Environmental Assessment

for

Joseph State Airport

Obstruction Removal Project

Joseph, Oregon
July 2024

Lead Agency:

Federal Aviation Administration
Seattle Airports District Office
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Joseph State Airport

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Environmental Assessment

This Environmental Assessment becomes a federal document when evaluated and signed by the responsible FAA official.

Responsible FAA Official	Date

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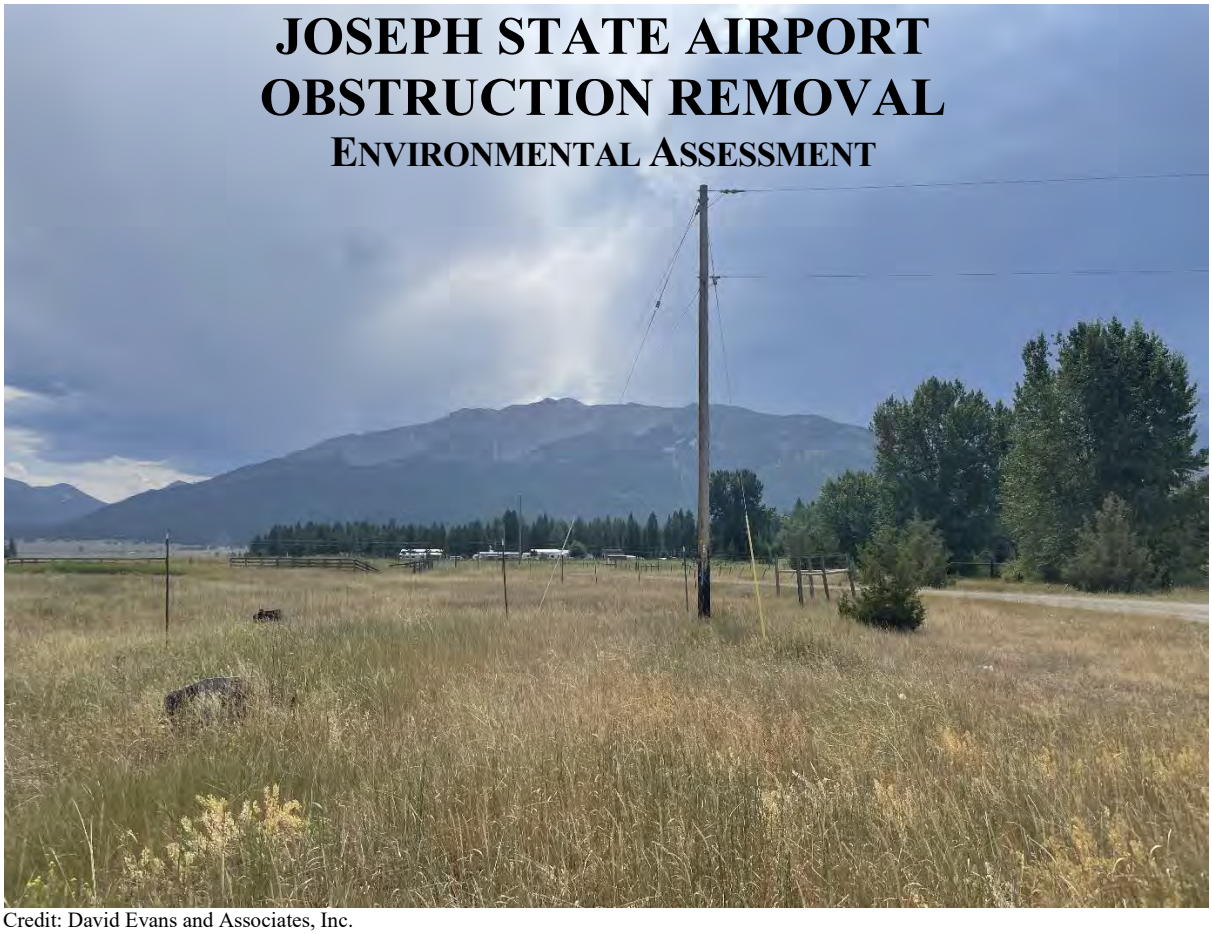
JOSEPH STATE AIRPORT
OBSTRUCTION REMOVAL
ENVIRONMENTAL ASSESSMENT



Credit: David Evans and Associates, Inc.

Prepared for:

OREGON DEPARTMENT OF AVIATION

And

FEDERAL AVIATION ADMINISTRATION

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July 2024

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ACRONYMS

AIP	Airport Improvement Program
APE	Area of Potential Effect
BA	Biological Assessment
BGEPA	Bald and Golden Eagle Protection Act
CAA	Clean Air Act
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CO	Carbon Monoxide
DEQ	Oregon Department of Environmental Quality
DNL	Day night average sound level
DPS	Distinct Population Segment
EA	Environmental Assessment
EFH	Essential Fish Habitat
EMS	Emergency Medical Services
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
GHG	Greenhouse Gas
GPS	Global Positioning System
HRA	Historical Research Associates
IAP	Instrument Approach Procedure
IPaC	Information for Planning and Consultation
JO	Job Order
LCIS	Legislative Commission on Indian Services
LWD	Large Woody Debris
MBTA	Migratory Bird Treaty Act
MIRLs	Medium Intensity Runway Lights
MEDEVAC	Medical Evacuation
NAAQS	National Ambient Air Quality Standards
NEPA	National Environmental Policy Act
NHPA	National Historic Preservation Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOx	Nitrogen Oxide
NPIAS	National Plan of Integrated Airport Systems
NRCS	Natural Resource Conservation Service
NRHP	National Register of Historic Places
O3	Ozone
OAR	Oregon Administrative Rules
ODAV	Oregon Department of Aviation
ODEQ	Oregon Department of Environmental Quality
ODFW	Oregon Department of Fish and Wildlife
OHWM	Ordinary High Water Mark
OR&N	Oregon Railroad and Navigation

ORBIC	Oregon Biodiversity Information Center
ORS	Oregon Revised Statutes
Pb	Lead
PCE	Primary Constituent Elements
PM	Particulate Matter
RCRA	Resource Conservation and Recovery Act
RNAV	Area Navigation
SHPO	State Historic Preservation Office
SOx	Sulfur Oxides
TERPS	U.S. Standard for Terminal Instrument Procedures
USC	United States Code
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
VFR	Visual Flight Rules

1.0 INTRODUCTION

This Environmental Assessment (EA) has been prepared for the Federal Aviation Administration (FAA) pursuant to the National Environmental Policy Act (NEPA) Implementing Instructions for Airport Actions – FAA Order 5050.4B and FAA Order 1050.1F - Environmetal Impacts: Policies and Procedures. This EA evaluates the potential impacts of the Oregon Department of Aviation's (ODAV) proposed Obstruction Removal Project (project) at the Joseph State Airport. The obstructions consist of nine trees (8 Engelmann spruce trees and 1 cottonwood tree) and one unlighted power pole. These obstructions must be removed to meet the requirements of the 20:1 approach glideslope to allow for a nighttime - inclement weather approach procedure.

Joseph State Airport is located in the northeast corner of Oregon near the town of Joseph in unincorporated Wallowa County at 83809 Airport Lane (see Figure 1). It is one of the 28 state-run airports owned by ODAV whose mission is to provide an integrated aviation system to serve the state. ODAV classifies Joseph State Airport as a Category IV airport. Category IV airports support primarily single-engine general aviation aircraft but are capable of accommodating smaller twin-engine general aircraft. It is also part of the FAA's National Plan of Integrated Airport Systems (NPIAS). The NPIAS lists existing and proposed airports that are significant to the air transportation system of the United States. NPIAS airports are eligible for federal funding though the FAA's Airport Improvement Program (AIP) which covers 90 percent of eligible costs for authorized airport planning and development projects. As a condition of receiving AIP grants, ODAV must accept all conditions and obligations stipulated under the FAA grant assurances.

The airport does not have an air traffic control tower. It is comprised of 106.4 acres and contains a 5,200-foot long by 60-foot wide paved runway (Runway 15/33), an adjoining taxiway, and MIRLs (medium intensity runway lights). The runway sits at an elevation of 4,062.8 feet above sea level. Joseph's runway has the ability to accommodate multi-engine piston and turbine aircraft, including business jets. Fourteen single-engine aircraft are based at the airport and 100LL fuel is available on site. There are 8 hangers, 19 aircraft tiedowns, and a pilot lounge located at the southern end of the airport.

Category IV airports also support local air transportation needs and special use aviation activities. General aviation activities supported by the Joseph State Airport includes flight training, personal flying, and fixed-wing medical evacuation flights on an as-needed basis. The airport is an important site for basing helicopters used to fight wildfires in Eastern Oregon during the summer.

2.0 PURPOSE AND NEED

The purpose of the project is to bring the Joseph State Airport into compliance with current FAA design standards and meet the objectives of the Airport Master Plan, as well as maintaining a safe operating environment for current and future users of the airport. One key objective of the master plan is to establish a nighttime instrument approach procedure so that

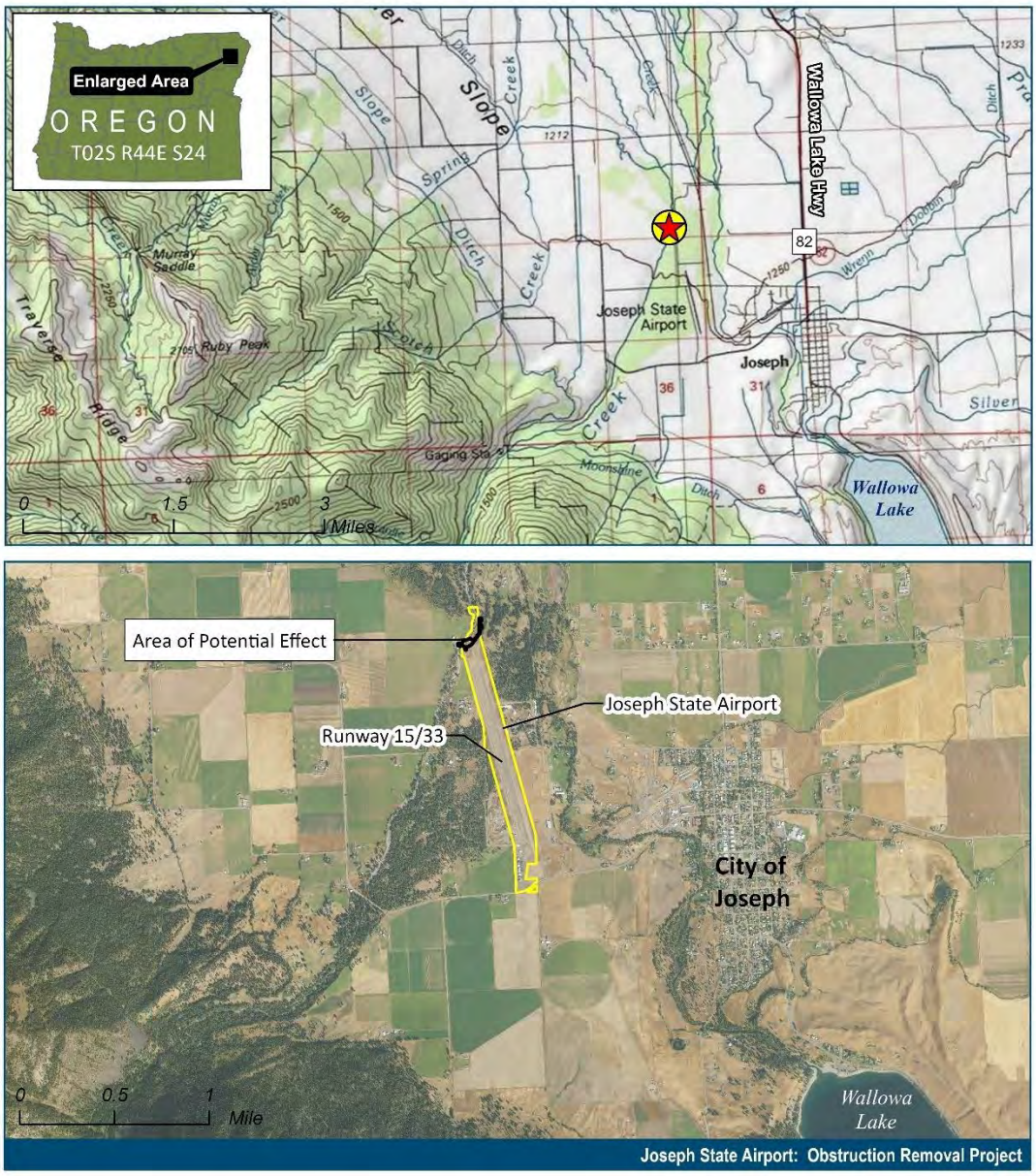

Figure 1
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the airport can serve critical air functions, such as medical evacuations, during inclement weather and at nighttime. The RNAV TERPS (U.S. Standard for Terminal Instrument Procedures) does not allow night or inclement weather operations when the visual segment of the 20:1 glide slope is penetrated by obstacles such as trees. This means that if anything is obstructing a pilot's vision as they approach Runway 15/33 at a 20:1 slope, the airport must correct the obstructions or limit airport landings to clear, daytime weather. Per the Airport Master Plan, there are nine trees that create obstructions to the 20:1 glide slope (see Figure 2). Additionally, there is one power pole that needs to be lighted to meet FAA design standards. Of the identified obstructions, one tree and the power pole are located on airport property, and eight obstruction trees are located on adjacent private property (see Figure 3).

Removal of the trees and adding a light to a power pole are needed to support the potential future development of nighttime and inclement weather instrument approach and departure capabilities at Joseph State Airport. Obstruction removal was identified as a critical need by ODAV, medical evacuation (MEDEVAC) operators, and local hospital officials as reported in the Airport Master Plan (Century West Engineering 2022). The airport currently operates under visual flight rules (VFR), as well as having a daytime instrument approach (in the fall of 2022, the FAA published a RNAV GPS-A Approach procedure for daytime use only), thus airport operations are limited to daytime conditions only and MEDEVAC access becomes restricted at night. Without this project, the trees will continue to grow taller and further restrict the approach surface and safety of airport users.

The airport is relatively remote, approximately 70 miles from the nearest interstate highway (I-84) and nearest hospital (see Figure 4). This contributes to an increased dependence by the Joseph community on the airport for activities such as medical patient transport. Wallowa County currently has two ambulances equipped for patient transport outside the immediate area. The round trip transit time from the local area to La Grande (the nearest hospital) averages 1.5 hours, but the time can increase significantly during the winter months. In addition to a longer transport time for patients, a single out-of-county ambulance transfer reduces the county-wide emergency medical service level to one ambulance.

2.1 Requested Federal Actions

The following actions are required prior to actual construction of the Proposed Action:

- Determination that environmental analysis prerequisites associated with any AIP funding applications for the Proposed Action have been fulfilled pursuant to 49 USC § 47101.
- Approval of an amendment to existing instrument flight procedures to establish a nighttime procedure by FAA Flight Procedure Standards Branch pursuant to Order 8260.19H CHG1, Flight Procedures and Airspace (JO 7930.2).

3.0 ALTERNATIVES

Two alternatives are considered in this EA – No Action and Proposed Action. There were no other practicable alternatives to the Proposed Action that would achieve the desired purpose and need for the project.

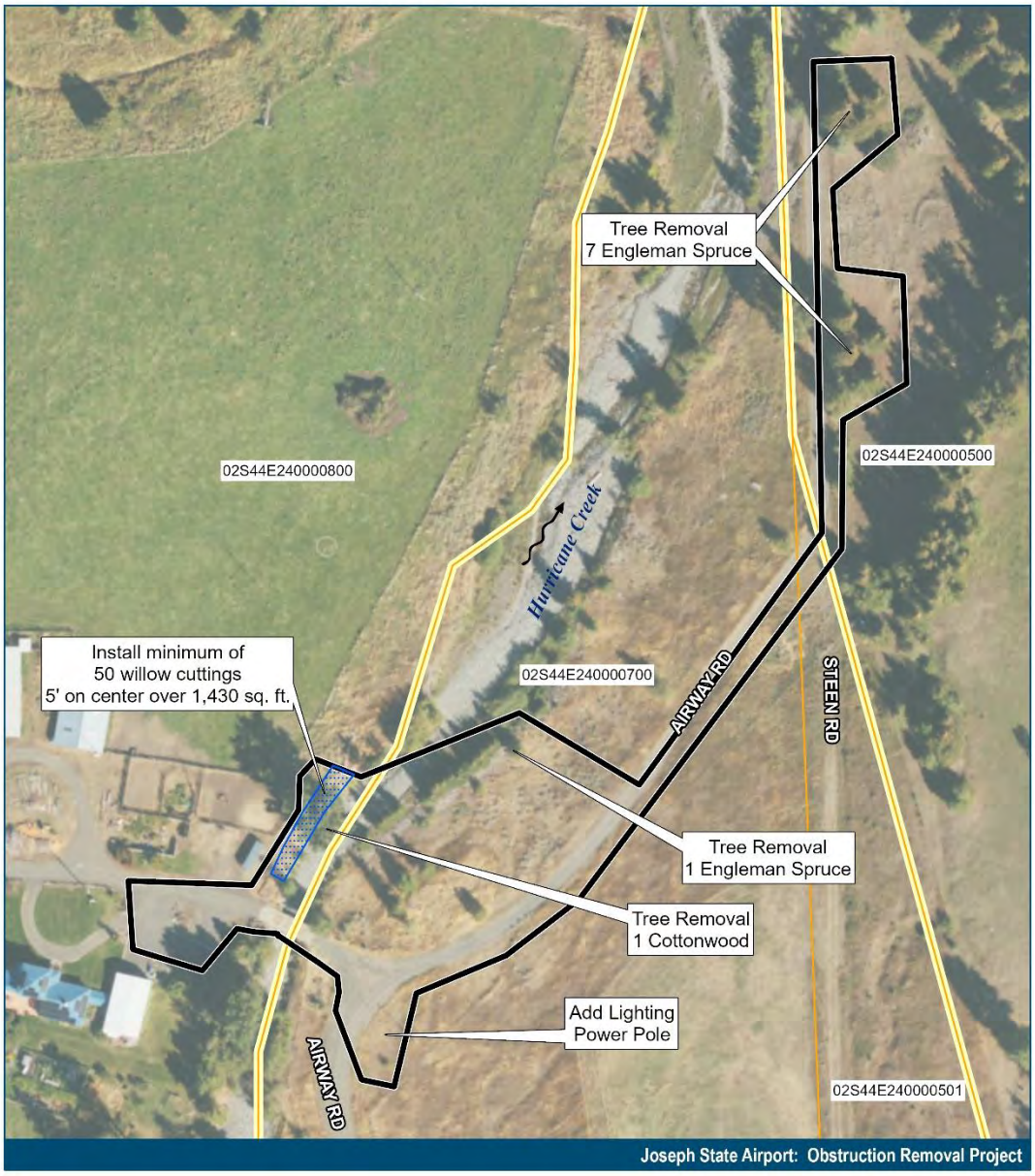

Figure 2
Proposed Action

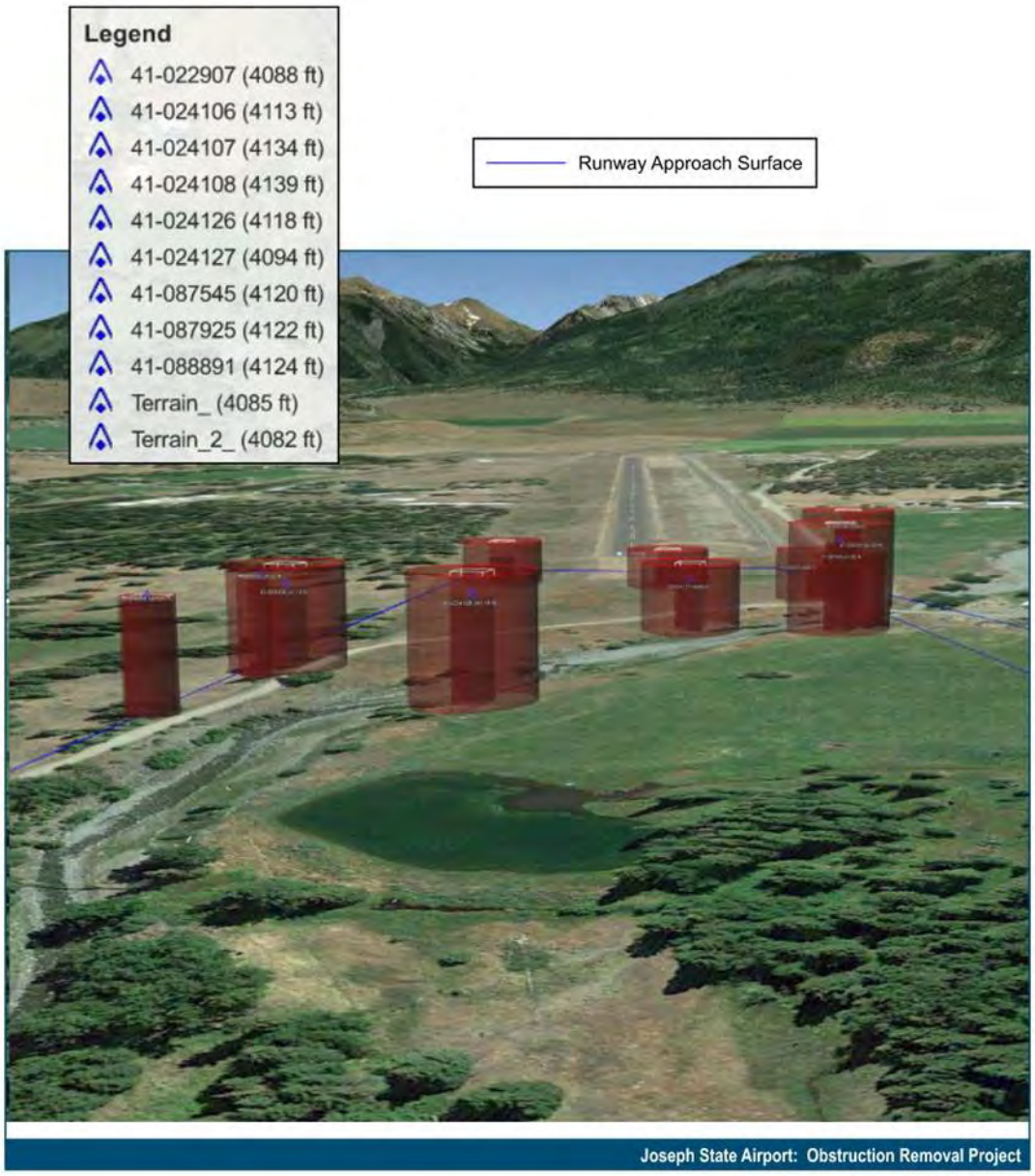

Figure 3
Runway Approach Surface – Obstruction Locations

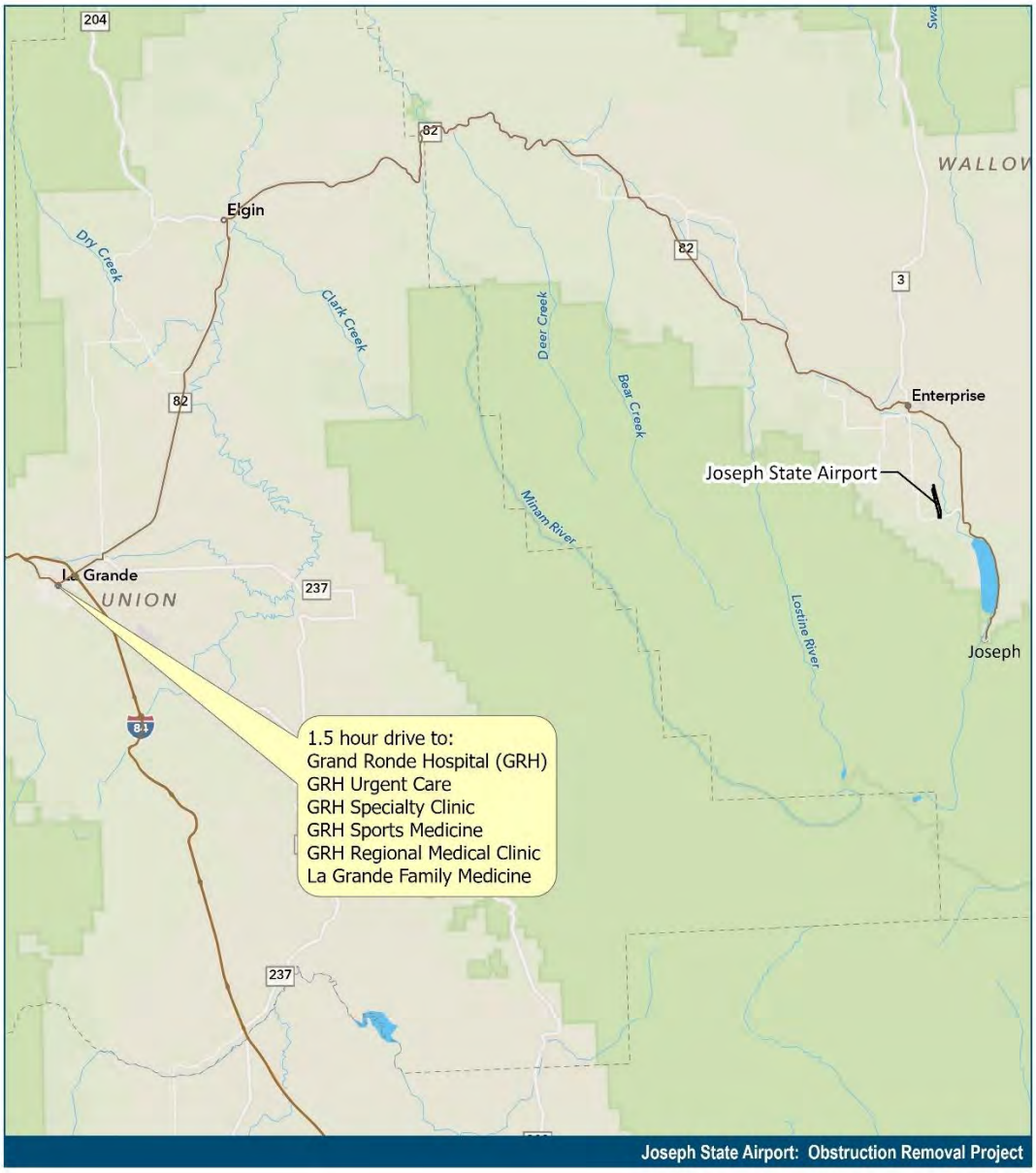

Figure 4
Airport Location in Relation to Nearest Medical Facilities

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3.1 NO ACTION

There will be no tree removal or other land disturbance under this alternative. The airport will continue to operate with limitations on nighttime and inclement weather landings. This alternative will avoid the environmental effects of tree cutting, but it would not meet the identified need for the project, which is a priority of the Airport Master Plan and local community.

