclear, and explosive training chamber, either as a new building or by re-using an existing igloo.
  - Construct 60-foot rappel tower to support Air Assault School training.
  - Construct Confidence Course.
  - Construct range operations and range maintenance facilities.
  - Repair or construct road or railroad facilities for OMD military equipment arriving or departing RTC via either road or rail and storage of equipment.
  - Construct a solar energy array to provide clean energy for use by RTC.
  - repair/replace electrical system as needed.
  - Repair/replace telecommunication system as needed.
  - Repair/replace rail network.

- **Interchange Plans –** To support the reuse and redevelopment of the former UCD and the associated changes to traffic and access, interchange improvements have been identified for three highway interchanges near the former UCD:
  - I-82 and Lamb Road: Improvements would enhance roadway connectivity in the former UCD site that would provide public roadway connections between the I-84/Army Depot Access Road and I- 82/ Lamb Road interchanges (ORARNG, 2018a).
  - I-84/Army Depot Access Road: Improvements would enhance roadway connectivity in the former UCD site that would provide public roadway connections between the I-84/Army Depot Access Road and I-82/Lamb Road interchanges (Kittelson & Associates, Inc., 2014a).
  - I-84/Paterson Road: Improvements would enhance roadway connectivity in the former UCD site that would provide public roadway connections between the I-84/Paterson Ferry Road, I-84/Army Depot Access Road, and I-82/Lamb Road interchanges (Kittelson & Associates, Inc., 2014b).

Other notable past, present, and reasonably foreseeable actions in the general area surrounding RTC include the following:

- **Boardman to Hemingway (B2H) Transmission Project** – The B2H project proposes to construct and operate a new 500-kilovolt electrical transmission line that would run from Boardman, Oregon, to the Hemingway substation near Melba, Idaho. The project is proposed by Idaho Power, PacifiCorp, and the Bonneville Power Administration and would provide additional capacity for exchanging energy

between the Pacific Northwest and the Intermountain West. Idaho Power expects to finalize B2H permitting in 2022. Construction is expected to begin in 2023 and take 3 to 4 years (Idaho Power, 2021). The B2H project is 5.5 miles due west of RTC at its closest point.

- **Naval Weapons System Training Facility (NWSTF) Boardman** – The U.S. Navy, in cooperation with the NGB and the ORARNG, is proposing several actions to ensure that critical training and testing requirements are met, and NWSTF Boardman continues serving as a vital training resource. NWSTF Boardman is approximately 6 miles southwest of RTC at its closest point.

  These actions include the following (ORARNG, 2018a):

  - Maintain baseline training and testing activities at current levels.
  - Increase certain training activities from current levels to support the Navy and ORARNG requirements.
  - Develop appropriate ranges and facilities, as necessary, to support training requirements.
  - Accommodate mission requirements associated with force structure changes and introduction of new weapons systems for training.
  - Implement range enhancements.
- **Road Maintenance and Repairs** – No projects are currently listed on the Oregon Department of Transportation or county websites forroadway repairs that would overlap in time or geography with the Proposed Action (ODOT, 2021). However, it is likely that minor road construction and repair projects may occur in the vicinity of RTC during the 5-year timeframe of this EA.

4.12.1 Cumulative Impacts Within the Region

RTC is in an area predominantly used for agriculture and grazing. Morrow and Umatilla counties experienced population growths of 3.8 percent and 2.7 percent, respectively, between 2010 and 2019, representing a lower growth rate than the national average of 6.3 percent (USCB, 2021). The 2008 economic downturn slowed growth in the area; however, growth has continued steadily, but slowly, over the last decade. This slow, steady growth has increased traffic congestion, air quality impacts, and other environmental effects, placing some increased demand on services, utilities, and infrastructure and consuming former open-space areas with new development. Development of former open space has resulted in associated natural and cultural resources impacts and the conversion of prime and unique farmlands.

4.12.2 Cumulative Impacts of the Proposed Action – Component Actions 1 and 2

The potential impacts of the Proposed Action are presented in Section 4.0. Based on the findings of this EA, the Proposed Action would have no impacts on geology, surface water bodies, jurisdictional wetlands, or cultural resources. The Proposed Action would have less-than-significant adverse impacts on air quality, noise, topography, soils, groundwater, biological resources, health and safety, and HTMW, and overall beneficial impacts to land use and infrastructure. The potential adverse impacts on these resources would be further reduced by implementing the BMPs and other measures identified in Section 4.11. The Proposed Action would have beneficial impacts on land use.

When added to past, present, and reasonably foreseeable actions, the Proposed Action is not expected to have significantly adverse cumulative impacts on any resource. Given that the Proposed Action would have no impact on geology, surface water bodies, jurisdictional wetlands, floodplains, or cultural resources, it would have no cumulative impacts on these resources. Given that the Proposed Action would have overall beneficial impacts on land use and infrastructure, it could only have beneficial cumulative impacts on these resources when combined with past, present, or future actions. In terms of air quality and traffic, the Proposed Action would not significantly cumulatively increase regional impacts; the action primarily involves staff and activities currently present in the area.

Under the No Action Alternative, the OMD would not implement the Proposed Action and would continue with operations as currently conducted across RTC. RTC would remain as is under current conditions and continue to operate under current, effective environmental management plans. Under the No Action Alternative, less-than-significant short- and long-term cumulative impacts would be anticipated; however, long-term positive impacts to land use and infrastructure would not be realized.

The potential cumulative impacts of the Proposed Action to the other resources analyzed in this EA are as follows:

- **Air Quality.** Infrastructure projects at RTC under the Proposed Action, and those in the respective surrounding areas would generate relatively low quantities of air emissions and would be conducted on different timelines, which would minimize the accumulation of air emissions in the atmosphere. Any short-term increase in air emissions from construction at RTC and in the surrounding areas is expected to be negligible and have no potential to result in significantly adverse cumulative impacts on regional air quality. Operations would be comparable to existing operations at RTC; therefore, a net increase in associated air emissions is not expected.

  The Proposed Action would generate GHG emissions from construction-related activities. Execution of the proposed MOUT site improvements and construction of the additional firebreaks would result in a short-term, insignificant increase in GHG emissions. Estimated peak GHG emissions resulting from proposed MOUT site improvements would be 442 tons CO_2e for construction in each year 2023-2026 and from proposed additional firebreaks would be 27 tons CO_2e for construction in each year 2022-2026. Therefore, long-term, negligible, adverse impacts on climate change as a result of construction-related GHG emissions at RTC would be expected from implementation of the Proposed Action. No indirect impacts would be anticipated.

  EPA and other federal agencies use estimates of the social cost of carbon to determine a value of the climate impacts of rulemakings. The social cost of carbon is a measure, in dollars, of the long-term damage done by a ton of CO_2 emissions in a given year. This dollar figure also represents the value of damages avoided for a small emission reduction (i.e., the benefit of a CO_2 reduction). The $37 per ton of CO_2 has been adjusted for inflation to $51 per ton. Therefore, the cumulative social cost for the Proposed Action would be $119,646 (IWG, 2021).

  The changing climate is not anticipated to impact future operations at the new facilities or cause an increase in the impacts associated with the Proposed Action. RTC is not located in a coastal region or along a tidally influenced river reach. Therefore, sea level rise from climate change would not impact the Proposed Action. Future increased flood elevations, or an increase in the frequency and volume of flash flooding, are not expected to have impacts on landscape features and infrastructure constructed under the Proposed Action because RTC is above the 100-year flood elevation.

- **Noise.** Construction noise at the installation under the Proposed Action would be temporary and minor, as would construction noise from other development that occurs in the surrounding areas. In the event that one or more projects are constructed concurrently, adverse cumulative noise impacts are not expected due to the geographical separation between the construction sites.

- **Geology, Topography and Soils.** Impacts on topography from implementation of MOUT site improvements would be minor and only affect the immediate area. Training activities at the MOUT site would have no appreciable effect on topography and soils. The soils within proposed project areas have been previously disturbed by past land development activities. The Proposed Action would impact soils primarily via physical disturbance during construction and disking activities. Potential impacts on soils from most other development projects in the surrounding areas would be comparable. Measures to prevent and minimize soil erosion are required to be implemented by

regulation for the Proposed Action and for other projects that involve land disturbance, thereby, preventing associated adverse cumulative impacts.

- **Water Resources.** The Proposed Action would have no impacts on jurisdictional wetlands or surface water bodies and, therefore, would not contribute to cumulative loss of these resources when combined with other unrelated actions. Potential indirect cumulative impacts on wetlands and surface water bodies under the Proposed Action and other development that occurs in the region would be minimized by BMPs and engineering controls that are required by regulation to be implemented.
- **Biological Resources.** Vegetation and habitat loss from the Proposed Action could combine with other development projects on RTC and result in adverse cumulative impacts to vegetation and wildlife habitat. Given that RTC is largely undeveloped and contains expansive grassland shrubland habitats, cumulative adverse impacts would be less-than-significant. Construction noise under the Proposed Action would be temporary and is expected to have a negligible impact on wildlife, including migratory birds. Geographical separation between projects at RTC and other development that occurs in the region would limit the potential for adverse cumulative noise impacts on wildlife. There is no designated critical habitat on RTC, and the Proposed Action is not expected to adversely impact any threatened or endangered species.
- **Health and Safety.** Adverse health and safety effects would be temporary and would only be expected during construction and potentially during maintenance activities. No long-term adverse health and safety effects would be expected as a result of the Proposed Action; therefore, no adverse cumulative effect on health and safety would be expected.
- **HTMW.** Handling, storage, and disposal of hazardous materials/ wastes during construction activities under the Proposed Action and those associated with other permitted development projects are required to be conducted in compliance with applicable environmental regulations, thereby, preventing any associated adverse cumulative impacts.

4.12.3 Interrelationship of Cumulative Effects

The environment on and surrounding RTC is slowly changing due to ongoing development, producing environmental effects. The Proposed Action to implement two near-term infrastructure projects would also produce environmental effects. In the surrounding area and region, a need for land to accommodate the area's increasing population and economic development, including additional agricultural and industrial uses, business, homes, and related services and infrastructure, would produce environmental effects. These two factors are interrelated as follows:

1) One of the missions of the ORARNG is to serve the emergency needs of the people in the State of Oregon. Land and facilities are necessary to accommodate training so that the ORARNG can serve the community effectively as well as the entire county, in terms of national defense. Therefore, the growth of the region, Oregon, and the nation as a whole drive the need for this training and support capability; and

2) Both factors produce pressure on the environment in the region.

Interrelated cumulative impacts place demands on the local area, planning organizations, and the military's natural resource management, cultural resource management, and public works personnel. Through sound, integrated, long-range planning on both sides of the proverbial fence, these impacts are minimized. The BRAC and Local Reuse Authority processes, working closely with the ORARNG, have developed an overall vision for the former UCD property and surrounding region. This vision, including recent investments in infrastructure, public amenities, and other planning elements, has enabled RTC and the surrounding area to grow in a planned and measured way, absorbing the pressures of new development. No significant adverse cumulative impacts to the environment induced by changes under

the Proposed Action are anticipated in the region. Implementation of land use and resource management plans would serve to control the extent of environmental impacts, and proper planning would ensure that future socioeconomic conditions maintain or improve the quality of life for area residents. Implementation of effective environmental management plans and programs would minimize or eliminate any potential cumulative degradation of the natural ecosystem.

5 Comparisons of Alternatives and Conclusions

This section compares and contrasts the potential environmental consequences of the Proposed Action and No Action Alternative and presents the conclusions of this EA.

5.1 Comparison of the Environmental Consequences of the Alternatives

The potential impacts of the Proposed Action and No Action Alternative on the resources analyzed in this EA are compared in Table 5-1.

Table 5-1. Impacts Comparison Matrix

Technical Resource Area	Proposed Action	No Action Alternative
Land Use (Section 4.1)	**Long-term beneficial** impacts due to aligning with existing site development and master planning goals for the installation and maximizing the value of training land.	**Long-term, less-than-significant, adverse** impacts from not developing the installation in accordance with site development and master planning goals.
Air Quality (Section 4.2)	**Short-term, less-than-significant, adverse** impacts due to construction-related exhaust emissions and generation of dust and other particles in the air. Mobile source emissions also would be generated from vehicular traffic.	**No impact.** Training and operations would continue under current conditions at current locations and levels; no change to pollutant emissions.
Noise (Section 4.3)	**Short-term, less-than-significant, adverse** impacts due to construction and disking noise that would be heard only during daytime and only over the duration of the construction period and during annual firebreak maintenance.	**No impact.** No new construction would occur, and existing conditions would continue.
Geology, Topography, and Soils (Section 4.4)	**Short and long-term, less-than-significant, adverse** impacts to soils from vegetation removal, ground disturbance, and potential compaction during construction. Erosion control BMPs would be implemented as necessary. **Long-term, less-than-significant, adverse** impacts to soils from disking, which would leave soils susceptible to wind and water erosion. **Long-term, less-than-significant, adverse** impacts to topography from the creation of both positive (berms and rolling hills) and negative (dry riverbed) relief features.	**No impact.** No new construction would occur, and existing conditions would continue.
Water Resources (Section 4.5)	**Short-term, less-than-significant, adverse** impacts due to an increase in the sediment-load of stormwater discharging offsite; the potential for release of toxic or hazardous materials during disking and construction, which would be completed in accordance with permit requirements; and potential use of herbicides. BMPs	**No impact.** No new construction would occur, and existing conditions would continue.

Table 5-1. Impacts Comparison Matrix

Technical Resource Area	Proposed Action	No Action Alternative
	would be implemented to minimize impacts. **Long-term beneficial** impacts to stormwater runoff from the removal of over 3 acres of impervious surfaces (paved roads). There would be no direct impacts on jurisdictional wetlands or surface water bodies.	
Biological Resources (Section 4.6)	**Short- and long-term, less-than-significant, adverse** impacts due to removal of vegetation, habitat loss, and disturbance to wildlife from noise generated by construction and disking of firebreaks. **Long-term beneficial** impacts to wildlife from reducing the risk of uncontrolled wildfires that could damage habitats and injure wildlife. There would be no impacts to federal or Oregon-listed threatened or endangered species.	**No impact.** No new construction would occur, and existing conditions would continue.
Cultural Resources (Section 4.7)	**No impacts** to NRHP-eligible resources or other historic or archaeological resources.	**No impact.** No new construction would occur, and existing conditions would continue.
Health and Safety (Section 4.8)	**Short-term, less-than-significant, adverse** impacts from hazards that would be associated with construction, such as loud noise, heavy machinery, debris, electricity, and hazardous materials. With implementation of BMPs and applicable OSHA standards and procedures, impacts would be minimal. **Long-term, beneficial** impacts from a reduction in wildfires and associated smoke both on RTC and in the surrounding area.	**Long-term, less-than-significant, adverse** impacts from fire and smoke hazards due to ineffective firebreaks.
Infrastructure (Section 4.9)	**Short-term, less-than-significant, adverse** impacts on traffic from an increase in construction and personal vehicles along local roads during construction. **Long-term, beneficial** impacts due to enhanced efficiency and effectiveness of training infrastructure and reduced potential for wildfires to spread and damage infrastructure.	**Long-term, less-than-significant, adverse** impacts. Training infrastructure at the MOUT site would continue to lack complex venues/scenarios and varied terrain, which would result in less effective training of ORARNG Soldiers. Infrastructure at RTC would be at higher risk of sustaining damage from wildfires as a result of having inadequate firebreaks.

