

# Grants Pass Airport Runway 13-31 Extension Draft Environmental Assessment



## Prepared For:



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- B. Tribal Correspondence
- C. Noise Analysis



# CHAPTER 1

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## Purpose and Need

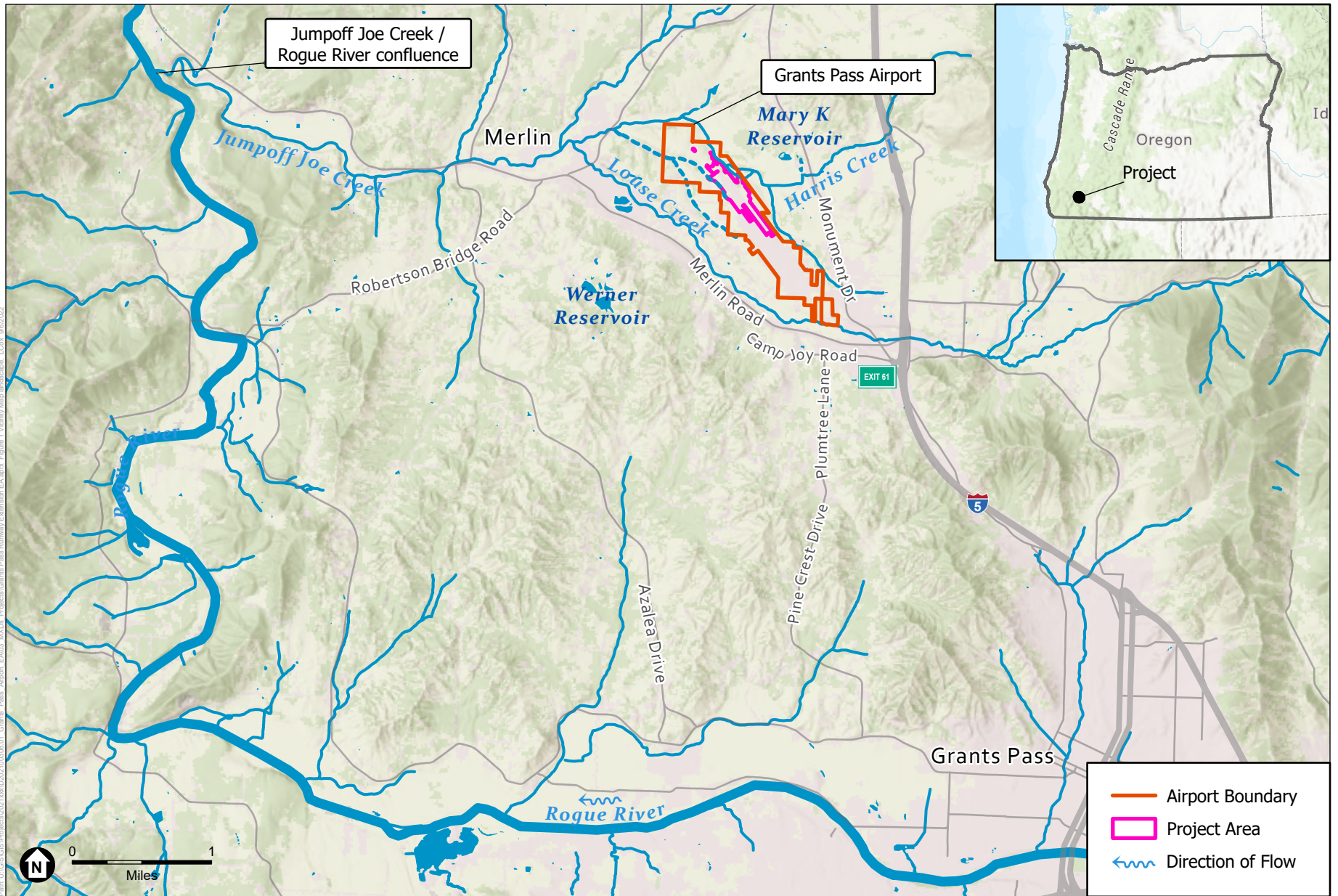
Josephine County (County), owner and operator of the Grants Pass Airport (Airport), proposes a 700-foot extension of Runway 13-31 (Proposed Action). The runway extension would provide the recommended runway length to serve the current Airport operations and accommodate the critical design aircraft B-II-1B.

The County, in cooperation with the Federal Aviation Administration (FAA), has prepared this Environmental Assessment (EA) to identify the potential environmental effects associated with the Proposed Action, as well as how any identified impacts can be avoided, minimized, or mitigated. The EA was prepared pursuant to Section 102(2)(c) of the National Environmental Policy Act (NEPA) and the President’s Council on Environmental Quality (CEQ) Regulations Title 40 Code of Federal Regulations (CFR) §§ 1500–1508, the implementing regulations for NEPA, as well as in accordance with FAA Order 1050.1F Environmental Impacts: Policies and Procedures (FAA 2015) and FAA Order 5050.4B National Environmental Policy Act Implementing Instructions for Airport Actions (FAA 2006). This is a disclosure of relevant environmental information regarding the Proposed Action for the Grants Pass Airport Runway Extension Project.

### 1.1 Location and Setting

The Grants Pass Airport is located 6 miles northwest of Grants Pass, Oregon, in Josephine County. Monument Drive, Brookside Boulevard, and Flaming Road provide access to the Airport. The Airport can be accessed from Interstate 5, which is located 1 mile east of the Airport via Merlin Road. A location and vicinity map for the Airport is provided in **Figure 1-1**.

The Airport lies atop a broad, flat alluvial fan terrace within the Rogue River watershed. Stormwater from the Airport flows to Jumpoff Joe Creek and eventually into the Rogue River. North of the Airport is undeveloped forested land and an abandoned 320-acre residential and golf course destination resort. To the east, west, and south of the Airport is low-density residential or light industrial development.



SOURCE: Hillshade: Esri, 2022; Hydrography: NHD, 2022; Landcover: NLCD, 2022; Roads: OSM, 2022; ESA, 2022

Grants Pass Airport Runway Extension

**Figure 1-1**  
Vicinity Map

## 1.2 Airport Existing Conditions and Facilities

Grants Pass Airport is served by a single runway, designated runway (Runway 13-31), which is oriented in a northwest/southeast manner (**Figure 1-2**). It is 4,001 feet long, 75 feet wide, and constructed of asphalt that is in good condition. The runway has non-precision markings, with aiming zone markings on each runway approach. The gradient of the runway is 0.80 percent, with the Runway 31 end being at an elevation of 1,130.1 feet mean sea level (MSL) and the Runway 13 end at an elevation of 1,098.6 feet MSL. Runway 13-31 is equipped with medium intensity edge lighting to illuminate the runway edges at night. Standard left-hand air traffic patterns are employed for each runway end.

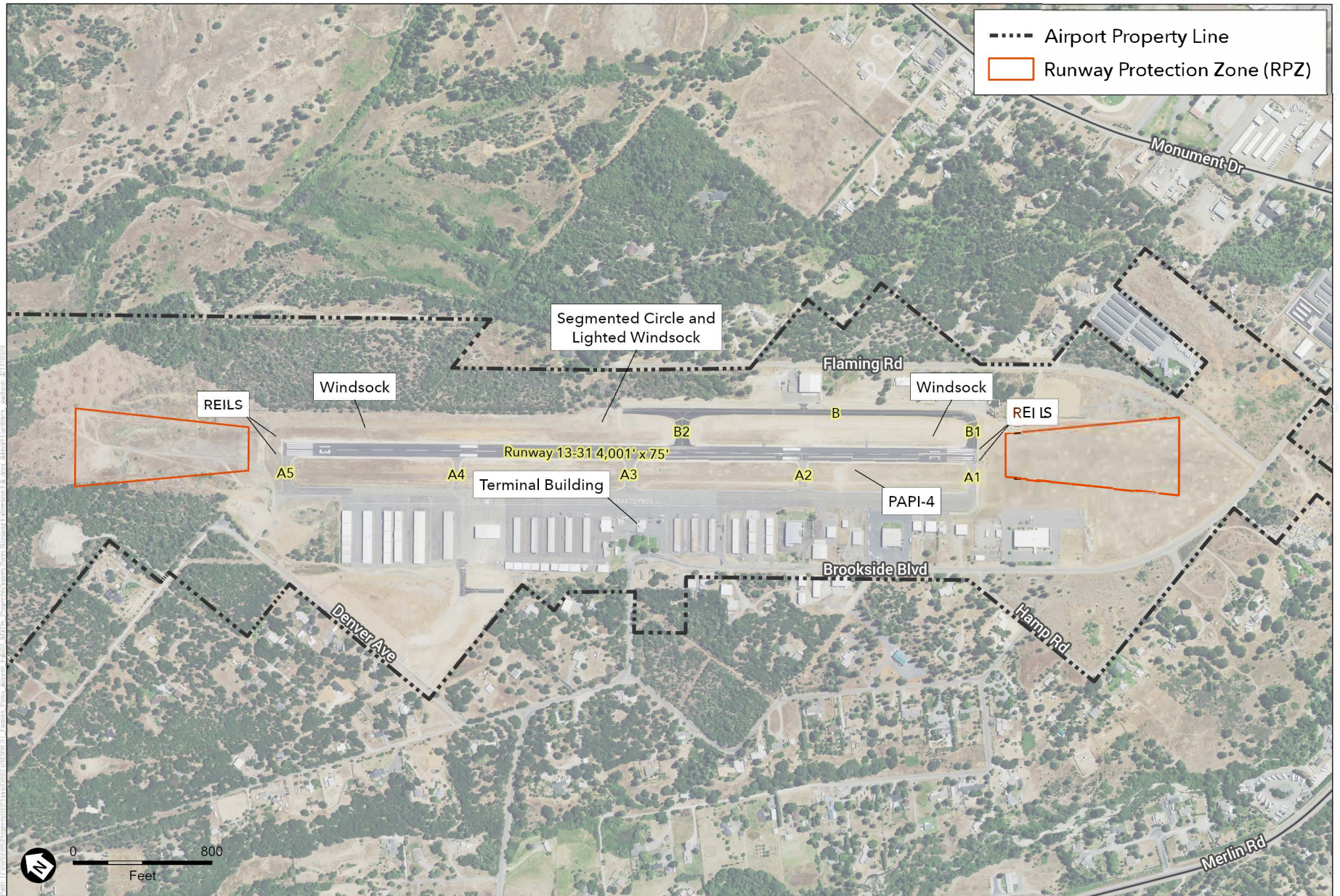
Runway 31 is equipped with a four-box Precision Approach Path Indicator (PAPI) system. The PAPI system consists of light boxes that shine either a red or white light that the pilot interprets to determine if they are on the correct glide path to the runway. The system serving Runway 31 is located on the left side of the runway, 778 feet from the runway threshold. It is set to a non-standard glide path of 4.00 degrees, and baffled beyond 8.00 degrees left and 5.00 degrees right of centerline. Both ends of Runway 13-31 are equipped with Runway End Identifier Lights (REILs), which are located adjacent to each side of the runway threshold. These flashing, strobe lights provide rapid identification of the runway threshold for up to 20 miles. At night, pilots can activate airfield lights, REILs, and the PAPI utilizing the pilot-controlled lighting system.

Taxiway A is a full-length parallel taxiway serving Runway 13-31. It is 35 feet wide and separated from the runway by 240 feet, centerline to centerline (meeting current design standards). There are five connecting taxiways designated A1, A2, A3, A4, and A5. Taxiway A1 is the threshold taxiway to Runway 31, and it is 40 feet wide. Taxiway A5 is the threshold taxiway to Runway 13, and it is 35 feet wide. Taxiways A2 (40 feet wide), A3 (50 feet wide), and A4 (35 feet) are intermediate connecting taxiways, and Taxiways A2 and A3 are marked for judgmental override. There is one run-up apron adjacent to Taxiway A at the threshold to Runway 31. Taxiway A has no lights or reflectors.

Taxiway B is the partial parallel taxiway to Runway 13-31 on the northeast side. It is 35 feet wide and separated from the runway by 240 feet, centerline to centerline (meeting current design standards). There are two connecting taxiways designated B1 and B2. Taxiway B1 (35 feet wide) is the threshold taxiway to Runway 31, and Taxiway B2 (50 feet wide) is a connecting taxiway located near the mid-point of the runway. Taxiway B and the associated connectors have taxiway reflectors.

There are numerous taxilanes on the Airport in association with the hangar development areas. The Airport has three windsocks and an Automated Weather Observing System. The Airport also has landside facilities that support aircraft and pilot/passenger transition between air and ground. Landside facilities include the terminal, on-Airport buildings and hangars, general aviation facilities, and support facilities (i.e., fuel storage, Airport maintenance/storage, and vehicle parking). An overview of facilities at the Airport is shown in Figure 1-2.





SOURCE: ESA, 2022; ESRI, 2022; Grants Pass Master Plan, 2020

Grants Pass Airport Runway Extension

**Figure 1-2**  
Airport Facilities



## 1.3 Airport Master Plan and Airport Layout Plan

Josephine County prepared a Master Plan Update for the Airport that was completed in May 2020 (Coffman Associates 2020). The Master Plan is a planning document that looks at aviation activity that could reasonably occur at the Airport through a defined planning period and then develops an Airport Layout Plan (ALP) to meet the operational needs of the Airport, and a Capital Improvement Plan (CIP) that identifies and programs how development will occur. The planning period considered in the Master Plan Update was through the year 2037 (Coffman Associates 2020).

### Critical Design Aircraft

The design aircraft is defined as the most demanding aircraft type, or grouping of aircraft with similar characteristics, that make regular use of the airport. Regular use is 500 annual operations, excluding touch-and-go operations.

The Master Plan Update examined the potential aviation demand at the Airport. The analysis utilized local socioeconomic information, as well as national air transportation trends to quantify the levels of aviation activity that can reasonably be expected to occur at the Airport through the year 2037. These results were used to determine the types and sizes of facilities that would be needed to meet the projected

aviation demand at the Airport through the planning period. In the Master Plan Update, the current and future critical design aircraft, as defined by FAA criteria, were identified and the appropriate design standards were selected for the planning of current and future Airport facilities. The Master Plan Update concluded that Runway 13-31 needed to be extended to serve the current Airport operations. The runway extension is included in the Airport's CIP.

The selection of appropriate FAA design standards for the development and location of Airport facilities was based primarily on the characteristics of the aircraft currently using or are expected to use the Airport. The critical design aircraft is used to define the design parameters for an airport, and may be a single aircraft or a composite aircraft representing a collection of aircraft depending on parameters such as landing speed and the size and scale of the aircraft dimensions.

In the Master Plan Update, the critical design aircraft for the Airport was determined by examining the FAA Traffic Flow Management System Count (TFMSC) database of flight plans. The FAA's TFMSC database captures an operation when a pilot files a flight plan or when flights are detected by the National Airspace System. Based on a review of the TFMSC database from 2008-2017, operations exceeded 500 by mostly turboprop and small business jets. Based on the TFMSC, the Master Plan Update identified the critical design aircraft as B-II(s)-1A and was best represented by a Cessna Conquest II, a turboprop (Coffman Associates 2020). The FAA design standards for Aircraft Approach Category B are distinguished with an "s" for those aircraft weighing 12,500 pounds or less.

After the Master Plan Update was finalized, the Airport requested FAA to re-evaluate the aircraft operations in support of a longer runway extension based on the growing number of jet operations with aircraft weighing more than 12,500 pounds at the Airport. Jets require a longer runway than

turbo prop aircraft used in the analysis in the Master Plan Update used in its analysis. In October 2020, FAA reviewed the information provided by the County along with supplemental data and determined that the performance characteristics of the Cessna Citation CJ4 business jet (see **Photo 1**) best represented the critical design aircraft, and should be used in planning Airport facilities (**Appendix A**). The Cessna Citation CJ4 business jet is a B-II-1B aircraft. Using Advisory Circular (AC) 150/5325-4B, *Runway Length Requirements for Airport Design*, the FAA recommended a runway length of 4,700 feet, and determined a 700-foot extension eligible for Airport Improvement Program grant funding. As a result of this determination, the ALP was updated to reflect the design standards of a B-II-1B critical design aircraft.



**Photo 1.** Cessna Citation CJ4 Jet

## 1.4 Facility Requirements

### 1.4.1 Runway

Aircraft operate on a wide variety of available runway lengths. Many factors govern the suitability of runway lengths for aircraft, such as elevation, temperature, wind velocity, aircraft operating weight, wing flap settings, runway condition (wet or dry), runway gradient, vicinity airspace obstructions, and any special operating procedures.

Runway 13-31 meets the design standards for width, line-of-sight, gradient, and pavement strength for the critical design aircraft. However, at 4,001 feet in length, the runway does not meet the current runway length design standards for at B-II-1B critical design aircraft. Thus, the FAA has determined that a 700-foot extension is justified based on the number and type of aircraft currently using the Airport. **Table 1-1** compares the existing conditions (B-II(s)-1A) with the FAA runway design standards for the B-II-1B critical design aircraft.

An Aircraft Approach Category is a grouping that differentiates aircraft based on the speed at which the aircraft approaches a runway for a landing. Currently, the Airport meets the design standards for Airport Approach Category B-II(s) –aircraft weighing under 12,500 pounds. Changing the Airport Approach Category from B-II(s) to B-II requires a larger Runway Protection Zone (RPZ) at both runway ends. The RPZ is a trapezoidal shaped area off the end of a runway designed to provide a clear area that is free of above ground obstructions and structures to

enhance the protection of people and property on the ground. Currently, the RPZs for the B-II(s) classification are entirely on Airport property.

**TABLE 1-1  
FAA RUNWAY DESIGN STANDARDS**

|   | <b>Current Airport Condition</b> | <b>700-foot Extension</b> |
|---|----------------------------------|---------------------------|
| Airport Design Aircraft                 | B-II(s)-1A                       | B-II-1B                   |
| Runway Design Code                      | B-II(s)-5000                     | B-II-5000                 |
| Visibility Minimums                     | 1-mile                           | 1-mile                    |
| <b>Runway Design</b>                    |                                  |                           |
| Length                                  | 4,001 ft                         | 4,700 ft                  |
| Width                                   | 75 ft                            | 75 ft                     |
| Shoulder Width                          | 10 ft                            | 10 ft                     |
| <b>Runway Safety Area</b>               |                                  |                           |
| Length Beyond Departure End             | 300 ft                           | 300 ft                    |
| Length Prior to Threshold               | 300 ft                           | 300 ft                    |
| Width                                   | 150 ft                           | 150 ft                    |
| <b>Runway Object Free Area</b>          |                                  |                           |
| Length Beyond Departure End             | 300 ft                           | 300 ft                    |
| Length Prior to Threshold               | 300 ft                           | 300 ft                    |
| Width                                   | 450 ft <sup>1</sup>              | 500 ft                    |
| <b>Runway Obstacle Free Zone</b>        |                                  |                           |
| Length                                  | 200 ft                           | 200 ft                    |
| Width                                   | 250 ft                           | 400 ft                    |
| <b>Approach Runway Protection Zone</b>  |                                  |                           |
| Length                                  | 1,000 ft                         | 1,000 ft                  |
| Inner width                             | 250 ft                           | 500 ft                    |
| Outer width                             | 450 ft                           | 700 ft                    |
| <b>Departure Runway Protection Zone</b> |                                  |                           |
| Length                                  | 1,000 ft                         | 1,000 ft                  |
| Inner width                             | 250 ft                           | 500 ft                    |
| Outer width                             | 450 ft                           | 700 ft                    |

NOTES:

Runway Object Free Area penetration: Segmented circle and windsock. The standard is 500 feet.

SOURCE: Airport Layout Plan Datasheet (Coffman Associates 2020) and FAA AC 150/5300-13B *Airport Design* (FAA 2014)

The change in critical aircraft from a B-II(s)-1A to a B-II-1B would require a larger RPZ off both runways. The RPZ of Runway 31 would extend slightly over Flaming Road creating an incompatible land use within the RPZ per FAA's requirements for Airport Land Use Compatibility Planning (AC 150/5190-4B). The FAA expects airport sponsors to eliminate, reduce, or mitigate existing incompatible land uses and if proposed, provide an alternatives

evaluation for preventing or mitigating the risk to people and property on the ground. Specific to roadways, FAA seeks to limit transportation modes within the approach or departure zones when possible to minimize the potential for catastrophic effects should an aircraft incident occur.

Knowing that the size of the RPZ would increase, the FAA requested that an RPZ alternatives analysis be undertaken in the Master Plan Update following guidance in FAA Memo: Interim Guidance on Land Uses Within a Runway Protection Zone. The Airport conducted the analysis of four RPZ alternatives: (1) “do nothing” alternative; (2) displacing the landing threshold and implementing declared distances; (3) shifting the runway north so the RPZ would be entirely on Airport property; and (4) relocating Flaming Road (Coffman Associates 2020). After review of the analysis, the FAA determined the alternative that used declared distances (moving Runway 31 end 200 feet to the northeast so the RPZ stayed entirely on Airport property) should be further considered once the runway extension project moves forward (FAA, 2020).

After the Master Plan Update was completed, the County requested a determination on a runway extension. FAA reviewed the request and determined that a runway length of 4,700 feet is eligible for AIP funding and clarified that the new runway length should be usable for all operations (i.e., not using declared distances by displacing the landing threshold). In order to avoid the use of declared distances, with the runway extension the outer corner of the wider RPZ would cover Flaming Road. This corner is entirely within the Controlled Activity Area of the RPZ and does not extend into the Central Portion of the RPZ. Additionally, Flaming Road is a low volume, dead end road that provides access to approximately 15 residences, airport business, and the U.S. Forest Service facilities at the Airport. Using AC 150/5190-4B, *Airport Land Use Compatibility Planning*, paragraph 2.3.5, FAA recommended leaving Flaming Road in place and adding appropriate signage to alert vehicles to the RPZ as an acceptable mitigation measure to the small area (0.15 acre) of incompatible land use within the RPZ.

Federal Aviation Regulations (FAR) Part 77 defines a complex structure of airport imaginary surfaces, which are established to protect the airspace immediately surrounding airports, associated runways, and designated helicopter landing areas (FAA 2010). The imaginary surfaces are geometric shapes that surround the runways and vary in size and slope depending on the category of the runway. The airspace and ground areas within these imaginary surfaces should be free of obstructions (i.e., structures, parked aircraft, trees, etc.) to the greatest extent possible to provide a safe operating environment for aircraft. The runway extension would increase the protected airspace. The Airport Airspace Plan in the Master Plan Update identified airspace penetrations if the runway was extended (Coffman Associates 2020). The majority of the airspace penetrations are trees off Runway 13 on Airport property. These trees are proposed to be removed as part of the clearing area for project. Per the Airspace Analysis done in the Master Plan Update, the other identified obstructions (terrain, roads, buildings, rotating beacon, REILs and utility poles) would remain and be remediated in the future as recommended in the Airspace Plan.