3.2 PROPOSED ACTION

The Proposed Action is to establish a nighttime instrument flight procedure. This requires removing up to nine trees and adding a light to the top of a power pole located at the north end of Runway 15/33. The area of potential effect (APE) for the project encompasses 3.97 acres of airport and private property (see Figure 2). One tree proposed for removal and the power pole are located on airport property - the remaining eight trees are located on private property as described above.

Construction is proposed to occur during daylight hours over one week in the summer of 2026 with additional days possible for mitigation planting. On airport property, the one tree will be cut flush to the ground and timber debris will be removed from airport property. Trees on private property will be cut flush to the ground and logs will either be removed from the site or left in place in upland areas (depending on landowner preference).

The southern portion of the APE crosses Hurricane Creek over a small bridge. The project is not anticipated to affect Hurricane Creek. No impervious surfaces will be created as part of this project, and no work will occur within Hurricane Creek. Obstruction removal work proposed near the creek will occur during the summer when the creek is dry. No wetlands or roadside ditches are present within the APE. Stormwater drainage patterns will not be altered, and no grading or below-ground disturbance will occur (Note: willow planting holes will be hand dug – see Section 4.3.4.) Equipment and machinery is anticipated to include chainsaws, lifts, and haul trucks.

4.0 AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

4.1 RESOURCES NOT AFFECTED

The Proposed Action Alternative will not affect the environmental resources listed below:

Coastal Resources – The Proposed Action is not located within a coastal zone.

Department of Transportation Section 4(f) Resources – The area where tree removal is proposed does not include any Section 4(f) resources (i.e., wildlife or waterfowl refuges, historic or archaeological sites, or publicly-owned parks or recreation areas). There are several Section 4(f) recreation and historic sites in the general area including the Joseph Cemetery, Pioneer Cemetery and Joseph Rodeo Grounds, which will not be affected by the project. Joseph Cemetery and Joseph Rodeo Grounds are located approximately 1.4 miles and 1.16 miles away from the project site, respectively. The IOOF Pioneer Hurricane Creek Cemetery is located within the airport property boundaries at the southern end of the airport away from the project area.

Farmlands – The area of tree removal is located in land that is zoned "Exclusive Farm Use"; however, the Proposed Action will have no impact on farmlands since the project does not include land acquisition or conversion of agricultural land.

Land Use – The Proposed Action will not affect the existing land use.

Socioeconomics, Environmental Justice, and Children's Environmental Health and Safety Risks – The Proposed Action will not result in any demographic changes or cause any high and adverse disproportional impacts to low income or minority households. The project will not create any safety risks to children's health or safety. The availability of improved nighttime medical evacuation options will benefit the community.

4.2 AIR QUALITY

4.2.1 Regulatory Setting

In accordance with the Clean Air Act (CAA) Amendments of 1990, all areas within Oregon are designated with respect to compliance, or degree of noncompliance, with the National Ambient Air Quality Standards (NAAQS). The United States Environmental Protection Agency (USEPA) set NAAQS standards for carbon monoxide (CO), sulfur oxides (SOx), nitrogen oxides (NOx), ozone (O3), particulate matter with a diameter of ten microns or less (PM), and lead (Pb). These designations are either attainment, nonattainment, or unclassifiable. An area with air quality better than the NAAQS is designated as "attainment;" an area with air quality worse than the NAAQS is designated as "non-attainment." An area may be designated as "unclassifiable" when there is a lack of data to form a basis of attainment status.

4.2.2 Affected Environment

According to the Oregon Department of Environmental Quality (DEQ), Wallowa County is in attainment for all air quality pollutants regulated under the NAAQS. Generally, the air quality is the project area is good except for temporary periodic episodes of increased hazardous air pollutants cause by wildfires.

4.2.3 Environmental Consequences

No Action Alternative

There will be no effect on air quality from the No Action Alternative.

Proposed Action Alternative

Construction activities will generate air emissions (dust and vehicle exhaust) for a short period (not more than a week), but these would be considered *de minimis* due to the temporary nature of the emissions, limited soil disturbance, and the type of equipment necessary (chain saw for log removal and trucks to transport the logs).

There will be a slight increase in airplane emissions resulting from occasional night or inclement weather airplane traffic, but because these will be infrequent and result in negligible air impacts these will not affect the current air quality attainment status for the region.

4.2.4 Avoidance, Minimization, and Mitigation Measures

Care would be taken to minimize any vegetation removal or soil disturbance around the areas where the nine trees would be removed. Any disturbance in those areas will be allowed to naturally revegetate.

4.3 BIOLOGICAL RESOURCES

4.3.1 Regulatory Setting

The Endangered Species Act (ESA) of 1973 (16 USC § 1531 et seq.) provides a program for the conservation of threatened and endangered plants and animals and the habitats in which they are found. Federal agencies are required by Section 7 of the ESA, as amended, to ensure that any actions authorized, funded, or carried out by a federal agency do not jeopardize the continued existence of a federally listed threatened, endangered, or proposed species, or result in the destruction or adverse modification of designated critical habitat of a federally listed species. Species with a connection to marine environments, including anadromous salmonids, are regulated by the National Marine Fisheries Service (NMFS). Species that complete all life stages within the coastal boundaries of the USA are managed by the US Fish and Wildlife Service (USFWS).

The Oregon State Legislature enacted the state's own ESA in 1987. The Oregon Administrative Rules (OAR) for state threatened and endangered species (OAR 635-100-0100 to 0130) are intended to help implement the act. In accordance with these rules, species can be classified as "threatened" (any native species likely to become endangered within the foreseeable future throughout any significant part of its range within the state) or "endangered" (any native species determined to be in danger of extinction).

The Magnuson-Stevens Fishery Conservation and Management Act of 1976, as amended, was enacted, along with other goals, to promote the protection of Essential Fish Habitat (EFH) in the review of projects conducted under federal permits, licenses, or other authorities that affect or have the potential to affect EFH. This act requires all federal agencies to protect fisheries habitat from being lost due to disturbance and degradation and to consult with NMFS when an action has the potential to adversely affect EFH. EFH is defined as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" [16 USC § 1801(10)].

The USFWS also regulates species protected by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA) under the Fish and Wildlife Coordination Act. The MBTA provides that it is unlawful to pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird, or any part, nest, or egg or any such bird, unless regulatory exceptions apply or authorized under a permit. Under the MBTA "take" is defined as to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt these actions. The migratory bird species protected by the MBTA are numerous. The complete list is provided in 50 CFR 10.13.

The BGEPA prohibits the taking or possession of, and commerce in, bald and golden eagles, without a permit from the Secretary of the Interior (16 U.S.C. 668-668c). In addition to immediate impacts, the act also covers impacts that result from human-induced alterations initiated around a previously used nest site when eagles are not present, if, upon the eagle's

return, such alterations agitate or bother an eagle to a degree that interferes with or interrupts normal breeding, feeding, or sheltering habits, and causes injury, death, or nest abandonment.

4.3.2 Affected Environment

The project area is primarily disturbed sagebrush steppe habitat with small patches of trees such as Englemann spruce and cottonwood along Hurricane Creek and Airway Road (Airway Road parallels the west side of the airport). No wetlands are present in the project area. Hurricane Creek crosses under a small bridge at the south end of the project area.

Hurricane Creek originates in the Wallowa Mountains and is a tributary of the Wallowa River which drains ultimately to the Columbia River via the Grande Ronde and Snake Rivers. At the project site the streambed is incised approximately 6 feet below the surrounding landform. It is a 303d listed stream, that is marked as being in an "impaired" condition for aquatic life due to abnormal flow, degraded habitat, and sediment (DEQ 2023). Stream flows at the project area in the summer months functionally disappear due to upstream water diversions, leaving functional aquatic stream habitat available only during the cooler months.

To determine the potential occurrence of rare, threatened, and endangered plant and animal species, an Oregon Biodiversity Information Center (ORBIC) records search was conducted within a two-mile radius of the project area (ORBIC 2023). The ORBIC search was supplemented with a query of federally protected species and habitats within an approximately 40-square-mile area (approximately a 3.5-mile radius) surrounding the project area using the USFWS's Information for Planning and Consultation (IPaC) database (USFWS 2023). Species identified by the IPaC database have the potential to occur in the area; however, their presence is dependent on many factors such as suitable habitat and accommodating land uses. The results of the IPaC query include species protected under the federal ESA, MBTA, and BGEPA. The IPaC system also identifies critical habitat within the search area if present. Presence of fish species regulated by NMFS was verified using StreamNet Mapper (ODFW 2023) and the NMFS Protected Resources online GIS viewer (NMFS 2023).

The following species were identified in the IPaC report as potentially overlapping the area (USFWS 2023): gray wolf (*Canis lupus:* endangered), whitebark pine (*Pinus albicaulis*, threatened), Spalding's catchfly (*Silene spaldingii:* threatened), monarch butterfly (*Danaus plexippus:* candidate), and bull trout (*Salvelinus confluentus:*threatened). Two fish species formally listed by NMFS under authority of the ESA occur in Hurricane Creek at the project area: steelhead trout (*Oncorhynchus mykiss*; Snake River Distinct Population Segment [DPS]: threatened) (ODFW 2023) and Chinook salmon (*Oncorhynchus tshawytscha*; Snake River DPS: threatened) (NOAA 1993). Of these species, bull trout and steelhead trout, and Chinook salmon were assessed in a Biological Assessment (BA), which is included as Appendix A to this EA. The project will have no effect on gray wolf, whitebark pine, or monarch butterfly due to an absence of suitable habitat.

Designated critical habitat for summer steelhead and Chinook salmon is mapped within Hurricane Creek, including the APE and extending well upstream and downstream. In determining areas of critical habitat for steelhead and Chinook salmon NMFS developed a list of Primary Constituent Elements (PCEs), which are the physical and biological features

essential for the conservation of the species (NMFS 2017). These PCEs are related to water quality and temperature, access to habitats (e.g., absence of barriers), forage, habitat complexity, substrate composition, and flow rates. Due to the absence of water during summer months, suitable habitat for bull trout, steelhead, and Chinook salmon, and PCEs for steelhead and Chinook salmon critical habitat are not present and/or not accessible to the species during the summer, which is a period time that is critical for all life stages associated with these species (e.g., spawning, rearing, migration).

Spalding's catchfly was identified in the vicinity of the airport in 2014 and has the potential to occur in the APE. The APE was surveyed for Spalding's catchfly on August 3, 2023 and none were found. In general, the suitability of Spalding's catchfly habitat in the project area is significantly limited due to historical (i.e., land clearing, fill material) and ongoing disturbances (i.e., grazing, encroachment of nonnative vegetation).

Various migratory birds that are protected under the MBTA are likely to be present in all habitats within the APE. Bald eagles and golden eagles may also be in the APE or vicinity, though eagle nests were not observed during the August 2023 site visit (DEA 2023).

4.3.3 Environmental Consequences

No Action Alternative

Under the No Action Alternative, the proposed improvements will not take place. There will be no tree removal or ground-disturbing activity. As a result, there will be no potential for aquatic or terrestrial habitat impacts. Without this project the trees will continue to grow taller and further restrict the approach surface and safety of airport users. The No Action Alternative will have no impacts to biological resources beyond existing conditions.

Proposed Action

The project will remove a small number of trees, including one that provides habitat functions in the riparian area of Hurricane Creek, which is critical habitat for steelhead and Chinook salmon. All project-related construction will occur during the summer months when Hurricane Creek is dry in the project area and listed fish are not present. Construction will involve no in-water work and will result in no change to drainage patterns or to stormwater runoff from existing impervious surfaces.

The potential for indirect effects due to loss of stream shading, bank stabilization, and habitat complexity through long-term recruitment of LWD were assessed in the BA for the project (Appendix A). Of the trees proposed for removal, only one mature cottonwood tree provides these benefits to the stream. Leaving the cottonwood tree in place or replacing it with another tree that could eventually provide LWD recruitment is not possible due to height restrictions for air traffic safety. The potential loss of streambank stabilization and stream shading provided by the one tree will be offset by the installation of willow plantings. Once established, willows will be expected to increase bank stability in this reach and provide appropriate levels of overhanging shade to replace that lost by the removal of one cottonwood tree.

Spalding's catchfly habitat is significantly limited in the APE due to disturbances, and none were found in the APE during the August of 2023 survey. However, this species does not always surface each year making it difficult to be certain if plants are, or are not, present in

an area without multiple years of surveys. It is unlikely the species could be present within the APE; however, in order to reduce the chance that this project could affect individual plants, and the species as a whole if they were to be present, the project will employ the avoidance, minimization, and mitigation measures described in Section 4.2.4.

As a result of the actions presented and analyzed in the BA for the project, no significant impacts will occur and the following finding was made. The project **may affect but is not likely to adversely affect** Spalding's catchfly, bull trout, steelhead trout, Chinook salmon or designated critical habitat for steelhead or Chinook salmon.

Essential Fish Habitat for Chinook and coho salmon is present in the aquatic action area. The proposed avoidance, minimization, and mitigation measures described in Section 4.2.4 are adequate to prevent long-term adverse effects on EFH for Chinook and coho salmon. Therefore, **no adverse effect** to EFH will occur.

Trees proposed for removal may provide suitable nesting habitat for species protected under the MBTA. To comply with the MBTA and avoid take, tree removal should occur outside of the nesting season, which is generally from March 1st through August 31st each year. If this is not feasible, surveys can be conducted during the nesting season prior to tree removal to identify active nests and avoid direct harm to them should nests be identified. Disturbance of active nests is not allowed under the MBTA without a permit.

The USFWS provides recommendations for compliance with the Bald and Golden Eagle Protection Act that focus on buffers (e.g., distance, visual/habitat) and timing to avoid disturbing nesting eagles. Anything over 660 feet from a nest that does not include blasting or other extremely loud activities is unlikely to disturb nesting eagles and an incidental take permit is not recommended. Bald eagle or golden eagle nests are not present within 660 feet of the project.

Non-listed wildlife species that may inhabit the project area are relatively abundant within the vicinity. It is expected that any non-ESA listed wildlife disturbed by construction activities would move away from the area during construction and return following completion. Overall, no adverse impacts to non-listed wildlife species are expected.

4.3.4 Avoidance, Minimization, and Mitigation Measures

Measures implemented as part of the Proposed Action in order to avoid impacts to species protected by the ESA and MBTA will include the following:

Habitat Avoidance and Impact Minimization

- The project has been designed to minimize impacts by only removing trees that are within the 20:1 approach surface or can be reasonably anticipated to grow to that height within a few years.
- Work and staging areas will be confined to the minimum area needed to complete the work. Where feasible, contractors will store equipment and vehicles on the gravel road shoulder within the APE or on nearby gravel or paved areas outside of the project area.

- Trees will be cut flush to the ground, leaving stumps and roots in place to minimize ground disturbance.
- No in-water work will occur. All equipment and personnel will be required to operate from upland areas outside of the OHWM elevation.
- Tree removal should occur at the beginning of September to avoid the nesting season for birds protected under the MBTA (generally March 1 - August 31), and when ESA-listed fish are not expected to be present due to an anticipated lack of flow in the creek.
- If flow is present in the creek at the time of construction, an erosion control barrier should be placed between the cottonwood removal work area and the stream. The barrier may include silt fence, straw wattle, compost berm, or similar material, and should be installed accurately to create a surface flow barrier between work areas and the stream.
- Environmentally sensitive areas, including Hurricane Creek and undeveloped areas outside of the APE will be noted as "no work" areas on plans provided to potential bidders.
- Environmental impact minimization measures noted here will be included in bid documents, and briefings prior to tree removal and lighting work.

Mitigation

An area of approximately 1,433 square feet on the north side of the creek will be planted with a minimum of 50 willow (*Salix sp.*) stakes to offset potential effects due to removal of one tree from the Hurricane Creek riparian area. Stakes will be at least 36 inches long and planted on 5-foot centers. The planting holes will be hand dug. The proposed willow plantings will provide approximately 110 feet of stream bank stabilization (see Figure 2). The specific willow species may be any that is adapted to riparian zones in Wallowa County so long as the material is derived from stock with local genetics (e.g., eastern Washington, Oregon, or southwestern Idaho). Suitable species may include a mix of willow species (e.g., coyote, arroyo, lemmon's, or similar willow species) that do not exceed 30 feet in height when fully grown.

4.4 CLIMATE

4.4.1 Regulatory Setting

FAA Order 1050.1F Desk Reference on Climate states that a qualitative or quantitative assessment of greenhouse gas (GHG) emissions should be performed where the proposed action or alternative(s) would result in an increase in GHG emissions.. Additionally, the 2023 CEQ guidance requires that expected GHG emissions be put in the context of local considerations and existing emission reduction goals. The primary regulations related to climate are as follows:

- Clean Air Act: Regulates GHG emissions from on-road surface transportation vehicles and stationary power generation sources.
- Executive Order 13514 - Federal Leadership in Environmental Energy and Economic Performance: Makes it the policy of the United States that Federal agencies measure,

report, and reduce their GHG emissions from direct and indirect activities. Provides for development of the Technical Support Document that establishes reporting criteria for GHGs.

- Executive Order 13653 - Preparing the United States for the Impacts of Climate Change) Builds on a previously released (and since revoked) EO I3514 Federal Leadership in Environmental Energy, and Economics Performance to establish direction for federal agencies on how to improve on climate preparedness and reliance strategies.
- Executive Order 13693 - Planning for Federal Sustainability: Reaffirms the policy of the United States that Federal agencies measure, report, and reduce their GHG emissions from direct and indirect activities. Sets sustainability goals for all agencies to promote energy conservation, efficiency, and management while reducing energy consumption and GHG emissions. Builds on the adaptation and resiliency goals in EO 13693 to ensure agency operations and facilities prepare for impacts of climate change. Revokes EO 13514.
- Executive Order 13990 - Protecting Public Health and the Environment and Restoring Science to Tackle the Climate Crisis: Directs federal agencies to review and, if necessary, revise or suspend regulations and policies that may hinder environmental protection or public health. Establishes a review process to identify actions that may disproportionately affect disadvantaged communities. Directs federal agencies to ensure that their actions are based on the best available science and data.
- CEQ Interim Guidance on Consideration of Greenhouse Gas Emissions and Climate Change: Provides federal agencies a common approach for assessing the effects of GHG emissions and climate change resulting from proposed actions.

4.4.2 Affected Environment

Joseph Airport has a relatively dry mountainous climate with small amounts of precipitation through the year. May has the highest average amount of rain with 1.8 inches. The summer season averages less than an half inch of rain monthly. The temperature ranges between 19 to 83 degrees. Summers are warm and short, spanning from mid-June to mid-September with the hottest month in August. Annual snowfall averages about 36 inches.

One of the concerns surrounding climate is the generation of GHGs, which can trap heat in the atmosphere and contribute to climate change. There are several natural and human caused sources that produce GHG including the burning of fossil fuels such as gasoline, diesel, and avgas. GHG emissions such as carbon dioxide, carbon monoxide, nitrogen dioxide, and sulfur dioxide are associated with aviation uses and are produced by planes, helicopters, other on-airport equipment, and associated vehicle traffic.

4.4.3 Environmental Consequences

No Action Alternative

There will be no effect on GHGs and thus on climate under the No Action Alternative.

Proposed Action Alternative

During construction there will be a slight localized and temporary increase in GHG emissions from gas and diesel powered construction equipment (chain saws) and vehicle traffic (construction worker vehicles and haul trucks). These activities will not generate GHG emissions that exceed *de minimis* levels due to the short time the equipment and vehicles will be used.

The Proposed Action will not result in any appreciable emissions of GHG following construction due to the infrequency of additional night time or inclement weather flights. There will also be a *de minimis* effect on the current CO_2 storage capacity around the airport due to the loss of 9 trees.

4.4.4 Avoidance, Minimization, and Mitigation Measures

The loss of CO_2 storage capacity from removal of the 9 trees will be offset by the addition of willows along the streambank of Hurricane Creek.

4.5 CULTURAL RESOURCES

Information for this section is from the *Archaeological Investigations for the Joseph State Airport AIP Obstruction Removal Project* prepared by Historical Research Associates, Inc. (HRA 2023). This document is included in Appendix B.

4.5.1 Regulatory Setting

Under Section 106 of the National Historic Preservation Act (NHPA) of 1966 (Public Law 89-665) (16 USC 470), and under federal regulations governing the protection of historic and cultural resources (36 CFR 800), federal agencies must avoid adversely affecting properties that are included in or are eligible for inclusion in the National Register of Historic Places (NRHP). The NRHP identifies and documents districts, sites, buildings, structures, and objects that are significant in American history, architecture, archaeology, engineering, and culture. The area of analysis for Section 106 compliance is referred to as the Area of Potential Effect (APE), defined in 36 CFR 800.16 as "the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties. The APE is influenced by the scale and nature of an undertaking and may be different for different kinds of effects caused by the undertaking." The APE must include the location of all direct and reasonably foreseeable indirect effects, but is not required to be one contiguous area.

4.5.2 Affected Environment

According to the Oregon State Historic Preservation Office's (SHPO) Archaeological Records and Remote Access database there have been six cultural resource surveys within one mile of the project's APE and there is one documented above ground resource. No archaeological resources were found by the previous surveys, but it was noted that there is potential for subsurface cultural deposits.

The documented site (35WA1487) is a segment of the Joseph Branch Oregon Railroad and Navigation (OR&N) trunk line. The segment is 7 miles long, extending from Enterprise to Joseph, Oregon. The site has been previously recommended as eligible for the National

Register of Historic Places (NRHP) as a contributing feature to the larger Joseph Branch of the OR&N railroad.

Based on background research, HRA determined that there was a high probability for encountering both precontact and historic-period archaeological resources within the APE. If encountered, precontact archaeological deposits might include lithic debitage scatters, isolated lithic artifacts, or possibly stacked rock features. Extensive and continuous use by non-Indigenous people created a strong possibility for encountering historic-period archaeological deposits. If encountered, historic-period deposits might include glass, ceramic, and metal household refuse, or architectural debris.

The APE for the field survey encompassed trees proposed for removal, project access, and potential staging areas totaling 3.97 acres. The APE primarily consists of a level terrace landform east of Hurricane Creek. HRA conducted a field survey consisting of a combination of pedestrian survey and subsurface shovel probes. The survey plan was reviewed and approved by the Confederated Tribes of the Umatilla Indian Reservation and Nez Perce Tribe.

HRA archaeologists first conducted the pedestrian survey for the entire 3.97 acres and intensively examined the ground surface within the APE along transects spaced no more than 20 meters (m) apart. They inspected all surface exposures, including rodent backdirt piles, areas of erosion, and cut banks for archaeological material. Throughout the surveyed area, they recorded notes on topographic setting, surface visibility, vegetation, and land disturbance and took overview photographs.

Concrete rubble and architectural debris were identified within the APE along the west bank of Hurricane Creek. The landowner indicated that the previous owner demolished a nearby milking parlor in the 1990s (formerly located outside the APE) and placed some of the demolition debris along Hurricane Creek to reinforce the eroding stream bank. A dairy head catch was identified alongside other structural refuse, which reinforces the landowner interview. Aerial photos show that the milking parlor was removed sometime between 1987 and 1994. Although the former milking parlor was possibly constructed during the historic period, the debris was deposited between 29 and 36 years ago, so it does not meet the minimum age requirement for an archaeological site.

HRA excavated nine subsurface shovel probes immediately adjacent to trees proposed for removal on private property. Subsurface survey was not completed at the one tree proposed for removal on public lands owned by ODAV; however, pedestrian survey transects were walked across ODAV lands. Shovel probes encountered wire nails, wire, concrete, colorless glass, and plastic. These materials were consistent with architectural debris found scattered across the surface within this portion of the APE. No buried archaeological resources were encountered during the subsurface survey.

4.5.3 Environmental Consequences

No Action Alternative

Under the No Action Alternative there will be no ground disturbance of any kind. Any unknown subsurface cultural/archaeological materials existing in the project area will not be disturbed.

Proposed Action Alternative

The cultural field survey did not encounter any archaeological or cultural resources during the subsurface survey. Thus, it is unlikely that the proposed action will impact cultural or archaeological materials because no ground disturbance is proposed associated with the tree removal considering that once trees are cut the tree stumps will remain. The staging area if necessary will likely be located on the existing gravel Airway Road where the surface is already disturbed. A very small amount of soil disturbance will result from hand digging holes to plant the willow trees on the streambank, but this is unlikely to disturb any subsurface archaeological materials due to the negative results found during the field survey of the exposed streambank planting area. The project will have **no adverse effect** on historic or archaeological resources.

4.5.4 Avoidance, Minimization, and Mitigation Measures

In the event that suspected archaeological materials are identified during construction activities anywhere within the APE, construction personnel should immediately halt work and notify the project manager. The project manager should consult with SHPO to determine the next steps. Oregon Law protects Native American graves and associated objects (ORS 97.740–97.760) and archaeological objects and sites (ORS 358.905–358.955). These statutes prohibit intentional damage to Native American graves and cairns and prohibit damage to archaeological sites and objects.