Table 5-1. Impacts Comparison Matrix

Technical Resource Area	Proposed Action	No Action Alternative
HTMW (Section 4.10)	**Short-term, less-than-significant, adverse** impacts due to potential for inadvertent releases of hazardous materials, such as gasoline, oils, coolant, and lubricants, during construction and disking.	**No impact.** No new construction would occur, and existing conditions would continue.
Cumulative Impacts (Section 4.12)	When added to past, present, and reasonably foreseeable actions, the Proposed Action would not have significantly adverse cumulative impacts on any resource.	When added to past, present, and reasonably foreseeable actions, the No Action Alternative would not have significantly adverse cumulative impacts on any resource.

5.2 Conclusions

The OMD has prepared this EA to analyze the potential environmental impacts of implementing two near-term infrastructure projects at RTC: (1) improvements to the existing MOUT site, including recontouring portions of existing terrain using onsite materials, creating dry riverbeds, constructing berms, removing sections of existing paved roads, and other venue development (i.e. prison compound, cemetery, farmhouse, and residential areas), and (2) construction of additional firebreaks to augment approved firebreaks on RTC. The analyses presented in this EA support the conclusion that implementation of the Proposed Action would not have a significant adverse impact on the natural or human environment either by itself or considering cumulative impacts. Based on this conclusion, issuance of a FNSI is appropriate, and preparation of an EIS is not required.

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7 List of Preparers

Table 7-1. List of Preparers

Name	Role	Education	Years of Work Experience
Lee Feaster, Jacobs, Senior Landscape Architect	Project Manager	B. Landscape Architecture (1995)	27
Ursula Rogers, Jacobs, Biologist	Author	B.S., Biology (2004)	15
Caitlin Santinelli, Jacobs, Scientist	Author	B.S., Earth and Atmospheric Science (2008)	13
Sara Jackson, Jacobs, Senior Environmental Scientist	Senior Technical Review	B.S., Environmental Studies (1999)	22
Richard Reaves	Subject Matter Expert	Ph.D., Wetland and Wildlife Ecology (1995)	27
Daniel Greenfield, Jacobs, Master Planner	Technical Support and GIS Analysis	M.S., Urban Design (2015); B.S., Urban Planning and Development (2014); A.S., Aviation Operations (2010)	5

8 Agencies and Individuals Consulted

Table 8-1. Agencies and Individuals Consulted

Ms. Kat Brigham, Chair Confederated Tribes of the Umatilla Indian Reservation 46411 Timíne Way Pendleton, OR 97801	Mr. Raymond Tsumpti Chairman Confederated Tribes of the Warm Springs Reservation of Oregon 1233 Veterans Street Warm Springs, OR 97761
Mr. Robert Brunoe Tribal Historic Preservation Officer Confederated Tribes of the Warm Springs Reservation of Oregon 1233 Veterans Street Warm Springs, OR 97761	Mr. Christian Nauer Archaeologist Confederated Tribes of the Warm Springs Reservation of Oregon 1233 Veterans Street Warm Springs, OR 97761
Mr. Samuel N. Penney Chairman Nez Perce Tribe P.O. Box 365 Lapwai, ID 83540	Mr. Nakia Williamson Cultural Resource Program Director Nez Perce Tribe P.O. Box 365 Lapwai, ID 83540
Mr. Delano Saluskin Chairman Yakama Nation Tribal Council Confederated Tribes and Bands of the Yakama Nation 401 Fort Road, P.O. Box 151 Toppenish, WA 98948	Mr. Jason Jeans Assistant State Conservationist Natural Resources Conservation Service Oregon State Office 1201 Northeast Lloyd Boulevard Portland, OR 97232
Ms. Marisa Meyer Field Supervisor U.S. Fish and Wildlife Service 3502 Highway 30 La Grande, OR 97850	Bureau of Land Management Vale District Office 100 Oregon Street Vale, OR 97918
Mr. Curt Melcher Interim Director Oregon Department of Fish and Wildlife 811 SW Sixth Avenue Portland, OR 97204	Mr. James Johnson NAVFAC NW Public Affairs Officer 1101 Tautog Circle Silverdale, WA 98315-1101
The Honorable George Murdock Umatilla County Commission 216 SE Fourth Street Pendleton, OR 97801	Mr. Tom Byler Director Oregon Water Resources Department 725 Summer St. NE, Suite A Salem, OR 97301

Mr. Chris Hladick Region X Administrator U.S. Environmental Protection Agency 1200 Sixth Avenue, Suite 900 Seattle, WA 98101	Ms. Stephanie Case Planner/Interim Planning Director Morrow County Planning Department P.O. Box 40 Irrigon, OR 97844
U.S. Army Corps of Engineers Portland District P.O. Box 2946 Portland, OR 97204-3440	Mr. Aaron Palmquist City Manager City of Irrigon 500 NE Main Ave Irrigon, OR 97844
Mr. Byron Smith City Manager City of Hermiston 180 NE 2nd Street Hermiston, OR 97838	Mr. Scott Stanton Fire Chief Hermiston Fire & Emergency Services 320 South 1st Street Hermiston, OR 97838
Mr. Robert Waldher Planning Director Umatilla County Department of Land Use Planning 216 SE Fourth Street Pendleton, OR 9780	Ms. Karen Pettigrew City Manager City of Boardman 200 City Center Circle P.O. Box 229 Boardman, OR 97818
Mr. Greg Smith Executive Director Columbia Development Authority Two Marine Drive, Suite 102 Boardman, OR 97818	Ms. Stefanie Stavrakas Pacific Region Sikes Act Coordinator U.S. Fish and Wildlife Service 911 NE 11th Avenue Portland, OR 97232
Mr. Richard Whitman Office of the Director Oregon Department of Environmental Quality 700 NE Multnomah Street, Suite 600 Portland, OR 97232	Mr. Steve Potts Chief Umatilla Rural Fire Protection District P.O. Box 456 Umatilla, OR 97882
Mr. Mitch Sparks Executive Director State of Oregon Legislative Commission on Indian Services 900 Court St., NE, Room 167 Salem, OR 97301	Mr. David Stockdale City Manager City of Umatilla P.O. Box 130 Umatilla, OR 97882
Mr. Audie Huber Intergovernmental Affairs Manager Department of Natural Resources Confederated Tribes of the Umatilla Indian Reservation 4611 Timíne Way Pendleton, OR 97801	

Appendix A
Agency Coordination and Native American Consultation

Table A-1. Agency Coordination and Native American Consultation Summary

Agency/Individuals Consulted	Date Sent	Follow Up	Responses Received	Summary of Comments
Ms. Kat Brigham, Chair Confederated Tribes of the Umatilla Indian Reservation 46411 Timíne Way Pendleton, OR 97801	8/30/2021	6/8/2022 7/1/2022	None	N/A
Mr. Raymond Tsumpti Chairman Confederated Tribes of the Warm Springs Reservation of Oregon 1233 Veterans Street Warm Springs, OR 97761	8/30/2021 9/9/2021		None	N/A
Mr. Robert Brunoe Tribal Historic Preservation Officer Confederated Tribes of the Warm Springs Reservation of Oregon 1233 Veterans Street Warm Springs, OR 97761	8/30/2021		None	N/A
Mr. Christian Nauer Archaeologist Confederated Tribes of the Warm Springs Reservation of Oregon 1233 Veterans Street Warm Springs, OR 97761	8/30/2021		9/27/2021	The Area of Potential Effects is within areas of concern for the CTWSRO. Deferred comment on cultural resource issues related to project to their neighbors at CTUIR.
Mr. Samuel N. Penney Chairman Nez Perce Tribe P.O. Box 365 Lapwai, ID 83540	8/30/2021	6/8/2022	9/9/2021	Confirmed receipt of letter via email.
Mr. Nakia Williamson Cultural Resource Program Director Nez Perce Tribe P.O. Box 365 Lapwai, ID 83540	8/30/2021	6/8/2022 7/1/2022	9/9/2021	Confirmed receipt of letter via email.
Mr. Delano Saluskin Chairman Yakama Nation Tribal Council Confederated Tribes and Bands of the Yakama Nation 401 Fort Road, P.O. Box 151 Toppenish, WA 98948	8/30/2021	6/8/2022 7/1/2022	None	N/A

Table A-1. Agency Coordination and Native American Consultation Summary

Agency/Individuals Consulted	Date Sent	Follow Up	Responses Received	Summary of Comments
Mr. Jason Jeans Assistant State Conservationist Natural Resources Conservation Service Oregon State Office 1201 Northeast Lloyd Boulevard Portland, OR 97232	8/30/2021		None	N/A
Ms. Marisa Meyer Field Supervisor U.S. Fish and Wildlife Service 3502 Highway 30 La Grande, OR 97850	8/30/2021		9/28/2021	The Service recommended that OMD follow guidance from ODFW and complete Washington ground squirrel surveys within 1,000 feet of ground disturbance in appropriate habitat. Breeding bird surveys are recommended prior to implementation and restricting tree removal and ground disturbance to outside the nesting season (April – August). Site-specific eagle nest surveys are recommended. The Service recommended consideration of ways to reduce the threat of wildfire while also maintaining wildlife habitat.
Bureau of Land Management Vale District Office 100 Oregon Street Vale, OR 97918	8/30/2021		9/21/2021	BLM recommended that OMD conduct up-to-date surveys to record presence/absence of Washington ground squirrel, grasshopper sparrow, and western burrowing owl. If species are found within the project area, on public lands, mitigation measures should be developed in accordance with both USFWS and ODFW to ensure that both habitat and species population conservation efforts are achieved. Attached a form for surveying Washington ground squirrels.

Table A-1. Agency Coordination and Native American Consultation Summary

Agency/Individuals Consulted	Date Sent	Follow Up	Responses Received	Summary of Comments
Mr. Curt Melcher Interim Director Oregon Department of Fish and Wildlife 811 SW Sixth Avenue Portland, OR 97204	8/30/2021		9/8/2021	ODFW recommended that OMD complete Washington Ground Squirrel surveys within 1,000 ft of any proposed ground-disturbing activities unless there are recent WGS surveys in the area showing that the species is not present. Stated that surveys should be completed for nesting raptors within 1/4 mile of any proposed activities. If any sensitive species are found, construction should not occur within 1/4 mile of the nest during the active nesting period for the species found. Recommended firebreaks other than disked fire lines and that a basic vegetation analysis be completed prior to ground-disturbing activities. Recommended that the EA consider some mitigation efforts to offset the acres impacted by the proposed actions.
Mr. James Johnson NAVFAC NW Public Affairs Officer 1101 Tautog Circle Silverdale, WA 98315-1101	8/30/2021		None	N/A
The Honorable George Murdock Umatilla County Commission 216 SE Fourth Street Pendleton, OR 97801	8/30/2021		None	N/A
Mr. Tom Byler Director Oregon Water Resources Department 725 Summer St. NE, Suite A Salem, OR 97301	8/30/2021		9/10/2021	OWRD requested that if any monitoring wells or water wells will be impacted during the work, that OMD please work with the Water Resources Department to properly abandon the wells or repair them as needed.

Table A-1. Agency Coordination and Native American Consultation Summary

Agency/Individuals Consulted	Date Sent	Follow Up	Responses Received	Summary of Comments
Mr. Chris Hladick Region X Administrator U.S. Environmental Protection Agency 1200 Sixth Avenue, Suite 900 Seattle, WA 98101	8/30/2021 Sent to Michelle Pirzadeh at pirzadeh.michelle@epa.gov on 8/31/2021		None	N/A
Ms. Stephanie Case Planner/Interim Planning Director Morrow County Planning Department P.O. Box 40 Irrigon, OR 97844	8/30/2021		9/7/2021	Included Planning Director, Tamra Mabbott. Tamra then contacted OMD on 9/7 to request a conference call. OMD held call with Morrow County and representatives with the Columbia Development Authority to explain the letter and proposed project on 9/8. Information on this call is documented in MFR, dated 9/9/2021.
U.S. Army Corps of Engineers Portland District P.O. Box 2946 Portland, OR 97204-3440	8/30/2021		None	N/A
Mr. Aaron Palmquist City Manager City of Irrigon 500 NE Main Ave Irrigon, OR 97844	8/30/2021		9/24/2021	Responded with letter of acknowledgement and support.
Mr. Byron Smith City Manager City of Hermiston 180 NE 2nd Street Hermiston, OR 97838	8/30/2021		None	N/A
Mr. Scott Stanton Fire Chief Hermiston Fire & Emergency Services 320 South 1st Street Hermiston, OR 97838	8/30/2021		None	N/A

Table A-1. Agency Coordination and Native American Consultation Summary

Agency/Individuals Consulted	Date Sent	Follow Up	Responses Received	Summary of Comments
Mr. Robert Waldher Planning Director Umatilla County Department of Land Use Planning 216 SE Fourth Street Pendleton, OR 9780	8/30/2021		None	N/A
Ms. Karen Pettigrew City Manager City of Boardman 200 City Center Circle P.O. Box 229 Boardman, OR 97818	8/30/2021		None	N/A
Mr. Greg Smith Executive Director Columbia Development Authority Two Marine Drive, Suite 102 Boardman, OR 97818	8/30/2021		9/9/2021	Debbie Pedro provided comments/questions during the joint conference with Morrow County on 9/9/21.
Ms. Stefanie Stavrakas Pacific Region Sikes Act Coordinator U.S. Fish and Wildlife Service 911 NE 11th Avenue Portland, OR 97232	8/30/2021		None	Included Marisa Meyer and stated intent to respond within 30 days.
Mr. Richard Whitman Office of the Director Oregon Department of Environmental Quality 700 NE Multnomah Street, Suite 600 Portland, OR 97232	8/30/2021		None	N/A
Mr. Steve Potts Chief Umatilla Rural Fire Protection District P.O. Box 456 Umatilla, OR 97882	8/30/2021		None	N/A
Mr. Mitch Sparks Executive Director State of Oregon Legislative Commission on Indian Services 900 Court St., NE, Room 167 Salem, OR 97301	8/30/2021		None	N/A

Table A-1. Agency Coordination and Native American Consultation Summary

Agency/Individuals Consulted	Date Sent	Follow Up	Responses Received	Summary of Comments
Mr. David Stockdale City Manager City of Umatilla P.O. Box 130 Umatilla, OR 97882	8/30/2021		None	N/A
Mr. Audie Huber Intergovernmental Affairs Manager Department of Natural Resources Confederated Tribes of the Umatilla Indian Reservation 4611 Timíne Way Pendleton, OR 97801	8/30/2021		None	N/A

Example General/Tribal Scoping Letter

OREGON MILITARY DEPARTMENT
JOINT FORCE HEADQUARTERS, OREGON NATIONAL GUARD
INSTALLATIONS DIVISION
1776 MILITIA WAY
P.O. BOX 14350
SALEM, OREGON 97309-5047

25 August 2021

Subject: Environmental Assessment for Military Operations on Urban Terrain Training Site Improvements and Construction of Fire Breaks at Camp Umatilla, Oregon

Ms. Kat Brigham
Chair
Confederated Tribes of the Umatilla Indian Reservation
46411 Timíne Way
Pendleton, OR 97801
katbrigham@ctuir.org

Dear Ms. Brigham:

The Oregon Military Department (OMD) is preparing an Environmental Assessment (EA) to analyze the potential impacts of two proposed near-term infrastructure projects at Camp Umatilla Oregon (CUO): 1) improvements to the existing Military Operations on Urban Terrain (MOUT) site, including re-contouring portions of existing terrain using onsite materials, creating dry riverbeds, removing and abandoning sections of existing roads and pavement, and other venue development, and 2) construction of additional firebreaks to augment existing approved firebreaks on CUO. The EA is being prepared in accordance with the National Environmental Policy Act of 1969 (NEPA) (42 *United States Code* 4321 et seq.), the Council on Environmental Quality Regulations Implementing the Procedural Provisions of NEPA (40 *Code of Federal Regulations* [CFR] Parts 1500–1508), 32 CFR Part 651 (Environmental Analysis of Army Actions, Final Rule), and National Guard Bureau NEPA guidelines.