## 1.4.2 Taxiway

The recommended taxiway width for a B-II-2 aircraft is 35 feet. Parallel Taxiways A and B are both 35 feet wide, thus meeting the standard.

### 1.4.3 Instrument Flight Procedures

Instrument flight procedures are a series of predetermined maneuvers established by the FAA using electronic navigational aids that assist pilots in locating, landing, and departing at an airport, especially during instrument flight rules operations. Currently, the Airport has two published instrument approach procedures; a straight in (RNAV RWY 13) and a circling (RNAV). See Section 3.1 for a detailed description of instrument flight procedures at the Airport.

## 1.5 Description of Proposed Action

The Proposed Action would extend Runway 13-31 by 700 feet, for a total runway length of 4,700 feet. Supporting infrastructure improvements that are part of the Proposed Action include extending Taxiway A to the new Runway 13 threshold, extending Taxiway B to become a full-length parallel taxiway, replacing and installing new airfield lighting, stormwater management, and signage improvements. The PAPI system and REILs at Runway 31 will remain in place to continue to provide pilots with visual guidance information during landings. The REILs at Runway 13 will be moved and a new PAPI system will be installed. This project has been determined to be eligible and justified for AIP funding.

The Proposed Action also includes amendments to instrument flight procedures; see Section 3.1 for details.

## 1.6 Purpose and Need

The purpose of the Grants Pass Airport Runway 13-31 Extension Project is to safely and efficiently accommodate current aviation activity at the Grants Pass Airport by meeting FAA recommended runway length to service the current Airport operations and accommodate the critical design aircraft B-II-1B. At the current length of 4,001 feet, the runway does not meet the recommended length in AC 150/5325-4B, *Runway Length Requirements for Airport Design*, paragraph 403. The FAA recommended a runway length of 4,700 feet to meet the operational requirements of the critical design aircraft of a B-II-1B, and determined a 700-foot extension eligible for AIP funding.

As of May 2021, 159 aircraft were based at the Airport. These included 136 single-engine piston, 18 multi-engine piston, three jets, and two helicopters. Currently, the 4,001-foot runway results in many of the existing jets based at the Airport to be weight restricted for takeoff and landing. Discussions with businesses and operators at the Airport indicated they have a number of medium and long-haul destinations they fly to regularly. The weight restriction due to the limited runway length results in aircraft not being able to fully fuel up their planes before takeoff and having to make refueling stops along flights. This results in inefficient operations and lost revenue to the operators, tenants, and ultimately Josephine County.

Based on the analysis of existing and forecasted jets operating at local conditions in the Master Plan Update (Coffman Associates 2020), a runway length of 4,700 feet is needed to adequately serve the current and growing jet market at the Airport and the critical design aircraft B-II-1B.

The FAA encourages airports to be economically self-sufficient. One of the planning objectives in the Master Plan Update was “to develop a facility with a focus on self-sufficiency in both operational and development cost recovery” (Coffman Associates 2020). Businesses that use aircraft based at the Airport bring in an estimated \$500 million or more annually, with about 93 percent of that attributable to Grants Pass City-based businesses (Josephine County Airports 2022b). Airports are critical contributors to local economic growth and revenue generation. The runway extension is needed for current companies based at or using the Airport to expand and grow and is a key driver to recruit new companies to the area, which would create increased revenue and jobs (Josephine County Airports 2022b).

The COVID-19 pandemic accelerated general aviation aircraft operations as health concerns and general pandemic-related complexities caused a decrease in commercial airline travel to decrease. During that time, however, business jet travel increased. The normalization of virtual work is moving urban dwellers from high-cost/risk urban settings to smaller, less urbanized communities, bringing business opportunities and outside revenue sources, which presents a higher demand for business travel infrastructure.

## 1.7 Requested Federal Actions

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

- Unconditional approval of the Grants Pass Airport Layout Plan (ALP) to depict those portions of the Proposed Action and its connected actions subject to FAA review and approval pursuant to 49 United States Code (USC) §47107(a)(16)(B).
- Determination that environmental analysis prerequisites associated with any AIP funding applications for the Proposed Action have been fulfilled pursuant to 49 USC § 47101.
- Installation and relocation of existing navigational aids. Order JO 7210.3, Facility Operation and Administration and Order 6850.2, Visual Guidance Lighting Systems.
- Approval of an amendment to existing instrument flight procedures to reflect the new Runway 13 end by FAA Flight Procedure Standards Branch pursuant to Order 8260.19H CHG1, Flight Procedures and Airspace (JO 7930.2).

## 1.8 Proposed Timeline

The FAA and the County expect the Proposed Action to be implemented beginning with design and construction of the 700-foot runway extension planned for FY2024, construction of 700-foot extension of Taxiway A in FY 2025, and construction of 2,600-foot extension of Taxiway B in FY2026, pending approval of the EA. The Proposed Action is listed on the Airport’s CIP.

# CHAPTER 2

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## Alternatives

NEPA and FAA Orders 5050.4B and 1050.1F require the consideration of alternatives commensurate with the purpose and need statement. The intent is to evaluate various options that address the recognized need so that potential environmental impacts can be analyzed and compared. This chapter describes the alternatives considered for the Grants Pass Airport Runway Extension Project, including the No Action Alternative and one extension alternative. The alternative developed and evaluated in this Draft EA address one or more areas of need, as described in Chapter 1, Purpose and Need, including providing the required runway length to accommodate the critical design aircraft of a B-II-1B.

### 2.1 Alternative 1. No Action

Under the No Action Alternative, no changes would be made to the airfield. The existing airfield facilities (runway, taxiways, lighting, and signage) would remain the same and Runway 13-31 would not meet runway length design standards for the current critical design aircraft. Although the No Action Alternative fails to meet the purpose and need for the Proposed Action, it must be carried forward for analysis pursuant to CEQ regulations and serves as the baseline for comparison to other reasonable alternatives.

### 2.2 Alternative 2. 700-Foot Runway Extension (Proposed Action)

Alternative 2 would extend Runway 13-31 to a total runway length of 4,700 feet (**Figure 2-1**). The extension would bring the runway up to meet operational requirements for the critical design aircraft B-II-1B. Runway 31 would remain in its current location. Runway 13 would be extended 700 feet to the north. The runway would be 75 feet wide with 10 feet wide shoulders.

Taxiways A and B would be extended to the new Runway 13 threshold. Taxiway widths would remain the same as the existing taxiways (35 feet wide) and separated from the runway by 240 feet, centerline to centerline. New holding aprons would be constructed on both taxiways at the new Runway 13 threshold. Run-up aprons are essential features because they allow pilots to make final operational checks to the aircraft prior to take-off. Other project elements include relocating the windsock, installing new airfield lighting, and signage improvements, as well as the installation of a new Runway 13 PAPI system and REILs.

The runway extension would require an amendment to the published instrument approach flight procedures; see Section 3.1 for details.

The Proposed Action includes approximately 120 acres of clearing and grubbing total, including both temporary and permanent impact areas. Permanent impacts are associated with vegetation removal and grading needed to construct the runway and associated infrastructure (such as taxiways, aprons, etc). Temporary areas of disturbance include obstruction removal and areas that would be graded to meet safety standards (such as shoulders). All temporarily disturbed areas will be protected against erosion during construction. The County will replant temporarily disturbed areas with native herbaceous species appropriate for airports as part of the project.

Estimated fill quantities are provided in **Table 2-1**.

**TABLE 2-1**  
**ESTIMATED 700-FOOT RUNWAY EXTENSION FILL QUANTITIES**

| Material                            | Quantity<br>(cubic yards) |
|-------------------------------------|---------------------------|
| Non-structural fill                 | 28,700                    |
| Aggregate fill                      | 39,200                    |
| Asphalt fill                        | 3,100                     |
| Water Quality Mix (treatment media) | 200                       |
| <b>Total</b>                        | <b>71,200</b>             |

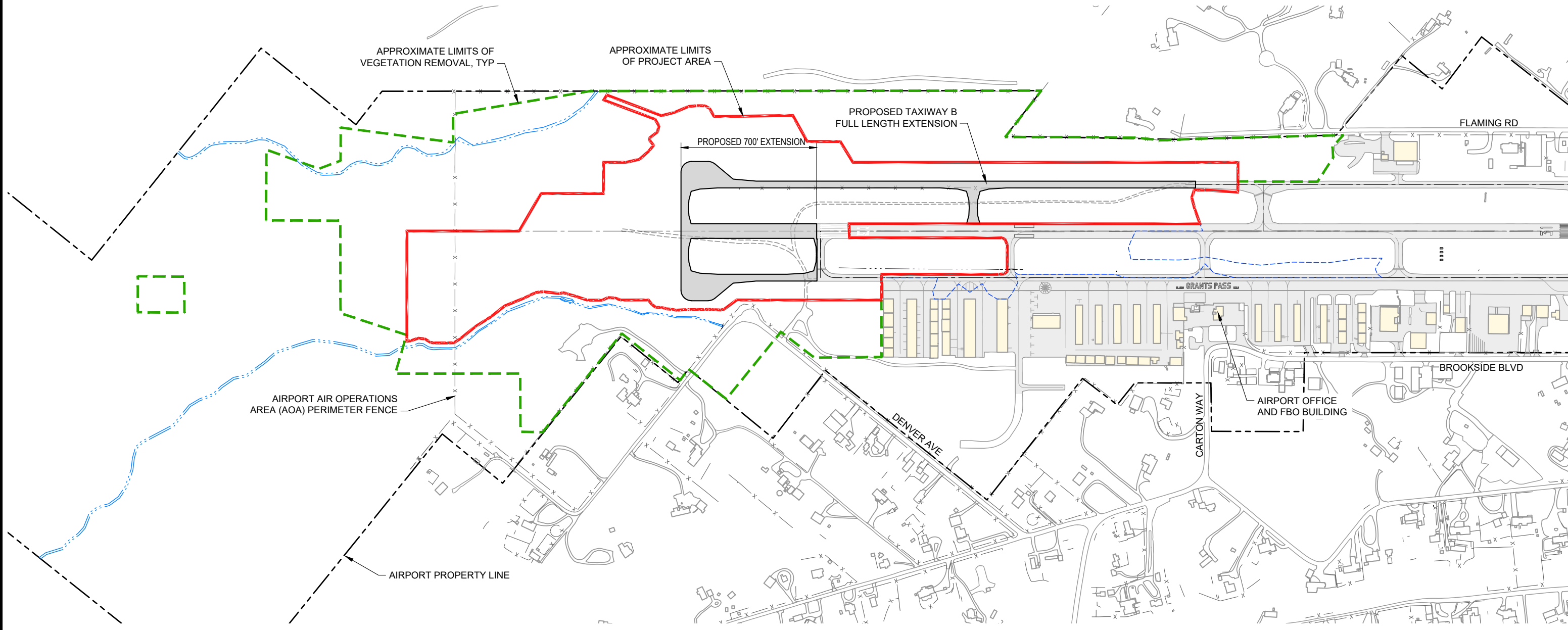
SOURCE: Estimated quantities are based on preliminary design conducted by Precision Approach Engineering.

**Figure 2-2** shows the RPZ for Alternative 2. The RPZ for Runway 13 is reflective of an instrument approach with 1-mile visibility minimums. The RPZ is entirely within the Airport property. The trees identified as obstructions in the Airport Airspace Plan in the ALP would be removed as part of the project. The RPZ for Runway 31 reflects of an instrument approach with 1-mile visibility minimums. For Runway 31, a corner of the 1-mile RPZ extends slightly over Flaming Road (0.15 acre). This incompatible land use will be mitigated with appropriate signage along the roadway to alert vehicles to the RPZ, as described in Section 1.4.1.

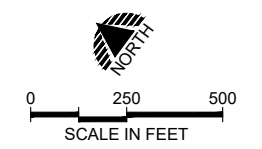
Alternative 2 would add 6 acres of new impervious surfaces. A Stormwater Management Plan (Precision Approach Engineering 2022) was developed based on the Rogue Valley Stormwater Design Manual (Stormwater Advisory Team Post-Construction Working Group 2023) and includes wildlife hazard mitigation measures to reduce wildlife attractancy of the stormwater facilities. The stormwater management plan uses retention of stormwater runoff with infiltration as the primary method of stormwater management for both quality and quantity. The proposed stormwater design is shown on **Figure 2-3**, and includes:

- A retention facility that fully infiltrates the 25-year storm for all new impervious surfaces;
- A retention facility that will fully infiltrate or drain within 6 days;
- Water quality treatment will occur in swales upstream of the retention facility; and
- Stormwater flows exceeding the 25-year storm event will bypass the retention facility and be dispersed onsite outside of stream buffers.





**VICINITY MAP**



JOSEPHINE COUNTY - GRANTS PASS AIRPORT  
 RUNWAY EXTENSION ENVIRONMENTAL ASSESSMENT

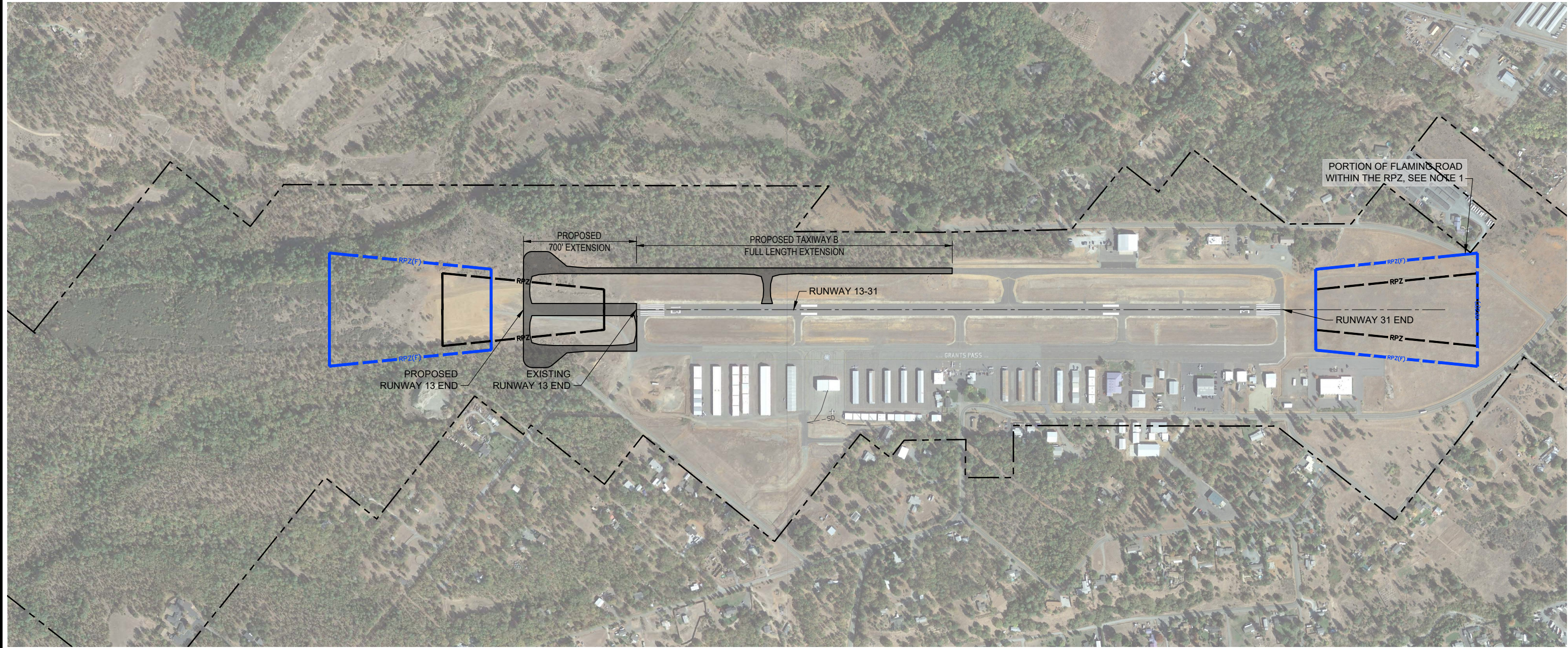
**ALTERNATIVE 2 - 700-FOOT  
 RUNWAY EXTENSION PLAN**

**PRECISION APPROACH**  
 ENGINEERING  
 5125 Southwest Hout Street  
 Corvallis, OR 97333  
 541-754-0043

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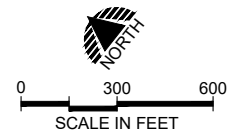


**LEGEND**

- RPZ** — EXISTING / ALTERNATIVE 1 RUNWAY PROTECTION ZONE - RPZ  
1,000' x 250' x 450' (LENGTH x INNER WIDTH x OUTER WIDTH)
- RPZ(F)** — ALTERNATIVE 2 - PROPOSED 700' EXTENSION RUNWAY PROTECTION ZONE - RPZ(F)  
1,000' x 500' x 700' (LENGTH x INNER WIDTH x OUTER WIDTH)
- AIRPORT PROPERTY LINE

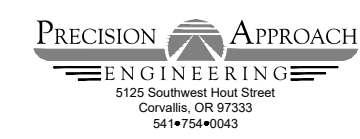
**NOTES**

1. A SMALL PORTION OF THE ALTERNATIVE 2 - 700' EXTENSION RUNWAY PROTECTION ZONE (RPZ) WILL ENCOMPASS FLAMING ROAD WHICH IS AN INCOMPATIBLE LAND USE. PER THE FAA, THE INSTALLATION OF ROADWAY SIGNAGE AT THIS LOCATION, SUCH AS "NO PARKING" OR "LOW FLYING AIRCRAFT", WILL SERVE TO MITIGATE THIS INCOMPATIBLE LAND USE.



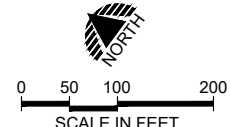
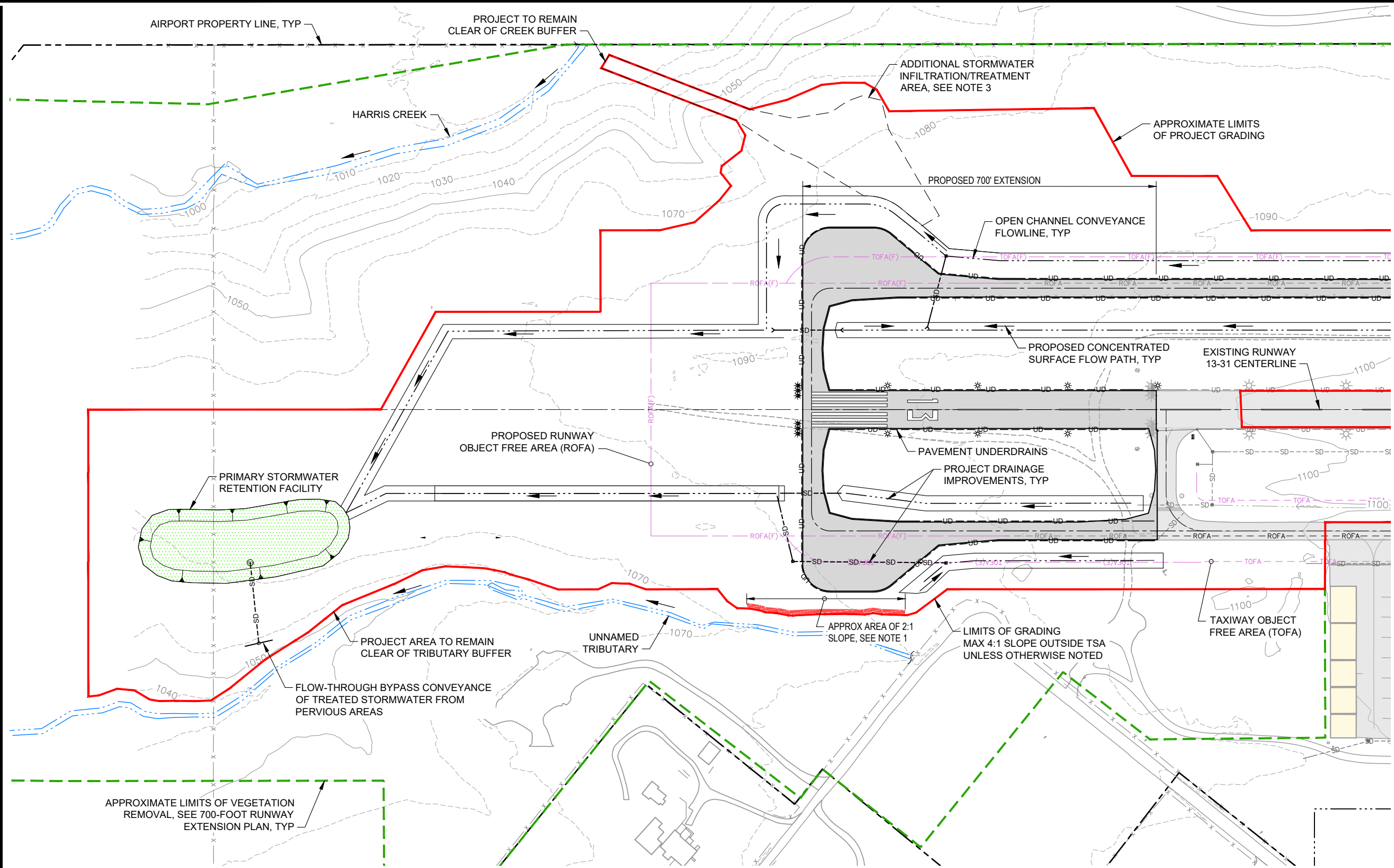
JOSEPHINE COUNTY - GRANTS PASS AIRPORT  
RUNWAY EXTENSION ENVIRONMENTAL ASSESSMENT

**RUNWAY PROTECTION ZONES  
(RPZ)**





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**NOTES**

1. MAXIMUM 4:1 SLOPE IS PREFERRED FOR AIRPORT GRADING OUTSIDE OF SAFETY AREAS. STEEPER SLOPES ARE REQUIRED IN ORDER FOR GRADING TO REMAIN OUTSIDE VEGETATED BUFFERS. FURTHER ANALYSIS REQUIRED DURING DESIGN TO IDENTIFY AREAS OF SLOPE STABILITY OR RETAINING WALL CONSTRUCTION.
2. WATER QUALITY TREATMENT PER ROGUE VALLEY SEWER SERVICES (RVSS) STORMWATER QUALITY DESIGN MANUAL (SQDM) TO BE INCORPORATED INTO STORMWATER RETENTION FACILITY DESIGN OR ACCOMPLISHED WITHIN OPEN CHANNEL FLOW CONVEYANCE SYSTEM.
3. PRELIMINARY DESIGN ANALYSIS INDICATES THAT STORMWATER RUNOFF ASSOCIATED WITH ALL NEW PROJECT IMPERVIOUS SURFACES CAN BE CONVEYED TO AND INFILTRATED WITHIN THE PRIMARY STORMWATER RETENTION FACILITY SHOWN. ADDITIONAL STORMWATER INFILTRATION TREATMENT FACILITIES SHOWN MAY BE UTILIZED IN THE EVENT ADDITIONAL AREA IS NEEDED IN CONJUNCTION WITH THE FINAL DESIGN PROCESS.