Pursuant to ORS 97.745(4), if human remains are encountered, the project manager or professional archaeologist will contact the Oregon State Police, State Archaeologist at the Oregon SHPO, Oregon Legislative Commission on Indian Services (LCIS), and appropriate federally recognized Tribes (following determination of the appropriate Tribes by the LCIS). Protocols outlined in the Tribal Position Paper on the Treatment of Human Remains prepared by the Government-to-Government Cultural Resource Cluster Group in September 2006 should be followed (see Appendix B). Tribes that may have ancestral burial sites in the region include the Nez Perce Tribe and the Confederated Tribes of the Umatilla Indian Reservation.

4.6 HAZARDOUS MATERIALS, SOLID WASTE, AND POLLUTION PREVENTION

4.6.1 Regulatory Setting

The Federal Toxic Substances Control Act and the Resource Conservation and Recovery Act of 1976 (RCRA) established a program administered by USEPA to regulate the generation, transportation, treatment, storage, and disposal of hazardous waste. RCRA was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the "cradle to grave" system of regulating hazardous wastes. In Oregon, DEQ regulates hazardous materials.

4.6.2 Affected Environment

The project study area does not contain any documented hazardous waste sites. There was one reported leaking underground storage tank at the Joseph State Airport in 1995, but the site was subsequently remediated and DEQ issued a letter in 2006 that No Further Action was required and the incident is now closed (Century West 2022).

There is a solid waste transfer station located ¾ of a mile west of the City of Joseph next to the Joseph Airport. Wallowa County collects solid waste, which is disposed at the Ant Hill Landfill. The County also provides recycling services.

4.6.3 Environmental Consequences

No Action Alternative

The No Action Alternative will not generate any hazardous or solid waste.

Proposed Action Alternatives

Although unlikely, it may be necessary to fuel or maintain vehicles or construction equipment on-site during construction. Thus oil, gasoline, diesel, lubricants, or solvents may be used. It is possible for small leaks or spills to occur from fueling or operation of construction equipment and vehicles. It is not anticipated that these materials will be stored in any quantity on-site. Fueling or maintenance activities will generally occur in an area with the appropriate spill control measures in place or away from any sensitive areas (the contractor will determine the location of a staging area if necessary in the vicinity of the project). There will be no need for storing or using hazardous materials once construction was completed. The completed project will not produce any solid waste.

4.6.4 Avoidance, Minimization, and Mitigation Measures

The contractor will be required to comply with all applicable health and safety regulations, including those found in the State of Oregon Department of Occupational Safety and Health Standards (Oregon Safe Employment Act) Chapter 437 Rules. The contractor will also implement construction best management practices for reducing or controlling any environmental health hazards, which may include some or all of the following measures:

- If necessary, specific areas will be designated for equipment repair and refueling, which will include measures for containing spills.
- Any contaminated soil or groundwater encountered during construction will be collected and disposed of in accordance with state and federal regulations.

The contractor will be required to have materials on-site, such as absorbent pads, to ensure a spill is contained immediately.

4.7 NATURAL RESOURCES AND ENERGY SUPPLY

4.7.1 Regulatory Setting

It is the policy of the FAA (as discussed in FAA Order 1053.1, Energy and Water Management Program for FAA Buildings and Facilities) consistent with NEPA and CEQ Regulations, to encourage the development of FAA facilities that exemplify the highest standards of design, including sustainability principles. FAA Order 1050.1F does not establish a significance threshold for natural resources or energy supply. Normally, a significant impact would be

considered when construction or operation of a proposed action causes the demand for limited consumable natural resources and energy to exceed available or future supplies.

4.7.2 Affected Environment

The airport uses energy resources such as aviation fuel, diesel fuel, gasoline, and electricity to provide for aviation operations and maintenance. Airport construction projects will typically use some natural resources such as sand, gravel, water, wood, concrete, asphalt, and steel depending on the project.

4.7.3 Environmental Consequences

No Action Alternative

The No Action Alternative will not consume energy or natural resources.

Proposed Action Alternative

Construction equipment such as chain saws and vehicles such as haul trucks will require a short-term and minor use of gasoline and diesel. There will be a need to use a limited amount of soil to amend the planting holes for the willow trees. The Proposed Action will not significantly change the long term consumption or demand for natural resources or energy.

4.7.4 Avoidance, Minimization, and Mitigation Measures

Due to the minimal effect on energy or natural resource consumption, no measures are proposed.

4.8 NOISE AND NOISE COMPATIBLE LAND USES

4.8.1 Regulatory Setting

The FAA has laid out criteria in both FAA Orders 1050.1F and 5050.4B regarding the environmental impact category that involves noise and noise-compatible land use. Section 11.1.2 of the FAA Order 1050.1F Desk Reference outlines proposed actions not requiring a noise analysis as projects involving Design Group I and II airplanes (wingspan less than 79 feet) in Approach Categories A through D (landing speed less than 166 knots) operating at airports whose forecast operations in the period covered by the NEPA document do not exceed 90,000 annual propeller operations (247 average daily operations) or 700 annual jet operations (2 average daily operations) (FAA 2024).

If a proposed action will require further noise analysis, per the guidance described above, then the determination of significance must be obtained using noise contours and local land use information. Chapter 11.3 of the Desk Reference states that significant impacts would occur if the proposed action increases noise levels by DNL 1.5 dB or more for an area designated as a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB, due to an increase of DNL 1.5 dB or greater.

4.8.2 Affected Environment

The Joseph State Airport Master Plan indicated that annual aircraft operations were approximately 12 operations daily, which is well below the threshold of 247 operations. The

airport has relatively low levels of flight activity, so low that the airport falls below the FAA threshold for noise analysis, thus there are no developed noise contours for the airport.

4.8.3 Environmental Consequences

No Action Alternative

There will be no change in the ambient noise levels under the No Action Alternative.

Proposed Action Alternative

Construction will produce noise of short duration occurring over 1-3 days and be very intermittent (most of the loudest sounds will be produced during actual tree cutting for nine trees, which will only take a few minutes per tree). There is only one residence in the area that could be affected (the house located across the Hurricane Creek bridge from the power pole proposed for lighting). Due to the low level of construction activity and minimal duration of noise, the Proposed Action is not anticipated to create any significant noise impacts.

The Proposed Action will allow for more flights generating noise during nighttime or inclement weather conditions. However, these flights will be rare and generally only occurring during emergency situations. Thus, noise from these flights is not considered to exceed a *de minimis* effect.

4.8.4 Avoidance, Minimization, and Mitigation Measures

The contractor will use well maintained equipment and vehicles and limit the noise generating activities as much as practical during construction.

4.9 VISUAL EFFECTS

4.9.1 Regulatory Setting

Although there are no special purpose laws or requirements specific to light emissions or visual effects, some visual resources are protected under Federal, state, or local regulations. Some of these protected visual resources include but are not limited to scenic roadways, Wild and Scenic Rivers, National Scenic Areas, scenic easements, trails protected under the National Trails System Act, and biological resources (impacts to sensitive wildlife species). Additional laws protecting resources that may be affected by visual effects include Section 106 of the NHPA, Section 4(f) of the DOT Act, and the Coastal Zone Management Act.

4.9.2 Affected Environment

The airport is surrounded by fairly flat land that is characterized by agricultural fields interspersed with areas of conifers such as Englemann spruce and native vegetation such as cottonwoods and sagebrush. Views from the airport are expansive with middle ground and distant views of the forested Wallowa Mountains. Views of the project site show Hurricane Creek, which is dry during the summer, a residence near the unlighted power pole with outbuildings and an agricultural field, as well as natural vegetation.

4.9.3 Environmental Consequences

No Action Alternative

The No Action Alternative will not change the visual environment around the project site.

Proposed Action Alternative

The Proposed Action will have a slight visual effect from the tree removal at ground level. However, due to the limited number of trees proposed for removal and the existence of numerous trees around the study area this effect will be minimal. Views of the site will be slightly altered due to the change in tree cover from removing the Englemann spruce and cottonwood trees and planting willows.

4.9.4 Avoidance, Minimization, and Mitigation Measures

There will be some visual mitigation for the loss of trees by planting willows in the mitigation area on the bank of Hurricane Creek.

4.10 WATER RESOURCES

4.10.1 Regulatory Setting

The regulatory setting for water resources encompasses a varied and large number of statues, regulations, or other requirements for protection of surface water, groundwater, water quality, wetlands, floodplains, and wild and scenic rivers. These include the Clean Water Act, Fish and Wildlife Coordination Act, DOT Order 5660.1A - Preservation of the Nation's Wetlands, Executive Order 11990 – Protection of Wetlands, Executive Order 11988 – Floodplain Management, DOT Order 5650.2 – Floodplain Management and Protection, National Flood Insurance Act, Rivers and Harbors Act, Safe Drinking Water Act, and Wild and Scenic Rivers Act. There are also a number of state and local statues aimed at protecting water resources.

4.10.2 Affected Environment

Hurricane Creek is the only surface water in the project vicinity and crosses to the north and west of Runway 15/33. It originates in the Eagle Cap Wilderness and flows approximately 18 miles and enters the Wallowa River at River Mile 41.3 near the Town of Enterprise. It drains an area of approximately 29.6 square miles. The creek experiences low summer flows and becomes dry due to irrigation withdrawals. Because of the dewatering, the creek exhibits excess fine sediments. It is a listed 303d water that is designated as being in an "impaired" condition for aquatic life due to abnormal flow, degraded habitat, and sediment (DEQ 2023). The streambed is incised approximately 6 feet below the surrounding land and varies in width from 20 to 50 feet across at the project site. FEMA mapping shows that there is a very narrow floodplain mapped along Hurricane Creek.

There are no designated wild and scenic rivers or wetlands in the project area.

4.10.3 Environmental Consequences

No Action Alternative

The No Action Alternative will have no adverse impacts on water quality, surface water, floodplains, wetlands, groundwater, or wild and scenic rivers.

Proposed Action Alternative

As stated above, there are no wetlands or wild and scenic rivers in the project area. The Proposed Action will not impact water quality, surface water, floodplains, wetlands, or groundwater. There is one tree proposed for removal that provides minimal shading for Hurricane Creek. However, the creek is dry through the summer when shading will be most beneficial to water temperatures in the creek. Surface water will not be affected as no in-water work is proposed or work below the ordinary high water mark, and tree removal will occur during the summer when the creek is dry. Note: Impacts to stream functions/organisms are discussed in the Biological Resources section (Section 4.3).

The Proposed Action will not impact the narrow floodplain associated with Hurricane Creek. Three trees will be cut that are in the floodplain; however, the tree stumps will remain and the project will not place any fill in the floodplain or otherwise change the existing floodplain storage capacity.

The proposed work will not change any drainage patterns or increase stormwater runoff. No impervious surfaces will be created and no changes made that will affect stormwater infiltration, groundwater capacity, or groundwater recharge.

4.10.4 Avoidance, Minimization, and Mitigation Measures

The project will compensate for the loss of shading resulting from the proposed tree removal by planting willows along the creek bank (the planting pits will be hand dug). These plantings will provide shading, as well as streambank reinforcement (erosion prevention) and habitat/cover for aquatic organisms in the creek (see Figure 2).

4.11 CUMULATIVE IMPACTS

Cumulative impacts are defined as the effects of past, present, and reasonably foreseeable future federal, state, local, or private activities that occur in the vicinity of the project area. Generally, FAA uses a time frame extending five to seven years prior to and following a project when considering cumulative impacts. Past, present, and reasonably foreseeable projects within the project area vicinity are discussed in the following section.

Past Projects: While there have been past projects at the airport (rehabilitating the apron, runway, and taxiway in 2011, installing perimeter fencing in 2013 and 2014, and removing some obstructions in 2013 and 2014), there have been no new projects on the airport or surrounding property in the past 10 years.

Ongoing Projects: Currently, the only ongoing project is the Proposed Action alternative addressed in this EA. There are no other projects occurring in the immediate surrounding area.

Reasonably Foreseeable Future Projects: There are a number of proposed future projects outlined in the Airport Master Plan (Century West 2022). These are listed below but some of these may not be undertaken in the 5-7 year timeframe due to funding. There are no known future projects by non-FAA entities that are proposed in the surrounding areas.

Airside/Landside Facilities

- Existing runway lighting systems will be replaced/upgraded at the end of their useful lives;
- Parallel taxiway object free area grading minor terrain penetrations (north section);
- Periodic pavement maintenance (e.g., crack-fill, sealcoats, etc.) and rehabilitation (e.g., overlay) based on condition;
- Pavement removal adjacent to aircraft fueling apron and parallel taxiway to address potential runway incursion (e.g., meet current FAA standards); and
- A long-term aviation use development reserve is identified off airport property, on the east side of the runway. This area has been identified as compatible with aviation-related uses (aircraft hangars, parking, etc.) in the event that future aviation-related development opportunities are identified.

South Apron Area

- South Hangar Area Site Preparation:
  - Remove existing mobile home and septic drain field
  - Site preparation (grading/fill)
  - Modify fencing and gates
  - Reconfigured vehicle access and parking; new access connection to Airway Road
  - Relocated/upgraded (electronic) south vehicle gate and pedestrian gates
- Infill new hangars (7 conventional hangars proposed)
- Replace existing pilot building
- Snow Removal Equipment building co-located with new pilot building
- Expansion/reconfiguration of existing aircraft apron
- Expanded aircraft fueling apron
- Modified access to parallel taxiway at Taxiway A1 (pavement removal and north expansion of apron)

West Hangar Area

- Property acquisition (1.9 acres +/-) City of Joseph-owned land
- New taxi lane connection to west parallel taxiway
- New hangars (4 conventional hangars and 1 8-unit T-hangar proposed)
- New vehicle parking
- New fencing and vehicle gates
- Relocate existing City solid waste recycling station within existing City-owned parcel
- Preserve (relocate) existing access to City-owned parcel, including the recycling station and gravel pit extraction.

4.11.1 Biological Resources

The future aviation development reserve would replace the existing land use, which is generally agriculture. Other development would replace areas on the airport property that have mostly been disturbed and do not provide habitat for wildlife. The project will cause a slight reduction in habitat due to loss of the 9 trees. However, the project will mitigate this loss by planting willows. Thus, the cumulative effect from this project will be very minimal since the willows will provide replacement habitat for wildlife and shading for the creek.

4.11.2 Cultural Resources

There are several ground disturbing projects listed above, for example, development of the future aviation area off airport property (property acquisition), minor terrain grading, and South Apron grading, that could potentially result in cumulative effects on archaeological resources due to new soil disturbance. As described in Section 4.6, the cultural survey noted that there is potential for subsurface cultural deposits in the general vicinity of the airport and project site. The Proposed Action is not anticipated to disturb any cultural artifacts, thus there should be no cumulative effect on cultural resources from the project.

4.11.3 Noise

Future development proposed in the Airport Master Plan and described above would result in the ability to base additional aircraft at the airport and increase associated aircraft and vehicle traffic, as well as other airport operations that generate noise. It is unlikely that the airport would reach the level of operations requiring the development of noise contours in the foreseeable future. Operation of the Proposed Action will only add occasional noise events that have a minimal periodic cumulative effect on noise.

5.0 AGENCY COORDINATION, TRIBAL CONSULTATION, AND PUBLIC OUTREACH

This EA is being published for public, agency, and tribal comment and will be circulated for 30 days. The Airport Master Plan, which included the proposed obstruction removal project underwent public outreach that included two open house meetings, a web online meeting by the Oregon Department of Aviation, five open Public Advisory Committee meetings, and a project website (Century West 2022).

Tribal Coordination

The Nez Perce Tribe, the Warm Springs Tribe, the Confederated Tribes of the Colville Reservation, and the Confederated Tribes of the Umatilla Indian Reservation were contacted regarding concurrence on the proposed methods for investigating surface and subsurface soils in the APE for the cultural resources report. No comments were received from the Warm Springs Tribe or the Confederated Tribes of the Umatilla Indian Reservation.

The completed cultural resources report was forwarded to the tribes for their information. The Colville Tribe expressed some concern that the report didn't include a reference to the Wallowa Reserve, but indicated that it wasn't necessary in this case for a simple Section 106

consultation. FAA contacted the Nez Perce Tribe to inform them that there would be some planting of willows for mitigation and they asked for more information regarding these plantings. They also requested that future consultation include noticing the Tribal Chair, as well as staff in their Cultural Resources Program. Following the correspondence described above, both the Nez Perce Tribe and the Confederated Tribes of the Colville Reservation sent messages concurring with FAA finding of *No Adverse Effect* on historic, archaeological, or cultural resources– see Appendix C.

State Historic Preservation Office (SHPO)

The FAA forwarded the cultural resources report to the State Historic Preservation Office on November 20, 2023 for their review and to start the 30-day consultation period, which ended on December 20, 2023. SHPO sent a return letter to the FAA on December 30, 2023 concurring with the determination in the cultural resource report of *No Adverse Effect* on historic, archaeological, or cultural resources..

NOAA National Marine Fisheries Service (NMFS)

The biological assessment for the project was forwarded to NMFS with a request for concurrence on Endangered Species Act and Magnuson-Stevens Fishery Conservation and Management Act determinations in the BA. The FAA submitted the BA to NMFS for review and comment on March 18, 2023. The FAA received a request for more information from NMFS on March 25, 2023 and replied on April 9, 2024. NMFS requested information again on April 11, 2024, and an updated BA was submitted on May 10, 2024. Consultation initiation occurred with the provision of additional information on May 10, 2024. FAA received concurrence on June 13, 2024 that the project is *Not Likely to Adversely Affect* ESA-listed species and that there is *No Adverse Effect* on essential fish habitat.

US Fish and Wildlife Service (USFWS)

The FAA submitted the BA and requested informal consultation under the Endangered Species Act on March 18, 2024. FAA received concurrence on April 22, 2024 that the project M*ay Affect but is Not Likely to Adversely Affect* the federally threatened bull trout and may affect but is *Not Likely to Adversely Affect* the federally threatened Spalding's Catchfly.

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7.0 LIST OF PREPARERS

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Appendix A

Biological Assessment

BIOLOGICAL ASSESSMENT

Joseph State Airport; Obstruction Removal Project

Prepared for

Century West Engineering

and

Oregon Department of Aviation

Prepared by
David Evans and Associates, Inc.

May 2024

Contents

Tables

1. Executive Summary

The Oregon Department of Aviation (ODAV) proposes to implement the Joseph State Airport Obstruction Removal Project (Project) to remove obstructions to the Runway 15 approach (20:1) at the Joseph State Airport (Airport). The proposed action is necessary to bring the Airport into compliance with Federal Aviation Administration (FAA) design and safety standards as identified in the Airport Master Plan.

The purpose of this biological assessment (BA) is to evaluate the potential effects of the Project on federally listed and proposed species and designated critical habitat (DCH) in accordance with the provisions of Section 7 of the Endangered Species Act of 1973, as amended (16 U.S.C. §§1531-1543). This document assesses the effect of the proposed Project on species under the jurisdiction of the National Marine Fisheries Service (NMFS) and U.S. Fish and Wildlife Service (USFWS) that are listed or proposed for listing as endangered or threatened under the federal Endangered Species Act (ESA). This document also addresses the potential effects of the proposed project on designated or proposed Critical Habitat and on Essential Fish Habitat (EFH) as designated under the Magnuson-Stevens Fishery Conservation Act (MSA). FAA will be the lead federal agency for ESA consultation.

Three fish species formally listed by USFWS and NMFS under authority of the ESA have been documented in the Project Area and are addressed in this BA: USFWS listed threatened bull trout (*Salvelinus confluentus*); and NMFS listed threatened steelhead trout (*Oncorhynchus mykiss*; Snake River Distinct Population Segment [DPS]), and Chinook salmon (*Oncorhynchus tshawytscha*; Snake River DPS). No surveys were conducted for bull trout, steelhead, or Chinook salmon in the Project Area or vicinity, although general stream conditions were noted. One ESA-listed plant species, Spalding's catchfly (USFWS), was identified in the vicinity of the Airport in 2014. The Project Area was surveyed for Spalding's catchfly on August 3, 2023 as noted below. This BA addresses the potential for Project impacts on these three species.

The proposed Project Area comprises 3.97 acres and is located immediately north of Runway 15/33. The work will consist of removal of up to nine trees, and adding a light to the top of one power pole. No in water work or below ground disturbances will occur, and the project will not create any new impervious surfaces. The project will remove one tree that provides habitat functions in the riparian area of Hurricane Creek, which is DCH for steelhead and Chinook salmon. All project-related construction will occur during the summer months when Hurricane Creek is expected to be dry in the Project Area. Construction will involve no in-water work and no change to drainage patterns or to stormwater runoff from impervious surface. The Project will employ conservation measures such as limiting the footprint and timing of work, and replanting vegetation to offset the loss of one riparian tree. As a result, potential effects of the Project on the four listed species will be discountable. As a result of the actions presented and analyzed in this document, the following finding was made. The project **may affect but is not likely to adversely affect** Spalding's catchfly, bull trout, steelhead trout and their DCH, or Chinook salmon and their DCH.

Essential Fish Habitat for Chinook and coho salmon is present in the aquatic action area. With the proposed conservation measures the Project has been determined to "**not adversely affect** Essential Fish Habitat".

2. Introduction

The purpose of this biological assessment (BA) is to evaluate the potential effects of the Joseph State Airport Obstruction Removal Project (Project) on federally listed and proposed species and designated critical habitat (DCH) in accordance with the provisions of Section 7 of the Endangered Species Act of 1973 (ESA), as amended (16 U.S.C. §§1531-1543). Section 7(a)(2) of the ESA (16 USC 1531-1544 and Section 1536) requires that each Federal agency shall, in consultation with the Service(s), ensure that any action authorized, funded, or carried out by such agency, is not likely to jeopardize the continued existence of an endangered or threatened species, or result in the destruction or adverse modification of critical habitat.

The Federal Aviation Administration (FAA) is the lead agency for this consultation because funding from that agency creates a federal nexus. This BA has been prepared to address informal consultation needs for species under the jurisdiction of both U.S. Fish and Wildlife Service (USFWS), and National Marine Fisheries Service (NMFS). This document also addresses the potential effects of the proposed Project on Essential Fish Habitat (EFH) as designated under the Magnuson-Stevens Fishery Conservation Act (MSA).

3. Project Location and Setting

The Joseph State Airport (Airport) is located in the northeast corner of Oregon near the town of Joseph in unincorporated Wallowa County (T2S, R44E, Sections 24 and 25; Figure 1). It is one of the 28 state-run airports owned by the Oregon Department of Aviation (ODAV) whose mission is to provide an integrated aviation system to serve the state. ODAV classifies the Airport as a Category IV airport. Category IV airports support primarily single-engine general aviation aircraft but are capable of accommodating smaller twin-engine general aviation aircraft. Category IV airports also support local air transportation needs and special use aviation activities. The Airport is also part of the FAA National Plan of Integrated Airport Systems (NPIAS). The NPIAS system includes existing and proposed airports significant to the air transportation of the United States, and thus are eligible for federal funding though the Airport Improvement Program (AIP) which cover 90% of eligible costs of planning and development projects.

The Airport is non-towered and is comprised of 106.4 acres with a 5,200-foot x 60-foot paved runway (Runway 15/33) and an adjoining taxiway. The runway sits at an elevation of 4,062.8 feet above sea level. The Airport is an important site for basing helicopters used to fight wildfires in Eastern Oregon during the summer. The Airport supports general aviation activities such as emergency response, air ambulance service, flight training, and personal flying. It also serves fixed-wing medical evacuation flights on an as-needed basis. In the fall of 2022, the FAA published an area navigation (RNAV) global positioning system (GPS)-A Approach Procedure for daytime use only.

The Joseph Airport area has a relatively dry mountainous climate with extensive agriculture as the predominant land use in the vicinity (primarily pastures and hay fields). Summers are warm and short, spanning from mid-June to mid-September with the hottest month in August. The temperature varies between 19 and 83 degrees throughout the year. Joseph receives small amounts of precipitation throughout the year, with the rainiest seasons being spring and fall. The summer season is dry, averaging less than a half inch monthly between July and September. Annual snowfall averages about 36 inches (NRCS 2023).

4. Project Description

The project proposes to address obstructions to the 20:1 approach surface at the north end of Runway 15/33 by removing up to nine trees and adding a light to the top of one power pole. The area of potential impact encompasses 3.97 acres of Airport and private property (Figure 1). One obstruction tree and the power pole are located on Airport property, and the remaining trees are located on private property. One tree provides habitat functions in the riparian area of Hurricane Creek, where ESA-listed species and their DCH may be found.

4.1. Purpose and Need

The Project is proposed to bring the Joseph State Airport into compliance with related FAA design standards, meet the objectives of the Airport Master Plan, one of which is to establish a nighttime instrument approach procedure, and improve safety and operational conditions at the airport by addressing obstructions to the 20:1 approach surface. The airport is relatively remote, approximately 70 miles from the nearest Interstate highway (I-84), which contributes to an increased dependence of the community on general aviation for activities such as medical patient transport. Wallowa County currently has two ambulances equipped for patient transport outside the immediate area. The round-trip transit time from the local area to La Grande (the nearest hospital) averages 4 hours, but the time can increase significantly during the winter months. In addition to a longer transport time for patients, a single out-of-county ambulance transfer reduces the county-wide emergency medical service level to one ambulance.

The RNAV TERPS (U.S. Standard for Terminal Instrument Procedures) does not allow night or inclement weather operations when the visual segment of the 20:1 glide slope is penetrated with obstacles. The nine trees and one power pole create obstructions to the glide slope. Removal of the trees will support the potential future development of night time and inclement weather instrument approach and departure capabilities at Joseph State Airport, which was identified as a critical need by ODAV, medical evacuation (MEDEVAC) operators, and local hospital officials as reported in the Airport Master Plan (Century West Engineering 2022). MEDEVAC access can become limited as weather conditions deteriorate. Without this project the trees will continue to grow taller and further restrict the approach surface and safety of airport users.