CUO is a 7,500-acre training installation situated within a portion of the former United States Army Umatilla Chemical Depot in both Morrow and Umatilla counties and located at the northwest corner of the junction of Interstate (I)-82 and I-84. It is home to the 249th Regional Training Institute (RTI), the premier training institute in the Pacific Northwest, offering infantry transition courses and advanced infantry leader training. This training installation is being improved to provide individual and group training for units up to battalion size, including annual training for the OMD. The proposed improvements to the existing MOUT site would create varied terrain and obstacles, providing Soldiers with more effective training opportunities reflective of real-world conditions, and add firebreaks to increase CUO's ability to minimize the risk of wildland fire and control the spread of fires on the installation.

The EA will assess the potential impacts associated with the Proposed Action of MOUT site development and the construction of firebreaks. During the course of the EA, detailed investigations will be undertaken to identify potential social, economic, and environmental impacts related to the Proposed Action. These impacts will be documented in the EA, which will be made available for a 30-day public review period.

As part of the OMD's Environmental Impact Analysis Process, we request your input in identifying general or specific issues or areas of concern you feel should be addressed in the environmental analysis. To ensure the OMD has sufficient time to consider your input in the preparation of the Draft EA, please forward written issues, or concerns to Ms. Jessika Cohen, jessika.cohen@mil.state.or.us, (503) 584-3198, or via mail at Oregon Military Department, ATTN: Jessika Cohen, 1776 Militia Way, Post Office Box 14350, Salem, Oregon 97309-5047 within 30 days of receipt of this letter. Thank you in advance for your assistance.

Sincerely,

ARNOLD.JAMES.G.1289948895

Digitally signed by ARNOLD.JAMES.G.1289948895
Date: 2021.08.27 16:56:50 -07'00'

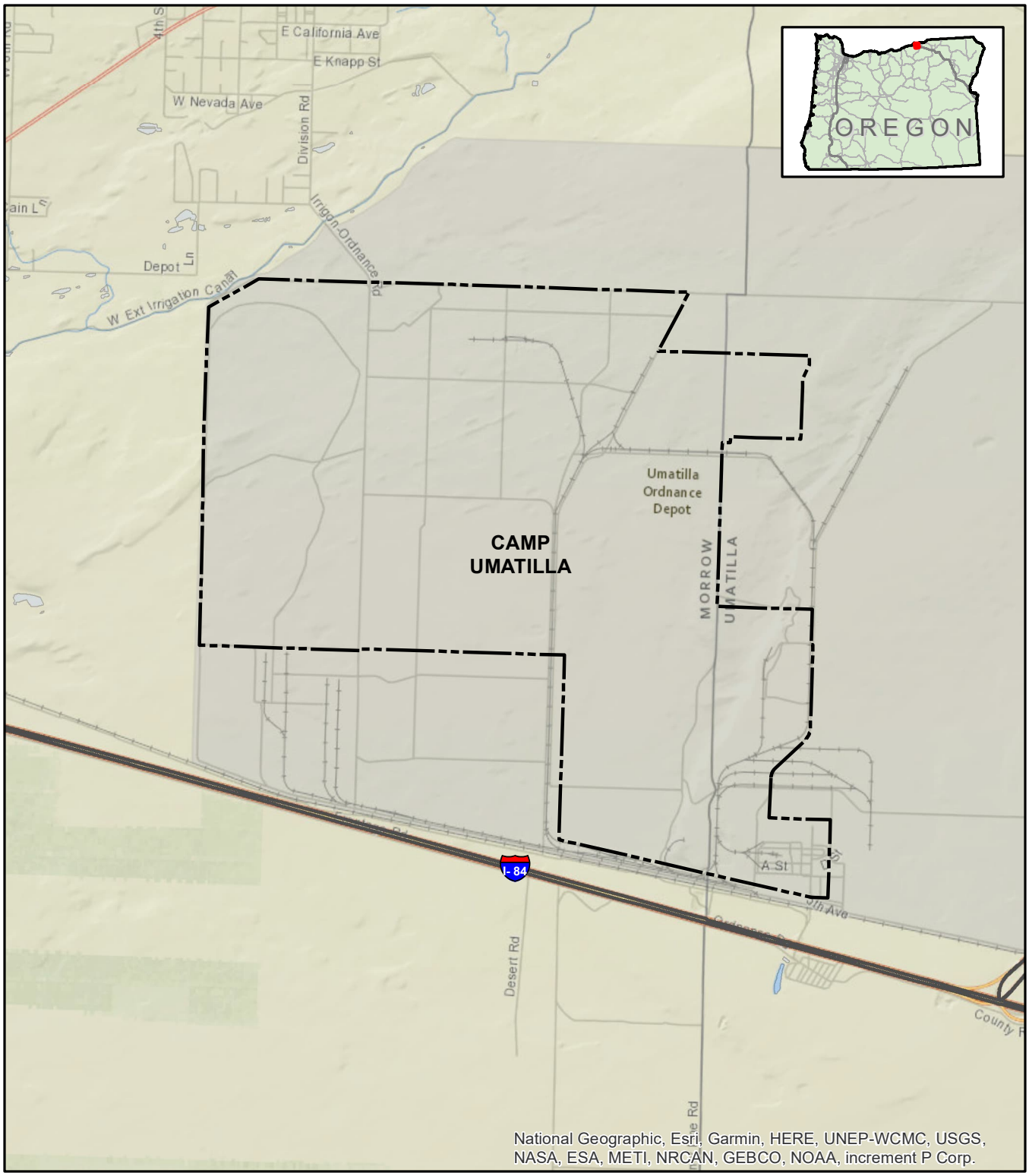
James G. Arnold
Environmental Program Manager

Encls

Figure 1-1: EA Project Vicinity Map

Figure 1-2: Proposed Fire Breaks

Figure 1-3: Proposed Modifications to the MOUT Site



Legend

- Installation Boundary
- Waterbody
- Interstates
- Oregon Roads

N

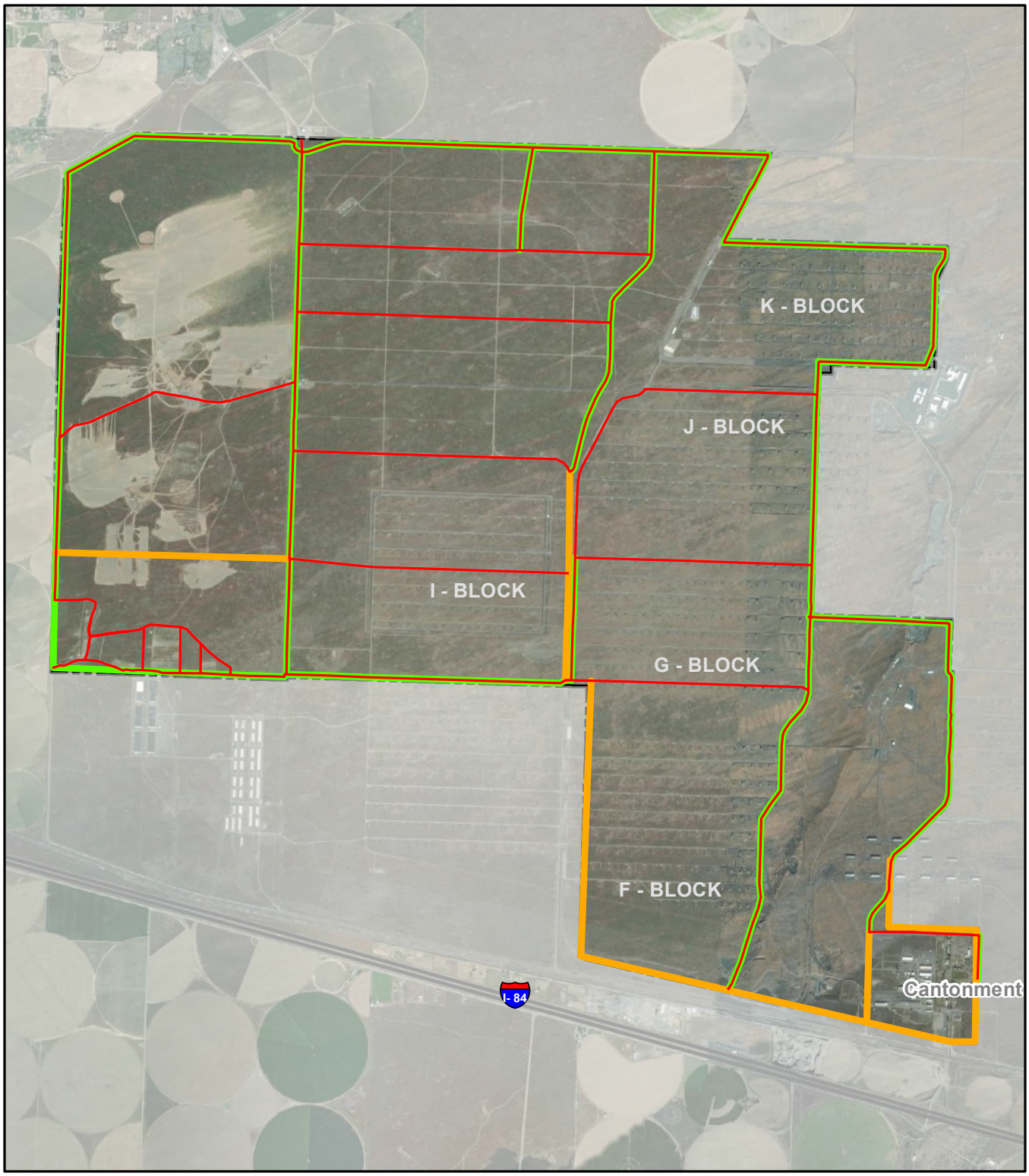
0 0.5 1 2

Miles

Figure 1-1
Vicinity Map

Camp Umatilla, Oregon

Jacobs



Legend

- Installation Boundary
- Approved 16ft Firebreaks = 66.9 Acres
- Proposed Expansion of Approved Firebreaks 50ft Wide - 21.73 Miles * 50ft = 89.55 Acres
- Proposed New Disked Firebreaks 50ft Wide - 6.58 Miles * 50ft = 39.87 Acres

N

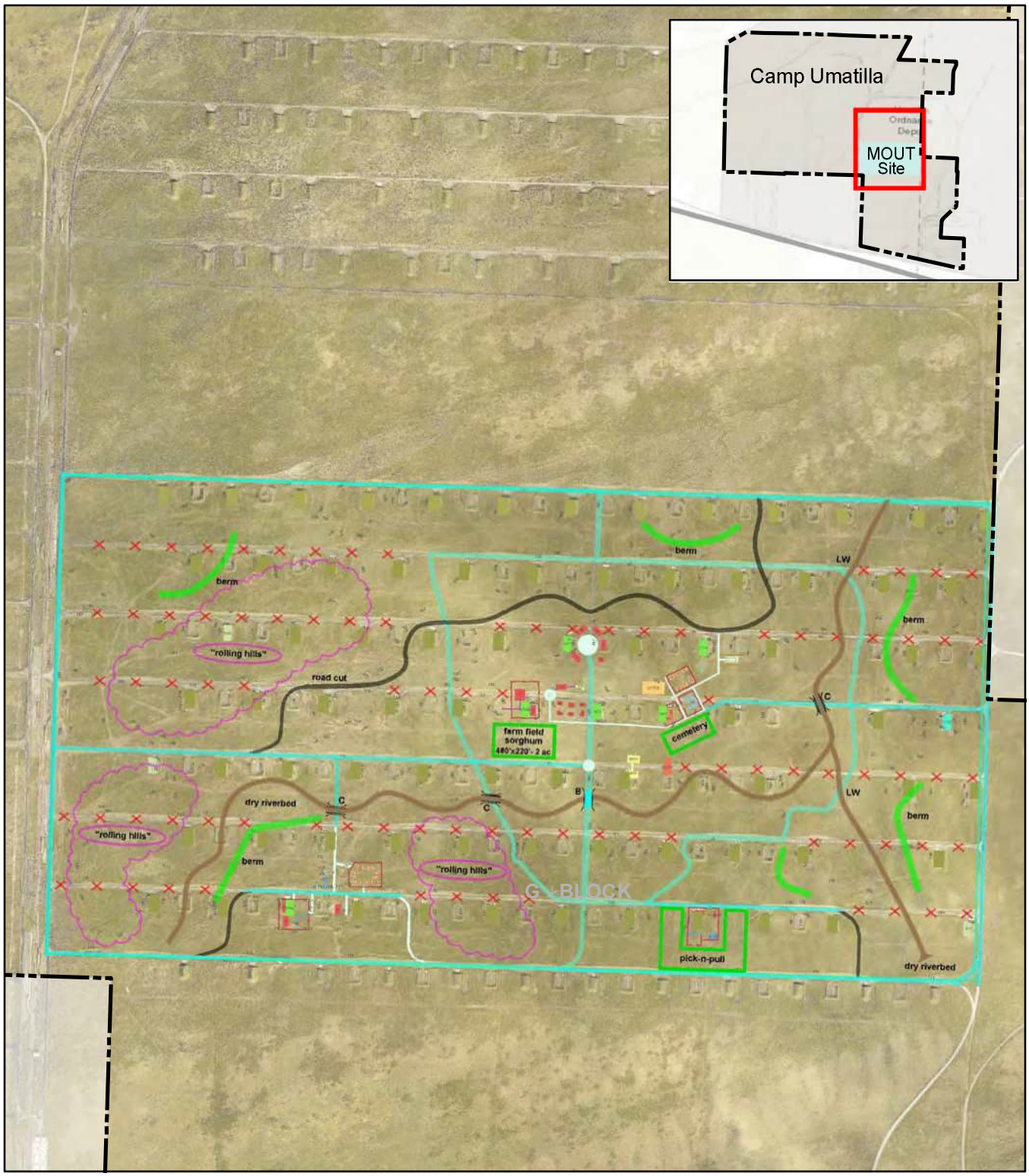
0 0.375 0.75 1.5

Miles

Figure 1-2
Proposed Fire Breaks

Camp Umatilla, Oregon

Jacobs



Legend

- Existing Installation Boundary
- Proposed/Existing Road
- Proposed Road Cut (Unpaved)
- Proposed Topographical Improvement/Berm
- Proposed Dry Riverbed
- Existing Topographical Feature
- Remove Existing Road
- Proposed Training Venue