JOSEPHINE COUNTY - GRANTS PASS AIRPORT  
 RUNWAY EXTENSION ENVIRONMENTAL ASSESSMENT  
**ALTERNATIVE 2 - 700-FOOT RUNWAY  
 EXTENSION STORMWATER DESIGN**

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Given the preliminary nature of the stormwater analysis, the preliminary design includes a primary stormwater retention facility and identifies additional areas that may be utilized for retention or treatment if during design additional area is determined to be needed.

## **2.3 Alternatives Considered But Eliminated**

### **2.3.1 Master Plan Update Airside Alternative 2**

The Master Plan Update developed two airside alternatives (Coffman Associates 2020). The goal of the master planning effort was to produce a development plan for the Airport that addressed forecasted aviation demand, and the projected critical aircraft would change from B-II(s) to B-II. The primary focus of the alternatives was to address the growing trend in activity by larger turboprops and business jets that require a longer runway to meet their operational needs. The alternatives considered in the Master Plan Update included: Airside Alternative 1 and Airside Alternative 2. Airside Alternative 1 is the Proposed Action being considered in this EA.

The change in critical design aircraft from a B-II(s) to a B-II would require a larger RPZ off both runway ends. Airside Alternative 2 shifted the runway to the north so that the Runway 31 RPZ would be entirely on Airport property and meet RPZ standards. The 5,500-foot long runway would be achieved by displacing the landing threshold by 200 feet on Runway 31 and extending Runway 13 1,700 feet. As described in Section 1.4.1, the FAA used AC 150/5190-4B to recommend that Flaming Road could be left in place and the potential for impact created by the small area (0.15 acre) of incompatible land use could be mitigated through appropriate signage along the roadway to alert vehicles to the RPZ. As a result of this determination, Airside Alternative 2 was no longer supported by the FAA.

### **2.3.2 400-foot Runway Extension**

The Master Plan Update identified an immediate need for a 400-foot extension based on the aircraft based at the Airport (Coffman Associates 2020). The 400-foot extension of Runway 13-31 (extending the Runway 13 end to the northwest) was based on a critical aircraft of B-II(s)-1A, a turboprop aircraft weighing less than 12,500 pounds. After the Master Plan Update was completed, FAA reviewed aircraft operations at the Airport and determined that the performance characteristics of the B-II-IB best represented the critical design aircraft and should be used in planning airport facilities (Appendix A). The FAA recommended a runway length of 4,700 feet, and determined a 700-foot extension eligible for AIP funding. A 400-foot extension does not meet the design standards of critical design aircraft B-II-IB.

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## CHAPTER 3

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# Affected Environment & Environmental Consequences

This chapter analyzes the environmental impacts of one action alternative (Alternative 2. 700-foot Runway Extension) and the No Action Alternative. Each environmental impact category<sup>1</sup> is analyzed by its affected environment, environmental consequences, and mitigation measures, if applicable, to determine if the No Action Alternative or Proposed Action Alternative would cause any impacts.

Impacts include both direct and indirect impacts within the study area for the impact category. According to the Desk Reference for FAA Order 1050 1F, Environmental Impacts: Policies and Procedures, the study area varies based on the impact category being analyzed.

### 3.1 Flights Paths and the Future Development of Flight Procedures

Flight paths at any given airport, including the existing flight paths at Grants Pass Airport, are created by the layout of the runway(s), surrounding terrain, established air traffic control procedures, and flight procedures followed by pilots for the safe approach and departure of aircraft. The FAA does not specifically create flight paths, which are the actual paths followed by any given aircraft. It is up to individual pilots to operate their aircraft in a safe manner. Instrument flight procedures are developed and published by the FAA to establish safe and orderly flow of air traffic for pilots to land on, or depart from, a runway at an airport.

The higher terrain surrounding the Airport creates a challenge for instrument flight procedure development. In 2019 and 2020, the FAA Flight Procedures Team worked closely with the County to develop a “straight-in” approach procedure to Runway 13 that provided lower minimums than the existing circling procedure. This procedure was published in 2020.

Currently, the Airport has two published instrument approach procedures; a straight-in (RNAV (GPS) RWY 13), and a circling (RNAV (GPS)-A). The straight-in approach is approved for aircraft categories A/B/C/D and includes a circling to land component. It does have some restrictions that include: instrument approach to Runway 13 is not authorized at night (both straight in and circling); and circling is not authorized northeast of Runway 13-31. The circling

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<sup>1</sup> Chapter 4 of FAA Order 1050.1F identifies environmental impact categories that may be relevant to FAA actions.

approach is approved for category A/B aircraft and has the following restrictions: circling northeast of Runway 13-31 is not authorized; and circling Runway 13 is not authorized at night.

In 2022, the County reached out to the FAA Flight Procedures Team and asked them to conduct a feasibility study of the Proposed Action to determine if the instrument approach procedures published in 2020 could be maintained if the runway were extended. The Flight Procedures Team evaluated the potential changes the 700-foot extension would have on the existing procedures.

The preliminary findings concluded that the published procedures could be amended when the Runway 13 threshold is relocated for the 700-foot extension, but there would be a decrease in preliminary minimums for both the straight-in and circling approaches. Additionally, the straight-in approach would only work for category A/B aircraft (no longer suitable for category C or D aircraft). The Runway 31 Obstacle Departure Procedure would also be affected; the departure end of the runway would move the Obstacle Clearance Surface outbound, which would change the climb gradient requirements.

Flight procedures would not be changed or amended for the runway extension until the physical improvements have been completed and new runway survey information is available. Based on the information available at the time of this EA, flight procedures are not anticipated to appreciably change due to the Proposed Action. Since the flight procedures will not be developed until after construction, the future flight procedures may be subject to further analysis under NEPA, if the NEPA analysis performed in the EA is not adequate.

## 3.2 Resources Not Affected

The No Action Alternative, Proposed Action, and reasonable alternatives would not affect the resources listed below:

**Coastal Resources** – The Airport is outside Oregon’s Coastal Zone and is not subject to the State’s Coastal Zone Management Plan. There are no coastal barrier resource systems, coastal environments, or coral reefs within the project area.

**Farmland** – There is no prime or unique agricultural soils mapped in the project area.

As the project would not affect these resources, they are not addressed further in this EA.

## 3.3 Air Quality

### 3.3.1 Regulatory Setting

Regulations addressing air quality are summarized in **Table 3-1**.



**TABLE 3-1  
REGULATORY POLICIES AND PLANS RELATED TO AIR QUALITY**

| <b>Regulation</b>                                     | <b>Description</b>  |
|---|---|
| Clean Air Act   | The Federal Clean Air Act of 1970 (CAA), 42 U.S.C. § 7401, et seq., as amended, requires that states identify those areas where the National Ambient Air Quality Standards (NAAQS) are not being met for specific air pollutants. The U.S. Environmental Protection Agency (EPA) designates such areas as nonattainment areas. The EPA, under mandates of the Clean Air Act Amendments of 1990, has established primary and secondary NAAQS for seven air contaminants or criteria pollutants. These contaminants are carbon monoxide (CO), nitrogen dioxide (NO <sub>2</sub> ), ozone (O <sub>3</sub> ), lead (Pb), sulfur dioxide (SO <sub>2</sub> ), particulate matter (PM <sub>10</sub> ), and fine particulates (PM <sub>2.5</sub> ). |
| General Conformity Rule                               | Federal projects must conform to applicable State Implementation Plans (SIPs) and not hinder efforts to achieve attainment of the NAAQS. This rule applies to federal projects located in areas that have been designated non-attainment for any of the federal ambient air quality standards.  |
| EPA “Endangerment” and “Cause or Contribute” Findings | The U.S. Supreme Court has held that the EPA must consider regulation of motor vehicle greenhouse gas (GHG) emissions.  |
| State of Oregon Clean Air Implementation Plan         | Air quality regulations in non-attainment areas are set forth in the state’s strategy for achieving federal air quality standards by a specific timeline. These steps are consolidated within a SIP that is mandated by the federal Clean Air Act.  |

### 3.3.2 Affected Environment

In Oregon, ambient air quality standards are set by the Oregon Department of Environmental Quality (DEQ). Based on data collected by DEQ, Grants Pass is in an attainment area and all EPA and Oregon air quality standards and NAAQS for all pollutants are being met (DEQ 2022a).

### 3.3.3 Environmental Consequences

#### 3.3.3.1 Significance Threshold

Exhibit 4-1 of FAA Order 1050.1F identifies the significance threshold for air quality:

*The action would cause pollutant concentrations to exceed one or more of the NAAQS, as established by the Environmental Protection Agency under the Clean Air Act, for any of the time periods analyzed, or to increase the frequency or severity of any such existing violations.*

#### 3.3.3.2 Alternative 1 – No Action

The No Action Alternative would not result in any construction activities. Aircraft operations are expected to increase as forecasted in the Master Plan Update (Coffman Associates 2020). The forecasted number or type of aircraft operations would not result in any direct or indirect impacts on air quality not already occurring or expected to occur.

#### 3.3.3.3 Alternative 2 – 700-foot Runway Extension (Proposed Action)

Construction of this alternative would occur over a 3-year period (2024, 2025 and 2026) during the dry season (between June and September), which would result in short-term effects on air quality. Construction emissions would occur from the use of heavy construction equipment (e.g.,

backhoes, bulldozers), on and off-road vehicles to transport supplies and materials, and on-road vehicles by construction workers to get to and from the construction site (e.g., cars, pick-up trucks). Construction activities can also result in fugitive dust from construction materials staging, demolition, earthwork such as grading and digging, wind erosion from stockpiles, movement of trucks on unpaved surfaces, and evaporative emissions from asphalt paving operations.

The emissions inventory for construction activities associated with the Proposed Action is presented in **Table 3-2**. Although the General Conformity Rule does not apply, the construction-related pollutant emissions were compared against the General Conformity *de minimis* thresholds to gauge significance of the construction emissions because *de minimis* emissions thresholds are emissions that are so minimal, they are considered to be too small to adversely affect the air quality status of the area. Criteria pollutant emissions were estimated using Airport Cooperative Research Program's Airport Construction Emissions Inventory Toolkit (ACEIT) during construction. As shown in Table 3-1, emissions would not exceed federal *de minimis* thresholds, thus construction of the 700-foot runway extension would not exceed any of the NAAQS or otherwise adversely affect the air quality status of the area.

**TABLE 3-2**  
**ANNUAL EMISSIONS OF CRITERIA POLLUTANTS DUE TO CONSTRUCTION OF THE PROPOSED ACTION**

|   | CO  | VOC <sup>a</sup> | NOx <sup>a</sup> | PM10 | PM2.5 | SO2 <sup>b</sup> |
|---|-----|------------------|------------------|------|-------|------------------|
| 700-foot Runway Extension Construction Activity | 3.2 | 6.4              | 1.1              | 0.4  | 0.04  | 0.02             |
| Federal <i>de minimis</i> Threshold             | 100 | 100              | 100              | 100  | 100   | 100              |

NOTES:

<sup>a</sup> Volatile organic compounds (VOCs) and oxides of nitrogen (NOx) are the primary precursor compounds that lead to the formulation of O<sub>3</sub>.

<sup>b</sup> For the purposes of this analysis, it is assumed that emissions of sulfur oxides (Sox) emissions are equal to the calculated emissions of SO<sub>2</sub>.

SOURCE: FAA 2007

The Proposed Action would not result in a change in the number of aircraft operations or a change in the type of aircraft operating at the Airport compared to the No Action Alternative. The increased runway length would prevent incoming aircraft from having to divert to Medford or outgoing aircraft from having to delay or decrease payload due to weather conditions. This would improve aircraft operations and result in a decrease in emissions from those aircraft that were making those accommodations due to the length of the existing runway. Aircraft taxi routes would shift by 700 feet and result in minor increase in emissions. However, direct and indirect impacts under this alternative would not exceed the NAAQS and would not adversely affect the air quality status of the area.

### 3.3.3.4 Mitigation

Mitigation of air quality impacts is not required and further analysis is not necessary. Although the Proposed Action would not significantly affect air quality, the Proposed Action could include best management practices (BMPs) to reduce construction-related emissions to the highest level practicable. FAA AC 150/5370-10H, *Standards for Specifying Construction of Airports*

(Temporary Air and Water Pollution, Soil Erosion, and Siltation Control) identifies Best Management Practices (BMPs) to minimize air quality impacts during construction.

## 3.4 Biological Resources

### 3.4.1 Regulatory Setting

Regulations addressing biological resources are summarized in **Table 3-3**.

**TABLE 3-3**  
**REGULATORY POLICIES AND PLANS RELATED TO BIOLOGICAL RESOURCES**

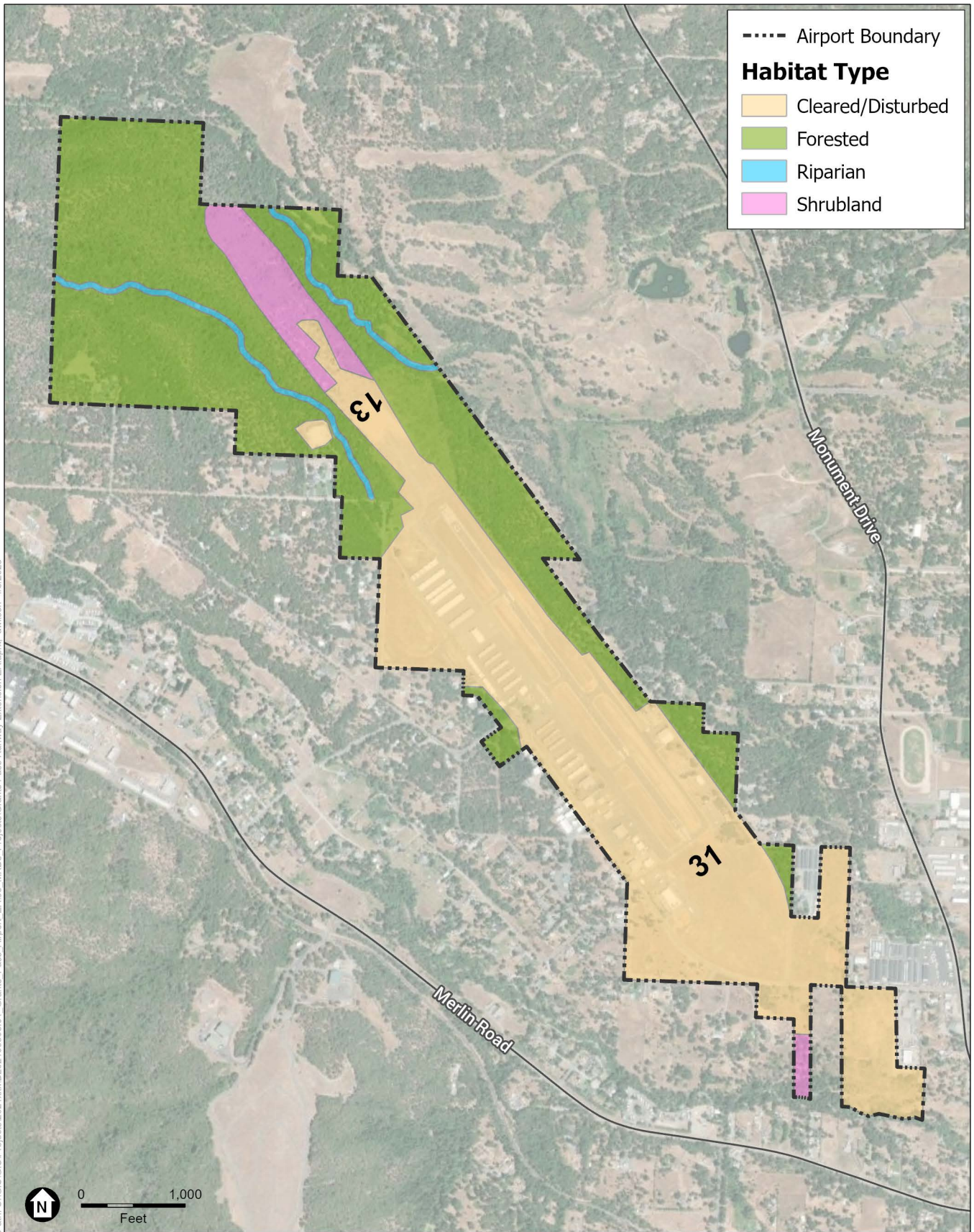
| Regulation  | Description  |
|---|--|
| Endangered Species Act of 1973 (16 USC Section 1531, et seq.)       | Section 7 of the Endangered Species Act requires federal agencies to examine projects for adverse impacts on federally listed endangered or threatened species. The act considers habitat loss an impact on the species. Critical Habitat is defined as specific geographic areas within a listed species range that contains features considered essential for the conservation of the listed species. The Endangered Species Act is under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service (NMFS). |
| The Migratory Bird Treaty Act of 1918 (MBTA, 16 USC §§ 703-712)     | The MBTA protects bird species, their nests, and their eggs from injury or death, and from any project-related disturbances during the nesting cycle.  |
| Bald and Golden Eagle Protection Act (16 USC § 668)                 | Bald and Golden Eagle Protection Act prohibits the “taking” of bald or golden eagles, including their parts, nests, or eggs.   |
| The Magnuson-Stevens Fishery Conservation and Management Act (MSA), | The MSA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-297), requires federal agencies to consult with the NMFS on activities that may adversely affect Essential Fish Habitat (EFH). The EFH designation for the Pacific salmon fishery includes all those streams, lakes, ponds, wetlands, and other waterbodies, currently or historically accessible to salmon in Washington, Oregon, Idaho, and California, except above the impassable barriers identified by the Pacific Fisheries Management Council.                          |
| Oregon Endangered Species Act                                       | Oregon Endangered Species Act applies to land owned or leased by state agencies. Guidelines include take avoidance and protecting resource sites.  |

### 3.4.2 Affected Environment

The study area for biological resources encompasses all areas affected directly or indirectly by the Proposed Action. In identifying the study area, the farthest reaching physical, chemical, and biotic effects of the action were considered, and their combined geographic area. The study area includes the construction footprint (including construction access and staging areas), and areas that are likely to be affected by construction noise and activities.

#### 3.4.2.1 Land Cover, Habitat Types, and Wildlife

Vegetation communities within and adjacent to the study area include herbaceous land, shrubland, and mixed deciduous-coniferous forest, as shown on **Figure 3-1**.



SOURCE: ESA, 2022; ESRI, 2022; Grants Pass Master Plan, 2020

Grants Pass Airport Runway Extension

**Figure 3-1**  
Habitat Types



North of Runway 13 is a cleared/disturbed area that has had fill imported (**Photo 2**). This area is dominated by yellow starthistle, a non-native invasive species. Due to the disturbed nature, imported fill, and extensive weed coverage, this area offers low-quality wildlife habitat with limited wildlife usage. Beyond the cleared area, vegetation transitions to native shrubland (**Photo 3**) and forest farther to the east, west, and north. These areas are vegetated with a mixed deciduous-coniferous forest (**Photos 4 and 5**). Dominant shrubs and understory species include poison oak, snowbrush ceanothus, whiteleaf manzanita, deerbrush, California brome, and western fescue. Dominant trees in the adjacent forests include California black oak, Pacific madrone, Douglas fir, and ponderosa pine.



**Photo 2.** Looking north at the proposed runway extension area.



**Photo 3.** Looking east from the proposed runway extension area to typical shrub vegetation



**Photo 4.** Typical mixed deciduous-coniferous forest (north of Airport)



**Photo 5.** Typical mixed deciduous-coniferous forest (west side)

A variety of wildlife species use the mixed deciduous-coniferous forest found on and adjacent to the Airport, including black-tail deer, bobcat, coyote, Douglas squirrel, and various species of birds, amphibians, and rodents. This habitat type is commonly found in southern Oregon and is often found on the edges of other habitat types (i.e., in the transition between denser forests and more open spaces, or in or along riparian areas).

### 3.4.2.2 Protected Species and Critical Habitat

The USFWS Information for Planning and Consultation and NMFS websites were used to identify species and Critical Habitat protected under the Endangered Species Act that should be evaluated in the EA. These species are listed in **Table 3-4**.

**TABLE 3-4  
SPECIES AND CRITICAL HABITAT PROTECTED UNDER THE ENDANGERED SPECIES ACT TO BE EVALUATED**

| Species Name<br>(Scientific Name)  | Federal<br>Status <sup>a</sup> | Critical Habitat   | Suitable Habitat within<br>Project Area?  |
|--|--------------------------------|--|---|
| <b>Birds</b>   |                                |  |   |
| Northern spotted owl<br>( <i>Strix occidentalis caurina</i> )  | FT<br>ST                       | Critical Habitat were <b>Designated</b> in 1992, revised in 2008, and again in 2012 (77 Federal Register [FR] 71876).<br>The study area is not within designated critical habitat. | There is no suitable habitat in the study area.   |
| <b>Mammals</b>   |                                |  |   |
| Pacific marten<br>( <i>Martes caurina</i> )  | FT                             | Critical Habitat was <b>Proposed</b> on October 25, 2021 (86 FR 58831).<br>The study area is not within designated Critical Habitat.   | There is no suitable habitat in the study area.   |
| <b>Insects</b>   |                                |  |   |
| Franklin's bumble bee<br>( <i>Bombus franklini</i> )   | FE                             | Critical Habitat has not been designated for this species.   | There is no suitable habitat in the study area.   |
| <b>Plants</b>  |                                |  |   |
| Gentner's fritillary<br>( <i>Fritillaria gentneri</i> )  | FE<br>SE                       | Critical Habitat has not been designated for this species.   | There is no suitable habitat in the study area.   |
| <b>Fish</b>  |                                |  |   |
| Southern Oregon / Northern California Coast (SONCC) Coho Salmon Evolutionarily Significant Unit (ESU)<br>( <i>Oncorhynchus kisutch</i> ) | FT                             | Critical Habitat was <b>Designated</b> on May 5, 1999 (64 FR 24049).<br>Harris Creek and Jumpoff Joe Creek are considered Critical Habitat.  | The unnamed tributary to Jumpoff Joe Creek is not considered Critical Habitat due to its ephemeral and flashy nature. |

NOTES:

<sup>a</sup> FE – federal endangered, FT – federal threatened, SE – State Endangered, ST – State Threatened

SOURCE: USFWS 2022; NMFS 2016

#### **Listed Birds and Mammals**

Pacific marten and northern spotted owls require mature and old growth forests. There is no suitable habitat for spotted owls or martens in or around the study area.

#### **Listed Insects**

The distribution of Franklin's bumblebee is covered by an oval of about 190 miles north and south and 70 miles east to west between 122° to 124° west longitude and 40° 58" to 43° 30" north latitude in Douglas, Jackson, and Josephine counties. Franklin's bumble bee relies on floral plants (such as lupines, poppies, hyssop, monardella, and violets), and abandoned rodent burrows for its habitat. The project area is within the range of the Franklin's bumblebee; however, Franklin's bumblebees have not been recorded in Oregon since 2006 (86 FR 47221). A site visit was

conducted on August 3, 2022. None of the plants that Franklin's bumble bee rely on were in the study area.