This is a significant safety issue that needs to be considered when weighing the importance of upgrading the all-weather capabilities at Joseph State Airport to improve existing emergency medical capabilities. The purpose of the project is to remove identified airspace penetrations (obstructions) that prevent use of the airport after dark or during inclement weather. This is needed to ensure access to emergency services to the rural community in the City of Joseph and Wallowa County via the Joseph State Airport.

4.2. Construction Activities and Schedule

Construction is proposed to occur during daylight hours over one week in the summer of 2026, with additional days possible for installation of willow stakes. The identified obstructions are made up of one tree and one power pole located on airport property, and eight trees located on private property. On airport property, the individual tree will be cut flush to the ground and timber debris will be removed from airport property. Trees on private property will be cut flush to the ground and logs will either be removed from the site or left in place in upland areas depending on landowner preference. No impervious surfaces will be created as part of this project, stormwater drainage patterns will not be altered, and no grading or below-ground

disturbance will occur. No wetlands or roadside ditches are present within the Project Area and no work will occur within Hurricane Creek. Equipment and machinery (e.g., chainsaws, lifts, haul trucks) will be determined by the construction contractor.

5. Action Area

The action area is defined as all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action. [50 CFR 402.02]. The action area is made up of the entire 3.97-acre Project Area and includes both terrestrial and aquatic habitats (Figure 1). The project will not involve any physical, chemical, or biological effects that would extend beyond the immediate obstruction removal and staging areas apart from brief and temporary noise involved in the cutting of trees. There are no other potential effects that would increase the extent of the action area.

6. Status of Species and Critical Habitat

6.1. Listed and Proposed Species

Information on sensitive species occurrence was obtained online from USFWS, NMFS, Oregon Department of Fish and Wildlife (ODFW), and Oregon Biodiversity Information Center (ORBIC) inventory data.

Federally listed and candidate species considered but not further assessed in this document include the following: gray wolf (*Canis lupus;* endangered), whitebark pine (*Pinus albicaulis,* threatened), and monarch butterfly (*Danaus plexippus*, candiate*)*. These were identified in the USFWS Information for Planning and Consultation (IPaC) report as potentially overlapping the area (USFWS 2023b). The project is in an area with an existing level of disturbance from vehicular traffic and residences along Airway Road that would generally preclude gray wolves from using the area. This fact and the short-term nature of the project indicates that the species would not be affected by the project. Whitebark pine trees are associated with higher elevations and are not present in the Project Area. Milkweed which is the primary host plant of monarch butterflies was also not present in the Project Area during field investigations. The proposed project will have **no effect** on these species and have been excluded from further review.

Spalding's catchfly (*Silene spaldingii*, threatened) has the potential to occur in the Project Area and is addressed in this BA. No other federally-listed plant or terrestrial wildlife species have the potential to occur in the action area.

Three fish species formally listed by USFWS and NMFS under authority of the ESA were documented in the Project Area and are addressed in this BA: USFWS listed bull trout (*Salvelinus confluentus*) (threatened); NMFS listed steelhead trout (*Oncorhynchus mykiss*; Snake River Distinct Population Segment [DPS]) (threatened) (ODFW 2023), and NMFS listed Chinook salmon (*Oncorhynchus tshawytscha*; Snake River DPS) (NOAA 1993). No surveys were conducted for bull trout, steelhead, or Chinook salmon in the Project Area or vicinity, although general stream conditions were noted. The ESA listed Spalding's catchfly (USFWS) was identified in the vicinity of the Airport in 2014. The Project Area was surveyed for Spalding's catchfly on August 3, 2023 as noted below. This BA addresses the potential for Project impacts on these three species.

6.1.1. USFWS - Bull Trout

Bull trout are listed as Threatened under the ESA. Bull trout require cold water temperatures, complex stream habitat including deep pools, overhanging banks and large woody debris, and connectivity between spawning and rearing areas and downstream foraging, migration, and overwintering habitats. They are mapped as occurring in Hurricane Creek at the Project Area however state records indicate that the habitat was used historically but is not currently used (ODFW 2023). Critical habitat for bull trout is mapped approximately 1 ¼ mile upstream and approximately 3 miles downstream of the study area, but not within the reach at the project location (USFWS 2023a).

The Mid-Columbia Recovery Unit Implementation Plan (Plan) for Bull Trout includes Hurricane Creek within the Mid-Columbia Recovery Unit and Wallowa / Minam Rivers Core Area (USFWS 2015). The plan addresses threats to the species and actions to address them. Water quality and interaction with non-native species are regarded as the most significant primary threat factors affecting bull trout in the Wallowa / Minam Rivers Core Area. Agricultural Practices and other land use activities constitute a threat because they lead to higher water temperatures and low flows that degrade habitat quality and impede connectivity, particularly in feeding, migration, and overwintering habitats. The Plan also notes non-native fishes as a primary threat because they negatively impact bull trout through hybridization and competition. Actions in the Plan to address habitat threats in the Core Area include restoring and protecting riparian zones associated with bull trout habitat. Hurricane Creek is not included in the priority sites for restoration.

6.1.2. NMFS - Steelhead Trout and Chinook Salmon

Steelhead trout (summer run; Snake River DPS), and Chinook salmon (spring/summer-run; Snake River DPS) are both listed as Threatened under the ESA and have the potential to be in the Project Area. Hurricane Creek is typically dewatered in the summer at the Project Area due to agricultural water diversions, making this reach inaccessible to all salmon and steelhead life stages at that time. Because the project area is typically dry in the summer, it is extremely unlikely that any summer-run steelhead or spring/summer-run Chinook would be present at the time of tree removal. No surveys were conducted for salmon or steelhead for the project, but stream habitat conditions are described briefly in Section 6.1.

6.1.2.1. Steelhead Trout

Summer-run steelhead are mapped as occurring in the action-area reach of Hurricane Creek (ODFW 2023). Hurricane Creek is also DCH for steelhead trout, including at the project location (NMFS 2023). ODFW notes the primary steelhead uses are spawning and some rearing, however, fish distribution information was extrapolated from a single survey/observation as last updated in 2018 (ODFW 2023). Snake River basin steelhead generally occupy habitat that is warmer and drier than other steelhead DPSs. Spawning generally occurs from March to May, after which juvenile steelhead will typically spend 2-3 years in freshwater before they smolt and migrate to the ocean, primarily between April and June depending on stream conditions (Action Agencies 2007; NMFS 2023a).

6.1.2.2. Chinook Salmon

At the Project Area Hurricane Creek is mapped as “habitat used historically, but not currently” for spring Chinook salmon (ODFW 2023). However, Hurricane Creek including the project

location is DCH for spring/summer-run Chinook (NOAA 1992). They typically spawn in August to September, with juveniles emerging in the spring following spawning, and rearing in freshwater for about a year before migrating downstream to the ocean (NMFS 2017).

6.1.2.3. Steelhead and Chinook Salmon Critical habitat

Hurricane Creek, including the Project Area, is considered DCH for summer steelhead and spring/summer-run Chinook. Snake River summer-run steelhead DCH includes the stream channels within the designated stream reaches, and a lateral extent as defined by the ordinary high-water line (33 CFR 319.11). Snake River spring/summer-run Chinook DCH includes the bottom and water of the waterways and 300 feet on either side of the stream channel (NOAA 1993).

In determining areas of critical habitat for salmon and steelhead NMFS developed a list of Primary Constituent Elements (PCEs), which are the physical and biological features essential for the conservation of the species (NMFS 2017). Six PCEs have been identified for salmon and steelhead, as follows:

1. Freshwater spawning sites with water quantity and quality conditions and substrate supporting spawning, incubation, and larval development.
2. Freshwater rearing sites with water quantity and floodplain connectivity to form and maintain physical habitat conditions and support juvenile growth and mobility; water quality and forage supporting juvenile development; and natural cover such as shade, submerged and overhanging large wood, log jams and beaver dams, aquatic vegetation, large rocks and boulders, side channels, and undercut banks.
3. Freshwater migration corridors free of obstruction with water quantity and quality conditions and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, side channels, and undercut banks supporting juvenile and adult mobility and survival.

   Estuarine areas free of obstruction with water quality, water quantity, and salinity conditions supporting juvenile and adult physiological transitions between fresh-and saltwater; natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels; and juvenile and adult forage, including aquatic invertebrates and fishes, supporting growth and maturation.
4. Nearshore marine areas free of obstruction with water quality and quantity conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation; and natural cover such as submerged and overhanging large wood, aquatic vegetation, large rocks and boulders, and side channels.
5. Offshore marine areas with water quality conditions and forage, including aquatic invertebrates and fishes, supporting growth and maturation.

6.1.3. Spalding's catchfly

Spalding's catchfly is listed as Threatened under the ESA, as administered by USFWS, and Endangered by the State of Oregon. It has the potential to occur in the Project Area. Spalding's catchfly are an herbaceous perennial in the pink family (*Caryophyllacea*). The species is endemic to the Palouse region of south-east Washington and adjacent Oregon and Idaho, and is disjunct in northwestern Montana and British Columbia, Canada. This species is found predominantly where deep, rich loess soils are present in the Pacific Northwest bunchgrass

grasslands and sagebrush-steppe and occasionally in open-canopy pine stands.

Spalding's catchfly produce one to several vegetative or flowering stems that arise from a simple or branched persistent underground stem (caudex), which surmounts a long, narrow taproot. Plants (both vegetative and reproductive) emerge in mid-to late May with flowering typically occurring from mid-July through August, but occasionally continuing into October. Rosettes are formed in the first and possibly the second year, followed by the formation of vegetative stems. Above-ground vegetation dies back at the end of the growing season and plants either emerge in the spring or remain dormant below ground for one to several consecutive years. Spalding's catchfly reproduces solely by seed, and lacks rhizomes or other means of reproducing vegetatively.

Spalding's catchfly was listed as threatened in 2001 and a final recovery plan for this plant was released October 15, 2007. There is proposed critical habitat for this species (published in the Federal Register on April 24, 2000), but it has not been finalized.

Suitable habitat for Spalding's catchfly is very limited in the Project Area due to ground disturbances and encroachment of dense nonnative vegetation, as described in Section 6.2. Surveys for this species were conducted nearby in 2013 by consultant (then WHPacific now NV5) biologist Valerie Thompson, and USFWS biologist Gretchen Sausen. During that effort Thompson and Sausen surveyed large portions of the Airport infield, and the Hurricane Creek I.O.O.F. (Order of Odd Fellows) Cemetery which is adjacent to the southern boundary of the Airport. During the 2013 survey Spalding's catchfly was identified within the cemetery, but not within the Airport or this Project Area. The cemetery is approximately 1.2 miles south of the Project Area. The Project Area was again surveyed for Spalding's catchfly on August 3, 2023, by DEA biologist Valerie Thompson. None were found during the survey.

7. Environmental Baseline Conditions

7.1. Aquatic Habitat

The Airport is located in the Wallowa Lake-Wallowa River Watershed (HUC 6:170601050102) in an upland area on a broad gently sloping plain. Hurricane Creek originates in the Wallowa Mountains, and is a tributary of the Wallowa River, which in turn drains ultimately to the Columbia River via the Grande Ronde and Snake Rivers.

Hurricane Creek flows generally north through the Project Area where it is crossed by a small bridge leading to an individual private property. The streambed is incised approximately 6 feet below the surrounding landform, with alluvial gravels and sand exposed along the cut banks. In the Project Area Hurricane Creek was observed to have coarse cobble substrate with few sandy or silty deposits and few pieces of large woody debris. The average ordinary high water mark (OHWM) width in the Project Area is approximately 33 feet outside of the influence of the bridge.

DCH has been identified for steelhead and Chinook salmon which is related to water quality and temperature, access to habitats (e.g., absence of barriers), forage, habitat complexity, substrate composition, and flow rates.

Hurricane Creek is a 303d listed stream, that is marked as "impaired" condition for aquatic life due to abnormal flow, degraded habitat, and sediment (ODEQ 2023). Stream flows at the Project Area in the summer months functionally disappear due to upstream irrigation water diversions,

leaving the stream habitats available only during the cooler months. The stream channel was mostly dry during the August 3, 2023 field visit with some small isolated areas of shallow flowing water evident at the surface, and some small localized surface pools present. All surface water was very shallow and completely isolated from both upstream and downstream areas.

Due to the absence of water during summer months, suitable habitat for bull trout, steelhead, Chinook salmon, and PCEs for their DCH are not present and/or not accessible to the species at that time.

One of the trees identified for removal provides habitat functions in the riparian area of Hurricane Creek. This cottonwood is a mature tree with two trunks at a diameter at breast height of 42.5 inches. It is 75 feet tall and is growing 32 feet into the 20:1 air space. We considered trees with the potential to provide shading, woody debris, and bank stability to be within the riparian area of Hurricane Creek.

7.2. Terrestrial Habitat

The Project Area is situated along the dirt and gravel Airway Road, with isolated vegetated areas where the Project will access the obstructions and stage equipment. Terrestrial areas surrounding the Project Area are a disturbed sagebrush steppe habitat that has become densely vegetated with non-native pasture grasses and forbs, with some patches of fir and spruce trees.

The southern portion of the Project Area crosses Hurricane Creek over a small bridge. Both banks are disconnected from the creek, and all habitats have undergone some level of disturbance. North of the bridge the Project Area extends onto private property where one cottonwood tree is proposed for removal. The banks of the channel rise steeply to pasture habitat that has been disturbed by land management and encroachment of dense nonnative grasses. Concrete rubble and debris are present along the bank of Hurricane Creek at this location, presumably placed to reduce erosion of the bank by the creek. Agricultural fields associated with this residence extend beyond the Project Area to the west. The Project Area south of Hurricane Creek includes fill material that has since grown over with mostly non-native weedy vegetation and some sagebrush. This area previously held a small patch of trees, which was a remnant of riparian forested habitat typical of the Hurricane Creek basin. This small patch of forest was cleared in the mid 1990's when the airport and runway were expanded to the north and Airway Road was constructed.

The tree removal areas in the northern part of the Project Area are located on private property within a livestock pasture. Two small patches of Engleman spruce trees are located here, most of which were identified for removal. In this part of the Project Area, the natural vegetation below the spruce trees has been disturbed by livestock use, and the ground underneath the spruce trees was mostly bare, with patchy weedy vegetation.

Soils in the Project Area are moderately well-drained to somewhat poorly drained (NRCS 2023a). No wetlands were present in the Project Area, and no areas of dominant wetland vegetation or ponding were found.

In general, the suitability of Spalding's catchfly habitat in the Project Area is significantly limited due to historical (i.e., land clearing, fill material) and ongoing disturbances (i.e., grazing, encroachment of nonnative vegetation).

8. Conservation Measures

Suitable aquatic habitat for ESA-listed bull trout, steelhead, and Chinook salmon is present in the Project Area, as is DCH for steelhead and Chinook salmon. However, during the summer months Hurricane Creek is dewatered due to irrigation withdrawals leaving this portion of the stream inaccessible. Suitable habitat for Spalding's catchfly is significantly limited in the Project Area due to agricultural disturbances. To minimize and avoid potential impacts to listed species, the following conservation measures will be implemented as part of the Project. No impervious surfaces will be created as part of this project, stormwater drainage patterns will not be altered, and no grading or below-ground disturbance will occur. No wetlands or roadside ditches are present within the Project Area and no work will occur within Hurricane Creek. Conservation measures (best management practices) will be implemented at the airport that will significantly reduce the chance that this project could affect species listed under the ESA.

Habitat Avoidance and Impact Minimization

1. The project has been designed to minimize impacts by only removing trees that are within the 20:1 approach or can be reasonably anticipated to grow to that height within a few years.
2. Work and staging areas will be confined to the minimum area needed to complete the work. Where feasible, contractors will store equipment and vehicles on the gravel road shoulder within the Project Area or on nearby gravel or paved areas outside of the project area. Temporary staging areas will be located in previously disturbed areas that are immediately adjacent to the roadway.
3. Trees will be cut flush to the ground, leaving stumps and roots in place to minimize ground disturbance.
4. No in-water work will occur. All equipment and personnel will be required to operate from upland areas outside of the OHWM elevation.
5. Tree removal should occur at the beginning of September to avoid the nesting season for birds protected under the MBTA (generally March 1 - August 31), and when ESA-listed fish are not present due to an anticipated lack of flow in the creek.
6. If flow is present in the creek at the time of construction, an erosion control barrier should be placed between the cottonwood removal work area and the stream. The barrier may include silt fence, straw wattle, compost berm, or similar material, and should be installed accurately to create a surface flow barrier between work areas and the stream.
7. Environmentally sensitive areas, including Hurricane Creek and undeveloped areas outside of the APE will be noted as "no work" areas on plans provided to potential bidders.
8. Given that Spalding's catchfly can remain dormant below ground for one to several consecutive years, the project will conduct pre-construction surveys the year of construction. If any are found in the action area USFWS will be contacted and construction activities will avoid impacts.
9. Environmental impact minimization measures noted here will be included in bid documents, and briefings prior to tree removal and lighting work.

Mitigation

1. An area of approximately 1,433 sq ft on the north bank of the creek will be planted with a minimum of 50 willow (*Salix sp.*) stakes to offset potential effects due to removal of one tree that provides habitat functions in the riparian area of Hurricane Creek. The priority for

planting is to provide relatively quick streambank stabilization and shade cover for the creek after the removal of obstructions. Due to height limitations for the runway approach, replacement shade vegetation must be selected that would reach a maximum height of 30 feet tall. The planting area has course substrate and is between 2-6 feet elevated above the dry stream bed. Willow species will be decided during the construction contract by the restoration company responsible for planting and maintaining (e.g., watering) through successful establishment. Stakes will be at least 36 inches long and planted on 5-foot centers. The proposed willow plantings will provide approximately 110 feet of stream bank stabilization (Figure 3).

9. Effects of the Action

Effects of the action are all consequences to listed species or critical habitat that are caused by the proposed action, including the consequences of other activities that are caused by the proposed action. A consequence is caused by the proposed action if it would not occur but for the proposed action and it is reasonably certain to occur. Indirect effects of the action may occur later in time and may include consequences occurring outside the immediate area involved in the action. [50 CFR §402.17].

This section considers and discusses effects on the listed species that are caused by the proposed Project and are reasonably certain to occur, including the effects of other activities that would not occur but for the proposed action.

As described under the Project Description and Conservation Measures sections, impacts to both listed fish species, and Spalding's catchfly will be avoided by limiting the footprint and timing of work, conducting no in-water work, and replanting vegetation to offset the loss of one riparian tree.

In general, the project has the potential to generate minor temporary changes to human activity levels in the Project Area during construction. A minor amount of noise will be generated during daylight hours by the Project for the removal and processing of nine trees, lighting of one power pole, and planting willow stakes. This noise will be temporary and is not expected to be more than noises produced during general land management activities of the existing neighboring agricultural and ranching properties, as well as noise from aircraft.

9.1. Aquatic Species: NMFS-Listed Steelhead, Chinook Salmon, and USFWS-Listed Bull Trout

No work will occur within Hurricane Creek. Removal of one tree that provides habitat functions along the north bank of Hurricane Creek, will occur during the summer months when the stream is dry within the Project Area, therefore no direct impacts to fish will occur as they will not be present in the Project Area during construction. Potential indirect or delayed adverse effects considered below are related to loss of shading to aquatic habitat, bank stability, and habitat complexity due to loss of large woody debris (LWD) recruitment for aquatic habitat structure. Potential impacts will be mitigated for by the installation of willow plantings as described in Section 7.

Impacts to stream shading may occur with the removal of one tree from the north bank of Hurricane Creek. The mature cottonwood tree is situated just above the OHWM but only provides a small amount of shading because of its location on the north side of the stream. The

spruce tree on the south side of the creek is one of multiple conifers and willows in this location. It is approximately 35 feet from the creek and provides a discountable amount of shade compared to what is provided by neighboring trees which will remain. Due to upstream water diversions dewatering this reach, bull trout, steelhead, and Chinook salmon do not have access during the hottest part of the year when shade would be an issue. The loss of stream shading will also be restored by the planting of willows, therefore potential effects on stream temperature due to loss of one riparian tree would be temporary and negligible.

Streambank stabilization is another consideration for the effects of tree removal. The cottonwood tree on the north bank is the only woody vegetation in this location. Multiple willow stakes will be planted and concentrated on the north side of the creek where the cottonwood is proposed for removal and the bank would otherwise be left with no woody vegetation. The cottonwood tree will be cut at the base, and the roots and stump will be left in place. Establishment of willow roots would be anticipated prior to the dead cottonwood roots beginning to break down.

Habitat complexity through long-term recruitment of LWD is another potential effect that was considered during this assessment. Cottonwoods generally live less than 100 years, and considering the maturity of this tree it could become LWD for the stream in the foreseeable future. Leaving this tree in place or replacing it with something that could provide LWD recruitment is significantly limited due to height restrictions for air traffic safety, but removal of one standing tree would not reach the level of degrading this habitat element.

Potential impacts due to tree removal in the riparian zone will be offset by planting of willow stakes. Once established, willows will be expected to increase bank stability in this reach and provide appropriate levels of overhanging shade to replace that lost by the removal of one cottonwood. Effects on the NMFS aquatic habitat indicators are presented in **Table 1**.

Table 1. Salmonid Effects Matrix

Pathways: Indicators	Restore	Maintain	Degrade
Water Quality:			
Temperature		X	
Sediment		X	
Chemical Contamination Nutrients		X	
Habitat Access:			
Physical Barriers		X	
Habitat Elements:			
Substrate		X	
Large Woody Debris		X	
Pool Frequency		X	
Pool Quality		X	
Off-channel Habitat		X	
Refugia		X	
Channel Condition and Dynamics			
Width/Depth Ratio		X	
Streambank Condition		X	
Floodplain Connectivity		X	
Flow/Hydrology:			
Peak/Base Flows		X	

9.1. Terrestrial Species: **Spalding's Catchfly**

Suitable habitat for Spalding's catchfly is very limited in the Project Area due to disturbances which would greatly reduce the likelihood of the species' presence. Surveys were conducted throughout the Project Area in August of 2023 during the flowering period for the plant and none were found. However, Spalding's catchfly do not surface each year, making it difficult to be certain if plants are or are not present in an area without multiple years of surveys. The project will only result in surface disturbances due to machinery traversing short distances to access removal trees. Because of the disturbed nature of the Project Area and the results of the species survey it is unlikely the species is present within the Project Area. However, in order to reduce the chance that this project could affect individual plants, and the species as a whole if they were to be present, the project will employ the conservation measures listed above.

10. Effects Determination

The Project is not interrelated with any other projects. It is not part of any larger project, and there are no other projects that depend on the completion of the obstruction removal project.

The proposed conservation measures listed in Section 7 will minimize or eliminate direct and indirect adverse effects that could occur to aquatic habitats for bull trout, steelhead and their DCH, and Chinook salmon and their DCH.

With the implementation of these conservation measures, the following Effects Determination is made:

> The proposed action **may affect, but is not likely to adversely affect** bull trout.
>
> The proposed action **may affect, but is not likely to adversely affect** Steelhead trout (summer run; Snake River DPS) or their DCH.
>
> The proposed action **may affect, but is not likely to adversely affect** Chinook salmon (spring/summer run; Snake River DPS) or their DCH

Based on the disturbed nature of the Project Area, the absence of Spalding's catchfly observations during the 2023 survey, along with the conservation measures to reduce site disturbances, the following finding is made:

> The project **may affect but is not likely to adversely affect** Spalding's catchfly.

11. Essential Fish Habitat

Public Law 104-267, the Sustainable Fisheries Act of 1996, amended the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) to establish new requirements for "Essential Fish Habitat" (EFH) descriptions in Federal fishery management plans and to require Federal agencies to consult with NMFS on activities that may adversely affect EFH. "Essential Fish Habitat" means "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity" as defined by the Magnuson-Stevens Act [16 USC § 1801(10)]. The Pacific Fisheries Management Council (PFMC) has recommended an EFH designation for the Pacific salmon fishery that would include those waters and substrate necessary to ensure the production needed to support a long-term sustainable fishery.

The consultation requirements of section 305(b) of the Magnuson-Stevens Act (16 U.S.C. 1855(b)) provide that:

- Federal agencies must consult with NMFS on all actions, or proposed actions, authorized, funded, or undertaken by the agency, that may adversely affect EFH;
- NMFS shall provide conservation recommendations for any Federal or State activity that may adversely affect EFH;
- Federal agencies shall, within 30 days after receiving conservation recommendations from NMFS, provide a detailed response in writing to NMFS regarding the conservation recommendations. The response shall include a description of measures proposed by the agency for avoiding, mitigating, or offsetting the impact of the activity on EFH. In the case of a response that is inconsistent with the conservation recommendations of NMFS, the Federal agency shall explain its reasons for not following the recommendations.

The Pacific salmon management unit includes Chinook, coho, and pink salmon. Of these, Chinook and coho are present in Hurricane Creek. The conservation measures described in Sections 7.1 of this BA are adequate to prevent long-term adverse effects on EFH for Chinook and coho salmon. **No Adverse Effect** to EFH will occur.

12. Preparers and Contributors

Valerie Thompson, DEA Biologist, is the primary author of this report. Jim Starkes, DEA Senior Biologist, provided Quality Management review. Corie Peters, DEA Project Assistant, prepared the report drafts. Sara Gilbert, DEA GIS Specialist, prepared Figures 1 and 2, and Valerie Thompson prepared Figure 3.

13. Appendices

Appendix A: References

Appendix B: Figures

Appendix C: Site Photographs

Appendix A: References

Action Agencies (U.S. Army Corps of Engineers, Bonneville Power Administration, and Bureau of Reclamation). 2007. Comprehensive Analysis of the Federal Columbia River Power System and Mainstem Effects of Upper Snake and Other Tributary Actions. August 2007.