N

0 400 800 1,600

Feet

Figure 1-3
Proposed Modifications to the MOUT Site

Camp Umatilla, Oregon

Jacobs

Responses

From:	Christian Nauer
To:	COHEN Jessika * OMD
Cc:	Robert Brunoe; Mars Galloway
Subject:	Re: Environmental Assessment; Camp Umatilla, Oregon
Date:	Monday, September 27, 2021 4:50:56 PM
Attachments:	PastedGraphic-1.pdf

Hi Jessika,

Thank you very much for the opportunity to provide comment on the Environmental Assessment for the Camp Umatilla, Oregon Project.

General Comment:

As the technical reviewer for NHPA Section 106 and other cultural resource issues for the Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSRO), the CTWSRO Tribal Historic Preservation Office (THPO) has concerns with the potential effects to historic properties or cultural resources within the Project Area of Potential Effects (APE). The Project APE is within the areas of concern for the CTWSRO.

Project-specific Comment(s):

This office would like to defer comment on cultural resource issues related to this Project to our neighbors at the Confederated Tribes of the Umatilla Indian Reservation (CTUIR). Please contact the CTUIR Cultural Resources Protection Program (CRPP) for comment.

Thank you for your efforts to protect cultural resources.

Best Regards,

Christian Nauer, MS
Archaeologist
Confederated Tribes of the Warm Springs Reservation of Oregon
Branch of Natural Resources

christian.nauer@ctwsbnr.org
Office 541.553.2026
Cell 541.420.2758

On Aug 30, 2021, at 3:37 PM, COHEN Jessika * OMD <Jessika.COHEN@mil.state.or.us> wrote:

Good Afternoon Mr. Nauer,

The Oregon Military Department is preparing an Environmental Assessment to analyze the potential impacts of two proposed infrastructure projects at Camp Umatilla, Oregon. The attached letter serves to notify you of the scope of the proposed projects and the intention of the Oregon Military Department to prepare an Environmental Assessment in accordance with the National Environmental Policy Act and associated regulations (as cited within the attachment).

We request your input in identifying general or specific issues, or areas of concern, you feel should be addressed in the environmental analysis. To ensure sufficient time to consider your input in the preparation of the Draft Environmental Assessment, please forward written issues or concerns to the undersigned by email, Jessika.cohen@mil.state.or.us, or mail to Oregon Military Department, ATTN: Jessika Cohen, 1776 Militia Way SE, P.O. Box 14350, Salem, OR 97309-5047, within 30 days of receipt of this letter.

Very Respectfully,

Jessika Cohen
NEPA & EPAS Program Manager
AGI-Environmental Branch
Oregon Military Department
1776 Militia Way SE
Salem, Oregon 97301
(503) 584-3198

<4_082521 CUO_MOUT_FB_EA_Scoping_Letter_CTWSn.pdf>

United States Department of the Interior

FISH AND WILDLIFE SERVICE
La Grande Field Office
3502 Highway 30
La Grande, Oregon 97850
Phone: (541) 962-8584 FAX: (541) 962-8581

File Number: 6320.0107
TS Number: 21-0587

September 28, 2021

Jessika Cohen, NEPA & EPAS Program Manager
AGI-Environmental Branch
Oregon Military Department
1776 Militia Way SE
Salem, Oregon 97301

Dear Ms. Cohen:

Thank you for the opportunity to provide input related to the Oregon Military Department (OMD) proposed Environmental Assessment (EA) for Military Operations on Urban Terrain Training Site Improvements and Construction of Fire Breaks at Camp Umatilla. The proposed action has the potential for impacts on a number of species of concern for the U.S. Fish and Wildlife Service (Service) include the Washington Ground Squirrel (WGS), Migratory Bird Species and Bald and Golden Eagles.

Washington Ground Squirrel
Although WGS has not been found within the project area during past site surveys (most recently by Mach in 2016), the potential for occurrence is there due to the presence of suitable habitat. The Service recommends that OMD follow guidance from the Oregon Department of Fish and Wildlife (ODFW) and complete WGS surveys within 1,000 feet of any proposed ground disturbing activities in appropriate habitat.

Migratory Bird Species
According to previous surveys conducted as part of past management activities, the majority of bird species found at the project area are protected under the Migratory Bird Treaty Act (MBTA). The Service recommends breeding bird surveys prior to implementation. We encourage OMB to continue managing the land in accordance with the Memorandum of Understanding (MOU) between the Department of Defense (DoD) and the Service (https://www.govinfo.gov/content/pkg/FR-2006-08-30/pdf/E6-14352.pdf) and the DoD Partners in Flight Strategic Plan (https://www.denix.osd.mil/dodpif/home/). To minimize impacts to migratory bird species, the Service recommends restricting any tree removal and ground disturbing activities to outside the nesting season (April through August).

Any artificial burrowing owl burrows should be moved to new locations, away from planned disturbance, before the nesting season.

We would also encourage the OMB to review the Service's Nationwide Standard Conservation Measures to reduce impacts to birds and their habitats and incorporate these measures as appropriate (https://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf).

Eagles
The Service's database does not show any known eagle nests within a few miles of the project area. However, because eagle databases may be outdated or incomplete and previous surveys recorded golden eagle presence within the project area, we recommend site-specific nest survey be performed. We also recommend that OMB review the Service's Bald Eagle Management Guidelines (https://www.fws.gov/pacific/eagle/all_about_eagles/Bald_Eagle_Management_Guidelines.html) to ensure proper measures are taken to avoid disturbance to nesting eagles.

Fire breaks
Removing vegetation to create firebreaks has the potential to increase invasive plant species and often requires herbicide treatments for maintenance which can be detrimental to invertebrate species. The Service recommends consideration of ways to reduce the threat of wildfire while also maintaining wildlife habitat.

In closing, we would like to reiterate our appreciation for the opportunity to provide comments on Oregon Military Department (OMD) proposed Environmental Assessment (EA for Military Operations on Urban Terrain Training Site Improvements and Construction of Fire Breaks at Camp Umatilla. If you have any questions or require further information regarding these comments, please contact Laura Navarrete (La Grande Field Office; (510 381-5984; laura_navarrete@fws.gov).

Sincerely,

Marisa Meyer

Marisa Meyer
Field Supervisor

cc:
Steve Cherry, Oregon Department of Fish and Wildlife, Heppner, Oregon
Melissa Yzquierdo Primus, Bureau of Land Management, Baker City, Oregon

Literature Cited:

Mach, J. 2016. Vertebrates of Camp Umatilla, Morrow and Umatilla Counties, Oregon and Plants of Camp Umatilla (formerly Umatilla Chemical/Army Depot), Morrow and Umatilla Counties, Oregon. Species lists.

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Baker Field Office
3100 H Street
Baker City, Oregon 97814
http://www.blm.gov/or/districts/vale

6500 (ORV050)

SEP 21 2021

NEPA & EPAS Program Manager
AGI-Environmental Branch
Oregon Military Department
1776 Militia Way SE
Salem, OR 97301

Dear Jessika Cohen:

After the review of the project proposal, there are some wildlife concerns for this location. The recontouring and removal of vegetation potentially could have negative impacts to species that rely on such vegetation for their life history needs. Three potential species of concern have been identified for this area (either species presence or potential habitat): Washington ground squirrel, grasshopper sparrow, and western burrowing owl. Our recommendation is to conduct up-to-date surveys to record presence/absence of such species within the proposed project area.

Both the grasshopper sparrow and the western burrowing owl are protected under the Migratory Bird Treaty Act of 1918. Any actions that may impact habitat, disturb nesting breeding/nesting efforts should be taken into consideration before a project is implemented.

Current management under USFWS, delegates that ODFW to track Washington ground squirrels to show that the population numbers remain stable after species review. Conservation efforts should focus on protection of suitable habitats in desert, grassland, and shrub-steppe environments.

If species are found within the project area, on public lands, mitigation measures should be developed in accordance with both USFWS and ODFW to ensure that both habitat and species population conservation efforts are achieved.

Ground disturbance would also increase noxious and invasive weed species.

Thank you for the opportunity to submit concerns regarding this location. If you would like to discuss any points of this inquiry any further, please contact: Melissa Yzquierdo Primus at myzquierdoprimus@blm.gov. Attached is the form for surveying Washington ground squirrels.

https://digitalarchives.wa.gov/do/3101C4B9FDB373AE9C1D03E233C4C0FD.pdf

Sincerely,

Joseph W. Aragon

Joseph W. Aragon
Field Manager

Oregon
Kate Brown., Governor

Department of Fish and Wildlife
Heppner District Office
54173 Highway 74
PO Box 363
Heppner, OR 97836
Voice (541) 676-5230
FAX (541) 676-9075
www.dfw.state.or.us/

September 8, 2021

Oregon Military Department
Attn: Jessika Cohen
1776 Militia Way
P.O. Box 14350
Salem, OR 97309

Dear Ms. Cohen:

This letter is in regards to the Oregon Military Department (OMD) request for scoping comments on the proposed Environmental Assessment (EA) for Military Operations on Urban Terrain Training Site Improvements and Construction of Fire Breaks at Camp Umatilla. After reviewing the information in the scoping letter the Oregon Department of Fish and Wildlife (ODFW) would recommend that the following issues be analyzed in the EA. ODFW would recommend that the OMD complete Washington Ground squirrel (WGS) surveys within 1,000 feet of any proposed ground disturbing activities unless there are recent WGS surveys in the area showing that the species is not present. Surveys should be completed for nesting raptors within ¼ mile of any proposed activities. If any sensitive species are found construction should not occur within ¼ mile of the nest during the active nesting period for the species found. ODFW recommends the consideration of fire breaks other than disked fire lines. Disked fire lines are a constant source of weeds and green strips might be a more viable option to control fires while still providing some wildlife habitat. We would also recommend that prior to any re-contouring or other ground disturbing activities that a basic vegetation analysis is completed. This would determine if there are any higher quality habitats in the training area that might be avoided while still creating the needed training facility. ODFW recommends that the EA consider some mitigation efforts to offset the acres impacted by the proposed activities. This could include revegetation efforts, weed control, etc. on other lands owned by OMD not used for military training.

I appreciate the opportunity to comment on the proposed EA and look forward to working with OMD on this proposed project.

Respectfully,

Steve Cherry
District Wildlife Biologist

From: GALL Ivan K * WRD
To: COHEN Jessika * OMD
Cc: KOWITZ Chris C * WRD; WOODY Jennifer L * WRD
Subject: Camp Umatilla EA comments
Date: Friday, September 10, 2021 10:31:58 AM

Hi Jessika,
We received the August 25, 2021 letter regarding the EA the Oregon Military Department will be preparing for the Camp Umatilla for site improvements and fire breaks. The Department's only comments are that if any monitoring wells or water wells will be impacted during the work, that OMD please work with the Water Resources Department to properly abandon the wells or repair them as needed. If you have any questions please contact me via email or the number below. Thank you for the opportunity to provide input to this process. Have a great weekend.
Regards - Ivan

Ivan Gall
FIELD SERVICES DIVISION ADMINISTRATOR
725 Summer Street NE, Suite A Salem, OR 97301 | Mobile 971-283-6010

Integrity | Service | Technical Excellence | Teamwork | Forward-Looking

From:	Stephanie Case
To:	COHEN Jessika * OMD
Cc:	FARMER Todd; "Aaron Palmquist"; Karen Pettigrew; "columbiadaassistant@gmail.com"; George Nairns; Tamra Mabbott
Subject:	RE: Environmental Assessment; Camp Umatilla, Oregon
Date:	Thursday, September 23, 2021 1:02:51 PM
Attachments:	Comment Letter v2.pdf

Good afternoon Jessika,

Morrow County has provided input based on your request, please see the attached letter from the Morrow County Board of Commissioners. We look forward to working with you on these projects. Please contact me if you have any questions.

Have a great day,

Stephanie Case
Planner II
Morrow County Planning Department
PO Box 40
Irrigon, OR 97844
(541) 922-4624

From: COHEN Jessika * OMD <Jessika.COHEN@mil.state.or.us>
Sent: Monday, August 30, 2021 4:00 PM
To: Stephanie Case <scase@co.morrow.or.us>
Subject: Environmental Assessment; Camp Umatilla, Oregon

Good Afternoon Ms. Case,

The Oregon Military Department is preparing an Environmental Assessment to analyze the potential impacts of two proposed infrastructure projects at Camp Umatilla, Oregon. The attached letter serves to notify you of the scope of the proposed projects and the intention of the Oregon Military Department to prepare an Environmental Assessment in accordance with the National Environmental Policy Act and associated regulations (as cited within the attachment).

We request your input in identifying general or specific issues, or areas of concern, you feel should be addressed in the environmental analysis. To ensure sufficient time to consider your input in the preparation of the Draft Environmental Assessment, please forward written issues or concerns to the undersigned by email, Jessika.cohen@mil.state.or.us, or mail to Oregon Military Department, ATTN: Jessika Cohen, 1776 Militia Way SE, P.O. Box 14350, Salem, OR 97309-5047, within 30 days of

receipt of this letter.