### **Listed Plants**

The closest known Gentner's fritillary plants are 3 miles southeast of the study area. Gentner's fritillary prefers the ecotone between meadow and oak woodland. A site visit was conducted on August 3, 2022. A portion of the extension area has been cleared and fill imported. This area is dominated by yellow starthistle and is not suitable habitat for Gentner's fritillary. The undisturbed areas are vegetated with a California oak forest habitat that is too dense and shady and not suitable for Gentner's fritillary.

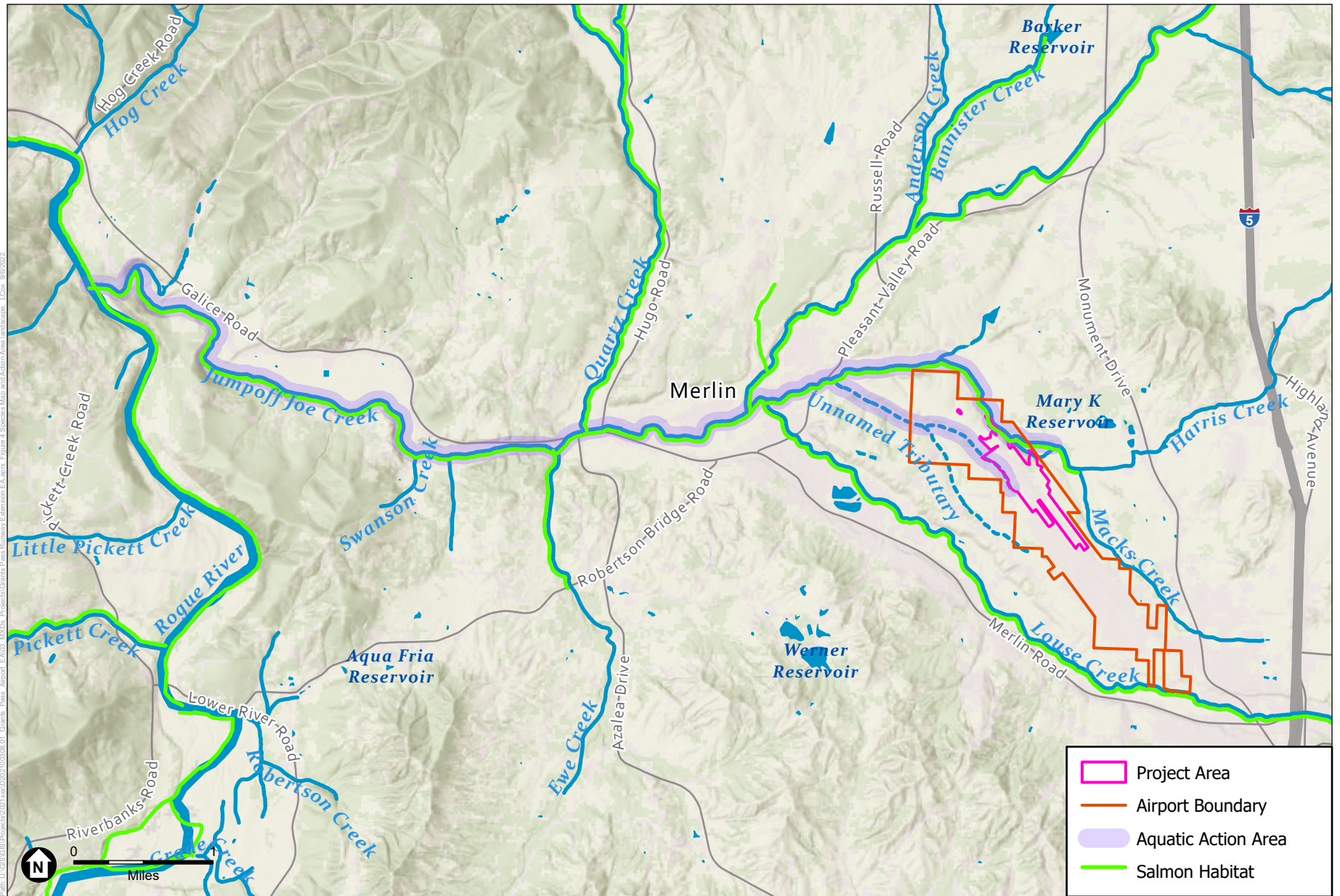
### **Listed Fish**

SONCC coho salmon are present in the Rogue River and its tributaries; see **Figure 3-2**. Critical Habitat includes all aquatic reaches accessible to listed coho salmon between Cape Blanco, Oregon, and Punta Gorda, California, which includes the Rogue River and Jumpoff Joe Creek among others. Critical Habitat consists of the water, substrate, and adjacent riparian zone of estuarine and riverine reaches (including off-channel habitats). Juvenile SONCC coho salmon in the mainstem Rogue River migrate to the ocean from April through July, and rear in the mainstem and tributaries year-round (ODFW 2003a, 2003b). Limiting factors for Rogue River populations of SONCC coho salmon include altered hydrologic function, degraded riparian forest conditions, impaired water quality, and lack of floodplain and channel structure. The greatest factor limiting recovery of SONCC coho salmon in the Rogue River populations is the lack of suitable rearing habitat for juveniles (NMFS 2014).

In the Jumpoff Joe Creek watershed, adult spawning occurs in the fall and winter. Downstream juvenile migration in Jumpoff Joe Creek occurs from April through mid-July. Due to temperature issues in the mainstem Jumpoff Joe Creek from river mile 0 to 21, limited juvenile rearing occurs in the study area during the warm summer months.

Critical Habitat includes all waterways, substrate, and adjacent riparian zones below longstanding, naturally impassable barriers (i.e., natural waterfalls in existence for at least several hundred years). The extent of riparian zone habitat that is included as critical habitat is given a functional definition rather than a numerical distance. Essential features of coho salmon Critical Habitat include adequate: substrate, water quality, water quantity, water temperature, water velocity, cover/shelter, food, riparian vegetation, space, and safe passage conditions (64 FR 24049). Harris Creek and Jumpoff Joe Creek are considered Critical Habitat, although the unnamed tributary to Harris Creek is not due to its ephemeral and flashy nature.





SOURCE: Hillshade: Esri, 2022; Landcover: NLCD, 2022; Hydrography: NHD, 2022; Fish Distribution: ODFW, 2022; Roads: OSM, 2018; ESA, 2022

Grants Pass Runway Extension

**Figure 3-2**  
Surface Waters and Salmon Habitat

*Jumpoff Joe Creek and Harris Creek are considered Southern Oregon/Northern California Coast Coho salmon Critical Habitat and Essential Fish Habitat*





### State Listed Species

There is no suitable habitat on the Airport for any species protected under the Oregon Endangered Species Act.

#### 3.4.2.3 Bald and Golden Eagles

The Airport property was surveyed for eagles and eagle nests; none were seen. Additionally, there are no recorded eagle nests in the area (USFWS 2022).

#### 3.4.2.4 Migratory Birds

**Table 3-5** lists the Birds of Conservation Concern protected under the MBTA that could potentially occur in the vicinity of the study area (USFWS 2022). Suitable breeding habitat occurs in the study area for 6 of the species of migratory birds listed as Birds of Conservation Concern.

**TABLE 3-5  
MIGRATORY BIRD HABITAT IN THE STUDY AREA**

| Species                | Breeding Season   | Nesting Habitat Requirements   | Probability of Presence in the Project Area |
|------------------------|-------------------|--|---|
| Allen's hummingbird    | Feb 1 – Jul 15    | Breeds in moist coastal areas, scrub, chaparral and forests.                           | May 22 – Jul 31                             |
| Evening grosbeak       | May 15 – Aug 10   | Mixed conifer forests, but will use broadleaved trees for nesting and foraging.        | May 15 – Jul 21                             |
| Oak titmouse           | Mar 15 – Jul 15   | Warm, open, dry oak or oak-pine woodlands. Many will use scrub oaks for nesting trees. | Year round                                  |
| Olive-sided flycatcher | May 20 – Aug 31   | Breeds in coniferous forests.  | Jun 1 – Jul 21                              |
| Rufous hummingbird     | April 15 – Jul 15 | Mixed pine/oak and oak forests. Nests are built in shrubs or conifers.                 | Feb – Sep                                   |
| Wrentit                | Mar 15 – Aug 10   | Oak woodlands and mixed hardwood and evergreen forests                                 | Feb – Oct                                   |

SOURCE: USFWS 2022

#### 3.4.2.5 Essential Fish Habitat

The Pacific salmon management unit within the study area includes SONCC coho salmon. In addition to Pacific salmon, EFH has been designated for groundfish and coastal pelagic species. However, as the entirety of the project is located in a freshwater environment, and because the study area does not extend to marine or estuarine waters, the project does not have the potential to affect EFH for Pacific coast or groundfish pelagic species.

### 3.4.3 Environmental Consequences

#### 3.4.3.1 Significance Threshold

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance threshold for biological resources (including fish, wildlife, and plants):

*The USFWS or the NMFS determines that the action would be likely to jeopardize the continued existence of a Federally-listed threatened or endangered species, or would result in the destruction or adverse modification of federally-designated critical habitat.*

The FAA has not established a significance threshold for non-listed species.

In addition to the above threshold, FAA Order 1050.1F outlines additional factors to consider in evaluating the context and intensity of potential environmental impacts for biological resources, including situations in which a proposed action would have the potential for:

- A long-term permanent loss of unlisted plant or wildlife species, i.e., extirpation of the species from a large project area (e.g., a new commercial service airport).
- Adverse impacts on special status species (e.g., state species of concern, species proposed for listing, migratory birds, bald and golden eagles) or their habitats.
- Substantial loss, reduction, degradation, disturbance, or fragmentation of native species' habitats or their populations.
- Adverse impacts on species' reproductive success rates, natural mortality rates, non-natural mortality (e.g., road kills and hunting), or ability to sustain the minimum population levels required for population maintenance.

#### 3.4.3.2 Alternative 1 – No Action

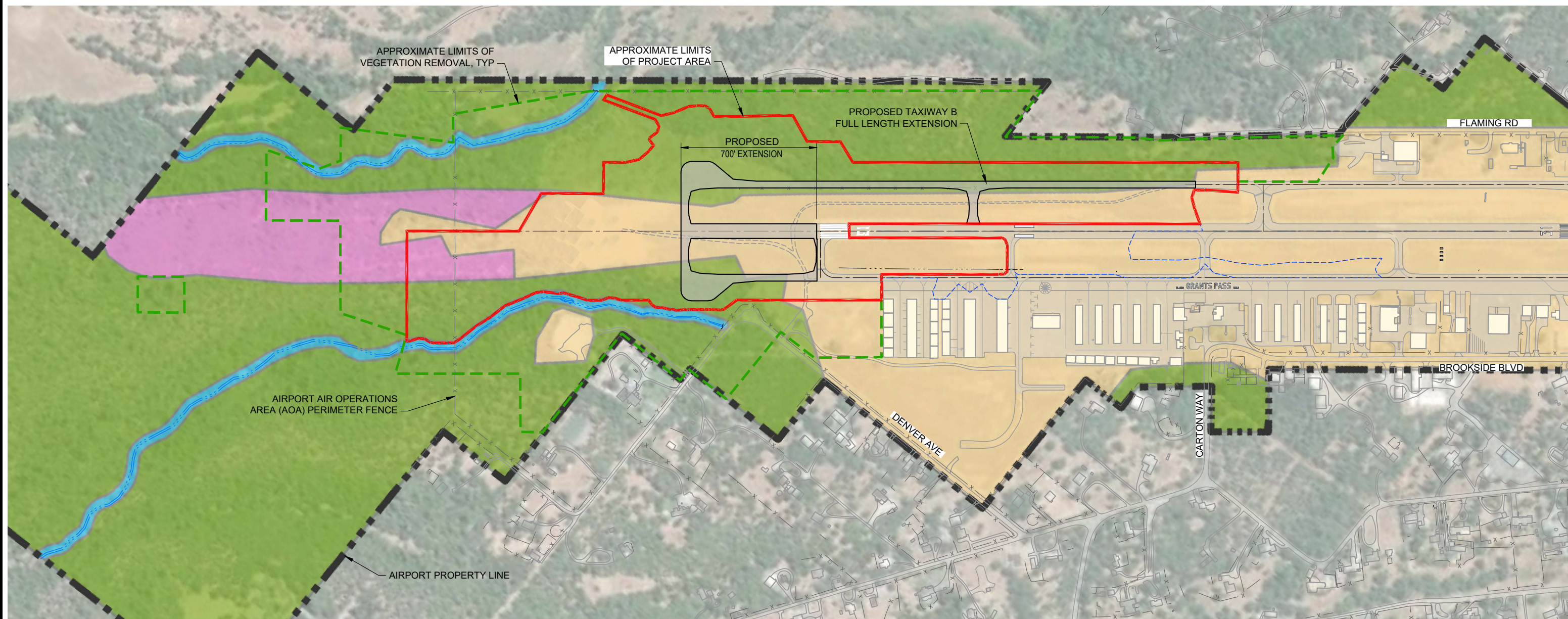
No construction activities would occur under this alternative so there would be no habitat alteration or vegetation removal; therefore, there would be no impacts on biological resources. Airport operations and maintenance would continue. The County actively manages wildlife on the Airport to reduce habitat suitability and maintain a safe operating environment.

#### 3.4.3.3 Alternative 2 – 700-foot Runway Extension (Proposed Action)






##### ***Land Cover, Habitat Types, and Wildlife***

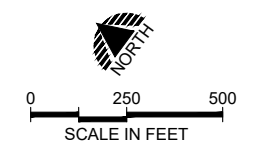
Alternative 2 would remove 72 acres of vegetation from Airport property. Specific habitat impacts are summarized in **Table 3-6** and clearing and grading limits are shown on **Figure 3-3**.

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**LEGEND**

-  AIRPORT PROPERTY LINE
- HABITAT TYPE**
-  CLEARED / DISTURBED
-  FORESTED
-  RIPARIAN
-  SHRUBLAND



JOSEPHINE COUNTY - GRANTS PASS AIRPORT  
RUNWAY EXTENSION ENVIRONMENTAL ASSESSMENT

**ALTERNATIVE 2 - HABITAT  
IMPACTS**

**FIGURE 3-3** JULY 2023



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**TABLE 3-6  
ALTERNATIVE 2 HABITAT IMPACTS**

| <b>Impact Type</b>    | <b>Cleared/Disturbed<br/>(acres)</b> | <b>Shrubland<br/>(acres)</b> | <b>Mixed<br/>Deciduous-<br/>Coniferous<br/>Forest<br/>(acres)</b> | <b>Riparian<br/>(Unnamed<br/>Tributary<sup>b</sup>)<br/>(acres)</b> |
|-----------------------|--------------------------------------|------------------------------|---|---|
| Permanently developed | 4                                    | 0                            | 3   | 0   |
| Altered <sup>a</sup>  | 40                                   | 11                           | 55  | 3   |
| <b>TOTAL</b>          | <b>44</b>                            | <b>11</b>                    | <b>58</b>   | <b>3</b>  |

## NOTES:

<sup>a</sup> Vegetation has been cleared and will be graded and seeded with low growing grass/herbaceous species and maintained through mowing.

<sup>b</sup> Unnamed tributary of Harris Creek

Removal of vegetation would consist of habitat types common to this region of Oregon. The areas surrounding the project area would be subject to increased noise from construction equipment and activities during tree removal. Wildlife would be disturbed by this increase in noise and human activity and would most likely avoid these areas until construction is completed. This could disrupt breeding activities for a variety of wildlife species that inhabit mixed deciduous-coniferous forest found on and adjacent to the Airport, including black-tail deer, bobcat, coyote, Douglas squirrel, and various species of birds. Construction activities are considered short-term and would be temporary. Habitat modification could cause a change in the species that currently use the habitat or how the habitat is used (indirect effect); however, approximately 50 percent of the forested habitat remaining within a 2-mile radius of the Airport will limit potential negative effects on wildlife. For example, a change from a mixed forest habitat to an open meadow could result in species such as turkeys or rodents using the area; or black-tail deer would use open meadow for foraging and not breeding.

The County actively manages wildlife on the Airport to maintain a safe operating environment. Vegetation removal and habitat modification are consistent with the objective to reduce habitat suitability on the Airport for potentially hazardous wildlife.

About 3 acres of riparian habitat would be removed from the unnamed tributary of Harris Creek, causing localized impacts on riparian vegetation. Vegetation removal and grading have the potential to disturb soils and provide the opportunity for nonnative species (such as yellow starthistle) to colonize and outcompete native species. A Weed Control Plan will be developed to prevent the spread of noxious weeds from the Airport.

### ***Protected Species and Habitat***

Alternative 2 would have no effect on Pacific marten, northern spotted owl, Franklin's bumblebee, or Gentner's fritillary since there is no suitable habitat within the study area and there are no recorded sightings of these species within the study area. Alternative 2 would also have no effect on Critical Habitat for the northern spotted owl and the proposed critical habitat for Pacific marten since the project area is located outside of these areas.



Under Alternative 2, there would be no removal of riparian habitat of Harris Creek (Critical Habitat) nor any in-water work or work below the ordinary high water mark of any waterways. Therefore, there would be no permanent or localized impacts on SONCC coho habitat substrate, water temperature, cover/shelter, food, space, or safe passage conditions elements of Critical Habitat.

Alternative 2 would create approximately 6 acres of new impervious surface. Impervious surfaces present the potential to increase the amount of stormwater runoff and pollutants entering surface waters and adversely affecting the water quality of fish habitat, which could in turn reduce the fitness of protected fish species and lead to reduced productivity. The addition of impervious surfaces can increase runoff volume and speed, which can alter streamflows in receiving waters. This can degrade salmon habitat through bed scour, bank erosion, and sedimentation of spawning gravels. The proposed stormwater management system uses retention of stormwater runoff with infiltration as the primary method of stormwater management for both quality and quantity. The retention facility will be designed to collect and infiltrate runoff from the proposed extension up to the 25-year storm event. Flows greater than that event will be allowed to flow through a bypass and be dispersed toward the unnamed tributary of Harris Creek. There would be no impacts to SONCC coho water quality, water quantity, or water velocity Critical Habitat elements. This alternative would have no effect on SONCC coho or Critical Habitat.

### ***Bald and Golden Eagles***

This alternative would have no impact on bald or golden eagles since there are no known nests and none have been seen where trees are proposed to be removed.

### ***Migratory Birds***

The nesting season for migratory birds occurs between March 1 and September 15. The U.S. Department of Interior's legal opinion on the MBTA states, "*the take [killing] of birds resulting from an activity is not prohibited by the Migratory Bird Treaty Act when the underlying purpose of that activity is not to take birds*" (December 2017).

Suitable breeding habitat occurs in the project area for 6 of the species of migratory birds listed as Birds of Conservation Concern. Impacts to nesting birds would be minimized using the mitigation measures described at the end of this section.

### ***Essential Fish Habitat***

The effects of Alternative 2 on EFH are similar to those described above for SONCC coho Critical Habitat, and would not be significant.

### **3.4.3.4 Mitigation Measures**

Mitigation of biological resources is not required and further analysis is not necessary. Although the Proposed Action would not significantly affect biological resources, the Proposed Action includes the following measures to reduce and minimize impacts on biological resources and comply with the MBTA:

- If construction activities (e.g., building, grading, ground disturbance, removal of vegetation) are scheduled to occur during the migratory bird nesting season (generally February 15 to September 30), a preconstruction nesting bird survey shall be conducted by a qualified biologist throughout the areas of suitable habitat, including bare soils, within 100 feet of proposed construction activity. The surveys shall occur no more than 10 days prior to the scheduled start of construction. If construction is delayed or halted for more than 10 days, another preconstruction survey for nesting bird species shall be conducted. If no nesting birds are detected during the preconstruction survey, no additional surveys or mitigation measures are required.
- If nesting migratory bird species are observed within 100 feet of construction areas during the surveys, appropriate “no construction” buffers shall be established. The size and scale of nesting bird buffers shall be determined by a qualified biologist and shall be dependent upon the species observed and the location of the nest. Buffers shall be established around active nest locations. The nesting bird buffers shall be completely avoided during construction activities. The qualified biologist shall also determine an appropriate monitoring plan and decide whether construction monitoring is necessary during construction activities. Monitoring requirements are dependent upon the species observed, the location of the nests, and the number of nests observed. The buffers may be removed when the qualified biologist confirms that the nest(s) is no longer occupied, and all birds have fledged.
- Any bare soil from project activities will be reseeded with an appropriate erosion control seed mix immediately following construction.
- The contractor will develop a Weed Control Plan to prevent the spread of noxious weeds. The Weed Control Plan will follow Oregon Department of Transportation’s Integrated Vegetation Management Statewide Plan (2017).
- Wildlife hazard mitigation measures, as set out in FAA AC 150/5200-33C and the Washington Department of Transportation Aviation Stormwater Design Manual will be incorporated into the detention pond design to reduce waterfowl attractancy of the stormwater facilities.

With implementation of these conservation and minimization measures, there would be no significant impact on biological resources, including fish, wildlife, and their habitats.

## 3.5 Climate

### 3.5.1 Regulatory Setting

Regulations addressing climate are summarized in **Table 3-7**.

**TABLE 3-7**  
**REGULATORY POLICIES AND PLANS RELATED TO CLIMATE**

| Regulation  | Description  |
|---|--|
| EPA "Endangerment" and "Cause or Contribute" Findings | The Supreme Court has held that the EPA must consider regulation of motor vehicle GHG emissions.   |
| Mandatory GHG Reporting Rule                          | Facility owners must submit an annual GHG emissions report with detailed calculations of facility GHG emissions. The Reporting Rule also mandates recordkeeping and administrative requirements in order for the EPA to verify annual GHG emissions reports.   |
| Oregon Executive Order 20-04                          | Order 20-04 directs the Environmental Quality Commission and DEQ to develop a new program to limit GHGs emissions from large stationary sources, transportation fuels, and other liquid gaseous fuels, including natural gas.  |
| Oregon Climate Protection Program                     | Program to reduce GHG emissions, achieve co-benefits from other air contaminant reductions, and to enhance public welfare for Oregon communities. Requires that covered entities reduce GHG emissions, supports reduction of other non-GHG air pollutants, prioritizes reduction of GHGs and other pollutants in environmental justice areas, and provides covered entities with compliance options. |

### 3.5.2 Affected Environment

The Intergovernmental Panel on Climate Change (IPCC) estimates that aviation accounted for 4.1 percent of global transportation GHG emissions. Scientific research is ongoing to better understand climate change, including any incremental atmospheric impacts that may be caused by aviation.