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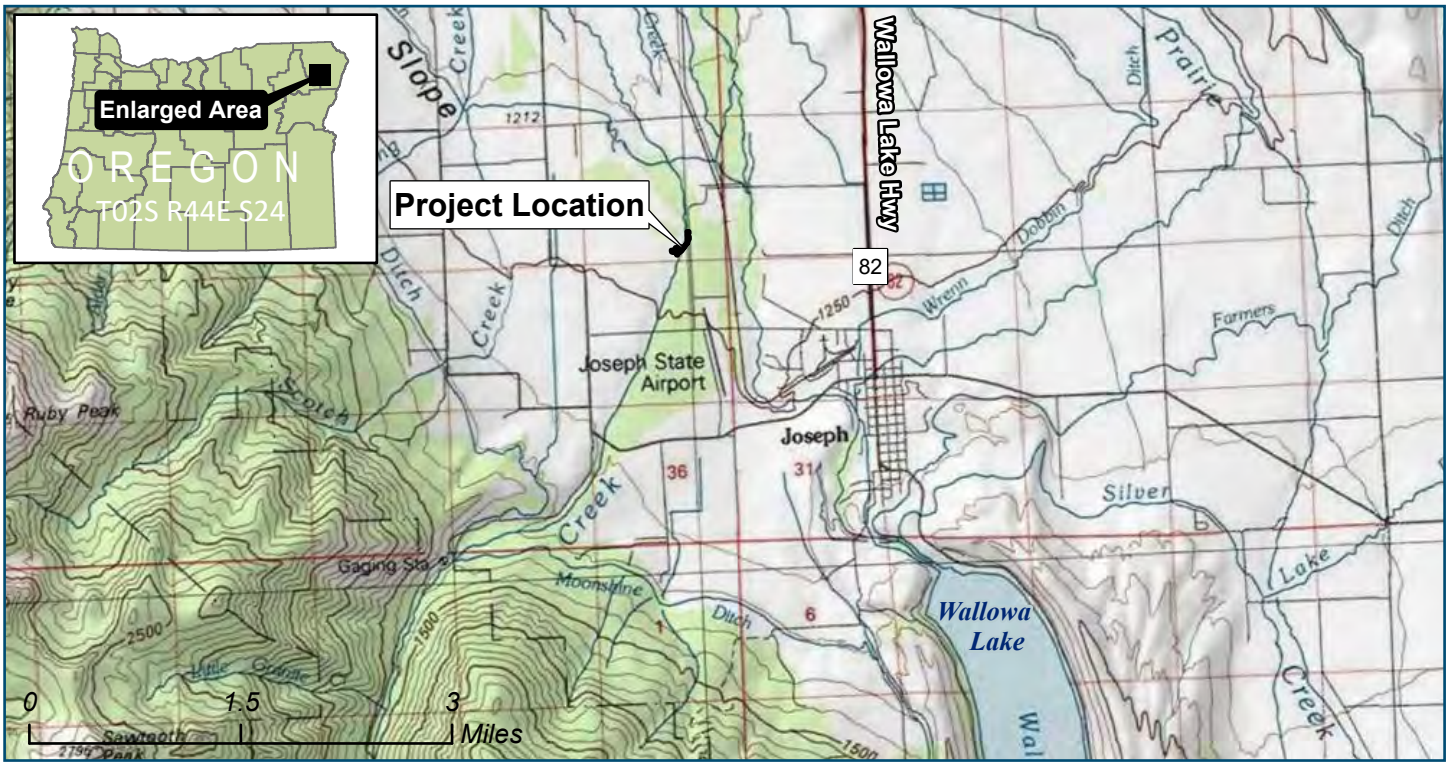
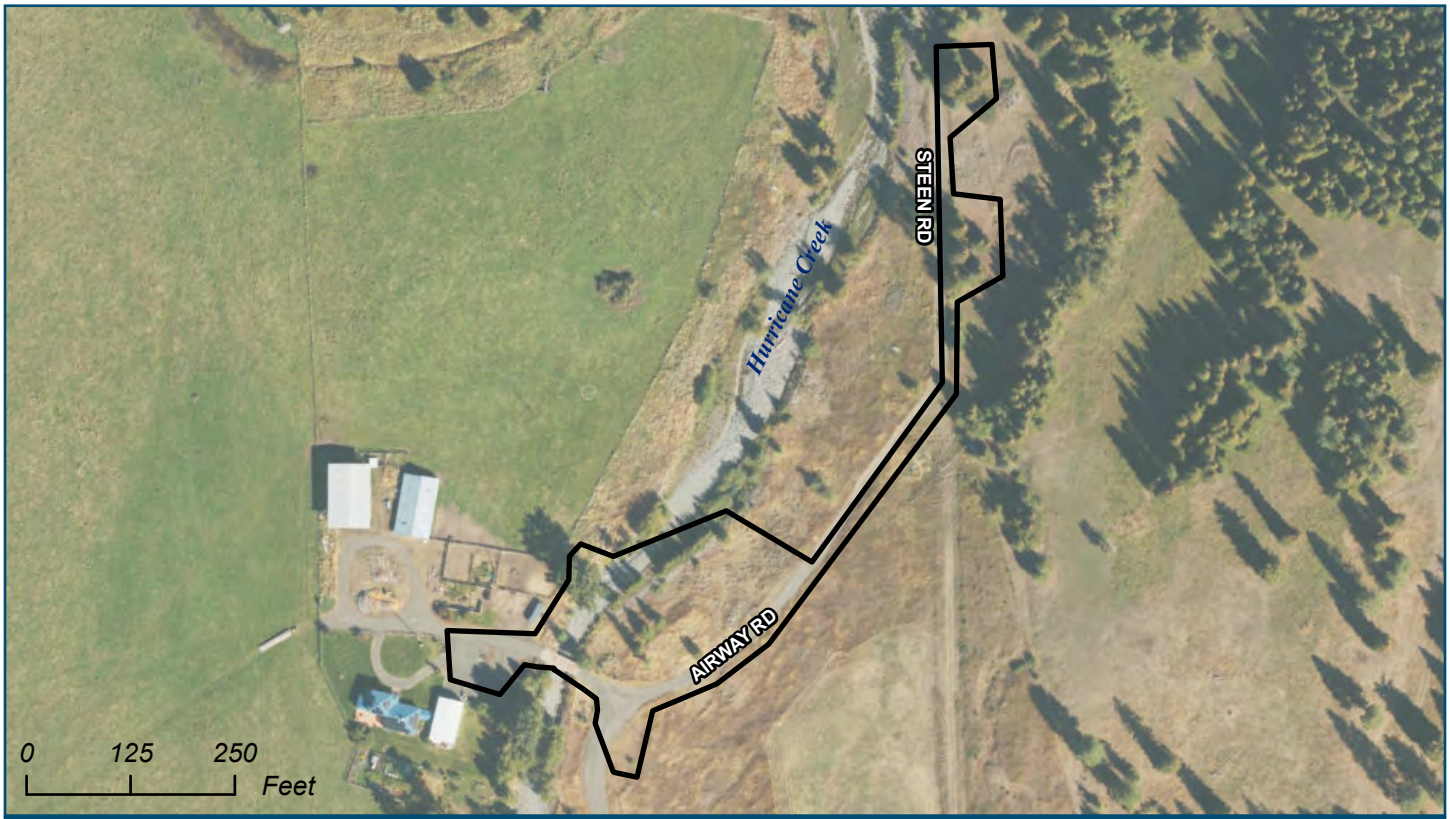
Appendix B: Figures



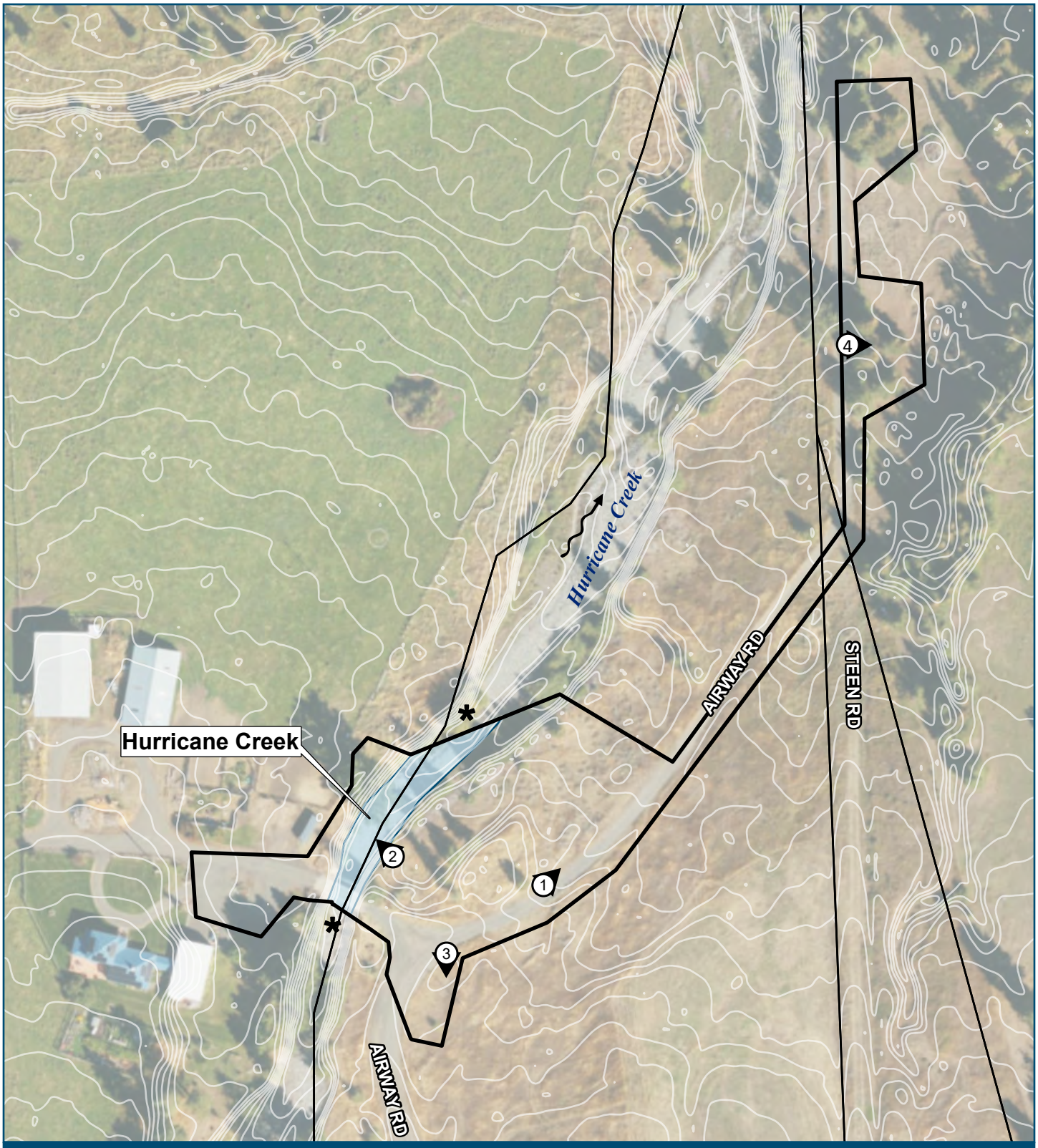


Joseph State Airport: Obstruction Removal Project

Figure 1
Vicinity

N

8/22/2023



Joseph State Airport: Obstruction Removal Project

Accuracy Statement:
Wetland and water feature locations were mapped in the field by David Evans and Associates, Inc. biologists utilizing the ESRI Field Maps web app with an estimated horizontal accuracy of ±3 feet. Various landmarks such as structures were also collected for mapping references.

N

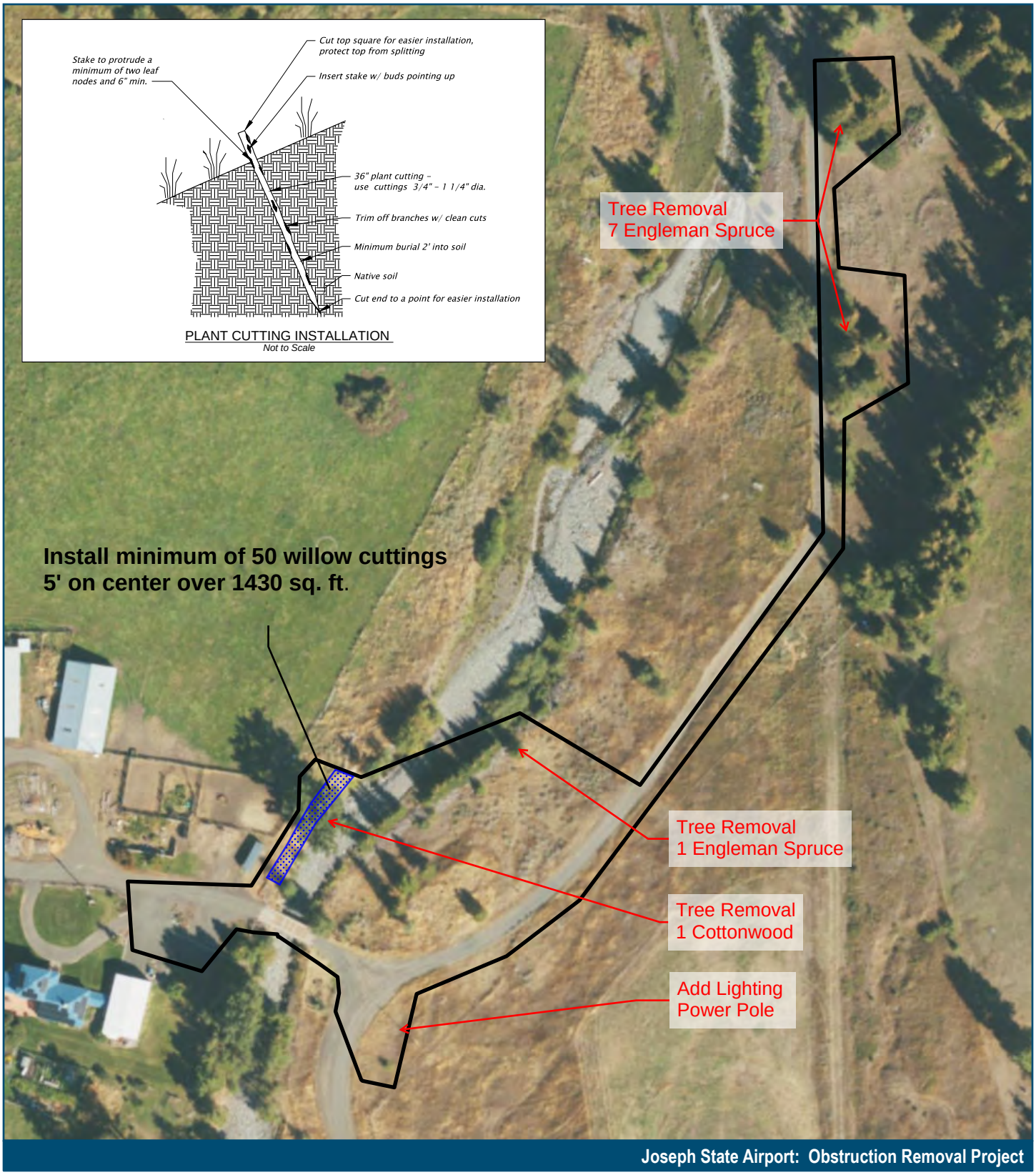
0 125 250 Feet

Study Area
Ordinary High Water (OHW)
Photo Location
* Feature Extends Beyond API
Flow Direction

Figure 2
Delineated Features

9/19/2023

Path: P:\C\CWEX00000029\0600INFO\GS\CWEX0029.aprx



Joseph State Airport: Obstruction Removal Project

Background: OSIP 2022 Aerial

Figure 3
Restoration Plan

Area of Potential Impact

N

0 150 300 *Feet*

10/27/2023

Path: P:\C\CWEX00000029\0600INFO\GS\CWEX0029.aprx

Appendix C: Site Photographs

Photo 1. Looking north toward Engleman spruce tree 35' from Hurricane Creek. This area was forested until airport expansion in the mid 1990's. It has been disturbed by placement of fill material presumably from construction of Airway Road (e.g., native rock and soil).

Photo 2. Looking north across the dry Hurricane Creek channel at the mature cottonwood tree proposed for removal, and the proposed location for willow cuttings.

Photo 3. Looking south at the obstruction power pole and dense grasses.

Photo 4. Looking east at the ground surface near the Engleman spruce trees proposed for removal. The ground here has been disturbed by grazing and encroachment of weedy vegetation.

Appendix B

Cultural Resources Assessment

Report #

SHPO Use

Year: 2023

State Historic Preservation Office Report Cover Page

Title: Archaeological Investigations for the Joseph State Airport IAP Obstruction Removal Project

REPORT

Author(s): Joshua Dinwiddie and Karla Hotze

Agency/Client: David Evans and Associates

District/Contractor: Historical Research Associates, Portland, OR

Agency/Client Report#: 3485 Project Acres: 3.97 Survey Acres: 3.97

LOCATION

County(ies): Wallowa

Township:		Range:		Section(s):	Township:		Range:		Section(s):
2	S	44	E	24, 25					

TESTING

Archaeological Permit Number(s): 3732 Accession Number:

Reports submitted to: Tribes: ☑ UOMNCH: ☐ LCIS: ☐ Curation:

Report Addresses Testing: ☐

CONSULTATION

Have tribes been contacted or consulted? Yes List tribes: CTUIR, Nez Perce

List any other groups contacted or consulted:

PA/ MOA

Report is associated with: PA ☐ MOA ☐

REPORTS WITHOUT A COMPLETE AND ACCURATE COVER PAGE AND APPROPRIATE ADDITIONAL PAGES MAY BE RETURNED. CHECK THE SHPO WEBSITE TO MAKE SURE YOU HAVE THE MOST CURRENT VERSION.

Archaeological Investigations for the Joseph State Airport IAP Obstruction Removal Project

AP-3732

Submitted to:
David Evans and Associates

Submitted by:
Historical Research Associates, Inc.
Joshua Dinwiddie, MS
Karla Hotze, MA

Portland, Oregon
November 2023

This project was implemented by HRA Principal Investigators Joshua Dinwiddie, MS, RPA, who meets the Secretary of the Interior's professional qualifications standards for archaeology. This report is intended for the exclusive use of the Client and its representatives. It contains professional conclusions and recommendations concerning the potential for project-related impacts to cultural resources based on the results of HRA's investigation. It should not be considered to constitute project clearance with regard to the treatment of cultural resources or permission to proceed with the project described in lieu of review by the appropriate reviewing or permitting agency. This report should be submitted to the appropriate state and local review agencies for their comments prior to the commencement of the project.

Executive Summary

The Oregon Department of Aviation (ODAV) plans to conduct the Joseph State Airport Instrument Approach Procedure (IAP) Obstruction Removal Project (the Project). The project proposes to remove up to nine trees and add a light to the top of a power pole located at the north end of Runway 15/33. One tree proposed for removal and the power pole are located on airport property - the remaining trees are located on private property. On airport property, trees will be cut flush to the ground and timber debris will be removed from airport property. Trees on private property will be cut flush to the ground and logs will either be removed from the site or left in place in upland areas (depending on landowner preference). Project-related ground disturbance is expected to be minimal; some replanting of vegetation may occur along the banks of Hurricane Creek. The Project is located near the town of Joseph, Oregon, in Sections 24 and 25 of Township 2 South, Range 44 East, and includes ODAV-owned and private property.

The Federal Aviation Administration (FAA) is requesting an Environmental Assessment (EA) for the Project to evaluate the potential environmental impacts of the proposed improvements.

ODAV contracted Century West for project design, who in turn hired David Evans and Associates (DEA) to complete the environmental studies and draft the EA for the Project. As the Project is a federal undertaking, DEA retained Historical Research Associates, Inc. (HRA), to carry out an archaeological survey to satisfy the Project's obligations under Section 106 of the National Historic Preservation Act (NHPA). DEA, in conjunction with the FAA, provided HRA with an area of potential impacts (APE) measuring approximately 3.97 acres (ac), which encompasses proposed ground-disturbing activities and associated access roads.

HRA completed archaeological resources investigations for the Project in August 2023. Investigations included review of the environmental and cultural context of the project vicinity, background research, a pedestrian survey to identify near-surface archaeological resources, and subsurface sampling to identify buried archaeological resources. HRA archaeologists surveyed 100 percent of the 3.97-ac APE and excavated nine shovel probes (SPs). HRA did not identify any archaeological resources. HRA recommends no further archaeological work for the APE as reported here.

Table of Contents

List of Figures

List of Tables

1. Introduction

1.1 Project Description and Regulatory Nexus

The Oregon Department of Aviation (ODAV) plans to conduct the Joseph State Airport IAP Obstruction Removal Project (the Project). The project proposes to remove up to nine trees and add a light to the top of a power pole located at the north end of Runway 15/33. One tree proposed for removal and the power pole are located on airport property - the remaining trees are located on private property. On airport property, trees will be cut flush to the ground and timber debris will be removed from airport property. Trees on private property will be cut flush to the ground and logs will either be removed from the site or left in place in upland areas (depending on landowner preference). Project-related ground disturbance is expected to be minimal- some replanting of vegetation may occur along the banks of Hurricane Creek. The Project is located near the town of Joseph, Oregon, in Sections 24 and 25 of Township 2 South, Range 44 East, and includes ODAV-owned and private property.

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DEA, in conjunction with the FAA, provided HRA with an area of potential impacts (APE) measuring approximately 3.97 acres (ac), which encompasses proposed ground-disturbing activities and associated access roads (Figure 1-1 and Figure 1-2).

HRA applied for and obtained an archaeological permit (AP 3732) from the Oregon SHPO for the ODAV-owned portion of the project, which totals 2.49 acres. No shovel probes (SPs) were excavated at the two obstructions located on ODAV property; the Confederated Tribes of the Umatilla Indian Reservation (CTUIR) and the Nez Perce Tribe requested clarification on shovel probe methodology as described in the research design for AP-3732 during the permit review process. HRA received verbal approval of methodology from the CTUIR prior to commencing fieldwork, but written approval was not received until after HRA's fieldwork window. As such, out of an abundance of caution, no SPs were excavated within the permit area. The only potential ground disturbance that may occur on ODAV property is replanting of riparian vegetation along the

creek adjacent to the proposed staging area; the creek cutbank afforded excellent subsurface visibility in this area.

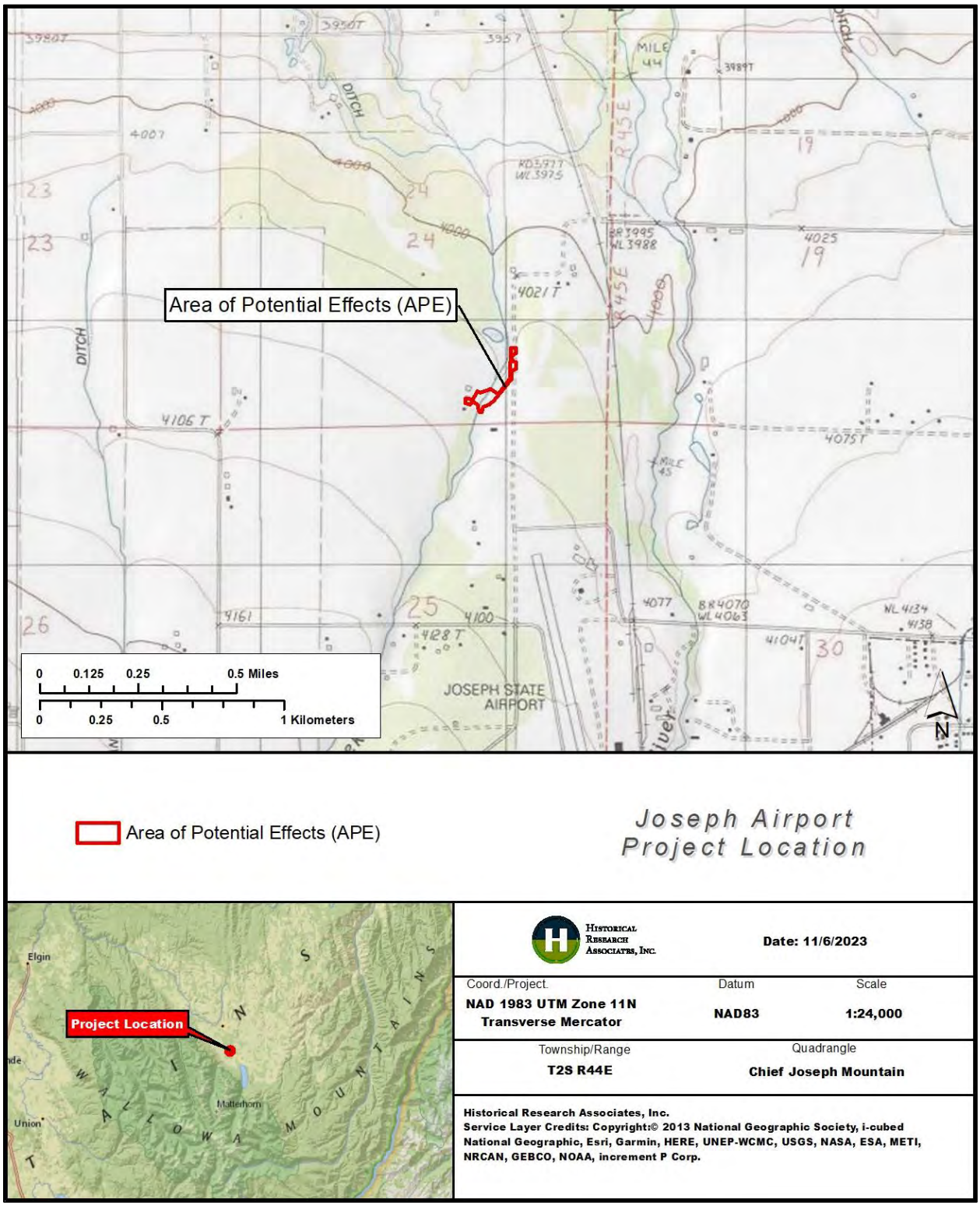

Figure 1-1. Topographic image of project location.