Very Respectfully,

Jessika Cohen
NEPA & EPAS Program Manager
AGI-Environmental Branch
Oregon Military Department
1776 Militia Way SE
Salem, Oregon 97301
(503) 584-3198

OREGON MILITARY DEPARTMENT
JOINT FORCE HEADQUARTERS, OREGON NATIONAL GUARD
INSTALLATIONS DIVISION
1776 MILITIA WAY
P.O. BOX 14350
SALEM, OREGON 97309-5047

NGOR-AGI-E 9 September 2021

MEMORANDUM FOR RECORD

SUBJECT: Scoping Consultation Call, RE: Environmental Assessment for MOUT Site Improvements and Construction of Fire Breaks at Camp Umatilla, Oregon

1. On 9 September 2021, from approximately 0800 to 0840 hours, the Oregon Military Department (OMD) met with representatives of the Morrow County Planning Department (MCPD) and Columbia Development Authority (CDA) to discuss the preparation of an Environmental Assessment (EA) to analyze the potential impacts of two proposed projects at Camp Umatilla, Oregon (CUO). MCPD requested this meeting with OMD following their initial review of the Scoping Letter for the EA, which was emailed to them 30 August 2021.

2. The meeting was facilitated as a web conference (Microsoft Teams) and included the following participants:

- Todd Farmer, Deputy Director of Installations, OMD
- James Arnold, Environmental Branch Chief, OMD
- Kris Mitchell, Planning and Programming Branch Chief, OMD
- Jessika Cohen, NEPA Program Manager, OMD
- Tamra Mabbott, Planning Director, MCPD
- Stephanie Case, Planner II, MCPD
- George Nairns, Office Manager, MCPD
- Debbie Pedro, Administrative Assistant, CDA

3. During the meeting, MCPD and CDA asked OMD to further describe the proposed actions that will be analyzed in the EA. OMD provided more details on the proposed actions, including the purpose and need for such, and explained why an EA is appropriate to analyze potential impacts. OMD was then asked about potential effects on local burrowing owl (*Athene cunicularia*) populations. OMD noted the consideration and stated that while burrows are known to be located further east on tribally owned land, no burrows currently exist within the proposed project area. OMD also stated that artificial burrows have been successfully moved and re-established for owls in the past. MCPD and CDA stated they had no further comments or questions and may provide OMD with a letter of support. OMD requested and documented the following suggestions for improvement concerning the Scoping Letter content:

- The letter could explain the reason for the EA (i.e. inability to qualify proposed actions for categorical exclusion) better and more upfront.

- The letter could include the complete distribution list of recipients so interested parties may coordinate with each other to scope potential concerns.

4. The undersigned is the point of contact for this action and can be contacted by email, Jessika.cohen@mil.state.or.us, or by telephone at (503) 584-3198.

Jessika Cohen

Jessika Cohen
NEPA Program Manager

From: Aaron Palmquist
To: COHEN Jessika * OMD
Subject: RE: Environmental Assessment; Camp Umatilla, Oregon
Date: Friday, September 24, 2021 2:55:53 PM
Attachments: Response to Camp Umatilla EA 9.24.21.pdf

Ms. Cohen,

Thank you for the opportunity and patience. Please find attached Irrigon's letter of acknowledgement and support. If we can be of further assistance on this matter or any in the future please do not hesitate to reach out.

Respectfully,

Aaron Palmquist, MBA/PA
City Manager
City of Irrigon
P.O. Box 428 / 500 NE Main Ave.
Irrigon, OR 97844
manager@ci.irrigon.or.us
www.ci.irrrigon.or.us
541-922-3047 Ph
541-922-9322 Fx

From: COHEN Jessika * OMD <Jessika.COHEN@mil.state.or.us>
Sent: Monday, August 30, 2021 4:02 PM
To: manager@ci.irrigon.or.us
Subject: Environmental Assessment; Camp Umatilla, Oregon

Good Afternoon Mr. Palmquist,

The Oregon Military Department is preparing an Environmental Assessment to analyze the potential impacts of two proposed infrastructure projects at Camp Umatilla, Oregon. The attached letter serves to notify you of the scope of the proposed projects and the intention of the Oregon Military Department to prepare an Environmental Assessment in accordance with the National Environmental Policy Act and associated regulations (as cited within the attachment).

We request your input in identifying general or specific issues, or areas of concern, you feel should be addressed in the environmental analysis. To ensure sufficient time to consider your input in the preparation of the Draft Environmental Assessment, please forward written issues or concerns to the undersigned by email, Jessika.cohen@mil.state.or.us, or mail to Oregon Military Department, ATTN: Jessika Cohen, 1776 Militia Way SE, P.O. Box 14350, Salem, OR 97309-5047, within 30 days of receipt of this letter.

Very Respectfully,

Jessika Cohen
NEPA & EPAS Program Manager
AGI-Environmental Branch
Oregon Military Department
1776 Militia Way SE
Salem, Oregon 97301
(503) 584-3198

Appendix B
Notice of Availability

NOTICE OF 30-DAY PERIOD FOR PUBLIC COMMENT

The Oregon Military Department has prepared an environmental assessment (EA) to analyze impacts that could result from two proposed near-term infrastructure projects at Raymond F. Rees Training Center (RTC) in Morrow and Umatilla Counties: (1) improvements to the existing Military Operations on Urban Terrain (MOUT) site, including recontouring portions of existing terrain using onsite materials, creating dry riverbeds, constructing berms, removing sections of existing paved roads, and other venue development (i.e., prison compound, cemetery, farmhouse, and residential areas), and (2) construction of additional firebreaks to augment approved firebreaks on RTC.

The EA and draft Finding of No Significant Impact are available for 30 days of public review and comment at the Hermiston Public Library, 235 Gladys Ave, Hermiston, OR 97838 and online at https://www.oregon.gov/omd/installations/Pages/Environmental.aspx.

Written comments will be considered for 30 days after the publication of this notice. Comments should be sent by mail to: James Arnold, Oregon Military Department, AGI-ENV, 1776 Militia Way SE, Salem, Oregon, 97309, or by email to: james.g.arnold22.nfg@mail.mil.

Appendix C
Public Involvement

(To be provided)

Appendix D
Air Quality Emissions Calculations and Record of Conformity Analysis

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: PORTLAND IAP
State: Oregon
County(s): Morrow; Umatilla
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Military Operations on Urban Terrain Site Improvements and Construction of Additional Firebreaks at the Raymond F. Rees Training Center

c. Project Number/s (if applicable):

d. Projected Action Start Date: 10 / 2022

e. Action Description:

This analysis is for the following component of the Proposed Action:
Improvements to the existing MOUT site, including recontouring portions of existing terrain using predominantly onsite materials, creating dry riverbeds, constructing berms, removing sections of existing paved roads, and other venue development (i.e., prison compound, cemetery, farmhouse, and residential areas)

f. Point of Contact:

Name: Caitlin Santinelli
Title: Scientist
Organization: Jacobs
Email: caitlin.santinelli@jacobs.com
Phone Number:

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

_____ applicable
__X__ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are "Clearly Attainment" (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are "Near Nonattainment" (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with

net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

Analysis Summary:

2022

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.181	250	No
NOx	1.186	250	No
CO	0.975	250	No
SOx	0.003	250	No
PM 10	166.463	250	Yes
PM 2.5	0.049	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	260.1		

2023

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.290	250	No
NOx	1.824	250	No
CO	1.966	250	No
SOx	0.004	250	No
PM 10	166.504	250	Yes
PM 2.5	0.076	250	No
Pb	0.000	25	No
NH3	0.001	250	No
CO2e	442.2		

2024

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.276	250	No
NOx	1.685	250	No
CO	1.947	250	No
SOx	0.004	250	No
PM 10	166.495	250	Yes
PM 2.5	0.067	250	No
Pb	0.000	25	No
NH3	0.001	250	No
CO2e	442.2		

2025

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.264	250	No
NOx	1.561	250	No
CO	1.931	250	No
SOx	0.004	250	No
PM 10	166.488	250	Yes
PM 2.5	0.059	250	No
Pb	0.000	25	No
NH3	0.001	250	No
CO2e	442.1		

2026

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.259	250	No
NOx	1.523	250	No
CO	1.927	250	No
SOx	0.004	250	No
PM 10	166.485	250	Yes
PM 2.5	0.056	250	No
Pb	0.000	25	No
NH3	0.001	250	No
CO2e	442.1		

2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.102	250	No
NOx	0.598	250	No
CO	0.995	250	No
SOx	0.002	250	No
PM 10	0.035	250	No
PM 2.5	0.021	250	No
Pb	0.000	25	No
NH3	0.001	250	No
CO2e	182.1		

2028 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

CO2e	0.0		

The estimated annual net emissions associated with this action temporarily exceed the insignificance indicators. However, the steady state estimated annual net emissions are below the insignificance indicators showing no significant long-term impact to air quality. Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs. No further air assessment is needed.

_____ ___4/14/2022_____

Caitlin Santinelli, Scientist DATE

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

1. General Information: The Air Force's Air Conformity Applicability Model (ACAM) was used to perform an analysis to assess the potential air quality impact/s associated with the action in accordance with the Air Force Manual 32-7002, Environmental Compliance and Pollution Prevention; the Environmental Impact Analysis Process (EIAP, 32 CFR 989); and the General Conformity Rule (GCR, 40 CFR 93 Subpart B). This report provides a summary of the ACAM analysis.

a. Action Location:

Base: PORTLAND IAP
State: Oregon
County(s): Morrow; Umatilla
Regulatory Area(s): NOT IN A REGULATORY AREA

b. Action Title: Military Operations on Urban Terrain Site Improvements and Construction of Additional Firebreaks at the Raymond F. Rees Training Center

c. Project Number/s (if applicable):

d. Projected Action Start Date: 10 / 2022

e. Action Description:

This analysis is for the following component of the Proposed Action:
Construction of additional firebreaks to augment approved firebreaks on the RTC

f. Point of Contact:

Name: Caitlin Santinelli
Title: Scientist
Organization: Jacobs
Email: caitlin.santinelli@jacobs.com
Phone Number:

2. Air Impact Analysis: Based on the attainment status at the action location, the requirements of the General Conformity Rule are:

_____ applicable
__X__ not applicable

Total net direct and indirect emissions associated with the action were estimated through ACAM on a calendar-year basis for the start of the action through achieving "steady state" (i.e., net gain/loss upon action fully implemented) emissions. The ACAM analysis used the latest and most accurate emission estimation techniques available; all algorithms, emission factors, and methodologies used are described in detail in the USAF Air Emissions Guide for Air Force Stationary Sources, the USAF Air Emissions Guide for Air Force Mobile Sources, and the USAF Air Emissions Guide for Air Force Transitory Sources.

"Insignificance Indicators" were used in the analysis to provide an indication of the significance of potential impacts to air quality based on current ambient air quality relative to the National Ambient Air Quality Standards (NAAQSs). These insignificance indicators are the 250 ton/yr Prevention of Significant Deterioration (PSD) major source threshold for actions occurring in areas that are "Clearly Attainment" (i.e., not within 5% of any NAAQS) and the GCR de minimis values (25 ton/yr for lead and 100 ton/yr for all other criteria pollutants) for actions occurring in areas that are "Near Nonattainment" (i.e., within 5% of any NAAQS). These indicators do not define a significant impact; however, they do provide a threshold to identify actions that are insignificant. Any action with net emissions below the insignificance indicators for all criteria pollutant is considered so insignificant that the action will not cause or contribute to an exceedance on one or more NAAQSs. For further detail on insignificance

indicators see chapter 4 of the Air Force Air Quality Environmental Impact Analysis Process (EIAP) Guide, Volume II - Advanced Assessments.

The action's net emissions for every year through achieving steady state were compared against the Insignificance Indicator and are summarized below.

Analysis Summary:

2022

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.020	250	No
NOx	0.138	250	No
CO	0.099	250	No
SOx	0.000	250	No
PM 10	7.653	250	No
PM 2.5	0.005	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	27.0		

2023

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.019	250	No
NOx	0.128	250	No
CO	0.097	250	No
SOx	0.000	250	No
PM 10	7.653	250	No
PM 2.5	0.005	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	27.0		

2024

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.019	250	No
NOx	0.119	250	No
CO	0.095	250	No
SOx	0.000	250	No
PM 10	7.652	250	No
PM 2.5	0.005	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	27.0		

2025

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

NOT IN A REGULATORY AREA			
VOC	0.018	250	No
NOx	0.110	250	No
CO	0.093	250	No
SOx	0.000	250	No
PM 10	7.652	250	No
PM 2.5	0.004	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	27.0		

2026

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.018	250	No
NOx	0.110	250	No
CO	0.093	250	No
SOx	0.000	250	No
PM 10	7.652	250	No
PM 2.5	0.004	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	27.0		

2027

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

2028 - (Steady State)

Pollutant	Action Emissions (ton/yr)	INSIGNIFICANCE INDICATOR	
		Indicator (ton/yr)	Exceedance (Yes or No)
NOT IN A REGULATORY AREA			
VOC	0.000	250	No
NOx	0.000	250	No
CO	0.000	250	No
SOx	0.000	250	No
PM 10	0.000	250	No
PM 2.5	0.000	250	No
Pb	0.000	25	No
NH3	0.000	250	No
CO2e	0.0		

AIR CONFORMITY APPLICABILITY MODEL REPORT
RECORD OF AIR ANALYSIS (ROAA)

None of estimated annual net emissions associated with this action are above the insignificance indicators, indicating no significant impact to air quality.Therefore, the action will not cause or contribute to an exceedance on one or more NAAQSs.No further air assessment is needed.