Increasing concentrations of GHGs in the atmosphere affect global climate (Intergovernmental Panel on Climate Change 2014, U.S. Global Change Research Program 2009). GHG emissions result from anthropogenic sources including the combustion of fossil fuels. GHGs include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), O<sub>3</sub>, and fluorinated gases (EPA 2021). CO<sub>2</sub> is the most important anthropogenic GHG because it is a long-lived gas that remains in the atmosphere for up to 100 years. Climate change is a global phenomenon that can have local impacts.<sup>2</sup> Scientific measurements show that Earth's climate is warming, with concurrent impacts including warmer air temperatures, increased sea level rise, increased storm activity, and an increased intensity in precipitation events. Research has shown there is a direct correlation between fuel combustion and GHG emissions.

Climate change due to GHG emissions is a global phenomenon; therefore, the affected environment is the global environment (EPA 2009). The Airport does not have a baseline for GHG emissions or a facility-specific plan, and there are no requirements at the state level to consider such impacts in the design of projects.

<sup>2</sup> As explained by the EPA, "greenhouse gases, once emitted, become well mixed in the atmosphere, meaning U.S. emissions can affect not only the U.S. population and environment but other regions of the world as well; likewise, emissions in other countries can affect the United States" (EPA 2009).



### 3.5.3 Environmental Consequences

#### 3.5.3.1 Significance Threshold

Exhibit 4-1 of FAA Order 1050.1F has not established a significance threshold for climate and GHG emissions, nor has the FAA identified specific factors to consider in making a significance determination for GHG emissions.

#### 3.5.3.2 Alternative 1 – No Action

The No Action alternative would not result in any construction activities. Aircraft operations are expected to increase as forecasted in the Master Plan Update (Coffman Associates 2020). This would result in an increase in emissions from aircraft operations and vehicles traveling to and from the Airport.

#### 3.5.3.3 Alternative 2 – 700-foot Runway Extension (Proposed Action)

GHG emissions would temporarily increase during construction from diesel- and gasoline-powered construction equipment and additional vehicular traffic. Emissions of GHGs associated with construction of the runway extension and their projected social costs are presented in **Table 3-8**. These emissions and social costs are presented, consistent with the CEQ’s interim NEPA guidance on *Consideration of Greenhouse Gas emissions and Climate Change*, published on January 9, 2023. The overall GHG footprint and costs to society are equal to the emissions of 6.6 average U.S. passenger vehicle emissions in a year – a very limited impact (EPA 2023c).

**TABLE 3-8  
ALTERNATIVE 2 CONSTRUCTION EMISSIONS OF GHG AND PROJECTED SOCIAL COSTS**

| Parameter                             | CO <sub>2</sub> | CH <sub>4</sub> | N <sub>2</sub> O | CO <sub>2</sub> e | Units              |
|---------------------------------------|-----------------|-----------------|------------------|-------------------|--------------------|
| Emission Factors <sup>a</sup>         | 10,210          | 1.01            | 0.94             | --                | g/gal diesel       |
| Diesel Use <sup>b</sup>               | 2902.1          | 2902.1          | 2902.1           | --                | gallons            |
| Global Warming Potential <sup>c</sup> | 1               | 25              | 298              | --                | --                 |
| Emissions                             | 29.63           | 0.003           | 0.003            | <b>30.52</b>      | <b>Metric Tons</b> |
| Social Costs <sup>d</sup>             | \$,659.30       | \$4.98          | \$57.29          | <b>\$1,721.58</b> |                    |

NOTES/SOURCES:

- <sup>a</sup> Emission factors were taken from the EPA's Center for Corporate Climate Leadership GHG Emission Factor Hub (EPA 2023a).  
<sup>b</sup> Diesel use was back calculated from the SO<sub>2</sub> emissions estimated by the ACEIT model. The calculation assumed a 0.001 weight ratio of fuel sulfur content, 97.753% conversion rate of sulfur to SO<sub>2</sub>, and a molecular weight ratio for SO<sub>2</sub> to sulfur to 2 (EPA 2023b).  
<sup>c</sup> Global Warming Potentials were taken from the IPCC Fourth Assessment Report (AR4), 2007.  
<sup>d</sup> Social costs of carbon estimates using a 3% discount rate for emission year 2025, as taken from the Technical Support Document: Social Cost of Carbon, Methane, and Nitrous Oxide Interim Estimates under Executive Order 13990, February 2021.

Alternative 2 would remove 72 acres of vegetation. Removal of vegetation would result in a permanent reduction in the current CO<sub>2</sub> storage capacity of the Airport, and a slight increase in the Airport’s contribution of CO<sub>2</sub> to the atmosphere.

The increased runway length avoids incoming aircraft from having to divert to Medford or outgoing aircraft from having to delay or decrease payload due to weather conditions, resulting in increased efficiency and cost effectiveness of aircraft operations. Aircraft taxi routes would increase by up to 700 feet and result in minor increase in aircraft operational emissions, and are considered negligible.

The Airport is located well outside any coastal areas and would not be directly impacted by sea level rise in any amount, nor would it be impacted directly by coastal storms outside of wind and rain events from the remnants of coastal storm systems. The project area does not include any areas that are subject to frequent flooding, nor does the project area fall within the 100 or 500-year floodplain boundaries as defined by Federal Emergency Management Agency (FEMA). Overall, the Airport is unlikely to be significantly impacted by large events directly attributable to climate change. Additionally, the Airport is unlikely to contribute or cause an impact to other properties from a large event directly attributed to climate change.

### 3.5.3.4 Mitigation Measures

Mitigation is not required and no further analysis of GHG emissions or climate adaptation is necessary.

## 3.6 Department of Transportation Section 4(f) Resources

### 3.6.1 Regulatory Setting

Regulations addressing Section 4(f) Resources are summarized in **Table 3-9**.

**TABLE 3-9  
REGULATORY POLICIES AND PLANS RELATED TO SECTION 4(F) RESOURCES**

| Regulation   | Description  |
|--|--|
| Section 4(f) of the U.S. Department of Transportation Act of 1966 (now codified at 49 USC § 303) | Protects significant publicly owned parks, recreational areas, wildlife and waterfowl refuges, and public and private historic sites. Section 4(f) provides that the Secretary of Transportation may approve a transportation program or project requiring the use of publicly owned land off a public park, recreation area, or wildlife or waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance, only if there is no feasible and prudent alternative to the using that land and the program or project includes all possible planning to minimize harm resulting from the use. |

### 3.6.2 Affected Environment

Section 4(f) properties include:

- Parks and recreational areas of national, state, or local significance that are both publicly owned and open to the public.
- Publicly owned wildlife and waterfowl refuges of national, state, or local significance that are open to the public.

- Historic sites of national, state, or local significance in public or private ownership regardless of whether they are open to the public.

The following summarizes the closest Section 4(f) properties to the Airport.

**Public Parks:** Merlin Community Park, 1.3 miles west of the Airport.

**Wildlife Refuge:** Upper Klamath National Wildlife Refuge, 65 miles east of the Airport.

**Properties Listed on the National Register of Historic Places (NRHP):** there are no NRHP-listed properties within 5 miles of the Airport.

### 3.6.3 Environmental Consequences

#### 3.6.3.1 Significance Threshold

Exhibit 4-1 of FAA Order 1050.1F provides the FAA’s significance threshold for Section 4(f) resources:

*The action involves more than a minimal physical use of a Section 4(f) resource or constitutes a “constructive use” based on an FAA determination that the aviation project would substantially impair the Section 4(f) resource. Resources that are protected by Section 4(f) are publicly owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance; and publicly or privately owned land from an historic site of national, state, or local significance. Substantial impairment occurs when the activities, features, or attributes of the resource that contribute to its significance or enjoyment are substantially diminished.*

#### 3.6.3.2 Alternative 1 – No Action

There are no Section 4(f) Resources on the Airport, so the No Action Alternative would not have a direct use of a Section 4(f) Resource. Under the No Action Alternative there would be no change in airport operations or flight procedures. None of the Section 4(f) Resources identified in the general study area would experience a significant noise impact under the No Action Alternative (see Section 3.11), so no constructive use of any Section 4(f) property would occur.

#### 3.6.3.3 Alternative 2 – 700-foot Runway Extension (Proposed Action)

Under Alternative 2, all development would occur on Airport property. There are no Section 4(f) Resources on the Airport; therefore, there would not be a direct use of a Section 4(f) Resource.

The runway extension would require an amendment to flight procedures. None of the Section 4(f) Resources identified in the general study area would experience a significant noise impact under Alternative 2 (see Section 3.11), so no constructive use or indirect use of any Section 4(f) property would occur.

#### 3.6.3.4 Mitigation Measures

Mitigation is not required, and no further analysis of Section 4(f) resources is necessary.

## 3.7 Hazardous Materials, Solid Waste, and Pollution Prevention

### 3.7.1 Regulatory Setting

The hazardous materials regulatory setting is summarized in **Table 3-10**.

**TABLE 3-10  
REGULATORY POLICIES AND GUIDANCE RELATED TO HAZARDOUS MATERIALS**

| Regulation   | Description  |
|--|--|
| Comprehensive Environmental Response, Compensation, and Liability Act (as amended by the Superfund Amendments Reauthorization Act of 1986 and the Community Environmental Response Facilitation Act of 1992) | Establishes joint and several liability for those parties responsible for hazardous substance releases to pay cleanup costs and establishes a trust fund to finance cleanup costs in situations in which no responsible party could be identified. Enables the creation of the National Priorities List (NPL), a list of sites with known releases or threatened releases of hazardous substances in the United States and its territories used to guide the EPA in determining which sites warrant further investigation. As conditions of a sale, release, or transfer of federal lands or facilities used to store hazardous materials or where a release or disposal of hazardous materials has occurred, federal agencies must: identify those lands or facilities; and complete waste or contaminate cleanup of these lands or facilities. |
| Emergency Planning and Community Right to Know Act   | Requires hazardous chemical emergency planning by federal, state, and local governments, Indian tribes, and industry. It also requires industry to report on the storage, use, and releases of hazardous chemicals to federal, state, and local governments.   |
| Pollution Prevention Act   | Requires pollution prevention and source reduction control so that wastes would have less effect on the environment while in use and after disposal.   |
| Resource Conservation and Recovery Act (RCRA)  | Establishes guidelines for hazardous waste and non-hazardous solid waste management activities in the United States. Regulates the generation, storage, treatment, and disposal of waste.  |
| Toxic Substances Control Act   | Provides the EPA with the authority to regulate the production, importation, use, and disposal of chemicals defined as toxic, including lead, radon, asbestos, and polychlorinated biphenyls (PCBs), that have the potential to cause unreasonable risk of injury to public health or the environment.   |
| Executive Order 12088, Federal Compliance with Pollution Control Standards   | Directs federal agencies to comply with applicable pollution control standards.  |
| CEQ Memorandum on Pollution Prevention and the National Environmental Policy Act   | This memorandum provides guidance to the federal agencies on incorporating pollution prevention principles, techniques, and mechanisms into their planning and decision making processes and evaluating and reporting those efforts in documents prepared pursuant to NEPA.  |

### 3.7.2 Affected Environment

#### 3.7.2.1 Hazardous Materials

A literature search was conducted to identify any contaminated sites within 2 miles of the Airport. There are no contaminated NPL sites or sites in consideration for listing on the NPL, RCRA Solid Waste Management Units or contaminated sites regulated under state cleanup laws in the project area or within 2 miles of the Airport (EPA 2023; DEQ 2023).

In the Spring of 2023, the County installed a new fuel island at the Airport with two above ground Jet A fuel storage tanks.

### 3.7.2.2 Solid Waste

The closest solid waste disposal site is located at the Josephine County Recycle and Transfer Station 1749 Merlin Road, Grants Pass, OR, approximately 1 mile from the Airport.

### 3.7.2.3 Pollution Prevention

The County implements BMPs to address pollution prevention initiatives. These initiatives consist of spill reporting procedures, maintaining and updating site-specific spill prevention control and countermeasure plans, maintaining and updating stormwater management plans for both industrial and construction stormwater, and following proper techniques for the handling and storage of hazardous materials.

## 3.7.3 Environmental Consequences

### 3.7.3.1 Significance Threshold

The FAA has not established a significance threshold for hazardous materials, solid waste, or pollution prevention in FAA Order 1050.1F; however, factors to consider include situations in which the proposed action or alternative(s) would have the potential to:

- Violate applicable federal, state, tribal, or local laws or regulations regarding hazardous materials and/or solid waste management.
- Involve a contaminated site (including, but not limited to, a site listed on the NPL).
- Produce an appreciably different quantity or type of hazardous waste.
- Generate an appreciably different quantity or type of solid waste or use a different method of collection or disposal and/or would exceed local capacity.
- Adversely affect human health and the environment.

### 3.7.3.2 Alternative 1 – No Action

The No Action Alternative does not require any disruption of land or soil. Therefore, it would not affect the hazardous materials that exist at the Airport. An increase in the volume of solid waste would occur as a result of the increase in users. Given the capacity of the Josephine County Transfer Station, this increase in solid waste would not be a significant impact.

### 3.7.3.3 Alternative 2 – 700-foot Runway Extension (Proposed Action)

Alternative 2 would not disturb any areas that are known to contain hazardous materials. Some construction activities have the potential to generate hazardous wastes, and some construction materials (fuel, oil, lubricants, paints, etc.) may consist of hazardous substances. The construction contractor would be required to implement proper practices to minimize or prevent the release of hazardous substances into the environment during construction activities. Any hazardous materials that may be encountered during construction would be managed and disposed of in compliance with federal, state, and local hazardous materials management guidelines.



Same as the No Action Alternative, Alternative 2 would result in a slight increase in the amount of solid waste generated at the Airport due to increased users. Given the capacity of the Josephine County Transfer Station, this increase in solid waste would not be a significant impact.

### 3.7.3.4 Mitigation Measures

Mitigation is not required and further analysis of hazardous materials, solid waste, or pollution prevention is not necessary.

## 3.8 Historical, Architectural, and Cultural Resources

### 3.8.1 Regulatory Setting

Regulations addressing Historic, Architectural, and Cultural Resources are summarized in **Table 3-11**.

**TABLE 3-11  
REGULATORY POLICIES AND PLANS RELATED TO HISTORICAL, ARCHITECTURAL, AND CULTURAL RESOURCES**

| Regulation   | Description   |
|--|---|
| Section 106 of the National Historic Preservation Act (NHPA)                     | Requires federal agencies to consider the effects of this undertaking upon eligible resources (36 CFR800.4(d)(1)). The FAA is the Lead Federal Agency under Section 106. Section 106 requires that the FAA consider the effects of this undertaking upon Historic Properties within the Project's Area of Potential Effects (APE). Federal code implementing Section 106, found at 36 CFR 800, includes a requirement that an effort be made to identify Historic Properties. |
| Archaeological Objects and Sites (Oregon Revised Statutes [ORS] 358.905-358.955) | Provides definitions of archaeological sites, 75 years of age or older, significance, cultural patrimony; prohibits the sale and exchange of cultural items; or damage to archaeological sites on public and private lands. Items of cultural patrimony or associated with human remains are protected everywhere, unless the activity is authorized by an archaeological excavation permit.  |
| Protection of Publicly Owned Historic Properties (ORS 358.653)                   | Requires that state agencies or political subdivisions that are responsible for real property of historic significance consult with the Oregon SHPO to conserve property and assure that such property shall not be inadvertently transferred, sold, demolished, substantially altered or allowed to deteriorate  |
| Indian Graves and Protected Objects (ORS 97.740-97.760)                          | Protects all Native American cairns and graves and associated cultural items.   |

### 3.8.2 Affected Environment

A Cultural Resources Assessment was per Section 106 of the NHPA to identify and assess potential impacts on historic and cultural resources from the Proposed Action. The APE was developed that included all potential areas of ground disturbance, as well as access roads and staging areas.

An archaeological survey for the APE was conducted by Southern Oregon University Laboratory of Anthropology (SOULA 2022) to address the potential for archaeological resources. The survey included background review, pedestrian survey, and subsequent subsurface survey consisting of 50 shovel test probes. Fieldwork was carried out according to State Historic Preservation Office (SHPO) guidelines for conducting cultural resource surveys in Oregon and under archaeological permit no. AP-3187.

The field investigations revealed that large portions of the survey area had been previously disturbed as a result of the construction and maintenance of the current Airport facilities. Three areas were identified as having a higher probability of containing cultural resources. Four mid-late 20<sup>th</sup> century historic-era refuse scatters were recorded in the APE. None of the resources found during the field investigation were determined to be eligible for listing in the NRHP (SOULA 2022).

### 3.8.3 Environmental Consequences

FAA initiated consultation with the SHPO, Cow Creek Band of the Umpqua Tribe of Indians, the Confederated Tribes of Grand Ronde Community of Oregon, and the Confederated Tribes of Siletz Indians on July 20, 2022, in accordance with Section 106 of the NHPA of 1966, and implementing regulations 36 CFR Part 800 (SHPO Case No. 22-1173). FAA also initiated 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.

Based on the results and recommendations in the survey report, the FAA made a finding of *No Historic Properties Affected* for the Proposed Action and requested concurrence or non-concurrence from SHPO and interested tribes. No comments were received from SHPO. Therefore, under 36 CFR 800.3(c)(4) and 36 CFR 800.4(d)(1)(i), the FAA's responsibilities under Section 106 have been fulfilled. The FAA received an email from the Cow Creek Tribe on July 28, 2022, stating they do not have any cultural concerns. They requested that if cultural material becomes present during ground disturbances to contact them. Tribal correspondence is included in **Appendix B**.

#### 3.8.3.1 Significance Threshold

The FAA has not established a significance threshold for historical, architectural, archaeological and cultural resources.

#### 3.8.3.2 Alternative 1 – No Action

Under the No Action Alternative, no construction would occur and therefore, there would be no impacts on historical, architectural, archeological or cultural resources.

#### 3.8.3.3 Alternative 2 – 700-foot Runway Extension (Proposed Action)

The four cultural resource sites identified during the archaeological investigation were determined to not be eligible for listing in the NRHP and will be avoided during construction. Therefore, the FAA made a finding of *No Historic Properties Affected*.

Since subsurface investigations were not conducted in the entire APE, vegetation removal in areas identified as having a higher probability of containing cultural resources will be monitored by a qualified archaeologist. If any discoveries are made during construction, the protocol outlined in the Inadvertant Discovery Plan will be followed. With implementation this

conservation measure, Alternative 2 would have no significant impacts on historic and cultural resources.

### 3.8.3.4 Mitigation Measures

Mitigation of Historic, Architectural, and Cultural Resources are not required and further analysis is not necessary. Although the Proposed Action would not significantly affect Historic, Architectural, and Cultural Resources, the Proposed Action includes the following measures to reduce and minimize impacts on Historic, Architectural, and Cultural Resources:

- Vegetation removal in areas identified as having a high probability to contain cultural resources will be monitored by a qualified archaeologist.
- Development of an Inadvertent Discovery Plan

With implementation of these conservation and minimization measures, there would be no significant impact on Historic, Architectural, and Cultural Resources.

## 3.9 Land Use

### 3.9.1 Regulatory Setting

Regulations addressing land use are summarized in **Table 3-12**.

**TABLE 3-12**  
**REGULATORY POLICIES AND PLANS RELATED TO LAND USE**

| Regulation   | Description  |
|--|--|
| Josephine County Development Code                            | Sets forth regulations regarding the use and development of land in the County. It is intended to: (1) implement the Josephine County Comprehensive Plan; (2) protect and promote the health, safety and general welfare of the citizens of Josephine County; (3) provide for appropriate and prompt review of development and use proposals; and (4) satisfies relevant federal law, state law, goals and administrative rules and regional government law. |
| Title 49—Transportation. § 47101. Part B—Airport Development | Federal regulations that govern airport sponsor grant assurances per 49 USC 47101(a)(10). Require measures, to the extent reasonable and appropriate, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft.   |

### 3.9.2 Affected Environment

Falling outside of the Grants Pass Urban Growth Boundary, land use management falls under the jurisdiction of Josephine County. The Airport is in the area defined as the Merlin/North Valley area in the Josephine County Comprehensive Plan (Josephine County 2005). The Airport is zoned as Community Light Industrial Use. The Airport is surrounded primarily by light industrial, rural residential, and forest land uses. The 140-acre North Valley Industrial Park is located immediately southeast of the Airport property and, over a decade ago, a 200-unit residential community and golf course resort (since closed) was planned on 320 acres immediately north of the Airport. Most development near Merlin begins about 1.5 miles northwest of the Airport.

FAA AC 150/5190-4B provides guidance on compatible land use meant to ensure the safety and utility of airport operations. There are six areas of consideration to evaluate when assessing the compatibility of a specific land use: aviation noise, airspace, visual/atmospheric interference, wildlife (includes protected species), protection of people and property, and development density. Aviation noise, airspace, visual, and wildlife considerations are discussed elsewhere in this chapter while the protection of people and property is addressed through the RPZ. As described in Section 1.4.1, the RPZ is a trapezoidal area off the end of each runway designed to provide a clear area that is free of above ground obstructions and structures to enhance the protection of people and property on the ground. Currently, the County has direct ownership of all the RPZs based on the current runway length.

The FAA has placed a high priority on planning for compatible land uses within any RPZ that changes in size or location. Changes to the size or location of an RPZ are typically triggered by the following actions:

- An airfield project (e.g., runway extension).
- A change in the critical design aircraft that increases the size of the RPZ dimensions.
- A new or revised instrument approach that increases the size of the RPZ dimensions.
- A local development proposal in the RPZ.

Based on current aircraft operations at the Airport, the critical design aircraft will change from a B-II(s)-1A to a B-II-1B and require a larger RPZ off both runway ends. The RPZ of Runway 31 would extend slightly over Flaming Road, see Figure 2-2. Public roads that cross through an RPZ are considered an incompatible land use (FAA AC 150/5190-4B).

### 3.9.3 Environmental Consequences

#### 3.9.3.1 Significance Threshold

The FAA has not established a significance threshold for land use.

#### 3.9.3.2 Alternative 1 – No Action

The No Action Alternative is consistent with the Josephine County Comprehensive Plan and Zoning Ordinance and the ALP (Coffman Associates 2020). No land use or zoning changes are necessary.

Based on current aircraft operations at the Airport, the FAA determined that the critical design aircraft should be a B-II-1B. The existing RPZs meet the design standards for a design aircraft B-II(s)-1A with 1-mile minimums. The B-II-1B has a slightly larger RPZ, which would cause the Runway 31 RPZ to extend off Airport property and cross Flaming Road, a public road. To mitigate the presence of a public road in the RPZ, appropriate signage (such as No Parking or Low Flying Aircraft) can be placed along the road to notify the public not to loiter in this area.

### 3.9.3.3 Alternative 2 – 700-foot Runway Extension (Proposed Action)

Alternative 2 is consistent with the Josephine County Comprehensive Plan and Zoning Ordinance and the ALP. No land use or zoning changes are necessary.

The change in critical design aircraft from a B-II(s)-1A to a B-II-1B would require a larger RPZ off both runways; see Figure 2-2. The RPZ for Runway 13 would remain entirely on Airport property. The RPZ for Runway 31 would extend off Airport property and slightly over Flaming Road, a public road. Using AC 150/5190-4B, *Airport Land Use Compatibility Planning*, paragraph 2.3.5, FAA recommended leaving Flaming Road in place and adding appropriate signage to alert vehicles to the RPZ as an acceptable mitigation measure to the small area (0.15 acre) of incompatible land use within the RPZ.