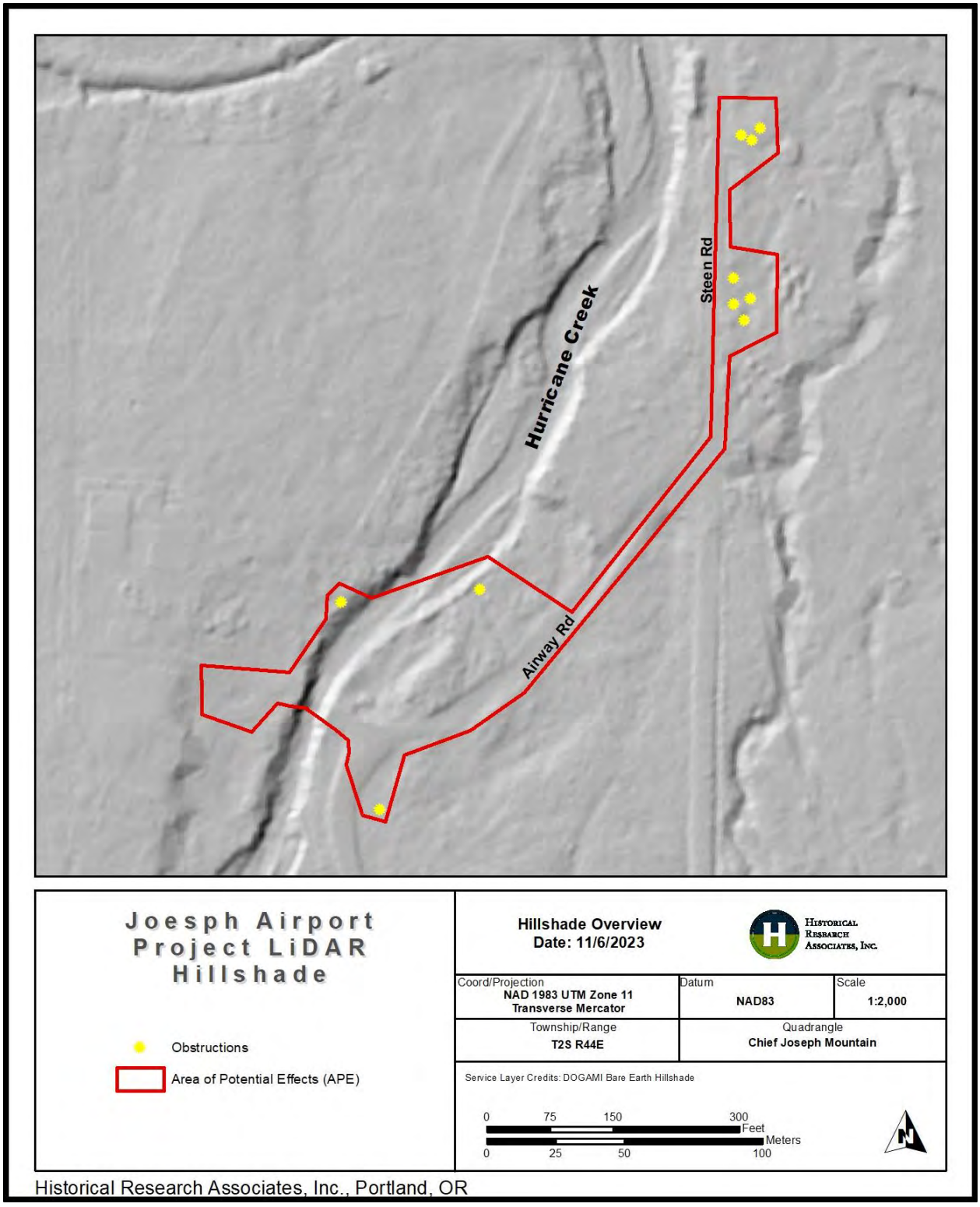

Figure 1-2. LiDAR map showing obstructions to be removed.

1.2 Acknowledgments and Report Organization

Joshua Dinwiddie, MS, managed the Project and authored the report. Karla Hotze, MA, served as the archaeological Field Director. Dinwiddie and Hotze meet the Secretary of the Interior's Professional Qualifications Standards for Archaeology. Morgan McKenna, MA, assisted with the archaeological fieldwork.

Gabe Frazier produced the graphics and managed the Geographic Information System (GIS) data. Bradley Bowden, MS, edited the report and provided QA/QC, and Anna Dinwiddie edited and formatted the report. HRA would like to thank Valerie Thompson (DEA), Anthony Beach (ODAV), and James Kirby (Century West) for their assistance with the Project.

This report is organized into six sections. Section 1 includes the project description, regulatory context, and acknowledgments. Section 2 discusses the general environmental and cultural setting of the Project. Section 3 provides background research conducted by HRA. Section 4 describes the field methods and results of survey. Section 5 provides conclusions and recommendations, and the references cited are listed in Section 6.

2. Context

2.1 Environmental Setting

Understanding the environmental setting of an area of study is foundational to understanding Indigenous lifeways: climate, vegetation, and even topography all help shape human behavior (and by extension, culture) just as human actions also shape the environment. Natural history is cultural history.

The Project is located in northeastern Oregon, within the Wallowa River Valley, in the Blue Mountain Basins ecoregion of the Blue Mountains. The Blue Mountains are volcanic in origin and are composed of several terranes originating from tropical oceans and transported to their current positions during the late Paleozoic and Mesozoic eras (Orr and Orr 2012). There are two major waterways that bisect the Wallowa Valley, the Wallowa River and Prairie Creek. The Wallowa River is located 0.43 miles (mi) to the east of the APE, and Prairie Creek is located 2.25 mi northeast. Hurricane Creek bisects the APE and parallels the Wallowa River for some distance before joining it near the town of Enterprise, approximately 4 mi north of the APE. The floodplains of these waterways once supported large wetlands, but these have largely been drained for agriculture, resulting in marked changes to the ecology of the valley (Thorson et al. 2003). The Wallowa River and its tributaries once supported runs of sockeye (*Oncorynchus nerka)*, Coho (O. *kisutch)*, spring and fall Chinook (*O. tshawytscha)* salmon. The sockeye and Coho are now extinct in the region and very few fall Chinook still spawn in the lower portion of the basin. Construction of dams on the Snake and Columbia Rivers between 1938 and 1975 greatly reduced passage of fish to spawning grounds. (McGowan 2003).

Soils mapped within the APE consist mostly of Eggleson gravelly loam (east of Hurricane Creek) and Cheval Silt loam (west of Hurricane Creek), both of which form on floodplains. Typical stratigraphy for Eggleson gravelly loam is a stratum of gravelly loam overlying extremely gravelly sands. The Cheval series is typically 50–60 centimeters (cm) of silt overlying gravely sands. (Natural Resources Conservation Service [NRCS] 2023).

Terrestrial animals present in the region include pronghorn (*Antilocapra americana*), white-tailed deer (*Odocoileus virginianus*), mule deer (*Odocoileus hemionus*), elk (*Cervus elaphus*), black bear (*Ursus americanus*), bighorn sheep (*Ovis canadensis*), and cougar (*Felis concolor*). Smaller animals are cottontails (*Sylvilagus* spp.), jackrabbits (*Lepus* spp.), badgers (*Taxidea taxus*), rattlesnakes (*Crotalus viridis*), gopher snakes (*Pituophis catenifer*), chipmunks (*Eutamis* spp.), sagebrush voles (*Lagurus curtatus*), and coyotes (*Canis latrans*). Common birds in the area include sage grouse (*Centrocercus urophasianus*), hawks (*Buteo* spp.), quail (*Oreortyx pictus*; *Callipepla californica*), and migratory birds like ducks (*Anatidae* spp.) and geese (*Branta canadensis*).

The Wallowa Valley is home to numerous ethnologically important plant species. Grasses are abundant, such as bluebunch wheatgrass (*Pseudorogneria spicata*), Idaho fescue (*Festuca idahoensis*), and wild rye (*Elymus* spp.), among others. Trees include ponderosa pine (*Pinus ponderosa*) and Douglas-fir (*Pseudotsuga menziesii*), found throughout the valley; willow (*Salix* sp.), alder (*Alnu*s spp.), red osier dogwood (*Cornus stolonifera*), and maple (*Acer* spp.), found along waterways in riparian areas; and western larch (*Larix occidentalis*), grand fir (*Abies grandis*), and spruce (*Picea* sp.), found at higher elevations. Common understory plants and shrubs include ceanothus (*Ceanothus velutinus*), mallow

ninebark (*Physocarpus malvaceus*), wild rose (*Rosa* sp.), serviceberry (*Amelanchier alnifolia*), huckleberry (*Vaccinium membranaceum*), elderberry (*Sambucus caerulea*), Oregon grape (*Mahonia* spp.), golden currant (*Ribes aureum*), and snowberry (*Symphoricarpos albus*). Smaller, edible plants include fireweed (*Epilobium angustifolium*), arrowleaf balsamroot (*Balsamorhiza sagittata*), camas (*Camassia quamash*), various *Lomatium*s, paintbrush *(Castilleja* sp.), strawberry (*Fragaria vesca*), yarrow (*Achillia millefolium*), and tarweed (*Madia* spp.) (Shindruk and Purdy-Silbernagel 2022).

2.2 Cultural Context

A discussion of the current archaeological and ethnographic knowledge of the project area's region is essential to establishing a context for any archaeological materials that may be identified as the result of a study such as this one. The contextual information that follows is provided with a significant caveat; this information is based largely on the written record, from publicly available scholarly literature and from ethnographic and archaeological research held in the Oregon State Historic Preservation Office (SHPO)'s database. A thorough and thoughtful understanding of the region's cultural context should consider the voices of the people living here today who have ancestral ties to the area; an effort has been made to include those voices. Such information highlights use of the area and its resources in the past, as well as the continued use by Indigenous peoples in the present day and into the future.

2.2.1 Precontact Context

Terminal Pleistocene/Early Holocene (14,500-7,600 B.P.)

The environment of the APE during the Early Holocene, was, interestingly enough, warmer and drier than present day, with temperatures peaking between 8500 and 7500 calibrated years before present (cal B.P.), based on pollen evidence (Aikens et al. 2011:152). The earliest direct archaeological evidence for human occupation of the southern Plateau comes from the Cooper's Ferry site, on the Salmon River in western Idaho, approximately 56 mi northeast of the APE. Data from excavations at the site show human occupation of the area between 16,560 and 15,280 cal B.P.; investigators identified debitage, faunal remains, fire-modified rock (FMR), and stemmed and fluted projectile points (Davis et al. 2019). More regional archaeological evidence from the Early Holocene comes from Pilcher Creek Site (35UN147), located approximately 45 mi southeast of the APE. The site is located in an upland environment and provides evidence for long-term and extensive occupation, with hunting, root collecting, and plant and animal processing activities represented. The site has yielded radiocarbon dates of 10,800–8,500 B.P. (Brauner et al. 1983). Projectile points recovered from Cooper's Ferry and Pilcher Creek, as well as other early sites, are similar to lanceolate and shouldered or stemmed points associated with the Windust Phase across the southern Columbia Plateau (Aikens et al. 2011; Brauner et al. 1983). Clovis fluted projectile points have been found throughout the region, typically found in surface caches, often at higher elevation locations (Aikens et al. 2011). While local occurrences of these tools have not been radiocarbon dated, Clovis points have ben dated to 13,200–12,800 cal B.P. in the American southwest (Waters and Stafford 2007).

Middle Holocene (7600-3000 B.P.)

The climate of the APE during the Middle Holocene was one of gradual cooling from the Early Holocene peak: by 6000 cal B.P., pollen data suggest the expansion of conifer forests into the grasslands, indicating both a decrease in average temperatures and an increase in moisture (Aikens et al. 2011). Archaeological evidence from the Middle Holocene (7600–3000 B.P.) indicates a gradual but significant population growth throughout the Columbia Plateau (Aikens et al. 2011). An increase in both site density and site size along the region's major waterways suggests an increased focus on salmon and a shift away from the broad-spectrum, highly mobile lifeways of the Early Holocene (Aikens et al. 2011:166). Further evidence for the shift towards a more centralized foraging pattern is also suggested by the appearance of pithouses and large groundstone artifacts (Ames et al. 1998). A cluster of sites with components dating to the Middle Holocene are along the Snake River, approximately 30 mi west of the APE. The Kirkwood Bar (10IH483), Deep Gully (10IH1892), and Bernard Creek Rockshelter (10IH483) sites are all located within a few miles of one another; faunal evidence from all three sites shows an intensive focus of fish procurement, though mammal remains were also common. Interestingly, none of these sites have evidence of specialized lithic fishing gear, such as net weights (Aikens et al. 2011:168). This suggests that fishing gear was likely made of perishable materials. Lithic hunting equipment utilized during this period is typified by flaked atlatl dart points- large, triangular points (side, corner, and basal notched varieties have been observed), as well as bipointed, leaf-shaped points were common (Aikens et al. 2011). Lithic resource processing tools were typified by flaked knives and scrapers, ground stone mortars, and long, conical-shaped pestles (Aikens et al. 2011).

Late Holocene (3000 B.P.- Ca. 200 B.P.)

During the Late Holocene (3000 cal B.P.–Present), temperatures became warmer than the Middle Holocene, again, based largely on data from conifer pollen. The Late Holocene saw the rise of the "Plateau Pattern," which is a term for broad regional patterns in socioeconomic organization that can be defined by large settlements along major waterways and intensification in the procurement and reliance on storable, tradable foodstuffs (e.g., fish meat and oil, camas), as well as extensive inter-group marriage and trade, and a frequently shared mythology, art, and religious beliefs (Aikens et al. 2011:178; Walker 1998). Archaeological evidence for these changes can be seen in the prevalence of storage pits, diversification in tool assemblages, and a marked increase in imported goods and commodities, such as shell (both freshwater and marine) ornaments. Smaller projectile points are more common in sites dating to this period, as the bow and arrow had replaced the atlatl the dominant hunting and warfare technology throughout the region (Aikens et al. 2011:178). This period also saw the emergence of longhouses, particularly along the Columbia, and the appearance of storage pits (Ames et al. 1998). The distinctive rock art of the southern Plateau also reached its zenith during this period (Aikens et al. 2011:180).

2.2.2 Tribal Ethnology and History

The APE is located within the traditional lands of the Nimiipuu, or Nez Perce people, who occupied the southeastern corner of Washington, the northeastern corner of Oregon, and a large swath of land in western Idaho up to the western slopes of Mount Idaho, an area encompassing some 26,500 square mi. Specifically, the APE is within the lands of the wal'wáma, the Chief Joseph band of the Nez Perce. Major wal'wáma settlements were concentrated along the banks of the middle Snake and

Clearwater Rivers; their traditional lands were bounded to the east by the Bitterroot Mountains, to the west by the Blue Mountains, to the north (roughly) by the north fork of the Clearwater, and to the south (again, roughly) by the headwaters of the Salmon River. The Nez Perce speak Nimipuutímt, a language in the Sahaptin family (Sahaptin is both a language and the name given to a language family, a source of some confusion). Sahaptin languages are prevalent throughout the southern Plateau and are spoken by peoples culturally and socially related to the Nimiipuu such as the Palúspam (Palus), Walawalaláma (Walla Walla), Yakama Nation, Imatalamláma (Umatilla), and Wánapam (Wanapum) of eastern Oregon and Washington (Confederated Tribes of the Colville Reservation 2023).

During the winter months, the Nez Perce occupied permanent villages on the major tributary systems of the Salmon, Clearwater, and Snake Rivers. Villages consisted of one or more mat-covered, double lean-to constructed longhouses, shallow semisubterranean dormitories for the men and women, hemispherical sweathouses, and a variety of other possible small huts and structures (Walker 1998:427). Villages typically included several extended families led by a headman, who was generally the eldest able man in the group and was subject to the approval of the village council (Walker 1998:425). Caches of stored food were primarily relied upon for sustenance during the winter months and, as early spring arrived, so did the start of the annual subsistence cycle. Hunting in the river valleys dominated the early spring activities, but with the start of the salmon runs and the availability of early root crops at lower elevations in late spring, hunting was of less importance (Walker 1998:420).

During the summer months, families moved out of the villages and lived in temporary camps near resource-gathering areas that were generally upland from the villages; these temporary camps often consisted of one or several mat-covered conical tent structures. Bison skin-covered conical tents became more popular during the late eighteenth and early nineteenth century as the Nez Perce became influenced by Plains cultures (Walker 1998:427). The highlands offered later season root crops, stream fishing, and hunting, and through the fall, these activities increasingly added to their winter food stores.

Large game animals taken by the Nez Perce included elk, deer, moose, mountain sheep and goat, black and grizzly bear, and bison. The Nez Perce also hunted small mammals such as rabbit, squirrel, badger, and marmot, as well as birds including ducks, geese, grouse, sage hens, and birds of prey. Nez Perce individuals consumed an estimated average of over 500 pounds of fish per year. Fish included salmon and trout species such as Chinook, Coho, chum, sockeye, Dolly Varden, cutthroat, lake, and steelhead, as well as several kinds of suckers, whitefish, sturgeon, lampreys, and Northern pikeminnow (Walker 1998:420). Vegetable resources for the Nez Perce included camas, bitterroot, wild carrot, and wild onion, as well as serviceberries, gooseberries, hawthorn berries, thornberries, huckleberries, currants, chokeberries, pine nuts, sunflower seeds, and black moss (Walker 1998:421).

Colonial Contact, Treaties, and Removal

Well before the first face-to-face contact between the Nez Perce and Euroamerican colonizers, negative impacts of the interaction were already being felt. In the 1770s, the first documented smallpox epidemic devastated the Native American population of Oregon, with a very high estimated mortality rate among the Nez Perce. Further epidemics struck the area in 1801–1802, with subsequent waves of disease (malaria, measles, whooping cough, and scarlet fever, etc.) occurring

throughout the 1850s (Boyd and Gregory 2007). By 1838, approximately 2,500 Nez Perce people remained (Boyd 1998:467–474). As was the pattern repeated thought the West, the first permanent Euroamerican colonizers to live in the Wallowa Valley were fur trappers, who were living in Nez Perce villages as early as 1811 (Walker 1998:429). By the 1830s, the second wave of colonizers, Christian missionaries, arrived in the Snake, Salmon, and Columbia River Valleys and established permanent settlements (Walker 1998:429–433).

The lands occupied by the Nez Perce were too desirable to be ignored by the U.S. government, and treaties were drafted whereby the Nez Perce would surrender large swaths of their homeland and be moved to reservations. The Nez Perce were divided into two major factions: those who supported the sale of their ancestral lands in exchange for protection by the U.S. government from hostile White resettlers and miners, and those bands who strongly opposed the treaties (McWhorter 1983:87–115). At the Walla Walla council of 1855, under threat of war, Tuekakas (Elder Chief Joseph) signed a treaty with the U.S. government whereby some 7.5 million ac of the traditional lands of the Nez Perce (including the Wallowa Valley) would be preserved as part of the reservation that would be created (Josephy 1997:459; McWhorter 1983). However, the U.S. government seems to have done nothing to uphold their duties under the treaty, and the Nez Perce continued to be harassed by encroaching resettlers.

In 1863, a new treaty was drafted, which reduced the Nez Perce lands even more drastically, to 750,000 ac. This treaty was signed by Chief Lawyer, the most outspoken of the pro-treaty leaders of the 1855 council. This maneuver, by which an individual, a "head chief," was assumed to speak for the people as whole was likely a deliberate misunderstanding on behalf of the U.S. government. From the traditional Nez Perce perspective, individuals could not speak for the whole, as the bands that constituted the Nez Perce were largely politically autonomous (McWhorter 1983). Many other Nez Perce leaders, including Elder Chief Joseph, Chief White Bird, Ollokot, and Chief Looking Glass (among others) did not sign the treaty. The U.S. government and its agents continued to pressure the non-treaty bands to move to the reservation in Idaho, and tensions between the Nez Perce and the settlers continued to build. With the passing of Elder Chief Joseph in 1871, his sons, Hin-mah-too-yah-lat-kekht (Younger Chief Joseph) and Ollokot took up the mantle of preserving the Wallowa Valley for their people (Josephy 1997).

In 1877, the non-treaty bands were presented with an ultimatum: move to the reservation in Idaho or be forced there. Some Nez Perce did move to the reservation, while some prepared to fight, seeking retribution for crimes against their people by the resettlers (Josephy 1997:514). This was the beginning of the Nez Perce War, where a coalition of bands of the Nez Perce and Palouse led by Chief Looking Glass, Chief White Bird, Toohoolhoolzote, Red Echo, Ollokot, Younger Chief Joseph, and others fought a desperate, 1,170 mi rearguard action all the way to the Canadian border, where they intended to seek asylum with Sitting Bull's Lakota people. The survivors of this fight were captured near the Canadian border and sent to reservations in Kansas and Oklahoma until 1885, when the surviving people were removed to the Colville and Nez Perce Reservations (Beckham 1998:163).

2.2.3 Other Historic-Period Developments

Wallowa County was created from the eastern portion of Union County in 1887. Joseph served as an interim county seat until Enterprise was voted the seat in 1888, though the county did not build its courthouse until 1909 (Oregon Historical County Records Guide 2023). The city of Joseph,

Oregon, was founded in 1880 with the establishment of the post office in that year, though previously the settlement had been called Silver Lake or Lake City (McArthur and McArthur 2003:519). Joseph became a resupply hub for Euroamericans who began colonizing the valley. By 1881, Joseph had a large mercantile store, sawmill, and schoolhouse. The town was platted in 1883, and formally incorporated in 1887. The town's first newspaper, *The Chieftain*, began publication in 1883, though it was relocated to Enterprise by 1893. The city council authorized the construction of a waterworks system in 1888, and an electric light plant began operations in 1900. The Oregon-Washington Railroad and Navigation Company constructed a branch line connecting Joseph to La Grande, after which timber harvest became the dominant industry for the area, in addition to farming and ranching (Pedersen 2022).

Historic Document Review

HRA researchers examined online archival resources and a series of historic maps to assist in identifying development trends within and around the APE (Table 2-1). These documents were examined to gain a sense of landscape use and change through time and to anticipate where historic-period resources might be identified within the APE.

The earliest maps of the area were prepared by the General Land Office (GLO) in the early 1880s as part of its effort to survey the expanding territory and facilitate the various land claim acts. The 1882 GLO Cadastral map of Township 2 South, Range 44 East, Section 24 does not depict any cultural features within the APE (Figure 2-1). The nearest cultural feature is a road segment approximately 0.9 mi southwest of the APE. The road segment runs southwest to a sawmill roughly 1.75 mi southwest of the APE. A structure belonging to Isaac Bears is located approximately 1.4 mi southwest of the APE in Section 26, as well as a structure owned by J. Gaderous 1.5 mi to the northwest in Section 23 (GLO 1882). Additionally, a cluster of beaver dams are depicted on the 1882 GLO map along the Wallowa River, 0.8 mi northeast of the APE. No information could be found regarding Gaderous; a search of land patent records found no landowner in the vicinity of the APE by that name (BLM 2023). There is, however, a land patent issued in 1884 for "Isaac N. Bare" for 160 ac in section 26 (BLM 2023). The 1880 U.S. census indicates that Bare was born ca. 1849 in Iowa, and resided in Silver Lake, Union County, in 1880. His occupation is listed as "farmer." Residing with him were his wife Laura, and four children (USBC 1880). By 1900, the census lists Bare as widowed, and residing in Imnaha, suggesting he did not occupy the land claim for long (USBC 1900).

The next maps to depict the APE were prepared in the early to mid-1900s by cartographer Charles Metsker, who produced a series of Oregon county atlases detailing development within each county. The 1935 Metsker Map depicts the APE within two parcels owned by Jessie Amey. Numerous roads are located in the vicinity of the APE and the railroad is to the northeast, in approximately the same location it is today. By this point in time, nearly the entirety of Township 2 South Range 44 East has been divided into parcels and the town of Enterprise is established to the north. Historic documents are conflicted on the spelling of Jessie A. "Amey," many indicate the name is actually "Arvey." The 1920 U.S. census indicated that Jessie Arvey was born ca. 1886, in Illinois, and was married to Clide Arvey (born ca. 1884 in Kansas, occupation farmer). The couple are listed as residing with Clide's parents and siblings (USBC 1920). By 1940, the census lists Jessie as widowed, and the head of household (USBC 1940). The 1935 Metsker Map of Township 2 South, Range 45 East, to the east of the APE, is the earliest historic map to depict the town of Joseph, southeast of the APE.

The U.S. Geological Survey (USGS) superseded the GLO as the primary federal surveying agency in the early 1900s, producing a wide variety of cartographic products. There are no early USGS maps depicting the APE; all date to the mid-twentieth century at the earliest. The Joseph Airport first begins appearing on historic maps in 1957, along with the Joseph Cemetery at the southernmost end of the airport (USGS 1957; Figure 2-2). Aerial photographs depict the gradual development and expansion of the airport. The Joseph State Airport was initially a dirt airstrip, which, according to records, became active in 1945 (Airnav.com 2023). However, a 1946 aerial photograph shows the airport has been cleared of vegetation, but no runway is yet evident. The APE is wooded at this time, and there is a barn or other larger outbuilding evident on the west side of Hurricane Creek (Figure 2-3). Subsequent aerial photographs depict the gradual expansion of the airport, and changes to the ranch on the west side of the Hurricane Creek (Figure 2-4 through Figure 2-6).

Table 2-1. Historic Maps Depicting the APE.

Date	Title	Source	Comments
1882	Township No. 2 South Range No. 44 East, Willamette Meridian	GLO	Hurricane Creek mapped; area north of APE shown as marshland. V. Gaderous and Isaac Bears homes mapped.
1935	Metsker's Atlas of Wallowa County, Oregon	Metsker Map Co.	APE within two parcels owned by Jessie Amey (Arvey).
1946	Aerial Photograph # AR1CK0000210062	USGS	The airport is not yet constructed, but the footprint has been cleared of trees. APE wooded; a large structure (likely a barn) mapped north of the APE.
1953	Aerial Photograph # AR1UW0000010087	USGS	The airport appears to be under construction. Further development on private parcel at the west end of the APE; a new, larger barn or outbuilding is evident.
1957	Enterprise, Oregon. 15 Minute Series (Topographic)	USGS	Airport mapped, does not extend as far north as it does presently.
1976	Aerial Photograph # H410611760019	USGS	Airstrip is extant, appears to be dirt. Area south of APE now cleared of vegetation. Larger barn evident on 1953 aerial no longer extant.
1987	Aerial Photograph # AR1VFIE00030101	USGS	Runway paved. Large mill operational east of airport. Much of area around APE now cleared of vegetation. Stock pond constructed north of APE.