____ _____ ___4/14/22_____

Caitlin Santinelli, Scientist DATE

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location
Base: PORTLAND IAP
State: Oregon
County(s): Morrow; Umatilla
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Military Operations on Urban Terrain Site Improvements and Additional Firebreaks at Camp Umatilla

- Project Number/s (if applicable):

- Projected Action Start Date: 10 / 2022

- Action Purpose and Need:
The purpose of Component Action 1 is to provide Soldiers with more effective MOUT training opportunities reflective of real-world conditions. The purpose of Component Action 2 is to minimize the risk of wildland fire and control the spread of fires on CUO. Construction of additional firebreaks to augment approved firebreaks on CUO is needed to reduce the probability of a fire moving into high value areas on CUO or off installation. There

- Action Description:
This analysis is for the following component of the Proposed Action:
Improvements to the existing MOUT site, including recontouring portions of existing terrain using predominantly onsite materials, creating dry riverbeds, constructing berms, removing sections of existing paved roads, and other venue development

- Point of Contact
Name: Caitlin Santinelli
Title: Scientist
Organization: Jacobs
Email: caitlin.santinelli@jacobs.com
Phone Number:

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	MOUT Site Improvements - 2022 grading/demo
3.	Construction / Demolition	MOUT Site Improvements - 2023 grading/demo
4.	Construction / Demolition	MOUT Site Improvements - 2024 grading/demo
5.	Construction / Demolition	MOUT Site Improvements - 2025 grading/demo
6.	Construction / Demolition	MOUT Site Improvements - 2026 grading/demo

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

- Activity Location
County: Morrow; Umatilla

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: MOUT Site Improvements - 2022 grading/demo

- Activity Description:
2022 grading/demo

- Activity Start Date
Start Month: 10
Start Month: 2022

- Activity End Date
Indefinite: False
End Month: 9
End Month: 2023

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.298798
SO_x	0.004466
NO_x	1.918741
CO	1.982768
PM 10	166.508733

Pollutant	Total Emissions (TONs)
PM 2.5	0.080374
Pb	0.000000
NH_3	0.000840
CO_2e	442.2

2.1 Demolition Phase

2.1.1 Demolition Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2022

- Phase Duration
Number of Month: 12
Number of Days: 0

2.1.2 Demolition Phase Assumptions

- General Demolition Information
Area of Building to be demolished (ft^2): 89340
Height of Building to be demolished (ft): 1

- Default Settings Used: Yes

- Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1
Tractors/Loaders/Backhoes Composite	2	8

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Demolition Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Concrete/Industrial Saws Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0410	0.0006	0.2961	0.3743	0.0148	0.0148	0.0037	58.556
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1919	0.0024	1.3611	0.7352	0.0536	0.0536	0.0173	239.51
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0383	0.0007	0.2301	0.3598	0.0095	0.0095	0.0034	66.884

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.283	000.002	000.227	003.198	000.008	000.007		000.023	00316.539
LDGT	000.345	000.003	000.388	004.368	000.010	000.009		000.024	00407.927
HDGV	000.683	000.005	001.056	015.279	000.021	000.019		000.044	00747.425
LDDV	000.121	000.003	000.134	002.351	000.004	000.004		000.008	00306.075
LDDT	000.257	000.004	000.380	004.000	000.007	000.006		000.008	00434.750
HDDV	000.487	000.013	005.034	001.710	000.166	000.152		000.028	01461.419
MC	002.294	000.003	000.833	013.467	000.027	000.024		000.054	00397.191

2.1.4 Demolition Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (0.00042 * BA * BH) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
0.00042: Emission Factor (lb/ft^3)
BA: Area of Building to be demolished (ft^2)
BH: Height of Building to be demolished (ft)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)

H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = BA * BH * (1 / 27) * 0.25 * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building being demolish (ft^2)
BH: Height of Building being demolish (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
0.25: Volume reduction factor (material reduced by 75% to account for air space)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

2.2 Site Grading Phase

2.2.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2022

- Phase Duration
Number of Month: 2
Number of Days: 0

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

2.2.2 Site Grading Phase Assumptions

- General Site Grading Information

Area of Site to be Graded (ft^2): 8364000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

- Site Grading Default Settings

Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	8
Rubber Tired Dozers Composite	2	8
Scrapers Composite	2	8

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20
Average Hauling Truck Round Trip Commute (mile): 20

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.2.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0806	0.0014	0.4657	0.5731	0.0217	0.0217	0.0072	132.92
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1919	0.0024	1.3611	0.7352	0.0536	0.0536	0.0173	239.51
Scrapers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1723	0.0026	1.1176	0.7579	0.0447	0.0447	0.0155	262.87

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.283	000.002	000.227	003.198	000.008	000.007		000.023	00316.539
LDGT	000.345	000.003	000.388	004.368	000.010	000.009		000.024	00407.927
HDGV	000.683	000.005	001.056	015.279	000.021	000.019		000.044	00747.425
LDDV	000.121	000.003	000.134	002.351	000.004	000.004		000.008	00306.075
LDDT	000.257	000.004	000.380	004.000	000.007	000.006		000.008	00434.750

HDDV	000.487	000.013	005.034	001.710	000.166	000.152		000.028	01461.419
MC	002.294	000.003	000.833	013.467	000.027	000.024		000.054	00397.191

2.2.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

3. Construction / Demolition

3.1 General Information & Timeline Assumptions

- Activity Location
County: Umatilla; Morrow
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: MOUT Site Improvements - 2023 grading/demo

- Activity Description:
2023 grading/demo

- Activity Start Date
Start Month: 10
Start Month: 2023

- Activity End Date
Indefinite: False
End Month: 9
End Month: 2024

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.283965
SO_x	0.004466
NO_x	1.771598
CO	1.961687
PM 10	166.499555

Pollutant	Total Emissions (TONs)
PM 2.5	0.071196
Pb	0.000000
NH_3	0.000840
CO_2e	442.2

3.1 Demolition Phase

3.1.1 Demolition Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2023

- Phase Duration
Number of Month: 12
Number of Days: 0

3.1.2 Demolition Phase Assumptions

- General Demolition Information
Area of Building to be demolished (ft^2): 89340

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Height of Building to be demolished (ft): 1

- Default Settings Used: Yes

- Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1
Tractors/Loaders/Backhoes Composite	2	8

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

3.1.3 Demolition Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Concrete/Industrial Saws Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0382	0.0006	0.2766	0.3728	0.0127	0.0127	0.0034	58.549
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1830	0.0024	1.2623	0.7077	0.0494	0.0494	0.0165	239.49
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0364	0.0007	0.2127	0.3593	0.0080	0.0080	0.0032	66.879

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.283	000.002	000.227	003.198	000.008	000.007		000.023	00316.539
LDGT	000.345	000.003	000.388	004.368	000.010	000.009		000.024	00407.927
HDGV	000.683	000.005	001.056	015.279	000.021	000.019		000.044	00747.425
LDDV	000.121	000.003	000.134	002.351	000.004	000.004		000.008	00306.075
LDDT	000.257	000.004	000.380	004.000	000.007	000.006		000.008	00434.750
HDDV	000.487	000.013	005.034	001.710	000.166	000.152		000.028	01461.419
MC	002.294	000.003	000.833	013.467	000.027	000.024		000.054	00397.191

3.1.4 Demolition Phase Formula(s)

- Fugitive Dust Emissions per Phase

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

$PM10_{FD} = (0.00042 * BA * BH) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
0.00042: Emission Factor (lb/ft^3)
BA: Area of Building to be demolished (ft^2)
BH: Height of Building to be demolished (ft)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = BA * BH * (1 / 27) * 0.25 * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building being demolish (ft^2)
BH: Height of Building being demolish (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards ($1\ yd^3 / 27\ ft^3$)
0.25: Volume reduction factor (material reduced by 75% to account for air space)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

3.2 Site Grading Phase

3.2.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2023

- Phase Duration
Number of Month: 2
Number of Days: 0

3.2.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 8364000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

- Site Grading Default Settings
Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	8
Rubber Tired Dozers Composite	2	8
Scrapers Composite	2	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20
Average Hauling Truck Round Trip Commute (mile): 20

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

3.2.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

Graders Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.0757	0.0014	0.4155	0.5717	0.0191	0.0191	0.0068	132.91

Rubber Tired Dozers Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.1830	0.0024	1.2623	0.7077	0.0494	0.0494	0.0165	239.49
Scrapers Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.1640	0.0026	1.0170	0.7431	0.0406	0.0406	0.0148	262.85

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.283	000.002	000.227	003.198	000.008	000.007		000.023	00316.539
LDGT	000.345	000.003	000.388	004.368	000.010	000.009		000.024	00407.927
HDGV	000.683	000.005	001.056	015.279	000.021	000.019		000.044	00747.425
LDDV	000.121	000.003	000.134	002.351	000.004	000.004		000.008	00306.075
LDDT	000.257	000.004	000.380	004.000	000.007	000.006		000.008	00434.750
HDDV	000.487	000.013	005.034	001.710	000.166	000.152		000.028	01461.419
MC	002.294	000.003	000.833	013.467	000.027	000.024		000.054	00397.191

3.2.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)

2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

4. Construction / Demolition

4.1 General Information & Timeline Assumptions

- Activity Location
County: Morrow; Umatilla
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: MOUT Site Improvements - 2024 grading/demo

- Activity Description:
2024 grading/demo

- Activity Start Date
Start Month: 10
Start Month: 2024

- Activity End Date
Indefinite: False
End Month: 9
End Month: 2025

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.270700
SO_x	0.004466
NO_x	1.640402
CO	1.943222
PM 10	166.491547

Pollutant	Total Emissions (TONs)
PM 2.5	0.063188
Pb	0.000000
NH_3	0.000840
CO_2e	442.2

4.1 Demolition Phase

4.1.1 Demolition Phase Timeline Assumptions

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2024

- Phase Duration
Number of Month: 12
Number of Days: 0

4.1.2 Demolition Phase Assumptions

- General Demolition Information
Area of Building to be demolished (ft^2): 89340
Height of Building to be demolished (ft): 1

- Default Settings Used: Yes

- Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1
Tractors/Loaders/Backhoes Composite	2	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

4.1.3 Demolition Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Concrete/Industrial Saws Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0357	0.0006	0.2608	0.3715	0.0109	0.0109	0.0032	58.544
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1747	0.0024	1.1695	0.6834	0.0454	0.0454	0.0157	239.47
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0348	0.0007	0.1980	0.3589	0.0068	0.0068	0.0031	66.875

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.283	000.002	000.227	003.198	000.008	000.007		000.023	00316.539
LDGT	000.345	000.003	000.388	004.368	000.010	000.009		000.024	00407.927
HDGV	000.683	000.005	001.056	015.279	000.021	000.019		000.044	00747.425
LDDV	000.121	000.003	000.134	002.351	000.004	000.004		000.008	00306.075
LDDT	000.257	000.004	000.380	004.000	000.007	000.006		000.008	00434.750
HDDV	000.487	000.013	005.034	001.710	000.166	000.152		000.028	01461.419
MC	002.294	000.003	000.833	013.467	000.027	000.024		000.054	00397.191

4.1.4 Demolition Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (0.00042 * BA * BH) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
0.00042: Emission Factor (lb/ft^3)
BA: Area of Building to be demolished (ft^2)
BH: Height of Building to be demolished (ft)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (1 / 27) * 0.25 * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building being demolish (ft^2)
BH: Height of Building being demolish (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards ($1 yd^3 / 27 ft^3$)
0.25: Volume reduction factor (material reduced by 75% to account for air space)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

4.2 Site Grading Phase

4.2.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2024

- Phase Duration
Number of Month: 2
Number of Days: 0

4.2.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 8364000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

- Site Grading Default Settings
Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	8
Rubber Tired Dozers Composite	2	8
Scrapers Composite	2	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20
Average Hauling Truck Round Trip Commute (mile): 20

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

4.2.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0714	0.0014	0.3708	0.5706	0.0167	0.0167	0.0064	132.90
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1747	0.0024	1.1695	0.6834	0.0454	0.0454	0.0157	239.47
Scrapers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1564	0.0026	0.9241	0.7301	0.0368	0.0368	0.0141	262.83

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.283	000.002	000.227	003.198	000.008	000.007		000.023	00316.539
LDGT	000.345	000.003	000.388	004.368	000.010	000.009		000.024	00407.927
HDGV	000.683	000.005	001.056	015.279	000.021	000.019		000.044	00747.425
LDDV	000.121	000.003	000.134	002.351	000.004	000.004		000.008	00306.075
LDDT	000.257	000.004	000.380	004.000	000.007	000.006		000.008	00434.750
HDDV	000.487	000.013	005.034	001.710	000.166	000.152		000.028	01461.419
MC	002.294	000.003	000.833	013.467	000.027	000.024		000.054	00397.191

4.2.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)

$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

5. Construction / Demolition

5.1 General Information & Timeline Assumptions

- Activity Location
County: Morrow; Umatilla
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: MOUT Site Improvements - 2025 grading/demo

- Activity Description:
2025 grading/demo

- Activity Start Date
Start Month: 10
Start Month: 2025

- Activity End Date
Indefinite: False
End Month: 9
End Month: 2026

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.259139
SO_x	0.004466
NO_x	1.522514
CO	1.927180
PM 10	166.484562

Pollutant	Total Emissions (TONs)
PM 2.5	0.056203
Pb	0.000000
NH_3	0.000840
CO_2e	442.1

5.1 Demolition Phase

5.1.1 Demolition Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2025

- Phase Duration
Number of Month: 12
Number of Days: 0

5.1.2 Demolition Phase Assumptions

- General Demolition Information
Area of Building to be demolished (ft^2): 89340
Height of Building to be demolished (ft): 1

- Default Settings Used: Yes

- Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1
Tractors/Loaders/Backhoes Composite	2	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

5.1.3 Demolition Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Concrete/Industrial Saws Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.0336	0.0006	0.2470	0.3705	0.0093	0.0093	0.0030	58.539
Rubber Tired Dozers Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.283	000.002	000.227	003.198	000.008	000.007		000.023	00316.539
LDGT	000.345	000.003	000.388	004.368	000.010	000.009		000.024	00407.927
HDGV	000.683	000.005	001.056	015.279	000.021	000.019		000.044	00747.425
LDDV	000.121	000.003	000.134	002.351	000.004	000.004		000.008	00306.075
LDDT	000.257	000.004	000.380	004.000	000.007	000.006		000.008	00434.750
HDDV	000.487	000.013	005.034	001.710	000.166	000.152		000.028	01461.419
MC	002.294	000.003	000.833	013.467	000.027	000.024		000.054	00397.191

5.1.4 Demolition Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (0.00042 * BA * BH) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
0.00042: Emission Factor (lb/ft^3)
BA: Area of Building to be demolished (ft^2)
BH: Height of Building to be demolished (ft)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = BA * BH * (1 / 27) * 0.25 * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building being demolish (ft^2)
BH: Height of Building being demolish (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
0.25: Volume reduction factor (material reduced by 75% to account for air space)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

5.2 Site Grading Phase

5.2.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2025

- Phase Duration
Number of Month: 2
Number of Days: 0

5.2.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 8364000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

- Site Grading Default Settings
Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	8

Rubber Tired Dozers Composite	2	8
Scrapers Composite	2	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20
Average Hauling Truck Round Trip Commute (mile): 20

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

5.2.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Scrapers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1495	0.0026	0.8387	0.7186	0.0334	0.0334	0.0134	262.81

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.283	000.002	000.227	003.198	000.008	000.007		000.023	00316.539
LDGT	000.345	000.003	000.388	004.368	000.010	000.009		000.024	00407.927
HDGV	000.683	000.005	001.056	015.279	000.021	000.019		000.044	00747.425
LDDV	000.121	000.003	000.134	002.351	000.004	000.004		000.008	00306.075
LDDT	000.257	000.004	000.380	004.000	000.007	000.006		000.008	00434.750
HDDV	000.487	000.013	005.034	001.710	000.166	000.152		000.028	01461.419
MC	002.294	000.003	000.833	013.467	000.027	000.024		000.054	00397.191