### 3.9.3.4 Mitigation Measures

Roadway signs (such as No Parking or Low Flying Aircraft) will be placed along Flaming Road where the RPZ is present.

The Airport will seek either a fee simple acquisition or an avigation easement of the portion of the Runway 13 RPZ that extends off Airport property to protect airspace rights.

With implementation of these mitigation measures, the Proposed Action would have no significant land use impacts.

## 3.10 Natural Resources and Energy Supply

### 3.10.1 Regulatory Setting

Regulations addressing natural resources and energy supply are summarized in **Table 3-13**.

**TABLE 3-13  
REGULATORY POLICY RELATED TO NATURAL RESOURCES AND ENERGY SUPPLY**

| Regulation  | Description   |
|---|---|
| NEPA Sections 1502.16(e) and (f) of the CEQ Regulations | Require that federal agencies consider energy requirements, natural depletable resource requirements, and the conservation potential of alternatives and mitigation measures in the Environmental Consequences section of NEPA documents. |

### 3.10.2 Affected Environment

The Airport requires the use of consumable materials to maintain various airside facilities and services. Those materials may include asphalt, concrete, aggregate for sub-base materials, various metals associated with such maintenance, as well as fuel associated with the operation of aircraft and vehicles. Electrical power is necessary to keep the airfield operational and safe. Lighting within the study area consists of airfield navigational aids and runway and taxiway edge lighting.



### 3.10.3 Environmental Consequences

#### 3.10.3.1 Significance Threshold

The FAA has not established a significance threshold for natural resources and energy supply. Factors to consider would be if the action would have the potential to cause demand to exceed available or future supplies of these resources.

#### 3.10.3.2 Alternative 1 – No Action

Under the No Action Alternative there would be no construction. No facilities or lighting requiring electricity would be constructed under the No Action Alternative. However, electricity usage for the Airport would increase as a result of the forecast growth in aircraft operations. The Airport would continue to operate, perform maintenance, and serve the users of the Airport. Current energy suppliers could accommodate the increased demand for electricity at the Airport.

Fuel demand at the Airport is based on several factors related to aircraft operations, including taxi time, taxi distance, and the fuel required for aircraft to reach various destinations. No new facilities would be constructed under the No Action Alternative. However, fuel consumption would increase over time as a result of forecast growth in aircraft operations at the Airport. Additionally, fuel requirements would grow proportionally with forecast increases in aircraft operations. This growth is within the current capacity of the existing fuel suppliers.

The No Action Alternative would not construct any new facilities. Therefore, the No Action Alternative would not require the use of natural resources typically used during construction, such as asphalt, water, plastic, stone, metals, and wood, other than the materials necessary for general maintenance purposes.

#### 3.10.3.3 Alternative 2 – 700-foot Runway Extension (Proposed Action)

Alternative 2 would increase the demand for diesel fuel for construction vehicles. However, any temporary increase in fuel demand is expected to be minimal and would not exceed existing and future fuel supplies.

Construction of the Proposed Action would temporarily increase the use of natural resources at the Airport. These resources, which could include building components, aggregate, soils, sub-base materials, and oils, are not rare or in short supply, and the quantity required for the Proposed Action would not place an undue strain on supplies when compared to the No Action Alternative. Estimated fill quantities needed to construct Alternative 2 are estimated at approximately 71,200 cubic yards of fill and water quality treatment mix (as listed in Table 2-1). These materials are readily available in the County and would not deplete what is available.

Fuel consumption under Alternative 2 would be the same as the No Action Alternative because there would not be an increase in aircraft operations or a change in the type of aircraft using the Airport compared to the No Action Alternative. The fuel demands of Alternative 2 would not exceed the availability of fuel in the region when compared to the No Action Alternative.

Long-term energy use would be needed for the runway lights. Energy usage required to operate the lights would not exceed the amount that is available and would not be a significant impact.

### **3.10.3.4 Mitigation Measures**

Mitigation is not required and no further analysis of natural resources and energy supply is necessary because the Proposed Action would not cause demand to exceed current or future supplies of natural resources or energy supplies.

## **3.11 Noise and Compatible Land Use**

### **3.11.1 Regulatory Setting**

Although there are no federal special purpose laws or requirements specific to light emissions and visual effects, FAA Order 1050.1F, FAA Order 5050.4B, and 14 CFR Part 150 specify the methods required for evaluation of the airport noise environment. The FAA requires an analysis of noise exposure when development actions may change the cumulative noise exposure of individuals to aircraft noise in areas surrounding the airport. Common development actions that may change the cumulative noise environment include: runway reconfiguration, changes in aircraft operations or movements, introduction of new aircraft types using the airport, or changes in aircraft tracks and profiles

### **3.11.2 Affected Environment**

The existing noise environment in and around the project area is dominated by noise from Airport-related activities, including roadway use and aircraft taxiing, taking off, and landing at the Airport. The nearest noise-sensitive areas to the project area are residential properties located along Flaming Road on the west side of the Airport. The existing DNL<sup>3</sup> 65 decibel (dB) contour is mostly contained to on-Airport property, but does cross over Flaming Road onto one parcel zoned Community Commercial.

A noise analysis (**Appendix C**) was prepared using the FAA's Aviation Environmental Design Tool, Version 3e.

### **3.11.3 Environmental Consequences**

#### **3.11.3.1 Significance Threshold**

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance threshold for Noise and Noise-Compatible Land Use as:

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<sup>3</sup> The Day Night Average Sound Level (DNL) noise metric is used by the FAA to reflect a person's cumulative exposure to sound over a 24-hour period. DNL takes into account both the amount of noise from each aircraft operation as well as the total number of operations flying throughout the day and applies an additional 10 dB weighting for night time flights between 10 pm and 7 am. DNL is the FAA's required noise metric for the assessment of aircraft noise and was adopted through 14 CFR Part 150 as required to meet the provisions of the Aviation Safety and Noise Abatement Act of 1979.

*The action would increase noise by DNL 1.5 dB or more for 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 level due to a DNL 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe. For example, an increase from DNL 65.5 dB to 67 dB is considered a significant impact, as is an increase from DNL 63.5 dB to 65 dB.*

The FAA does not have significance thresholds for construction related noise.

### 3.11.3.2 Alternative 1 – No Action

Under the No Action alternative, none of the proposed airfield changes would be constructed. The No Action Alternative would result in no construction activities and would not affect (increase or decrease) the number of aircraft operations at the Airport or the routing of aircraft in the air to and from the Airport. The 2025 No Action Alternative DNL 65 dB noise contours are shown on

**Figure 3-4.** The No Action Alternative 2025 DNL 65 dB contours are confined to the airfield portion of the Airport. No houses, buildings, structures, or sensitive land uses are within the future DNL 65 dB or greater noise contours under the No Action Alternative, and, as such, no significant aircraft noise impacts would occur as a result of the No Action Alternative.

#### DNL 65 dB contour

The FAA has adopted DNL 65 dB contour as the threshold level of significant noise exposure, which is used to assess noise impacts. Noise level below 65 dB are compatible with residential land uses and other sensitive noise receptors.

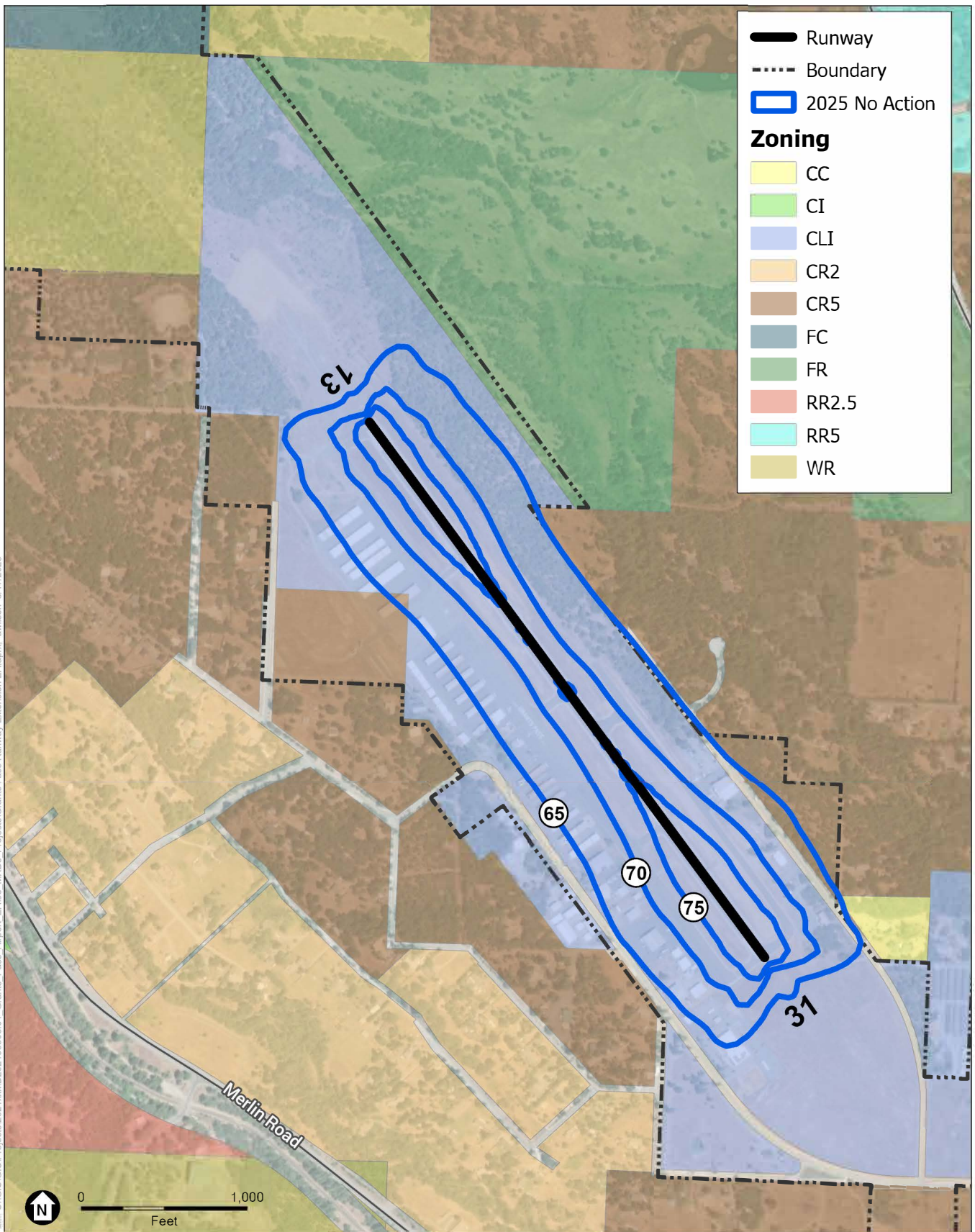
### 3.11.3.3 Alternative 2 – 700-foot Runway Extension (Proposed Action)

#### Construction

Construction activities associated with Alternative 2 could result in the temporary exposure of Airport employees and patrons and surrounding land uses to the generation of ground-borne vibration and construction equipment noise. The nearest noise-sensitive areas to the project area are residential properties located along Flaming Road on the west side of the airport. It is possible that noise from construction activities could be heard from surrounding properties. Residences would be exposed to construction noise over 3 consecutive construction seasons (2024, 2025, and 2026). Construction noise would be temporary.

#### Operations

The number of aircraft operations under Alternative 2 would be the same as the No Action Alternative. Operation of the 700-foot runway extension would result in a slight change in landing and departure points on the runway and taxi routes with the proposed runway extension. **Figure 3-5** illustrates that the 2025 700-foot runway extension would result in minor changes in noise exposure, as compared with the 2025 No Action Alternative. The minor changes in noise exposure in 2025 would be contained entirely on Airport property. No residential areas or other sensitive land uses would experience an increase of DNL 1.5 dB within the DNL 65 dB noise contour, as compared with the No Action Alternative. The 700-foot runway extension would also not introduce new noise sensitive areas to DNL 65 dB noise levels due to a DNL 1.5 dB increase in aircraft noise.



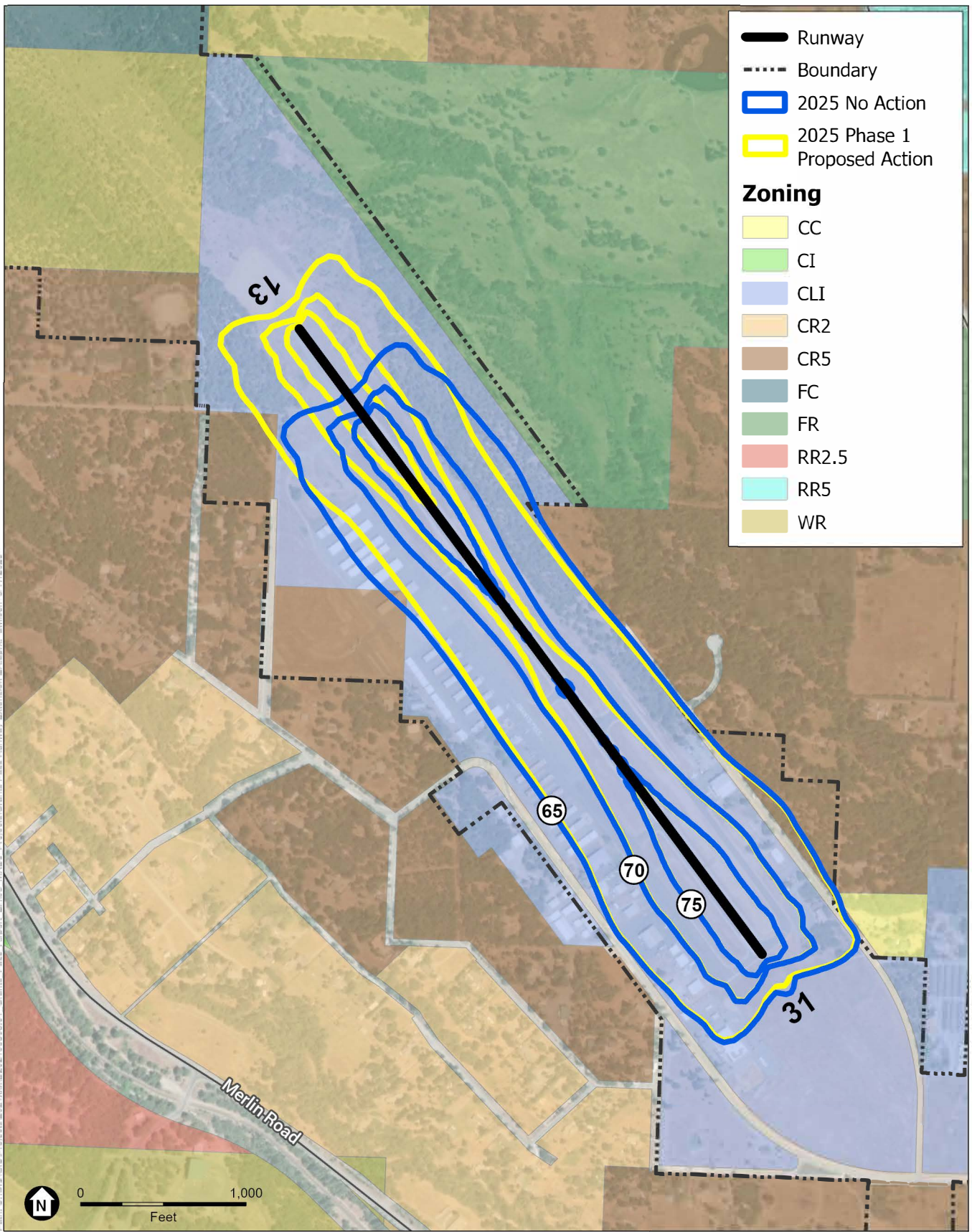
SOURCE: ESA, 2022; ESRI, 2022; Grants Pass Master Plan, 2020

Grants Pass Airport Runway Extension

**Figure 3-4**  
2025 No Action Alternative DNL 65 dB Noise Contours







SOURCE: ESA, 2022; ESRI, 2022; Grants Pass Master Plan, 2020

Grants Pass Airport Runway Extension



**Figure 3-5**  
2025 700-Foot Runway Extension DNL 65 dB Noise Contours



Aircraft on any proposed arrival procedures to Runway 13 would be on final approach well before start of the DNL 65 contour location, coinciding with the existing final approach path. Therefore, new procedures factored into the 2025 Proposed Action and 2035 No Action scenarios would not result in a change to the DNL 65 contours. Therefore, the 700-foot runway extension would not result in a significant noise or compatible land use impact.

As discussed in Section 3.1, flight procedures would not be developed for the extended runway until the physical improvements have been completed and new runway survey information is available. Based on the available information at the time of this EA, flight procedures are not anticipated to appreciably change due to the Proposed Action. Since the flight procedures will not be developed until after construction, the future flight procedures may be subject to further analysis under NEPA, if the NEPA analysis performed in the EA is not adequate.

**3.11.3.4 Mitigation Measures**

The Proposed Action would not result in a DNL 1.5 dB increase over any noise sensitive sites; therefore, there would be no significant noise impact on the surrounding community and no mitigation is required.

**3.12 Socioeconomics, Environmental Justice, and Children’s Environmental Health and Safety Risks**

**3.12.1 Regulatory Setting**

Regulations addressing socioeconomics, Environmental Justice, and children’s environmental health and safety risks are summarized in **Table 3-14**.

**TABLE 3-14  
REGULATORY POLICIES AND PLANS RELATED TO SOCIOECONOMICS, ENVIRONMENTAL JUSTICE, AND CHILDREN’S ENVIRONMENTAL HEALTH AND SAFETY RISKS**

| Regulation   | Description   |
|--|---|
| Executive Order 12898  | Disproportionately high impacts on minority or low-income populations should be considered. A minority population is defined as a Census tract containing greater than 50 percent minorities, or a Census tract with a meaningfully greater percentage of minorities than surrounding tracts. Minority races include American Indian or Alaskan Native, Asian or Pacific Islander, Black (not of Hispanic origin), and Hispanic; and a low-income population is defined as a Census tract with a median household income lower than the poverty threshold.  |
| Executive Order 13045, Protection of Children from Environmental Health Risks and Safety Risks 62 Federal Register 19885, (April 21, 1997) | Federal agencies are directed, as appropriate and consistent with the agency’s mission, to make it a high priority to identify and assess environmental health risks and safety risks that may disproportionately affect children. The FAA is encouraged to identify and assess environmental health risks and safety risks that the agency has reason to believe could disproportionately affect children. Environmental health risks and safety risks include risks to health or to safety that are attributable to products or substances that a child is likely to come in contact with or ingest, such as air, food, drinking water, recreational waters, soil, or products they might use or be exposed to. |

## 3.12.2 Affected Environment

### 3.12.2.1 Socioeconomics

#### ***Population and Housing***

The Airport is in Blockgroup 410333603004 (EJScreen 2023). The blockgroup has a population of 1,805 people. There 646 households in the blockgroup that are 78 percent owner occupied (EJScreen 2023).

#### ***Employment***

The blockgroup has an unemployment rate of 4 percent; the state average is 6 percent (EJScreen 2023). Josephine County employs a full-time airport director and an administrative assistant, as well as two maintenance employees. The staff manages both the Grants Pass Airport and the Illinois Valley Airport in Cave Junction, located approximately 30 miles to the southwest.

#### ***Economics***

An economic impact analysis prepared as part of the 2020 Oregon Aviation Plan using 2016 data estimated the economic contribution of 97 Oregon airports to the statewide economy (Jviation 2020). Potential sources of economic activity were divided into five categories, two of which were estimated for Grants Pass Airport: (1) airport tenants, businesses, and government activity; and (2) spending from visitors arriving on general aviation aircraft. The analysis estimated direct and secondary economic impacts, with impacts expressed in terms of jobs, payroll, and sales/output.

Direct on-airport impacts estimated in the Oregon Aviation Plan analysis included those associated with airport administration and airport tenants. Secondary economic effects, also referred to as multiplier effects, represent additional economic activity supported elsewhere in the state economy. Secondary effects supported by tenants and businesses at the airport include supply chain purchases made from other businesses in the region and consumer spending from the business' employees (Jviation 2020).

The Oregon Aviation Plan analysis estimated that on-airport activities at Grants Pass Airport supported a total of 70 direct jobs, with a further 102 secondary jobs supported elsewhere in the state economy (**Table 3-15**). This translated into total (direct and secondary) annual payroll of \$6.5 million and sales/output of \$35.2 million.

There are no commercial air carrier operations at the airport. Visitors do, however, travel to and from the airport on general aviation planes. General aviation visitors may arrive one at a time or in large groups on non-scheduled charter flights (Jviation 2020). The Oregon Aviation Plan analysis estimated that spending by general aviation visitors to Grants Pass Airport in 2016 supported 14 direct and 6 secondary jobs, a total (direct and secondary) estimated payroll of \$842,000, and more than \$2 million in sales/output (Table 3-15).

The 2020 Master Plan Update identified 17 businesses at the airport in 2018. These businesses included Pacific Aviation Northwest, which was identified as the full-service airport fixed based operator, providing fueling and flight line services, pilot lounge facilities, flight planning stations,

aircraft management, maintenance, and aircraft sales (Coffman Associates 2020). Pacific Aviation was the largest user of the airport in 2020, followed by Dutch Bros (Hall 2020).

**TABLE 3-15**  
**ON-AIRPORT AND GENERAL AVIATION ECONOMIC ACTIVITY**

| <b>Economic Activity<sup>a</sup></b> | <b>Direct</b> | <b>Secondary</b> | <b>Total</b> |
|--------------------------------------|---------------|------------------|--------------|
| <b>On-Airport</b>                    |               |                  |              |
| Employment                           | 70            | 102              | 172          |
| Payroll                              | \$3,721       | \$2,750          | \$6,471      |
| Sales/Output                         | \$19,516      | \$15,703         | \$35,219     |
| <b>General Aviation</b>              |               |                  |              |
| Employment                           | 14            | 5.8              | 19.8         |
| Payroll                              | \$472         | \$370            | \$842        |
| Sales/Output                         | \$1,163       | \$852            | \$2,015      |

NOTES:  
<sup>a</sup> Payroll and sales/output estimates are in thousands of dollars  
 SOURCE: Jviation 2020

Dutch Bros is a Grants Pass based company and was the second largest user of the airport in 2020 and use of its Cessna Citation CJ4, which is based at the airport, accounted for 88 percent of the operations of aircraft weighing more than 12,500 pounds in 2021 (**Table 3-16**). Valued at more than \$8 billion, with 538 locations in 12 states, Dutch Bros is one of Oregon’s most valuable businesses (Hartzell 2022, Healy 2022). Dutch Bros’ operations support both direct and secondary jobs in Josephine County and Southern Oregon. Direct jobs include workers employed at the Dutch Bros’ headquarters, roasting, and distribution facilities, as well as in company-operated shops, with secondary jobs supported elsewhere in the regional economy. In addition, Dutch Bros’ operations also generate direct tax revenues and indirectly support additional tax revenues from its supply chain spending and employee income.