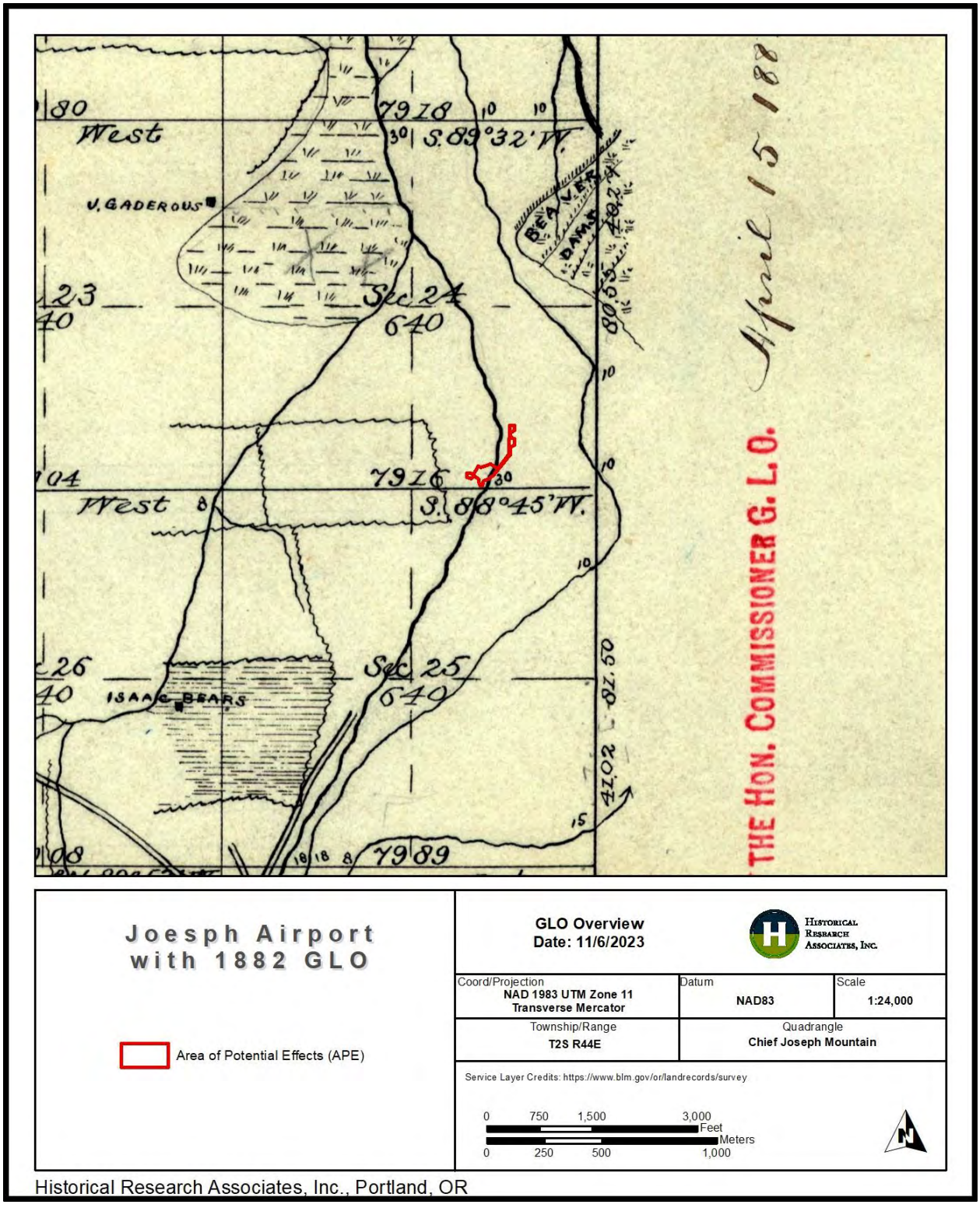

Figure 2-1. 1882 GLO depicting the APE.

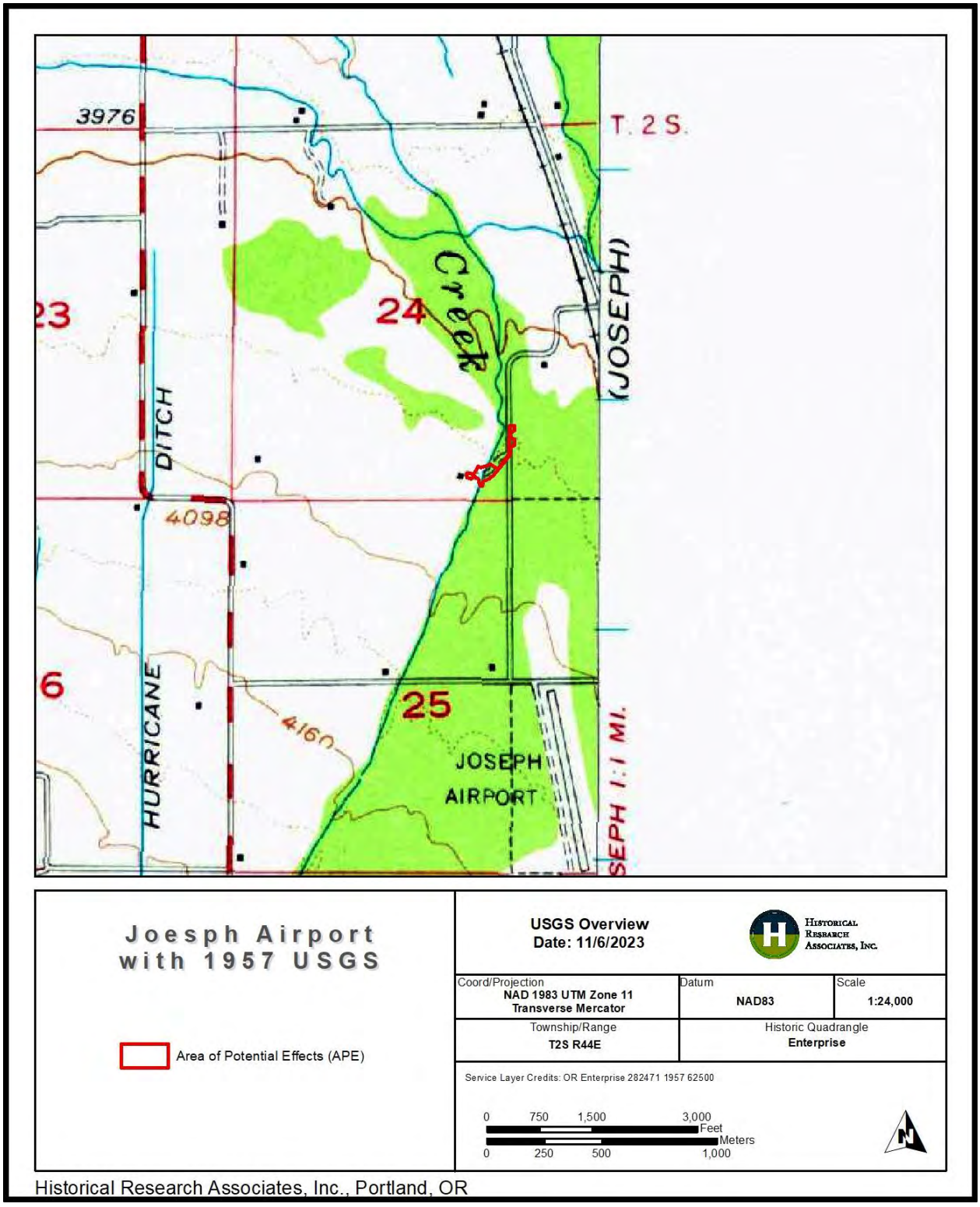

Figure 2-2. 1957 USGS Quad depicting the APE.

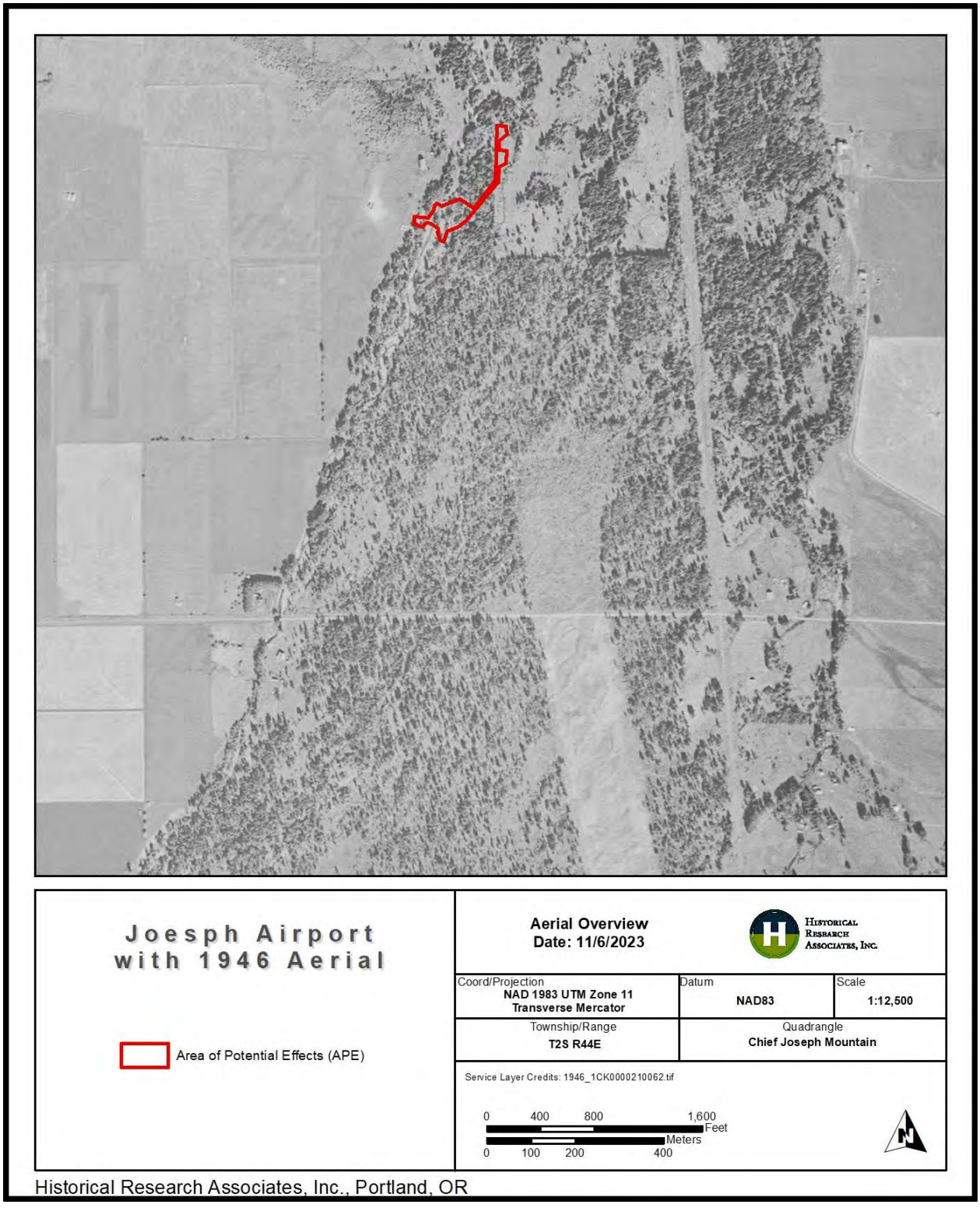

Figure 2-3. 1946 aerial photograph depicting the APE.

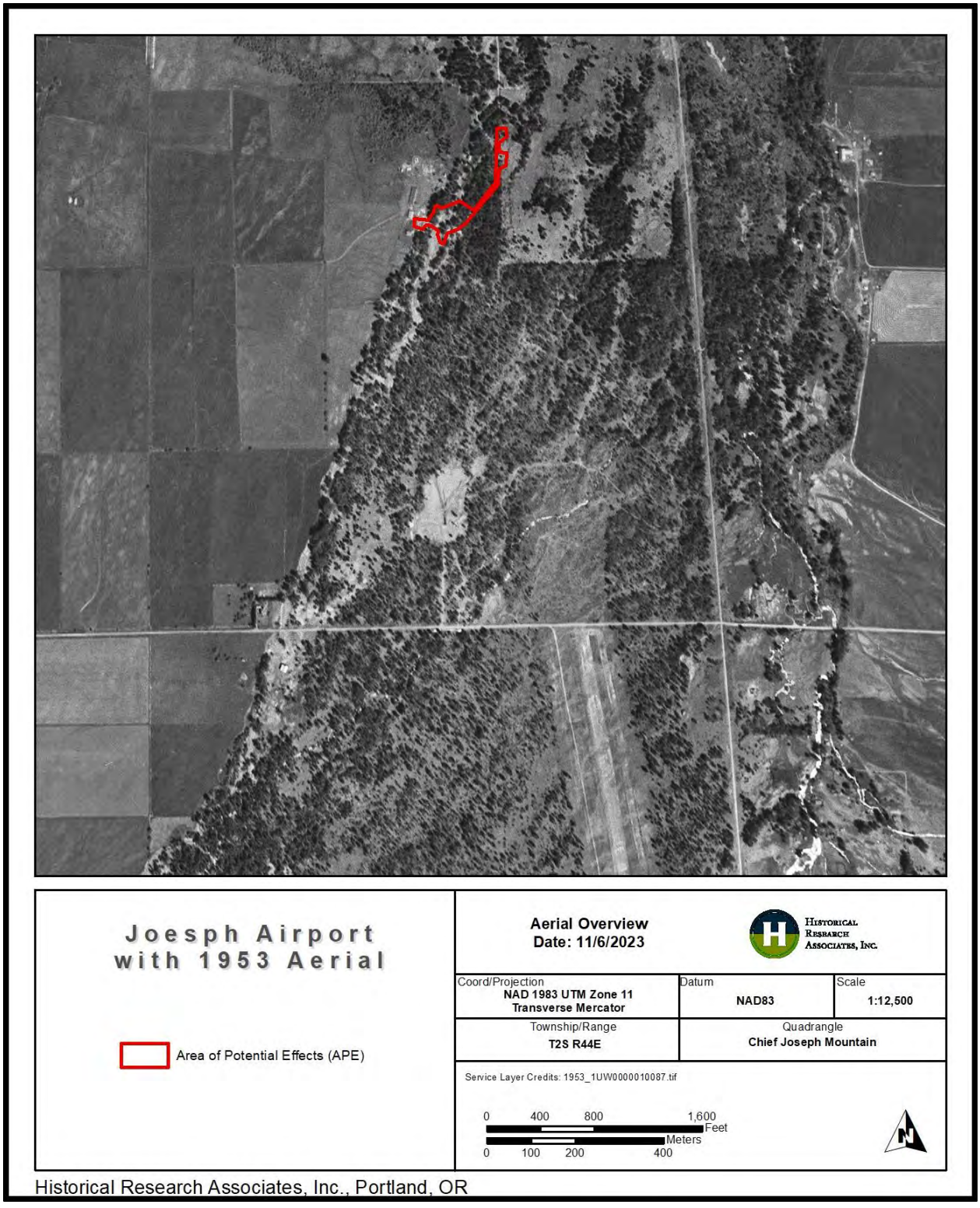

Figure 2-4. 1953 aerial photograph depicting the APE.

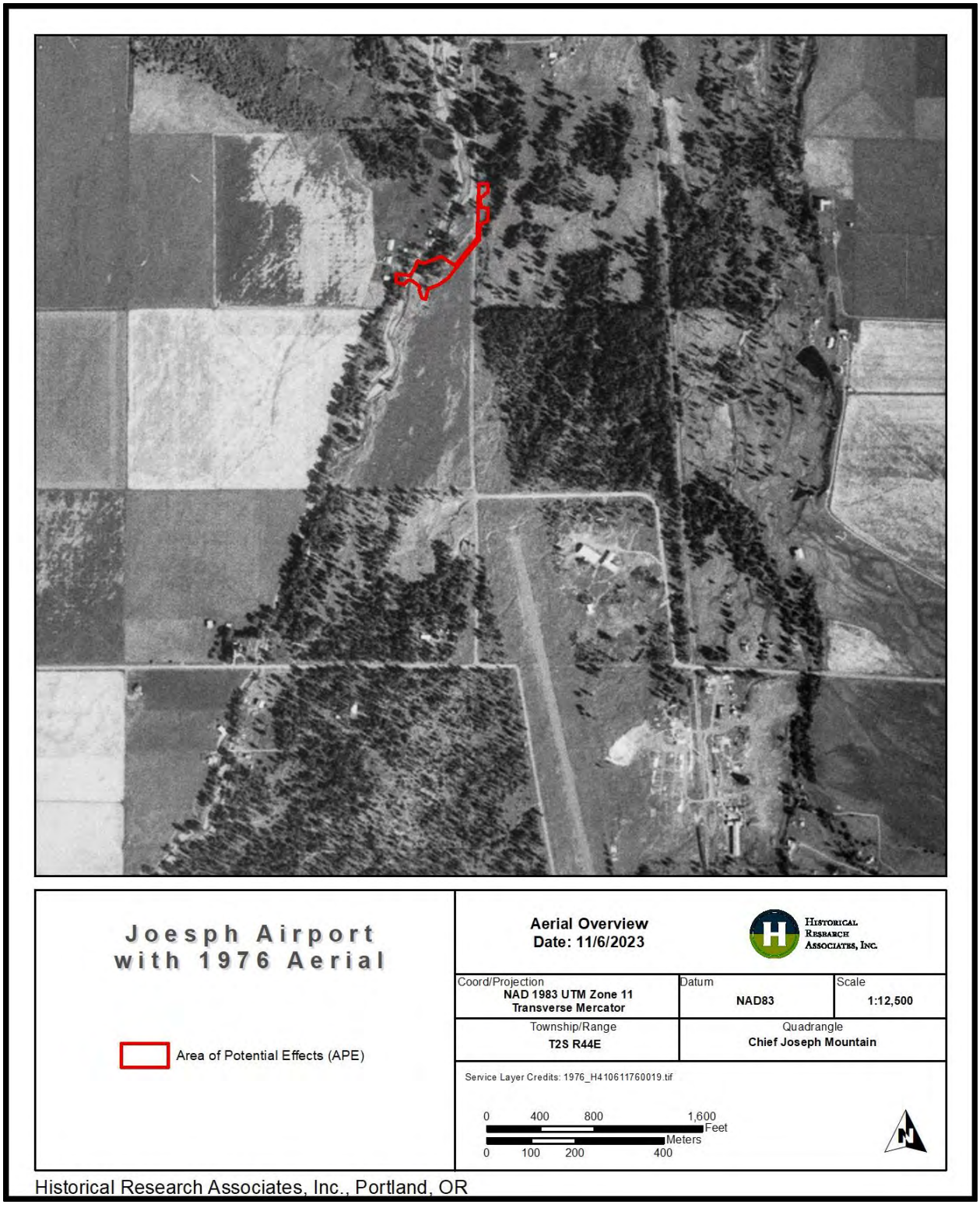

Figure 2-5. 1976 aerial photograph depicting the APE.

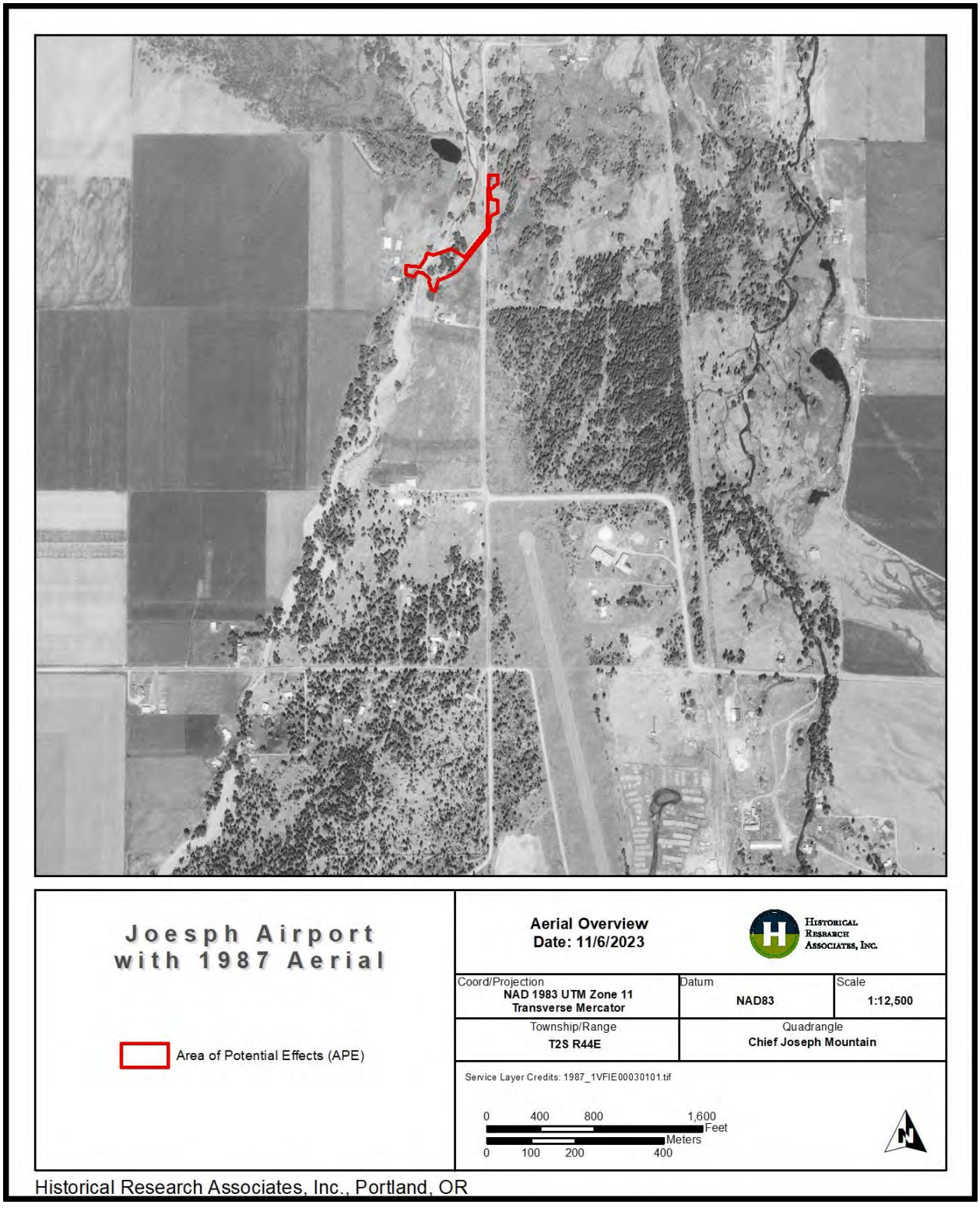

Figure 2-6. 1987 aerial photograph depicting the APE.

3. Background Research and Expectations

3.1 Previous Cultural Resources Investigations and Known Resources

HRA archaeologists conducted research using the Oregon SHPO's Oregon Archaeological Records Remote Access (OARRA) GIS database. Six cultural resource surveys or projects have been conducted within 1 mi of the APE (Table 3-1). The APE was partially surveyed by Brownell (2014) as part of a runway obstruction clearance project. No cultural resources were observed within the APE; however, it was noted that there was minimal ground-surface visibility and there is a potential for subsurface cultural deposits.

There is one previously documented resource located within 1 mi of the APE; Site 35WA1487 is a segment of the Joseph Branch Oregon Railroad and Navigation (OR&N) trunk line (O'Brien 2016). The segment is 7 mi long, extending from Enterprise to Joseph, Oregon. The site has been previously recommended as eligible for the National Register of Historic Places (NRHP) as a contributing feature to the larger Joseph Branch of the OR&N railroad.

Cole (1993) surveyed to the south of the APE along the Joseph State Airport runway. While Cole (1993) did not record any cultural resources, a rock pile and stone wall were noted just west of the runway in dense vegetation. The rock pile is visible on OARRA approximately 0.65 mi south of the APE. The rock wall is suggested by Cole (1993) as being formed in 1947 during construction of the first airstrip. Cole (1993) further suggests the rock pile predates the wall based on lichenometrics. The rock pile and wall were not recorded as a resource during this study, based on Cole's interpretation of the rock wall after a second visit to the location (Cole 1993).

Table 3-1. Cultural Resource Studies within 1 mi of the APE.

Distance/Direction from APE	Title	Reference	Associated Resource(s) w/in 1 mi	SHPO Report No.
Within	Cultural Resource Inventory for the Proposed Joseph State Airport Obstruction Removal Project in Wallowa County, Oregon	Brownell 2014	—	26508
0.08 mi south	Report of a Cultural Resources Survey in the Area of the Proposed Joseph State Airport Expansion in Wallowa County, Oregon	Cole 1993	—	14240
0.24 mi east	Wallowa Union Railroad Authority Joseph to Enterprise Rail-With-Trail Pilot Project	O'Brien 2016	35WA1487	29096

Table 3-1. Cultural Resource Studies within 1 mi of the APE.