5.2.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

6. Construction / Demolition

6.1 General Information & Timeline Assumptions

- Activity Location

County: Morrow; Umatilla
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: MOUT Site Improvements - 2026 grading/demo

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Activity Description:
2026 grading/demo

- Activity Start Date
Start Month: 10
Start Month: 2026

- Activity End Date
Indefinite: False
End Month: 9
End Month: 2027

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.259139
SO_x	0.004466
NO_x	1.522514
CO	1.927180
PM 10	166.484562

Pollutant	Total Emissions (TONs)
PM 2.5	0.056203
Pb	0.000000
NH_3	0.000840
CO_2e	442.1

6.1 Demolition Phase

6.1.1 Demolition Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2026

- Phase Duration
Number of Month: 12
Number of Days: 0

6.1.2 Demolition Phase Assumptions

- General Demolition Information
Area of Building to be demolished (ft^2): 89340
Height of Building to be demolished (ft): 1

- Default Settings Used: Yes

- Average Day(s) worked per week: 5 (default)

- Construction Exhaust (default)

Equipment Name	Number Of Equipment	Hours Per Day
Concrete/Industrial Saws Composite	1	8
Rubber Tired Dozers Composite	1	1
Tractors/Loaders/Backhoes Composite	2	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20 (default)
Average Hauling Truck Round Trip Commute (mile): 20 (default)

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20 (default)

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

6.1.3 Demolition Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour) (default)

Concrete/Industrial Saws Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0336	0.0006	0.2470	0.3705	0.0093	0.0093	0.0030	58.539
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.283	000.002	000.227	003.198	000.008	000.007		000.023	00316.539
LDGT	000.345	000.003	000.388	004.368	000.010	000.009		000.024	00407.927
HDGV	000.683	000.005	001.056	015.279	000.021	000.019		000.044	00747.425
LDDV	000.121	000.003	000.134	002.351	000.004	000.004		000.008	00306.075
LDDT	000.257	000.004	000.380	004.000	000.007	000.006		000.008	00434.750
HDDV	000.487	000.013	005.034	001.710	000.166	000.152		000.028	01461.419
MC	002.294	000.003	000.833	013.467	000.027	000.024		000.054	00397.191

6.1.4 Demolition Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (0.00042 * BA * BH) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
0.00042: Emission Factor (lb/ft^3)
BA: Area of Building to be demolished (ft^2)
BH: Height of Building to be demolished (ft)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

VMT_{VE} = BA * BH * (1 / 27) * 0.25 * (1 / HC) * HT

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
BA: Area of Building being demolish (ft^2)
BH: Height of Building being demolish (ft)
(1 / 27): Conversion Factor cubic feet to cubic yards (1 yd^3 / 27 ft^3)
0.25: Volume reduction factor (material reduced by 75% to account for air space)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

6.2 Site Grading Phase

6.2.1 Site Grading Phase Timeline Assumptions

- Phase Start Date

Start Month: 10
Start Quarter: 1
Start Year: 2026

- Phase Duration

Number of Month: 2
Number of Days: 0

6.2.2 Site Grading Phase Assumptions

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- General Site Grading Information

Area of Site to be Graded (ft^2): 8364000
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

- Site Grading Default Settings

Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Graders Composite	1	8
Rubber Tired Dozers Composite	2	8
Scrapers Composite	2	8

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20
Average Hauling Truck Round Trip Commute (mile): 20

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

6.2.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

Graders Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0676	0.0014	0.3314	0.5695	0.0147	0.0147	0.0061	132.89
Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Scrapers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1495	0.0026	0.8387	0.7186	0.0334	0.0334	0.0134	262.81

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.283	000.002	000.227	003.198	000.008	000.007		000.023	00316.539
LDGT	000.345	000.003	000.388	004.368	000.010	000.009		000.024	00407.927
HDGV	000.683	000.005	001.056	015.279	000.021	000.019		000.044	00747.425
LDDV	000.121	000.003	000.134	002.351	000.004	000.004		000.008	00306.075
LDDT	000.257	000.004	000.380	004.000	000.007	000.006		000.008	00434.750
HDDV	000.487	000.013	005.034	001.710	000.166	000.152		000.028	01461.419
MC	002.294	000.003	000.833	013.467	000.027	000.024		000.054	00397.191

6.2.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)

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VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

1. General Information

- Action Location

Base: PORTLAND IAP
State: Oregon
County(s): Morrow; Umatilla
Regulatory Area(s): NOT IN A REGULATORY AREA

- Action Title: Military Operations on Urban Terrain Site Improvements and Construction of Additional Firebreaks at the Raymond F. Rees Training Center (RTC)

- Project Number/s (if applicable):

- Projected Action Start Date: 10 / 2022

- Action Purpose and Need:

The purpose of Component Action 1 is to provide Soldiers with more effective MOUT training opportunities reflective of real-world conditions. Improvements to the existing MOUT site, which has been built progressively since 2018, are needed to increase the training value of the site. The purpose of Component Action 2 is to minimize the risk of wildland fire and control the spread of fires on RTC in accordance with RTC's Integrated Wildland Fire Management Plan (IWFMP; OMD, 2020). Construction of additional firebreaks on RTC to augment firebreaks approved under the *Environmental Assessment for Expanded Operations at the Oregon Army National Guard's Camp Umatilla Oregon* (ORARNG, 2018a) is needed to meet the goals and objectives established in the IWFMP, which include reducing the probability of a fire moving into high value areas on RTC or off installation.

- Action Description:

This analysis is for the following component of the Proposed Action:
Construction of additional firebreaks to augment approved firebreaks on the RTC

- Point of Contact

Name: Caitlin Santinelli
Title: Scientist
Organization: Jacobs
Email: caitlin.santinelli@jacobs.com
Phone Number:

- Activity List:

Activity Type		Activity Title
2.	Construction / Demolition	Constructing Firebreaks - 2022
3.	Construction / Demolition	Constructing Firebreaks - 2023
4.	Construction / Demolition	Constructing Firebreaks - 2024
5.	Construction / Demolition	Constructing Firebreaks - 2025
6.	Construction / Demolition	Constructing Firebreaks - 2026

Emission factors and air emission estimating methods come from the United States Air Force's Air Emissions Guide for Air Force Stationary Sources, Air Emissions Guide for Air Force Mobile Sources, and Air Emissions Guide for Air Force Transitory Sources.

2. Construction / Demolition

2.1 General Information & Timeline Assumptions

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- Activity Location
County: Morrow; Umatilla
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Constructing Firebreaks - 2022

- Activity Description:
2022 widening/construction

- Activity Start Date
Start Month: 10
Start Month: 2022

- Activity End Date
Indefinite: False
End Month: 9
End Month: 2023

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.020326
SO_x	0.000272
NO_x	0.138271
CO	0.099418
PM 10	7.653156

Pollutant	Total Emissions (TONs)
PM 2.5	0.005478
Pb	0.000000
NH_3	0.000028
CO_2e	27.0

2.1 Site Grading Phase

2.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2022

- Phase Duration
Number of Month: 1
Number of Days: 0

2.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 768768
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

- Site Grading Default Settings
Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Rubber Tired Dozers Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20

Average Hauling Truck Round Trip Commute (mile): 20

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

2.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

Rubber Tired Dozers Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.1919	0.0024	1.3611	0.7352	0.0536	0.0536	0.0173	239.51
Tractors/Loaders/Backhoes Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.0383	0.0007	0.2301	0.3598	0.0095	0.0095	0.0034	66.884

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.283	000.002	000.227	003.198	000.008	000.007		000.023	00316.539
LDGT	000.345	000.003	000.388	004.368	000.010	000.009		000.024	00407.927
HDGV	000.683	000.005	001.056	015.279	000.021	000.019		000.044	00747.425
LDDV	000.121	000.003	000.134	002.351	000.004	000.004		000.008	00306.075
LDDT	000.257	000.004	000.380	004.000	000.007	000.006		000.008	00434.750
HDDV	000.487	000.013	005.034	001.710	000.166	000.152		000.028	01461.419
MC	002.294	000.003	000.833	013.467	000.027	000.024		000.054	00397.191

2.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)

2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

3. Construction / Demolition

3.1 General Information & Timeline Assumptions

- Activity Location
County: Morrow; Umatilla
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Constructing Firebreaks - 2023

- Activity Description:
2023 widening/construction

- Activity Start Date
Start Month: 10

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Start Month: 2023

- Activity End Date
Indefinite: False
End Month: 9
End Month: 2024

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.019390
SO_x	0.000272
NO_x	0.128201
CO	0.096992
PM 10	7.652662

Pollutant	Total Emissions (TONs)
PM 2.5	0.004984
Pb	0.000000
NH_3	0.000028
CO_2e	27.0

3.1 Site Grading Phase

3.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2023

- Phase Duration
Number of Month: 1
Number of Days: 0

3.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 768768
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

- Site Grading Default Settings
Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Rubber Tired Dozers Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20
Average Hauling Truck Round Trip Commute (mile): 20

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

3.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

Rubber Tired Dozers Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.1830	0.0024	1.2623	0.7077	0.0494	0.0494	0.0165	239.49
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0364	0.0007	0.2127	0.3593	0.0080	0.0080	0.0032	66.879

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.283	000.002	000.227	003.198	000.008	000.007		000.023	00316.539
LDGT	000.345	000.003	000.388	004.368	000.010	000.009		000.024	00407.927
HDGV	000.683	000.005	001.056	015.279	000.021	000.019		000.044	00747.425
LDDV	000.121	000.003	000.134	002.351	000.004	000.004		000.008	00306.075
LDDT	000.257	000.004	000.380	004.000	000.007	000.006		000.008	00434.750
HDDV	000.487	000.013	005.034	001.710	000.166	000.152		000.028	01461.419
MC	002.294	000.003	000.833	013.467	000.027	000.024		000.054	00397.191

3.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

4. Construction / Demolition

4.1 General Information & Timeline Assumptions

- Activity Location
County: Morrow; Umatilla
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Constructing Firebreaks - 2024

- Activity Description:
2024 widening/construction

- Activity Start Date
Start Month: 10
Start Month: 2024

- Activity End Date
Indefinite: False
End Month: 9
End Month: 2025

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.018532
SO_x	0.000272

Pollutant	Total Emissions (TONs)
PM 2.5	0.004534
Pb	0.000000

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NO_x	0.118884
CO	0.094851
PM 10	7.652212

NH_3	0.000028
CO_2e	27.0

4.1 Site Grading Phase

4.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2024

- Phase Duration
Number of Month: 1
Number of Days: 0

4.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 768768
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

- Site Grading Default Settings
Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Rubber Tired Dozers Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20
Average Hauling Truck Round Trip Commute (mile): 20

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

4.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

Rubber Tired Dozers Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e

Emission Factors	0.1747	0.0024	1.1695	0.6834	0.0454	0.0454	0.0157	239.47
Tractors/Loaders/Backhoes Composite								
	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**CH_4**	**CO_2e**
Emission Factors	0.0348	0.0007	0.1980	0.3589	0.0068	0.0068	0.0031	66.875

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	**SO_x**	**NO_x**	**CO**	**PM 10**	**PM 2.5**	**Pb**	**NH_3**	**CO_2e**
LDGV	000.283	000.002	000.227	003.198	000.008	000.007		000.023	00316.539
LDGT	000.345	000.003	000.388	004.368	000.010	000.009		000.024	00407.927
HDGV	000.683	000.005	001.056	015.279	000.021	000.019		000.044	00747.425
LDDV	000.121	000.003	000.134	002.351	000.004	000.004		000.008	00306.075
LDDT	000.257	000.004	000.380	004.000	000.007	000.006		000.008	00434.750
HDDV	000.487	000.013	005.034	001.710	000.166	000.152		000.028	01461.419
MC	002.294	000.003	000.833	013.467	000.027	000.024		000.054	00397.191

4.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
VMT_{WT} = WD * WT * 1.25 * NE

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

5. Construction / Demolition

5.1 General Information & Timeline Assumptions

- Activity Location
County: Morrow; Umatilla
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Constructing Firebreaks - 2025

- Activity Description:
2025 widening/construction

- Activity Start Date
Start Month: 10
Start Month: 2025

- Activity End Date
Indefinite: False
End Month: 9
End Month: 2026

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.017760
SO_x	0.000272
NO_x	0.110269
CO	0.092970
PM 10	7.651813

Pollutant	Total Emissions (TONs)
PM 2.5	0.004135
Pb	0.000000
NH_3	0.000028
CO_2e	27.0

5.1 Site Grading Phase

5.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date

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Start Month: 10
Start Quarter: 1
Start Year: 2025

- Phase Duration
Number of Month: 1
Number of Days: 0

5.1.2 Site Grading Phase Assumptions

- General Site Grading Information
Area of Site to be Graded (ft^2): 768768
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

- Site Grading Default Settings
Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Rubber Tired Dozers Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust
Average Hauling Truck Capacity (yd^3): 20
Average Hauling Truck Round Trip Commute (mile): 20

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips
Average Worker Round Trip Commute (mile): 20

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

5.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

Rubber Tired Dozers Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.283	000.002	000.227	003.198	000.008	000.007		000.023	00316.539
LDGT	000.345	000.003	000.388	004.368	000.010	000.009		000.024	00407.927
HDGV	000.683	000.005	001.056	015.279	000.021	000.019		000.044	00747.425

LDDV	000.121	000.003	000.134	002.351	000.004	000.004		000.008	00306.075
LDDT	000.257	000.004	000.380	004.000	000.007	000.006		000.008	00434.750
HDDV	000.487	000.013	005.034	001.710	000.166	000.152		000.028	01461.419
MC	002.294	000.003	000.833	013.467	000.027	000.024		000.054	00397.191

5.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase
$PM10_{FD} = (20 * ACRE * WD) / 2000$

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase
$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase
$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase
$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

6. Construction / Demolition

6.1 General Information & Timeline Assumptions

- Activity Location
County: Morrow; Umatilla
Regulatory Area(s): NOT IN A REGULATORY AREA

- Activity Title: Constructing Firebreaks - 2026

- Activity Description:
2026 widening/construction

- Activity Start Date
Start Month: 10
Start Month: 2026

- Activity End Date
Indefinite: False
End Month: 9
End Month: 2027

- Activity Emissions:

Pollutant	Total Emissions (TONs)
VOC	0.017760
SO_x	0.000272
NO_x	0.110269
CO	0.092970
PM 10	7.651813

Pollutant	Total Emissions (TONs)
PM 2.5	0.004135
Pb	0.000000
NH_3	0.000028
CO_2e	27.0