Dutch Bros is rapidly expanding their shop locations across the western U.S. from 2015 to 2021, adding almost 100 new locations in 2021 alone, including stores in Colorado and Arizona. Reported growth targets for 2022 included the addition of 125 shops, with growth focused in Texas, Oklahoma, Tennessee, and southern California, with an overall goal of reaching 800 stores by the end of 2023 (Hartzell 2022, Wilson 2022). Dutch Bros, which went public in September 2021, indicated at that time that they hope to eventually have 4,000 shops nationwide (Wilson 2022). Increased levels of growth would support higher levels of direct and secondary economic activity at the airport, including demand for corporate jet travel.

**TABLE 3-16  
OPERATIONS BY AIRCRAFT WEIGHING 12,500 POUNDS OR MORE, 2021-2022**

| Aircraft Type |                           | Maximum Takeoff Weight (pounds) | Operations/Year |                   |
|---------------|---------------------------|---------------------------------|-----------------|-------------------|
|               |                           |                                 | 2021            | 2022 <sup>a</sup> |
| C25C          | Cessna Citation CJ4       | 17,110                          | 307             | 302               |
| BE20          | Beech 200 Super King      | 12,500                          | 22              | 27                |
| C68A          | Cessna Citation Latitude  | 30,800                          | 9               | 0                 |
| C56X          | Cessna Excel/XLS          | 20,330                          | 2               | 12                |
| B350          | Beech Super King Air 350  | 16,500                          | 4               | 2                 |
| C680          | Cessna Citation Sovereign | 30,300                          | 4               | 2                 |
|               | Other <sup>b</sup>        | >13,300                         | 0               | 14                |
| <b>Total</b>  |                           |                                 | <b>348</b>      | <b>359</b>        |

NOTES:

<sup>a</sup> Data for 2022 are from January 1 through September 1, 2022.

<sup>b</sup> Other aircraft weighing more than 12,500 pounds ranged from 13,300 to 18,300 pounds.

SOURCE: Josephine County Airports 2022a

### 3.12.2.2 Environmental Justice

The population consist of 5.61 percent are minorities, and the Tract Income Level is Middle with 12.6 percent of residents qualifying as low income (US Census Bureau 2020).

### 3.12.2.3 Children's Environmental Health and Safety Risks

There are four schools within the EJScreen blockgroup, all are over a mile from the Airport.

## 3.12.3 Environmental Consequences

### 3.12.3.1 Socioeconomics

#### **Significance Threshold**

The FAA has not established a significance threshold for socioeconomics.

Factors to consider in the analysis include if the action would have the potential to:

- Induce substantial economic growth in an area, either directly or indirectly (e.g., through establishing projects in an undeveloped area);
- Disrupt or divide the physical arrangement of an established community;
- Cause extensive relocation when sufficient replacement housing is unavailable;
- Cause extensive relocation of community businesses that would cause severe economic hardship for affected communities;
- Disrupt local traffic patterns and substantially reduce the levels of service of roads serving an airport and its surrounding communities; or
- Produce a substantial change in the community tax base.

### **Alternative 1 – No Action**

#### **Population and Housing**

Under the No Action Alternative, no development would occur. The County would continue to operate the Airport, perform maintenance and serve forecast aviation demands. No development would occur so there would be no impacts to population or housing.

#### **Employment**

Under the No Action Alternative, no development would occur. No temporary construction-related employment opportunities would be created as a result of the No Action Alternative. However, employment could be increased at the Airport commensurate with the increase in operations. Therefore, any change in employment opportunities within the study area would be beneficial to the employment community.

#### **Economic**

Existing jets based at the airport that are presently weight restricted for takeoff and landing and required to make refueling stops due to the current runway length limitations would continue to experience these conditions. These conditions result in potential economic costs to operators, as well as the airport and the regional economy, therefore the No Action alternative limits economic growth at the airport. Businesses operating larger aircraft (weighing 12,500 pounds or more) can incur costs related to limits in the number of passengers and weight of cargo that can be transported, as well as costs associated with delays and increased uncertainty with operations during inclement weather. These types of costs also have the potential to affect future investment decisions, for businesses that currently use the airport and also for others who may be considering locating in the area, which could impact the community tax base.

### **Alternative 2 – 700-foot Runway Extension (Proposed Action)**

#### **Population and Housing**

This alternative is entirely on Airport property and would not require any property acquisition. It would not result in changes in population patterns or growth, disrupt the existing communities or neighborhoods, displace any existing or planned residences or businesses, nor cause any disproportionately high and adverse impacts on minority or low-income populations.

The demand for housing posed by both temporary construction-related employment and permanent employment could be accommodated by existing available or projected housing units in the vicinity of the Airport and City of Grants Pass. No change in population is expected under this alternative compared to the No Action Alternative.

#### **Employment**

The Proposed Project would create a temporary increase in construction-related employment and would create a permanent increase in employment to serve the increase in passengers at the Airport. Estimated planning level construction costs for the two action alternatives are summarized in (Table 3-17). The total estimated cost for Alternative 2 is \$5 million, with 40 percent of this total (\$2 million) expected to be spent on labor. Materials are expected to account for 35 percent of costs, with other costs (profit, overhead, bonding, and insurance) making up the remaining 25 percent (Table 3-17).



**TABLE 3-17**  
**ESTIMATED CONSTRUCTION COSTS FOR ALTERNATIVE 2<sup>a</sup>**

| <b>Alternative</b> | <b>Labor</b> | <b>Materials</b> | <b>Profit, Overhead,<br/>Bonding, Insurance</b> | <b>Total</b> |
|--------------------|--------------|------------------|---|--------------|
| Alternative 2      | \$2,000      | \$1,750          | \$1,250   | \$5,000      |

## NOTES:

<sup>a</sup> Estimates are in thousands of dollars, and based on 2022 dollars

SOURCE: Precision Approach Engineering 2022

Average total compensation, including wages and salaries and benefits, for the construction section in the U.S. in 2022 was \$42.93 per hour or \$89,294 per full-time equivalent (FTE) or job-year, with each identified job representing 2,080 hours of employment (U.S. Bureau of Labor Statistics 2022). Based on this average, Alternative 2 would support an estimated 22 direct FTE jobs during construction (**Table 3-18**). These employment opportunity increases would likely be filled by existing residents in the greater Grants Pass area.

**TABLE 3-18**  
**ALTERNATIVE 2 ESTIMATED CONSTRUCTION ECONOMIC IMPACTS**

| <b>Impact</b> | <b>Employment<sup>a</sup></b> | <b>Labor Income<sup>b</sup></b> |
|---------------|-------------------------------|---------------------------------|
| Direct        | 22                            | \$2,000                         |
| Indirect      | 24                            | \$1,500                         |
| <b>Total</b>  | <b>46</b>                     | <b>\$3,500</b>                  |

## NOTES:

<sup>a</sup> Direct employment estimates developed by ECONorthwest based on planning level cost information. Estimated jobs are approximate.

<sup>b</sup> Labor income estimates are in thousands of dollars

SOURCE: Jviation 2020, U.S. Bureau of Labor Statistics 2022

The economic impact analysis prepared as part of the 2020 Oregon Aviation Plan estimated multipliers for airport construction, with each construction job estimated to support 1.05 secondary jobs elsewhere in the state economy (Jviation 2020). Using the multipliers from the Aviation Plan study, Alternative 2 would support an estimated 46 total (direct and indirect) jobs and \$3.5 million in labor income (Table 3-18). These would be short-term impacts that would last for the duration of the construction project, expected to take place in 2024/2025/2026.

### Economics

The existing 4,001-foot-long runway currently results in many of the existing jets based at the airport being weight restricted for takeoff and landing, with aircraft needing to make refueling stops. Increasing the length of the runway would allow larger aircraft to operate at maximum takeoff weight, increasing the efficiency and cost effectiveness of larger aircraft operations, specifically aircraft weighing 12,500 pounds or more. Increases in allowable weight would allow corresponding increases in the number of passengers, weight of cargo, and amount of fuel that can be transported.

Increasing the length of the runway would improve the airport's capacity to land planes in inclement and low-visibility weather. Some aircraft that are presently unable to land at the Grants Pass Airport would be able to land following the increase in runway length, reducing the costs of diversion that are presently incurred by operators and the airport. In addition, in the advent of an emergency operation, longer runway lengths provide more area for a plane to maneuver. Longer runways also ensure that larger and heavier planes can safely achieve required speeds for liftoff making operations less susceptible to potential issues.

A longer runway and increased operational capacity would potentially increase aviation business opportunities and tourism and travel in the state and locally (Josephine County Airports 2022b). This expansion would also allow the airport to more efficiently accommodate additional future demand from businesses that use the airport. The operations forecast developed as part of the Master Plan Update projected that the number of operations at the airport would increase from an estimated total of 43,500 in 2017 to 59,719 by 2037, a net gain of 16,219 operations or 37 percent (Coffman Associates 2020). At the time the forecast was prepared, turboprop and jet operations made up a small share of total operations (5 percent), with this share expected to increase to up to 12 percent of the forecast total in 2037. The recent increase in large jet operations at the airport suggests that the future share of operations made up of aircraft weighing 12,500 pounds or more is likely to be higher than originally anticipated. Increases in airport operations could in turn support additional airport services, such as cargo services, new tenants, and new business that operate out of the airport.

Extension of the runway allows larger aircraft to safely land and take off. This could also allow for increased emergency response capabilities in the event of a natural disaster or other emergency response situation (Josephine County Airports 2022b). Increased emergency response capabilities could improve the effectiveness of response operations and reduce associated costs.

### **3.12.3.2 Environmental Justice**

#### ***Significance Threshold***

The FAA has not established a significance threshold for environmental justice.

The factors to consider that may be applicable to environmental justice include, but are not limited, to a situation in which the proposed action or alternative(s) would have the potential to lead to a disproportionately high and adverse impact to an environmental justice population, i.e., a low-income or minority population, due to:

- Significant impacts in other environmental impact categories.
- Impacts on the physical or natural environment that affect an environmental justice population in a way that the FAA determines is unique to the environmental justice population and significant to that population.

#### ***Alternative 1 – No Action***

Under the No Action Alternative, the County would not implement the Proposed Action. The County would continue to operate the Airport, perform maintenance, and serve forecast aviation

demands. Because no development would occur, no impacts to environmental justice populations would occur.

### ***Alternative 2 – 700-foot Runway Extension (Proposed Action)***

Alternative 2 would not result in the acquisition of land, relocation of residences or businesses, involve off-airport construction, or cause significant environmental impacts that would affect minority or low-income populations. Because no significant impacts would occur as a result of Alternative 2 compared to the No Action Alternative, there are no disproportionately high and adverse effects to environmental justice populations.

## **3.12.3.3 Children’s Environmental Health and Safety Risks**

### ***Significance Threshold***

The FAA has not established a significance threshold pertaining to impacts to children’s environmental health and safety in FAA Order 1050.1F.

The factor to consider that may be applicable to children’s environmental health and safety includes, but is not limited to, situations in which the proposed action or alternative(s) would have the potential to lead to a disproportionate health or safety risk to children.

### ***Alternative 1 – No Action***

Under the No Action Alternative, the County would not implement the Proposed Action. The County would continue to operate the Airport, perform maintenance, and serve forecast aviation demands. Because no development would occur and there are no schools, daycares, or other facilities used by children located in or immediately adjacent to the project area or within a 1-mile radius, there would be no impacts to Environmental Justice or Children’s Environmental Health and Safety Risk resources.

### ***Alternative 2 – 700-foot Runway Extension (Proposed Action)***

Alternative 2 would not result in the relocation, acquisition, or alteration of schools, residences, daycares, parks, or any other establishments associated with children or childcare. Construction would be temporary and would observe regulations regarding use, transportation, and disposal of hazardous waste and materials. Construction noise at the nearby schools would not affect children or disrupt learning activities because the closest school is far enough away that the noise level would be at or below 60 dB, which is considered compatible with educational land uses.

None of the locations where children are likely to congregate within 2 miles of the Airport would have a significant noise impact. Therefore, no disproportionate effect on children’s environmental health and safety risks would occur. Therefore, Alternative 2 would not adversely affect children’s environmental health and safety risks when compared to the No Action Alternative.

## **3.12.3.4 Mitigation Measures**

Mitigation is not required and further analysis of socioeconomic, environmental justice, or children’s environmental health and safety risks is not necessary because the Proposed Action would not cause a significant impact.

## 3.13 Visual Resources

### 3.13.1 Regulatory Setting

Although there are no federal special purpose laws or requirements specific to light emissions and visual effects, there are special purpose laws and requirements that may be relevant. In addition to NEPA, laws protecting resources that may be affected by visual effects include the NHPA, Section 4(f), the Wild and Scenic Rivers Act, the Coastal Zone Management Act, and state and regional coastal protection acts. Visual effects deal broadly with the extent to which a proposed action or alternative(s) would either: (1) produce light emissions that create annoyance or interfere with activities; or (2) contrast with, or detract from, the visual resources or the visual character of the existing environment. Visual effects can be difficult to define and assess because they involve subjectivity. Visual effects are broken into two categories: (1) light emission effects; and (2) visual resources and visual character.

### 3.13.2 Affected Environment

#### 3.13.2.1 Light Emissions

Light emissions include airport lights, which may be seen from beyond the airport property. The Grants Pass Airport currently has existing navigational aids including the following:

- Rotating beacon.
- Medium intensity runway lights.
- Runway End Identifier Lights (REILs).
- Runway 31 Precision Approach Path Indicators (PAPI) system.
- After-Hours Lighting – at night, pilots can activate airfield lights, REILs, and the PAPI system utilizing the pilot-controlled lighting system.

Sources of light emissions surrounding the Airport vary greatly, from more well-lit areas of commercial and industrial uses to lightly lit residential areas to mostly unlit areas of adjacent forested areas. Aircraft operations currently occur at the Airport and are visible in the airspace flying at various altitudes. Typical operations include aircraft arrivals, departures, and overflights.

#### 3.13.2.2 Visual Resources

There are no federal, state, or local (Josephine County) protected or designated visual resources within 2 miles of the Airport. This includes scenic roadways/byways, Wild and Scenic Rivers, National Scenic Areas, scenic easements, trails, or Section 4(f) properties.

The existing viewshed of the project area is primarily large expanses of cleared land surrounded by forested areas. Homes nearest to project area are located along Willamette Street, Elberta Street or Tacoma Street. Most of these properties have views of forest.

### 3.13.3 Environmental Consequences

#### 3.13.3.1 Significance Threshold

The FAA has not established a significance threshold for visual resources/visual character.

Factors to consider in the analysis include the extent the Proposed Action would have the potential to:

- Affect the nature of the visual character of the area, including the importance, uniqueness, and aesthetic value of the affected visual resources.
- Contrast with the visual resources or visual character in the study area.
- Block or obstruct the views of visual resources, including whether these resources would still be viewable from other locations.

#### 3.13.3.2 Alternative 1 – No Action

The existing light emissions cause little to no annoyance to the surrounding area due to surrounding development and forested areas. The No Action Alternative would not alter the current light emissions at the Airport. Therefore, the No Action Alternative would not have a significant impact.

#### 3.13.3.3 Alternative 2 – 700-foot Runway Extension (Proposed Action)

Construction of the runway extension would result in both temporary and permanent visual impacts. Temporary impacts would be the sighting of construction equipment during construction. Permanent impacts are the conversion of undeveloped land to a developed environment for the runway extension which would be similar to existing development on the Airport.

Visual impacts are identified by examining the visual viewshed of the project area. The visual viewshed, takes into account the entire landscape and is comprised of two main aspects: views to and views from the runway extension area. The existing viewshed of the project area is primarily large expanses of cleared land surrounded by forested areas. Homes nearest the project area are located along Willamette Street, Elberta Street, and Tacoma Street. Most of these properties have views of forest.

Alternative 2 would increase the light emissions due to the additional light installation for the runway extension. However, the closest residence would be generally be located 600 feet from the proposed runway extension, and a forested buffer would remain between the residence and the runway would reduce light emission impacts and cause little to no annoyance, similar to existing conditions.

#### 3.13.3.4 Mitigation Measures

Mitigation is not required and further analysis of visual resources not necessary because the Proposed Action would not cause a significant impact on visual resources.

## 3.14 Water Resources

### 3.14.1 Regulatory Setting

The regulatory setting for water resources is summarized in **Table 3-19**.

**TABLE 3-19  
REGULATORY POLICIES RELATED TO WATER RESOURCES**

| Regulation  | Description  |
|---|--|
| Clean Water Act   | A water of the United States is considered a jurisdictional surface water or wetland under the Clean Water Act. The Clean Water Act establishes the basic structure for regulating the discharge of pollutants into waters of the United States, which include wetlands.   |
| Fish and Wildlife Coordination Act  | Requires federal agencies to consult with the USFWS, NMFS, and appropriate state fish and wildlife agencies regarding the conservation of wildlife resources when proposed federal or applicants' projects may result in control or modification of the water of any stream or other waterbody (including wetlands). |
| Executive Order 11988, Floodplain Management & DOT Order 5650.2, Floodplain Management and Protection | Requires federal agencies to avoid, to the extent possible, the long and short-term adverse impacts associated with the occupancy and modification of 100-year floodplains and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.                            |
| Safe Drinking Water Act   | Prohibits federal agencies from funding actions that would contaminate an EPA-designated sole source aquifer or its recharge area.   |
| Wild and Scenic Rivers  | Creates the National Wild and Scenic Rivers System to preserve certain rivers with outstanding natural, cultural, and recreational values in a free-flowing condition for the enjoyment of present and future generations.   |
| Oregon Removal-Fill Law (ORS 196.795-990)   | Requires people who plan to remove or fill material in wetlands or waterways to obtain a removal-fill permit from the Department of State Lands. The law applies to all landowners, whether private individuals or public agencies.  |

### 3.14.2 Affected Environment

#### 3.14.2.1 Wetlands

The National Wetlands Inventory was reviewed for the Airport. No wetlands were mapped to occur on Airport property. A wetlands reconnaissance was performed in the project area, and no jurisdictional wetlands occur in the project area.

#### 3.14.2.2 Floodplains

The Grants Pass Airport is in a Federal Emergency Management Agency (FEMA) Zone X, which is defined by FEMA as an area of minimal flood hazard (FEMA 2009).

#### 3.14.2.3 Surface Waters

Surface waters on Airport property include Harris Creek and an unnamed tributary to Harris Creek; see **Figure 3-2**. Both flow northwesterly into Jumpoff Joe Creek, which joins the Rogue River about 6 miles downstream of the Airport. Harris Creek is mapped as a perennial stream (U.S. Geologic Survey 2022), originates east of the I-5 corridor, and runs for approximately 5.5 miles before joining Jumpoff Joe Creek downstream of the Airport in Merlin.



An ephemeral, unnamed tributary to Harris Creek with two forks originates just west and south of the Airport property. The east fork of this unnamed tributary originates north of Willamette Street, and its drainage basin consists largely of the developed Airport property. The stream flows in response to rain events and is dry in the summer. The streambed ranges in width from 3 to 8 feet and consists of gravels with some cobbles, silts, and fines.

Jumpoff Joe Creek is water quality limited<sup>4</sup> due to high water temperatures from the mouth of the river to river mile 21.3 (DEQ 2022). Major impacts on water quality in the watershed include water diversions, bank erosion, riparian harvest, woody debris removal, and mining (Bureau of Land Management 2009). No water quality data are available for Harris Creek or the unnamed tributary on the Airport. On the Airport, both Harris Creek (**Photo 7**) and the unnamed tributary (**Photo 8**) have an intact mature mixed forest riparian forest.



**Photo 8.** Typical riparian habitat along unnamed tributary



**Photo 7.** Typical riparian habitat along Harris Creek

### 3.14.2.4 Groundwater

The Airport gets its water from wells. There are many wells on the Airport property and on residential properties near the Airport. The residential properties adjacent to the east have domestic wells, where the static water level is located 19 feet and 21 feet below the ground level. According to the 2020 Master Plan Update, the terminal building and the Dutch Bros hangar each have a well (Coffman Associates 2020). There are no sole source aquifers or recharge areas in the project area.

### 3.14.2.5 Wild and Scenic Rivers

There are no rivers on the Nationwide Rivers Inventory or State Scenic Waterways near the project area (National Park Service 2022). The nearest segment of the National Wild and Scenic River is the Rouge River, which is located approximately 6 miles west of the project area.

<sup>4</sup> Every two years, DEQ is required to assess the water quality of Oregon's waters and the findings report to the EPA. Waters identified as water quality limited mean they do not meet the water quality standards of Section 303(d) of the Clean Water Act.

### 3.14.3 Environmental Consequences

#### 3.14.2.6 Wetlands

##### **Significance Threshold**

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance thresholds for wetlands. A significant impact exists if the action would:

1. *Adversely affect a wetland's function to protect the quality or quantity of municipal water supplies, including surface waters and sole source and other aquifers.*
2. *Substantially alter the hydrology needed to sustain the affected wetland system's values and functions or those of a wetland to which it is connected.*
3. *Substantially reduce the affected wetland's ability to retain floodwaters or storm runoff, thereby threatening public health, safety or welfare (the term welfare includes cultural, recreational, and scientific resources or property important to the public).*
4. *Adversely affect the maintenance of natural systems supporting wildlife and fish habitat or economically important timber, food, or fiber resources of the affected or surrounding wetlands.*
5. *Promote development of secondary activities or services that would cause the circumstances listed above to occur.*
6. *Be inconsistent with applicable state wetland strategies.*

##### **Alternative 1 – No Action**

There are no wetlands in the project area. The No Action Alternative would have no impact on wetlands.

##### **Alternative 2 – 700-foot Runway Extension (Proposed Action)**

There are no wetlands in the project area. The Proposed Action would have no impact on wetlands.

#### 3.14.2.7 Floodplains

##### **Significance Threshold**

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance threshold for floodplains:

*The action would cause notable adverse impacts on natural and beneficial floodplain values.*

##### **Alternative 1 – No Action**

The Grants Pass Airport is in an area of minimal flood hazard. The No Action Alternative would have no impact on floodplain values.

##### **Alternative 2 – 700-foot Runway Extension (Proposed Action)**

The Grants Pass Airport is in an area of minimal flood hazard. The Proposed Action would have no impact on floodplain values.

### 3.14.2.8 Surface Waters

#### **Significance Threshold**

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance thresholds for surface waters:

1. *Exceed water quality standards established by federal, state, local, and tribal regulatory agencies; or*
2. *Contaminate public drinking water supply such that public health may be adversely affected.*

In addition to the above thresholds, FAA Order 1050.1F provides additional factors to consider when evaluating the context and intensity of potential environmental impacts for surface waters. These factors include situations in which the proposed action or alternative(s) would have the potential to:

- Adversely affect natural and beneficial water resource values to a degree that substantially diminishes or destroys such values.
- Adversely affect surface waters such that the beneficial uses and values of such waters are appreciably diminished or can no longer be maintained and such impairment cannot be avoided or satisfactorily mitigated.
- Present difficulties based on water quality impacts when obtaining a permit or authorization.