Distance/Direction from APE	Title	Reference	Associated Resource(s) w/in 1 mi	SHPO Report No.
0.35 mi west	Cultural Resource Report for the Dawson EQIP 2019 Irrigation Pivot, Wallowa County, Oregon	Shindruk and Silbernagel 2020	—	32301
0.61 mi west	Hurricane Creek Road (Alt. OR82) Project, Wallowa County, Pedestrian Survey and Subsurface Reconnaissance	Baxter 2011	—	24814
0.97 mi northwest	Combined Cultural Resource Report for Six FY2019 Irrigation RCPP/EQIP Projects in Wallowa Valley, Wallowa County, Oregon	Shindruk and Silbernagel 2022	—	32522

3.2 Expectations

Prior to fieldwork, HRA archaeologists developed expectations for the presence of precontact and historic-period archaeological resources within the APE based on the environmental and cultural context described in Section 2 and the results of previous cultural resources investigations within and around the APE. Based on background research, there is a high probability for encountering both precontact and historic-period archaeological resources within the APE. If encountered, precontact archaeological deposits might include lithic debitage scatters, isolated lithic artifacts, or possibly stacked rock features. By the same token, extensive and continuous use by non-Indigenous people creates a strong possibility for encountering historic-period archaeological deposits. If encountered, historic-period deposits might include glass, ceramic, and metal household refuse, or architectural debris.

4. Methods and Results

4.1 Methods

HRA's survey methods consisted of a combination of pedestrian survey and subsurface shovel probes (SPs). HRA archaeologists first intensively examined the ground surface within the APE along transects spaced no more than 20 meters (m) apart. They inspected all surface exposures, including rodent backdirt piles, areas of erosion, and cut banks for archaeological material. Throughout the surveyed area, they recorded notes on topographic setting, surface visibility, vegetation, and land disturbance and took overview photographs.

The SPs were cylindrical, measured 30 cm in diameter, and were excavated in 10 cm levels to a minimum of 50 cm below surface (bs). HRA excavated nine SPs at obstructions located on private lands. The archaeologists screened all excavated sediments through ¼-inch (in) mesh. No SPs were excavated at the two obstructions located on ODAV property; the CTUIR and the Nez Perce Tribe requested clarification on shovel probe methodology as described in the research design for AP-3732 during the permit review process. HRA received verbal approval of methodology from the CTUIR prior to commencing fieldwork, but written approval was not received until after HRA's fieldwork window. As such, out of an abundance of caution, no SPs were excavated within the permit area. area. The only potential ground disturbance that may occur on ODAV property is replanting of riparian vegetation along the creek adjacent to the proposed staging area; the creek cutbank afforded excellent subsurface visibility in this area. The need to plant this area was unconfirmed at the time of this report.

4.2 Results of Survey

HRA archaeologists Karla Hotze, MA, and Morgan McKenna, MA, completed pedestrian and subsurface survey of the APE on August 17, 2023 (Figure 4-1).

The APE encompasses trees proposed for removal, project access, and a potential staging area. The APE primarily consists of a level terrace landform, east of Hurricane Creek (Figure 4-2). Hurricane Creek flows north through the APE (Figure 4-3). During the pedestrian survey in August, the stream was dry. The streambed is incised approximately 2 m below the surrounding landform. Cut banks along the stream bed were carefully inspected for evidence of archaeological deposits. Alluvial gravels and sand were exposed along the cut banks and terraces adjacent to the stream.

Willows and cottonwood grow along the periphery of Hurricane Creek. The terrace east of Hurricane Creek supports grassland and open stands of juniper and fir. Mineral soil visibility throughout the APE was generally poor (approximately five percent) due to thick grasses and brush. Tree removal areas within the north half of the APE are within a livestock pasture (Figure 4-4). Livestock grazing, trailing, and wallows allowed for improved mineral soil visibility (approximately 20 percent) within this portion of the APE.

Airway Rd. extends north to south through the APE (Figure 4-5). The road surface is dirt and gravel and is level with the surrounding landform. The road crosses Hurricane Creek over a plank deck bridge and leads to the portion of the APE west of Hurricane Creek and the residence at 64290 Airway Rd. The portion of the APE west of Hurricane Creek is limited to a narrow swath of the

stream bank, where one large cottonwood tree is proposed for removal, and a 20 by 30-m staging area (Figure 4-6 and Figure 4-7). The staging area consists of an existing gravel driveway in front of the house at 64290 Airway Rd. Agricultural fields associated with this residence extend beyond the APE to the west.

Concrete rubble and architectural debris were identified within the APE along the west bank of Hurricane Creek (Figure 4-8). The landowner indicated that the previous owner demolished a nearby milking parlor in the 1990s (formerly located outside the APE) and placed some of the demolition debris along Hurricane Creek to reinforce the eroding stream bank. A dairy head catch was identified alongside other structural refuse, which reinforces the landowner interview. Aerial photos show that the milking parlor was removed sometime between 1987 and 1994 (NetrOnline 2023). Although the former milking parlor was possibly constructed during the historic period, the debris was deposited between 29 and 36 years ago, so it does not meet the minimum age requirement for an archaeological site.

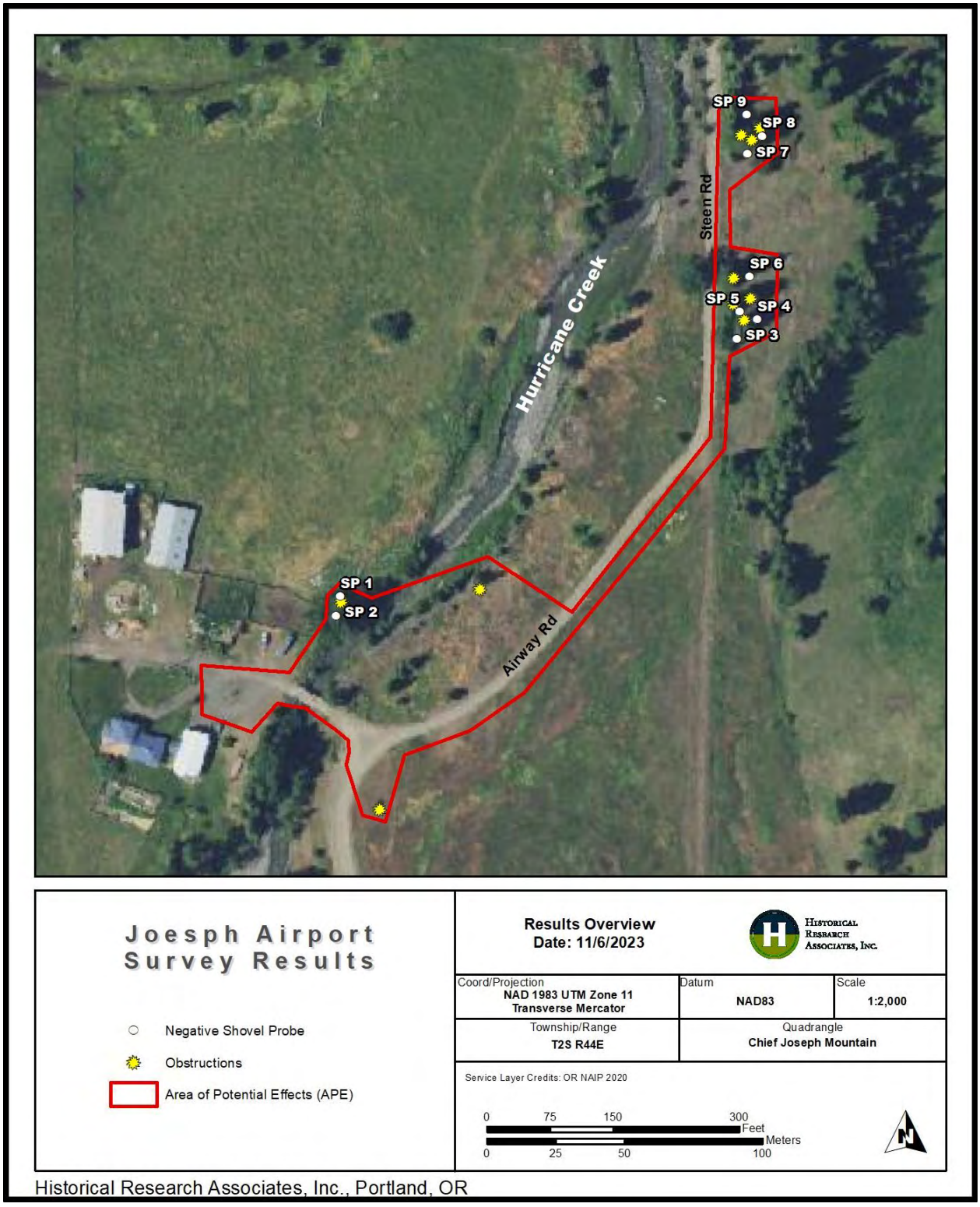

Figure 4-1. Results of the archaeological survey.

Figure 4-2. An overview of the stream terrace east of Hurricane Creek, view north.

Figure 4-3. An overview of the Hurricane Creek stream bed, view north.

Figure 4-4. An overview of the northernmost tree removal area, view north.

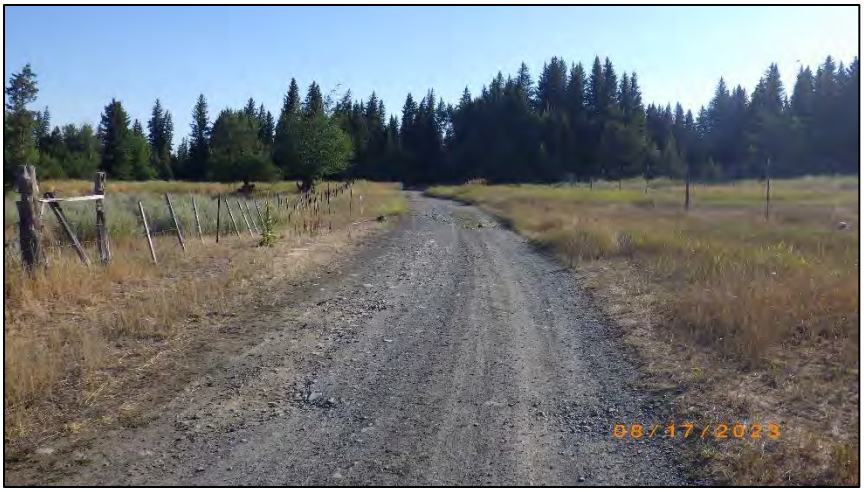

Figure 4-5. Airway Rd. extending north–south through the APE, view northeast.

Figure 4-6. The stream bank along the west side of Hurricane Creek, view north.

Figure 4-7. The proposed staging area, a gravel driveway at 64290 Airway Rd.; view southeast.

Figure 4-8. Concrete along the west bank of Hurricane Creek representing the remnants of the former milking parlor.

HRA archaeologists excavated nine SPs immediately adjacent to trees proposed for removal on private land (see Figure 4-1). Subsurface survey was not completed at the one tree proposed for removal on public lands owned by ODAV; however, pedestrian survey transects were walked across ODAV lands.

Shovel probes typically encountered medium brown fine sandy silt with up to 20 percent gravels overlying medium tan-brown silty fine sand with up to 75 percent gravels (Table 4-1; Figure 4-9). Shovel probes 1 and 2 encountered wire nails, wire, concrete, colorless glass, and plastic. These materials were consistent with architectural debris found scattered across the surface within this portion of the APE.

Soils encountered in shovel probes were consistent with the Eggleson soil series mapped within the project area (See Section 2.1). The soil consists of gravelly loam overlying gravelly sand. Eggleson soils are very deep, well drained, and formed in mixed alluvium on floodplains. No buried archaeological resources were encountered during the subsurface survey.

Figure 4-9. Shovel probe 7 showing the typical soil profile encountered throughout the APE.

Table 4-1. Subsurface Sample Results.

SP#	Depth (cmbs*)	Sediments (measured in cmbs)	Results
1	25	0–25: Medium brown fine sandy silt, 15% subrounded gravels, chunks of concrete and wire nails present, concrete slab encountered at 25 cmbs	Negative
2	60	0–35: medium brown fine sandy silt; wire, colorless glass fragments, and plastic present 35–60: Medium brown fine sandy silt, 10% subrounded gravels, decomposing woody debris	Negative
3	55	0–55: Medium brown fine sandy silt, 2% subangular gravels	Negative
4	96	0–50: Medium brown fine sandy silt, 2% subangular gravels, loose compaction 50–96: Medium tan-brown silty fine sand, 2% subangular gravels, no structure	Negative
5	40	0–40: Medium brown fine sandy silt, 5% subrounded gravels, no structure, becomes extremely gravelly at 40 cmbs	Negative
6	60	0–20: Medium brown fine sandy silt, 20% subrounded gravels, moderately compact 20–60: Medium tan-brown silty fine sand, 20% subrounded gravels, no structure	Negative
7	50	0–20: Medium brown fine sandy silt, 20% subrounded gravels, moderately compact 20-50: Medium tan-brown extremely gravelly silty fine sand, 75% subrounded gravels, no structure	Negative
8	50	0–20: Medium brown fine sandy silt, 20% subrounded gravels, moderately compact 20–50: Medium tan-brown silty fine sand, 50% subrounded gravels, no structure	Negative
9	70	0–30: Medium brown fine sandy silt, 10% subrounded gravels, moderately compact 30–70: Medium tan-brown silty fine sand, 75% subrounded gravels, no structure	Negative

*cmbs = centimeters below surface.

5. Conclusions and Recommendations

HRA completed archaeological resources investigations for the Project in August 2023. Investigations included review of the environmental and cultural context of the project vicinity, background research, a pedestrian survey to identify near-surface archaeological resources, and subsurface sampling to identify buried archaeological resources. HRA archaeologists surveyed 100 percent of the 3.97-ac APE and excavated nine SPs. HRA archaeologists did not identify any archaeological resources. HRA recommends no further archaeological work for the APE as reported here.

In the event that archaeological materials are identified during construction activities anywhere within the APE, construction personnel should immediately halt work and notify the project manager. The project manager should consult with SHPO to determine the next steps. Oregon Law protects Native American graves and associated objects (ORS 97.740–97.760) and archaeological objects and sites (ORS 358.905–358.955). These statutes prohibit intentional damage to Native American graves and cairns and prohibit damage to archaeological sites and objects.

Pursuant to ORS 97.745(4), if human remains are encountered, the project manager or professional archaeologist will contact the Oregon State Police, State Archaeologist at the Oregon SHPO, Oregon Legislative Commission on Indian Services (LCIS), and appropriate federally recognized Tribes (following determination of the appropriate Tribes by the LCIS). Protocols outlined in the *Tribal Position Paper on the Treatment of Human Remains* prepared by the Government-to-Government Cultural Resource Cluster Group in September 2006 should be followed. Tribes that may have ancestral burial sites in the region include the Nez Perce Tribe and the Confederated Tribes of the Umatilla Indian Reservation.

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Appendix C

Agency Correspondence

Oregon
Tina Kotek, Governor

Parks and Recreation Department
Oregon Heritage/
State Historic Preservation Office
725 Summer St. NE, Suite C
Salem, OR 97301-1266
(503) 986-0690
Fax (503) 986-0793
oregonheritage.org

December 13, 2023

Adam Merrill
Federal Aviation Administration
Seattle Airports District Office
2200 S. 216th Street
Des Moines, WA 98198

RE: SHPO Case No. 23-1634
FAA Joseph State Airport IAP Obstruction Removal Project
Remove 9 trees at end of Runway 12/33
2S 44E 24, 24, Wallowa County

Dear Adam Merrill:

Thank you for submitting information for the undertaking referenced above. We concur that there will be no historic properties affected for this undertaking.

This concludes consultation with our office under Section 106 of the National Historic Preservation Act (per 36 CFR Part 800) and/or Oregon Revised State (ORS) 358.905-961, ORS 358.653, and ORS 97.740-760 for archaeological resources. If you have not already done so, be sure to consult with all appropriate Native American tribes and interested parties regarding the proposed undertaking.

If the undertaking design or effect changes or if additional historic properties are identified, further consultation with our office will be necessary before proceeding with the proposed undertaking. Additional consultation regarding this case must be sent through Go Digital. In order to help us track the undertaking accurately, reference the SHPO case number above in all correspondence.

Our office has assigned the report SHPO biblio number 34257. Details will be available in the bibliographic database.

Please contact our office if you have any questions, comments or need additional assistance.

Sincerely,

Jamie French, M.A.
Assistant State Archaeologist
(503) 979-7580
Jamie.French@oprd.oregon.gov

Valerie Thompson

From: Karen Capuder <karen.capuder@colvilletribes.com>
Sent: Thursday, November 30, 2023 7:57 AM
To: Merrill, Adam W (FAA)
Cc: Guy Moura
Subject: Re: Section 106 consultation: Joseph Airport Obstruction Removal Project

Follow Up Flag: Follow up
Flag Status: Flagged

Good morning, Adam -

The CCT concurs with the results and recommendations of HRA's cultural resource survey, as well as with FAA's determination that there will be No Historic Properties affected by this undertaking.

As Guy indicates, amending the survey report to include information on the establishment and disestablishment of the Wallowa Reserve prior to the Nez Perce War is not, at this time, necessary for our concurrence. However, we would appreciate it if you would forward our email to HRA as a reminder to be sure to include this history in future survey reporting within the traditional territories of the Chief Joseph Band of Nez Perce Tribe.

Thank you for consulting with the Confederated Tribes of the Colville Reservation.

Sincerely,
Karen Capuder, Ph.D., Archaeologist Senior
on behalf of
Guy Moura, Tribal Historic Preservation Officer

On Tue, Nov 28, 2023 at 2:25 PM Merrill, Adam W (FAA) <Adam.W.Merrill@faa.gov> wrote:

> Sure thing!
>
> -Adam
>
> **From:** Karen Capuder <karen.capuder@colvilletribes.com>
> **Sent:** Tuesday, November 28, 2023 12:10 PM
> **To:** Guy Moura <guy.moura@colvilletribes.com>
> **Cc:** Merrill, Adam W (FAA) <Adam.W.Merrill@faa.gov>
> **Subject:** Re: Section 106 consultation: Joseph Airport Obstruction Removal Project

Hello Adam -

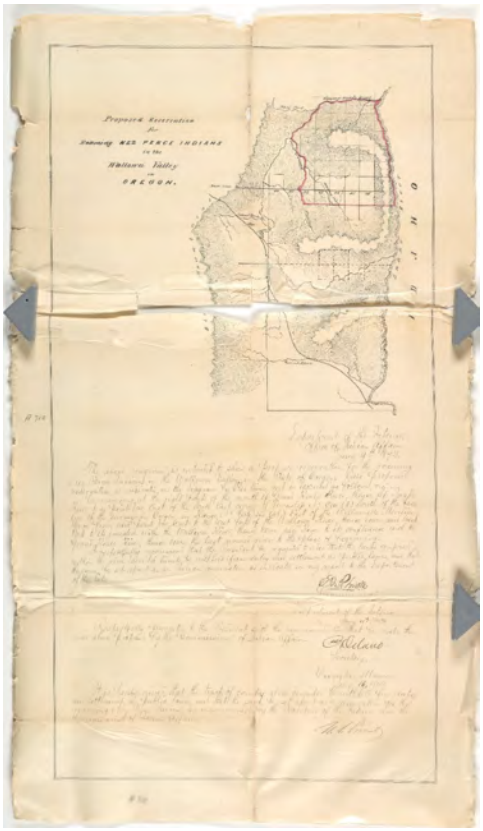
The survey did not come through with Guy's forward. Would you mind resending it to me for review?

Thanks very much,

Karen

On Mon, Nov 20, 2023 at 3:33 PM Guy Moura <guy.moura@colvilletribes.com> wrote:

> Adam, forwarding to our FAA consulting archaeologist, Dr. Karen Capuder, as Joseph State Airport is in the traditional territory of the Chief Joseph Band of Nez Perce, a constituent of the Colville Confederated Tribes. The report seems okay, and the undertaking appears minimal, but not sure I saw reference to the Wallowa Reserve.
>
> Karen, it isn't necessary to mention the Wallowa Reserve for a simple 106 consultation. Nonetheless, please review.



lim ləmt, qeʔciéẃyeẃ, thank you

Guy Moura

Manager, History/Archaeology Program

Tribal Historic Preservation Officer

Confederated Tribes of the Colville Reservation

(509) 634-2695

On Mon, Nov 20, 2023 at 2:26 PM Merrill, Adam W (FAA) <Adam.W.Merrill@faa.gov> wrote:

> Greetings-
>
> The Federal Aviation Administration (FAA) is examining the environmental impacts associated with an obstruction (tree) removal project at the Joseph State Airport in Joseph, Oregon. We would like to initiate consultation with you in accordance with Section 106 of the National Historic Preservation Act

of 1966, and implementing regulations 36 CFR Part 800. We are also initiating consultation in accordance with Executive Order 13175, Consultation and Coordination with Indian and Tribal Governments and FAA Executive Order 1210.20, American Indian and Alaska Native Tribal Consultation Policy and Procedures. The FAA has initiated preparation of an Environmental Assessment (EA) to meet its regulatory obligations and intends to complete Section 106 in conjunction with the NEPA process.

Proposed Undertaking/Project Description

The Oregon Department of Transportation (ODAV) proposes to remove up to nine trees and add a light to the top of a power pole located at the north end of Runway 15/33. The project is needed in order to develop an Instrument Approach Procedure (IAP) for the airport.

One of the trees proposed for removal and the power pole are located on airport property – the remaining trees are located on private property. On airport property, trees will be cut flush to the ground and timber debris will be removed from airport property. Trees on private property will be cut flush to the ground and logs will either be removed from the site or left in place in upland areas (depending on landowner preference). Project-related ground disturbance is expected to be minimal; the only proposed excavation activity would be some replanting of vegetation along the banks of Hurricane Creek.

Area of Potential Effect

The Area of Potential Effect (APE) is 3.97 AC in area and encompasses proposed ground-disturbing activities and associated access roads. Maps showing the APE boundary are included in the attached cultural resources report (HRA, 2023).

Cultural Resource Assessment

An archaeological survey for the proposed undertaking was conducted by Historical Research Associates, Inc. (HRA). The HRA study included background review, pedestrian survey, and a subsurface survey on privately-owned land. HRA did not identify any archaeological resources and recommends no further archaeological work.

Request for Concurrence with Section 106 Finding

Based upon the results and recommendations in the report by HRA, the FAA proposes a finding of No Historic Properties Affected for the proposed undertaking and we request your concurrence or non-concurrence with this determination.

Please feel free to reach out with any questions or comments.

Sincerely,

Adam

Adam Merrill

Environmental Protection Specialist (Oregon)
Federal Aviation Administration

Seattle Airports District Office

2200 S. 216th Street

Des Moines, WA 98198

(206) 231-4107

adam.w.merrill@faa.gov

Valerie Thompson

From: Keith P Baird <keithb@nezperce.org>
Sent: Wednesday, January 17, 2024 11:02 AM
To: Merrill, Adam W (FAA)
Cc: Ferris Paisano; Nakia Williamson
Subject: RE: Proposed Joseph Airport Obstruction Removal project

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Adam,
Thanks for the updated report on the project, and sending it the Nez Perce Tribe Executive Committee for consultation. I don't have any concerns about the project as proposed.
Pat

Patrick Baird
Nez Perce Tribe | Cultural Resource Program
Tribal Archaeologist

P.O. Box 365
109 Lolo St.
Lapwai, ID 83540

W: (208) 621-3551
C: (208) 791-8610
keithb@nezperce.org

From: Ferris Paisano <FerrisP@nezperce.org>
Sent: Tuesday, January 16, 2024 3:12 PM
To: Keith P Baird <keithb@nezperce.org>
Subject: FW: Proposed Joseph Airport Obstruction Removal project

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From: Merrill, Adam W (FAA) <Adam.W.Merrill@faa.gov>
Sent: Tuesday, January 16, 2024 2:37 PM
To: nptec@nezperce.org
Subject: Proposed Joseph Airport Obstruction Removal project

Nez Perce Tribal Executive Committee-

The Federal Aviation Administration (FAA) is examining the environmental impacts associated with an obstruction (tree) removal project at the Joseph State Airport in Joseph, Oregon. It is our understanding that the proposed project occurs

within the historic boundary of the Wallowa Reserve. We are initiating consultation with you in accordance with Executive Order 13175, Consultation and Coordination with Indian and Tribal Governments and FAA Order 1210.20, American Indian and Alaska Native Tribal Consultation Policy and Procedures.

Proposed Undertaking/Project Description

The Oregon Department of Transportation (ODAV) proposes to remove up to nine trees and add a light to the top of a power pole located at the north end of Runway 15/33. The project is needed in order to develop a safe Instrument Approach Procedure (IAP) for the airport. Please see the attached figures and photos for project location details.

One of the trees proposed for removal and the power pole are located on airport property – the remaining trees are located on private property. On airport property, trees will be cut flush to the ground and timber debris will be removed from airport property. Trees on private property will be cut flush to the ground and logs will either be removed from the site or left in place in upland areas (depending on landowner preference). Project-related ground disturbance is expected to be minimal; the only proposed excavation activity would be some replanting of vegetation along the banks of Hurricane Creek to compensate for the removal of 2 trees within the riparian zone.

Cultural Resource Assessment and Section 106 Consultation

An archaeological survey for the proposed undertaking was conducted by Historical Research Associates, Inc. (HRA). The HRA study included background review, pedestrian survey, and a subsurface survey on privately-owned land. HRA did not identify any archaeological resources and recommends no further archaeological work.

The FAA provided a project description and the archaeological survey report to the Oregon State Historic Preservation Officer (SHPO) and the Tribal Historic Preservation Officers (THPOs) for the Umatilla, Colville, Warm Springs, and Nez Perce tribes. No comments were received from the Oregon SHPO, Umatilla THPO, or Warm Springs THPO. The Colville THPO concurred with the results and recommendations in the cultural resource survey, as well as FAA's determination that there would be "No Historic Properties affected" by the undertaking. The Nez Perce THPO (Patrick Baird) reviewed the archaeological survey, but requested that the FAA send notice to the Tribal Chairman before making a concurrence/non-concurrence determination.

Thank you for reviewing this information, and please reach out if you have any questions or concerns about the proposed project.

Adam Merrill
Environmental Protection Specialist (Oregon)
Federal Aviation Administration
Seattle Airports District Office
2200 S. 216th Street
Des Moines, WA 98198
(206) 231-4107
adam.w.merrill@faa.gov