6.1 Site Grading Phase

6.1.1 Site Grading Phase Timeline Assumptions

- Phase Start Date
Start Month: 10
Start Quarter: 1
Start Year: 2026

- Phase Duration
Number of Month: 1
Number of Days: 0

6.1.2 Site Grading Phase Assumptions

DETAIL AIR CONFORMITY APPLICABILITY MODEL REPORT

- General Site Grading Information

Area of Site to be Graded (ft^2): 768768
Amount of Material to be Hauled On-Site (yd^3): 0
Amount of Material to be Hauled Off-Site (yd^3): 0

- Site Grading Default Settings

Default Settings Used: No
Average Day(s) worked per week: 5

- Construction Exhaust

Equipment Name	Number Of Equipment	Hours Per Day
Rubber Tired Dozers Composite	1	8
Tractors/Loaders/Backhoes Composite	1	8

- Vehicle Exhaust

Average Hauling Truck Capacity (yd^3): 20
Average Hauling Truck Round Trip Commute (mile): 20

- Vehicle Exhaust Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	0	0	0	0	0	100.00	0

- Worker Trips

Average Worker Round Trip Commute (mile): 20

- Worker Trips Vehicle Mixture (%)

	LDGV	LDGT	HDGV	LDDV	LDDT	HDDV	MC
POVs	50.00	50.00	0	0	0	0	0

6.1.3 Site Grading Phase Emission Factor(s)

- Construction Exhaust Emission Factors (lb/hour)

Rubber Tired Dozers Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.1671	0.0024	1.0824	0.6620	0.0418	0.0418	0.0150	239.45
Tractors/Loaders/Backhoes Composite								
	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	CH_4	CO_2e
Emission Factors	0.0335	0.0007	0.1857	0.3586	0.0058	0.0058	0.0030	66.872

- Vehicle Exhaust & Worker Trips Emission Factors (grams/mile)

	VOC	SO_x	NO_x	CO	PM 10	PM 2.5	Pb	NH_3	CO_2e
LDGV	000.283	000.002	000.227	003.198	000.008	000.007		000.023	00316.539
LDGT	000.345	000.003	000.388	004.368	000.010	000.009		000.024	00407.927
HDGV	000.683	000.005	001.056	015.279	000.021	000.019		000.044	00747.425
LDDV	000.121	000.003	000.134	002.351	000.004	000.004		000.008	00306.075
LDDT	000.257	000.004	000.380	004.000	000.007	000.006		000.008	00434.750
HDDV	000.487	000.013	005.034	001.710	000.166	000.152		000.028	01461.419
MC	002.294	000.003	000.833	013.467	000.027	000.024		000.054	00397.191

6.1.4 Site Grading Phase Formula(s)

- Fugitive Dust Emissions per Phase

$PM10_{FD}$ = (20 * ACRE * WD) / 2000

$PM10_{FD}$: Fugitive Dust PM 10 Emissions (TONs)
20: Conversion Factor Acre Day to pounds (20 lb / 1 Acre Day)
ACRE: Total acres (acres)
WD: Number of Total Work Days (days)
2000: Conversion Factor pounds to tons

- Construction Exhaust Emissions per Phase

$CEE_{POL} = (NE * WD * H * EF_{POL}) / 2000$

CEE_{POL}: Construction Exhaust Emissions (TONs)
NE: Number of Equipment
WD: Number of Total Work Days (days)
H: Hours Worked per Day (hours)
EF_{POL}: Emission Factor for Pollutant (lb/hour)
2000: Conversion Factor pounds to tons

- Vehicle Exhaust Emissions per Phase

$VMT_{VE} = (HA_{OnSite} + HA_{OffSite}) * (1 / HC) * HT$

VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
HA_{OnSite}: Amount of Material to be Hauled On-Site (yd^3)
$HA_{OffSite}$: Amount of Material to be Hauled Off-Site (yd^3)
HC: Average Hauling Truck Capacity (yd^3)
(1 / HC): Conversion Factor cubic yards to trips (1 trip / HC yd^3)
HT: Average Hauling Truck Round Trip Commute (mile/trip)

$V_{POL} = (VMT_{VE} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{VE}: Vehicle Exhaust Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Vehicle Exhaust On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

- Worker Trips Emissions per Phase

$VMT_{WT} = WD * WT * 1.25 * NE$

VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
WD: Number of Total Work Days (days)
WT: Average Worker Round Trip Commute (mile)
1.25: Conversion Factor Number of Construction Equipment to Number of Works
NE: Number of Construction Equipment

$V_{POL} = (VMT_{WT} * 0.002205 * EF_{POL} * VM) / 2000$

V_{POL}: Vehicle Emissions (TONs)
VMT_{WT}: Worker Trips Vehicle Miles Travel (miles)
0.002205: Conversion Factor grams to pounds
EF_{POL}: Emission Factor for Pollutant (grams/mile)
VM: Worker Trips On Road Vehicle Mixture (%)
2000: Conversion Factor pounds to tons

Appendix E
IPAC Report

United States Department of the Interior

FISH AND WILDLIFE SERVICE
Oregon Fish And Wildlife Office
2600 Southeast 98th Avenue, Suite 100
Portland, OR 97266-1398
Phone: (503) 231-6179 Fax: (503) 231-6195
https://www.fws.gov/oregonfwo/articles.cfm?id=149489416

In Reply Refer To: May 26, 2022
Project Code: 2022-0047784
Project Name: MOUT Site Improvements and Construction of Additional Firebreaks at Raymond F. Rees Training Center

Subject: List of threatened and endangered species that may occur in your proposed project location or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the U.S. Fish and Wildlife Service (Service) under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 *et seq.*). This is not a consultation.

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 *et seq.*), Federal agencies are required to utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Migratory Birds: In addition to responsibilities to protect threatened and endangered species under the Endangered Species Act (ESA), there are additional responsibilities under the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) to protect native birds from project-related impacts. Any activity, intentional or unintentional, resulting in take of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service (50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)). For more information regarding these Acts see https://www.fws.gov/birds/policies-and-regulations.php.

The MBTA has no provision for allowing take of migratory birds that may be unintentionally killed or injured by otherwise lawful activities. It is the responsibility of the project proponent to comply with these Acts by identifying potential impacts to migratory birds and eagles within applicable NEPA documents (when there is a federal nexus) or a Bird/Eagle Conservation Plan (when there is no federal nexus). Proponents should implement conservation measures to avoid or minimize the production of project-related stressors or minimize the exposure of birds and their resources to the project-related stressors. For more information on avian stressors and recommended conservation measures see https://www.fws.gov/birds/bird-enthusiasts/threats-to-birds.php.

In addition to MBTA and BGEPA, Executive Order 13186: *Responsibilities of Federal Agencies to Protect Migratory Birds*, obligates all Federal agencies that engage in or authorize activities that might affect migratory birds, to minimize those effects and encourage conservation measures that will improve bird populations. Executive Order 13186 provides for the protection of both migratory birds and migratory bird habitat. For information regarding the implementation of Executive Order 13186, please visit https://www.fws.gov/birds/policies-and-regulations/executive-orders/e0-13186.php.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Code in the header of

this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List
- USFWS National Wildlife Refuges and Fish Hatcheries
- Migratory Birds
- Wetlands

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Oregon Fish And Wildlife Office
2600 Southeast 98th Avenue, Suite 100
Portland, OR 97266-1398
(503) 231-6179

Project Summary

Project Code: 2022-0047784
Event Code: None
Project Name: MOUT Site Improvements and Construction of Additional Firebreaks at Raymond F. Rees Training Center
Project Type: Military Development
Project Description: Near-term infrastructure projects at Raymond F. Rees Training Center
Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/@45.8343325,-119.46826268357205,14z

Counties: Morrow and Umatilla counties, Oregon

Endangered Species Act Species

There is a total of 2 threatened, endangered, or candidate species on this species list.

Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries[1], as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

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1. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

Mammals

NAME	STATUS
Gray Wolf *Canis lupus* Population: U.S.A.: All of AL, AR, CA, CO, CT, DE, FL, GA, IA, IN, IL, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, ND, NE, NH, NJ, NV, NY, OH, OK, PA, RI, SC, SD, TN, TX, VA, VT, WI, and WV; and portions of AZ, NM, OR, UT, and WA. Mexico. There is **final** critical habitat for this species. The location of the critical habitat is not available. Species profile: https://ecos.fws.gov/ecp/species/4488	Endangered

Insects

NAME	STATUS
Monarch Butterfly *Danaus plexippus* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/9743	Candidate

Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

USFWS National Wildlife Refuge Lands And Fish Hatcheries

Any activity proposed on lands managed by the National Wildlife Refuge system must undergo a 'Compatibility Determination' conducted by the Refuge. Please contact the individual Refuges to discuss any questions or concerns.

THERE ARE NO REFUGE LANDS OR FISH HATCHERIES WITHIN YOUR PROJECT AREA.

Migratory Birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

---

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.
3. 50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

NAME	BREEDING SEASON
Bald Eagle *Haliaeetus leucocephalus* This is not a Bird of Conservation Concern (BCC) in this area, but warrants attention because of the Eagle Act or for potential susceptibilities in offshore areas from certain types of development or activities. https://ecos.fws.gov/ecp/species/1626	Breeds Dec 1 to Aug 31
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Aug 31

NAME	BREEDING SEASON
Evening Grosbeak *Coccothraustes vespertinus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 15 to Aug 10
Franklin's Gull *Leucophaeus pipixcan* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds May 1 to Jul 31
Lesser Yellowlegs *Tringa flavipes* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9679	Breeds elsewhere
Long-eared Owl *asio otus* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3631	Breeds Mar 1 to Jul 15
Marbled Godwit *Limosa fedoa* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Olive-sided Flycatcher *Contopus cooperi* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3914	Breeds May 20 to Aug 31

Probability Of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee

was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.

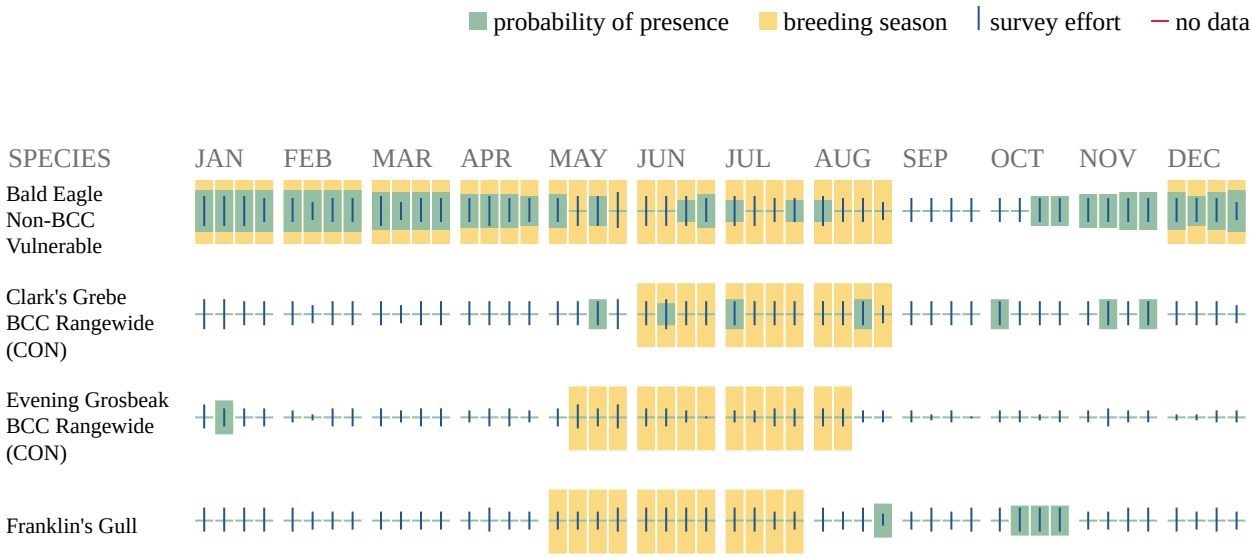
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.
3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

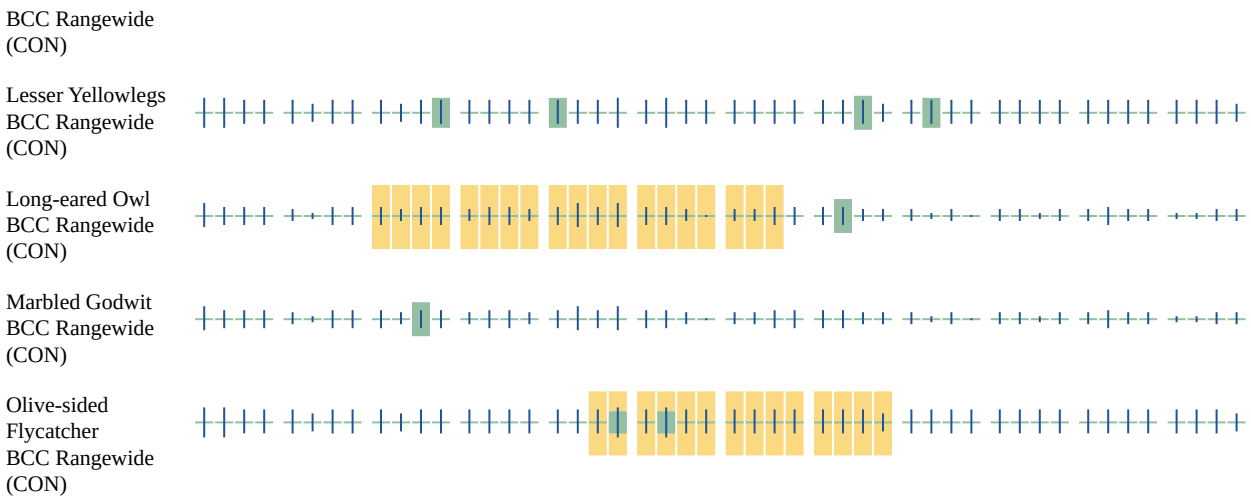
Breeding Season (▪)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.





Additional information can be found using the following links:

- Birds of Conservation Concern https://www.fws.gov/program/migratory-birds/species
- Measures for avoiding and minimizing impacts to birds https://www.fws.gov/library/collections/avoiding-and-minimizing-incidental-take-migratory-birds
- Nationwide conservation measures for birds https://www.fws.gov/sites/default/files/documents/nationwide-standard-conservation-measures.pdf

Migratory Birds FAQ

Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act

requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?
The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?
To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?
Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?
If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report
The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

Wetlands

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

Please note that the NWI data being shown may be out of date. We are currently working to update our NWI data set. We recommend you verify these results with a site visit to determine the actual extent of wetlands on site.

FRESHWATER EMERGENT WETLAND

- Palustrine

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