#### **Alternative 1 – No Action**

No construction activities would occur and there would be no vegetation removal, work below the ordinary high water line (OHW), or an increase in impervious surfaces with this alternative; therefore, there would be no impacts on surface waters.

#### **Alternative 2 – 700-foot Runway Extension (Proposed Action)**

Ground disturbance from construction activities may temporarily increase the erosion potential of the project area during rain events. The risk of increased erosion and sediment inputs to receiving waters during construction will be minimized by implementing an Erosion and Sediment Control Plan, which will be required to comply with the National Pollutant Discharge Elimination System NPDES 1200-C (Construction Stormwater) Permit needed for the project, as administered by DEQ.

Alternative 2 would remove 3 acres of riparian vegetation from the unnamed tributary of Harris Creek. Clearing vegetation within riparian areas of streams could result in the loss of some instream cover and riparian functions such as water detention during storm events, settling of sediments and pollutants, recruitment of large woody debris and organic material, and regulating stream temperatures through shading. All disturbed areas will be protected from erosion using vegetation or other means. These measures will reduce indirect effects from increased erosion and sedimentation to discountable levels.

New impervious surface has the potential to increase the amount of runoff entering surface waters and negatively affect water quality. Alternative 2 would add a total of approximately 6 acres of new impervious surface. Both the quantity and quality of stormwater runoff from development

can have detrimental effects on surface waters. Stormwater runoff from impervious surfaces contains a variety of pollutants including metals (e.g., copper, zinc, and cadmium), petroleum-related compounds (polycyclic aromatic hydrocarbons [PAHs]), and sediment that can degrade water quality (Kayhanian et al. 2003). The addition of impervious surfaces can cause an increase in runoff volume and speed which can alter streamflows in receiving waters.

The Stormwater Management Plan for the project uses retention of stormwater runoff with infiltration as the primary method of stormwater management for both quality and quantity. The retention facility will be designed to collect and hold site runoff to limit the volume of downstream discharge and to remove total suspended solids. The Stormwater Management Plan is based on the Rogue Valley Stormwater Design Manual (target effective date of February 2023 for the revised manual), and includes:

- A retention facility that fully infiltrates the 25-year storm for all new impervious surfaces.
- The retention facility will fully infiltrate or drain within 6 days.
- Water quality treatment will occur in swales meeting the Rogue Valley Stormwater Design Manual treatment criteria upstream of the retention facility.
- Stormwater flows exceeding the 25-year storm event will bypass the retention facility and be dispersed onsite outside of stream buffers.

Given the preliminary nature of the stormwater analysis, the preliminary design includes a primary stormwater retention facility and identifies additional areas that may be utilized for retention or treatment if during design additional area is determined to be needed. With the Stormwater Management Plan and the implementation of conservation measures this alternative would not have a significant impact on surface waters.

### 3.14.2.9 Groundwater

#### ***Significance Threshold***

Exhibit 4-1 of FAA Order 1050.1F provides the FAA's significance thresholds for groundwater:

1. *Exceed groundwater quality standards established by federal, state, local, and tribal regulatory agencies; or*
2. *Contaminate an aquifer used for public water supply such that public health may be adversely affected.*

Factors to consider include the potential to:

- Adversely affect natural and beneficial groundwater values to a degree that substantially diminishes or destroys such values.
- Adversely affect groundwater quantities such that the beneficial uses and values of such groundwater are appreciably diminished or can no longer be maintained and such impairment cannot be avoided or satisfactorily mitigated.
- Present difficulties based on water quality impacts when obtaining a permit or authorization.

**Alternative 1 – No Action**

No construction activities would occur and there would be no vegetation removal, work below the OHW, or an increase in impervious surfaces with this alternative; therefore, there would be no impacts on ground water.

**Alternative 2 – 700-foot Runway Extension (Proposed Action)**

Based on preliminary engineering, grading is expected to occur at depths of up to 5 feet. According to the project geotechnical report, this depth would not reach the depth of groundwater. An Erosion and Sediment Control Plan and Stormwater Pollution Prevention Plan will be developed as part of the NPDES 1200-C permit required for construction. These plans will be implemented during construction to control water pollution, soil erosion, siltation, and non-point sources of water quality that will limit indirect impacts through the use of BMPs.

**3.14.2.10 Wild and Scenic Rivers****Significance Threshold**

The FAA has not established a significance threshold for Wild and Scenic Rivers.

Factors to consider include if the Proposed Action would have an adverse impact on the values for which a river was designated (or considered for designation) through:

- Destroying or altering a river’s free-flowing nature.
- A direct and adverse effect on the values for which a river was designated (or under study for designation).
- Introducing a visual, audible, or other type of intrusion that is out of character with the river or would alter outstanding features of the river’s setting.
- Causing the river’s water quality to deteriorate.
- Allowing the transfer or sale of property interests without restrictions needed to protect the river or the river corridor (which cannot exceed an average of 320 acres per mile which, if applied uniformly along the entire designated segment, is one-quarter of a mile on each side of the river).
- Any of the above impacts preventing a river on the National Rivers Inventory (NRI) or a Section 5(d) river that is not included in the NRI from being included in the Wild and Scenic River System or causing a downgrade in its classification (e.g., from wild to recreational).

**Alternative 1 – No Action**

The nearest segment of the National Wild and Scenic River is the Rouge River, which is located approximately 6 miles west of the project area. The No Action Alternative would have no impact on Wild and Scenic Rivers.

**Alternative 2 – 700-foot Runway Extension**

The nearest segment of the National Wild and Scenic River is the Rouge River, which is located approximately 6 miles west of the project area. The Proposed Action would have no impact on Wild and Scenic Rivers.

### 3.14.2.11 Mitigation Measures

Mitigation of water resource impacts is not required and further analysis is not necessary. Although the Proposed Action would not significantly affect water resources, the Proposed Action includes the following measures to reduce and minimize impacts:

- Implement BMPs to minimize water quality impacts during construction.
- Erosion and Sediment Control Plan and Stormwater Pollution Prevention Plan will be developed as part of the NPDES 1200-C permit required for construction.

With implementation of these conservation and minimization measures, the Proposed Action would have no significant impacts on water resources.

## 3.15 Cumulative Impacts

To adequately understand the potential environmental effects related to cumulative impacts, the past, present, and reasonably foreseeable projects must be identified. The cumulative impact analysis focuses on those resources with direct or indirect impacts by the project. If the Proposed Action would not cause a direct or indirect impact on a resource, no cumulative impact for that resource would occur.

Past projects are those that occurred within the past 5 years; present projects are those that are occurring in the same general time frame as the Proposed Action; and future projects are those projects that are reasonably foreseeable (occurring within the 3- to 5-year timeframe). These include projects on the Airport's CIP and other projects being planned and likely to be implemented in the vicinity of the Airport in that time frame.

Past projects include the North Hangar Development that was approved by FAA with a Categorical Exclusion on 7/29/21. This project was found to be consistent with activities that do not normally have the potential for individual or cumulative significant impacts on the human environment.

Current projects include construction of a new fuel island with 2 aboveground storage fuel tanks. This project was approved by the FAA with a Categorical Exclusion and was found to be consistent with activities that do not normally have the potential for individual or cumulative significant impacts on the human environment.

Reasonably foreseeable future projects that could occur at the Airport in the next 5 years are those listed on the AIP and include:

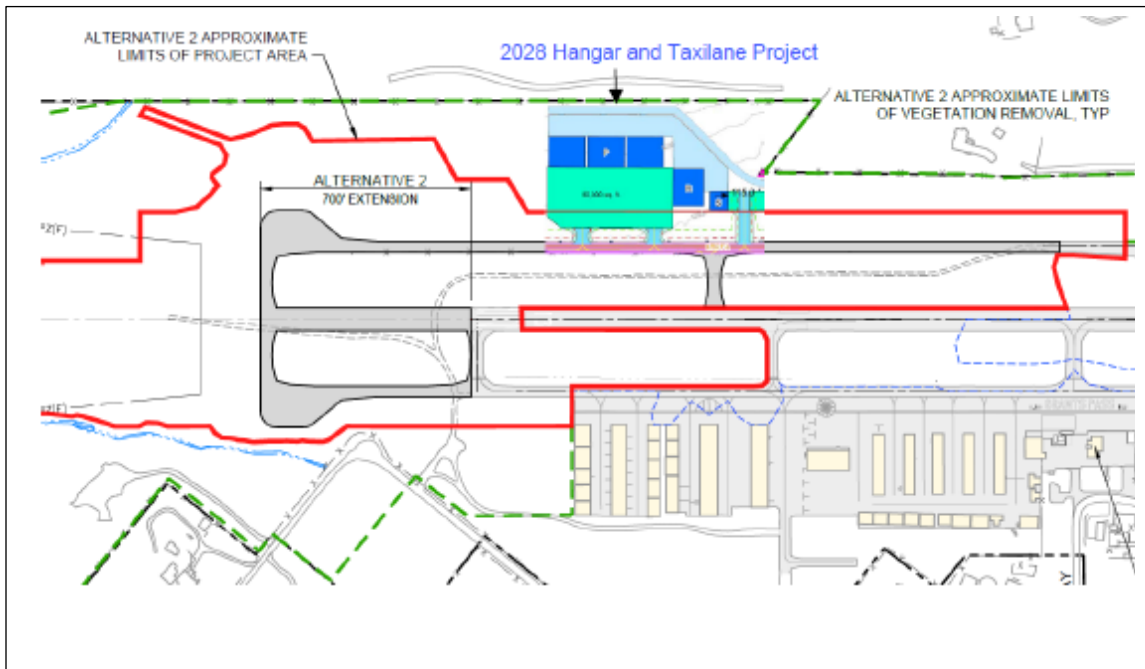
- Construction of the 700-foot Extension of Runway 13-31, the Proposed Action being evaluated in this EA.
- Hangar and Taxilane Development (2028).

The hangar and taxilane development planned for construction in 2028 would be a revenue-generating development for the County. It is located on the northwest side of the Airport and identified as P, R, and S on the ALP. It includes four 100 foot by 120 foot hangars (P and R), one



60 foot by 70 foot hangar (S), an 80,000 square foot apron in front of the four large hangars, a 2,100 square foot apron in front of Hangar S, and three connecting taxilanes to Taxiway B. The entire footprint of the proposed hangar development (about 1 acre) is within the vegetation clearing limits of the Proposed Action evaluated in this EA, as shown in **Figure 3-6**. The hangar area was included in the study area for the Proposed Action. No cultural resources or historic properties were identified in the hangar location. By the time the hangars will be developed, vegetation in the area will have already been removed for the Proposed Action. There would be short-term and temporary construction impacts associated with air quality, climate, and noise. The hangars are located south of Harris Creek and outside of the riparian area. The development would add about 1 acre of new impervious surface to the watershed. Impervious surfaces can affect water quality and increase stormwater runoff quantity and velocity. This development would occur entirely within airport property, no property would be acquired so there would be no disruption to an established community or cause relocation of any businesses or homes. The FAA has determined that actions listed in Order 1050.1F Section 5-6 do not individually or cumulatively have a significant effect on the human environment. Hangar developments such as what is proposed are an action allowed as a Categorical Exclusion under paragraph 5-6.4.g providing there are no extraordinary circumstances.

Based on the analysis done for past, present, and reasonable foreseeable future projects, implementation of the Proposed Action is not expected to have significant cumulative impacts.



**Figure 3-6**  
2028 Hangar and Taxilane Project

### 3.16 Summary of Impacts

A summary of the potential environmental impacts is provided in **Table 3-20**.

**TABLE 3-20  
SUMMARY OF IMPACTS**

|                             | <b>Alternative 1.<br/>No Action</b> | <b>Alternative 2.<br/>700-foot Runway Extension</b>   |
|-----------------------------|-------------------------------------|---|
| <b>Air Quality</b>          |                                     |   |
| Short term/<br>Construction | No impacts                          | Criteria pollutant emissions during construction would not exceed federal de minimis thresholds, and thus construction of this alternative would not exceed any of the NAAQS or otherwise adversely affect the air quality status of the area.                                |
| Direct Impacts              |                                     | Minor increase in air emissions from aircraft taxi routes shifting by 700 feet.<br><br>The increased runway length would increase aircraft operation efficiency and result in a minor reduction in emissions.   |
| Indirect Impacts            |                                     | No impacts  |
| Cumulative Impacts          |                                     |   |
| <b>Biological Resources</b> |                                     |   |
| Short term/<br>Construction | No impacts                          | Wildlife would be disturbed by increase in noise and human activity and would likely avoid these areas until construction is completed. This could disrupt breeding activities for some individuals.  |
| Direct Impacts              |                                     | Remove about 72 acres of vegetation.  |
| Indirect Impacts            |                                     | Vegetation removal will modify existing habitats and could cause a change in the wildlife species that use the habitat and how it is used.<br><br>Disturbed soils provide the opportunity for nonnative species to colonize the disturbed area and outcompete native species. |
| Cumulative Impacts          |                                     | No impacts  |
| <b>Climate</b>              |                                     |   |
| Short term/<br>Construction | No impacts                          | Temporary increase of GHG emissions from construction equipment and additional vehicular traffic.   |
| Direct Impacts              |                                     | Reduction in the current CO2 storage capacity around the Airport from vegetation removal.<br><br>Increased efficiency of aircraft operations.<br><br>Aircraft taxi routes would increase by up to 700 feet.   |
| Indirect Impacts            |                                     | A slight increase in the Airport's contribution of CO2 to the atmosphere from removal of 72 acres of vegetation.  |
| Cumulative Impacts          |                                     | No impacts  |
| <b>Coastal Resources</b>    |                                     |   |
| Short term/<br>Construction | No impacts                          | No impacts  |
| Direct Impacts              |                                     |   |
| Indirect Impacts            |                                     |   |
| Cumulative Impacts          |                                     |   |

|   | <b>Alternative 1.<br/>No Action</b>  | <b>Alternative 2.<br/>700-foot Runway Extension</b>  |            |
|---|--|--|------------|
| <b>Department of Transportation Section 4(f) Resources</b>      |  |  |            |
| Short term /Construction  | No impacts   | No impacts   |            |
| Direct Impacts  |  |  |            |
| Indirect Impacts  |  |  |            |
| Cumulative Impacts  |  |  |            |
| <b>Farmland</b>   |  |  |            |
| Short term/Construction   | No impacts   | No impacts   |            |
| Direct Impacts  |  |  |            |
| Indirect Impacts  |  |  |            |
| Cumulative Impacts  |  |  |            |
| <b>Hazardous Materials, Solid Waste, Pollution Prevention</b>   |  |  |            |
| Short term/Construction   | No impacts   | Some construction activities have the potential to generate hazardous wastes, and some construction materials (fuel, oil, lubricants, paints, etc.) may consist of hazardous substances. |            |
| Direct Impacts  | Expected to be an increase in the amount of solid waste generated.   | Expected to be an increase in the amount of solid waste generated at the Airport. Same as No Action Alternative.   |            |
| Indirect Impacts  | No impacts   | No impacts   |            |
| Cumulative Impacts  |  |  |            |
| <b>Historic, Architecture, Archaeologic, Cultural Resources</b> |  |  |            |
| Short term/ Construction  | No impacts   | No impacts   |            |
| Direct Impacts  |  |  |            |
| Indirect Impacts  |  |  |            |
| Cumulative Impacts  |  |  |            |
| <b>Land Use</b>   |  |  |            |
| Short term/ Construction  | No impacts   | No impacts   | No impacts |
| Direct Impacts  | Runway 31's RPZ for a critical design aircraft B-II-1B extends over Flaming Road, a public road, and is considered an incompatible land use. | Runway 31's RPZ for a critical design aircraft B-II-1B extends over Flaming Road, a public road, and is considered an incompatible land use.   |            |
| Indirect Impacts  | No impacts   | No impacts   |            |
| Cumulative Impacts  |  |  |            |

|  | <b>Alternative 1.<br/>No Action</b>   | <b>Alternative 2.<br/>700-foot Runway Extension</b>   |
|--|---|---|
| <b>Natural Resources and Energy Supply</b>   |   |   |
| Short term/Construction  | No impacts  | Construction of the project would require the short-term and minor use of consumable natural resources (e.g., fuels for construction equipment) that are readily available.   |
| Direct Impacts   | As Airport operations increase, there would be an increase the amount of aviation fuel used at the Airport.   | As Airport operations increase, there would be an increase the amount of aviation fuel used at the Airport.<br>Long term energy use would be needed for the runway lights.  |
| Indirect Impacts   | No impacts  | No impacts  |
| Cumulative Impacts   |   |   |
| <b>Noise and Compatible Land Use</b>   |   |   |
| Short term/Construction  | No impacts  | Residences adjacent to the north end of the Airport will experience increased noise associated with construction.   |
| Direct Impacts   |   | Minor changes in noise exposure, but would be contained entirely on Airport property. No new noise sensitive areas introduced to the DNL 65 dB noise levels.  |
| Indirect Impacts   |   | No impacts  |
| Cumulative Impacts   |   |   |
| <b>Socioeconomics, Environmental Justice, Children's Environmental Health and Safety Risks</b> |   |   |
| Short term/Construction  | No impacts  | No environmental justice or children's environmental health and safety risk impacts.<br>Supports an estimated 46 total (direct and indirect) jobs and \$3.5 million in labor income during construction in 2024/2025/2026.  |
| Direct Impacts   | Businesses operating larger aircraft (weighing 12,500 pounds or more) can incur costs related to limits in the number of passengers and weight of cargo that can be transported, as well as costs associated with delays and increased uncertainty with operations during inclement weather.  | No environmental justice or children's environmental health and safety risk impacts.<br>Provides the recommended runway length for the types of aircraft that are currently using the Airport, thus improves operation efficiency and cost effectiveness.   |
| Indirect Impacts   | Limiting businesses operating larger aircraft can affect future investment decisions for businesses that currently use the Airport and also for others who may be considering locating in the area which would impact the local tax base. Forgone investment may in turn affect Airport services and local business activity, if it takes the form of reduces local spending. | No environmental justice or children's environmental health and safety risk impacts.<br>Increased operational capacity could increase aviation business opportunities and tourism and travel in the state and locally, and support additional airport services, such as cargo services, new tenants, and new business that operate out of the Airport.<br>Increased emergency response capabilities could improve the effectiveness of response operations and reduce associated costs. |
| Cumulative Impacts   | No impacts  | Hangars provide the County with a revenue-generating source at the Airport.   |

|                             | <b>Alternative 1.<br/>No Action</b> | <b>Alternative 2.<br/>700-foot Runway Extension</b>  |
|-----------------------------|-------------------------------------|--|
| <b>Visual Resources</b>     |                                     |  |
| Short term/<br>Construction | No impacts                          | Short-term visual impacts from construction and vegetation removal.  |
| Direct Impacts              |                                     | Some residents who live adjacent to vegetation removal areas may have a change of view from a mixed forest to the airfield.  |
| Indirect Impacts            |                                     | No impacts   |
| Cumulative Impacts          |                                     |  |
| <b>Water Resources</b>      |                                     |  |
| Short term/<br>Construction | No impacts                          | No wetland, floodplain, groundwater, or Wild & Scenic River impacts.<br>Vegetation removal and grading could disturb soils and cause siltation.  |
| Direct Impacts              |                                     | No wetland, floodplain, groundwater, or Wild & Scenic River impacts.<br>Removal of 3 acres of riparian vegetation.   |
| Indirect Impacts            |                                     | No wetland, floodplain, groundwater, or Wild & Scenic River impacts.<br>6 acres of new impervious surface could affect water quality and increase stormwater runoff quantity and velocity. |
| Cumulative Impacts          |                                     | Future hangar development would add 1 acre of impervious surface to the watershed. Impervious surfaces can affect water quality and increase stormwater runoff quantity and velocity.      |

### 3.17 Mitigation

The Proposed Action incorporates measures to mitigate impacts and environmental commitments that further reduce and minimize impacts. With the proposed mitigation and implementation of the avoidance, conservation, and minimization measures, the Proposed Action would have no significant impacts.

#### 3.17.1 Mitigation Measures

The Proposed Action includes the following measures to mitigate impacts:

- If construction activities (e.g., building, grading, ground disturbance, removal of vegetation) are scheduled to occur during the migratory bird nesting season (generally February 15-September 30), a preconstruction nesting bird survey shall be conducted by a qualified biologist throughout the areas of suitable habitat, including bare soils, within 100 feet of proposed construction activity. The surveys shall occur no more than 10 days prior to the scheduled start of construction. If construction is delayed or halted for more than 10 days, another preconstruction survey for nesting bird species shall be conducted. If no nesting birds are detected during the preconstruction survey, no additional surveys or mitigation measures are required.
- If nesting migratory bird species are observed within 100 feet of construction areas during the surveys, appropriate “no construction” buffers shall be established. The size and scale of nesting bird buffers shall be determined by a qualified biologist and shall be dependent upon

the species observed and the location of the nest. Buffers shall be established around active nest locations. The nesting bird buffers shall be completely avoided during construction activities. The qualified biologist shall also determine an appropriate monitoring plan and decide whether construction monitoring is necessary during construction activities. Monitoring requirements are dependent upon the species observed, the location of the nests, and the number of nests observed. The buffers may be removed when the qualified biologist confirms that the nest(s) is no longer occupied, and all birds have fledged.

- Roadway signs (such as No Parking or Low Flying Aircraft) will be placed along Flaming Road where the RPZ overlaps to mitigate the incompatible land use.
- The Airport will seek either a fee simple acquisition or an avigation easement of the portion of the Runway 13 RPZ that extends off Airport property to protect airspace rights.

With implementation of these mitigation measures, the Proposed Action would have no significant impacts.

### 3.17.2 Avoidance and Minimization Measures

The Proposed Action includes the following avoidance, conservation, and minimization measures to reduce and minimize impacts:

- Implement BMPs to reduce construction-related emissions to the highest level practicable. FAA AC 150/5370-10H, Standards for Specifying Construction of Airports (Temporary Air and Water Pollution, Soil Erosion, and Siltation Control) identifies BMPs to minimize air quality and water quality impacts during construction.
- Any bare soil from project activities will be reseeded with an appropriate erosion control seed mix immediately following construction.
- The contractor will develop a Weed Control Plan to prevent the spread of noxious weeds. The Weed Control Plan will follow Oregon Department of Transportation's Integrated Vegetation Management Statewide Plan (2017).
- Vegetation removal in areas as having a high probability to contain cultural resources will be monitored by a qualified archaeologist.
- Development of an Inadvertent Discovery Plan to be followed during construction.
- Orange construction fencing will be installed around the four sites identified during the archaeological investigation (SOULA 2021.12-H1, SOULA 2021.12-H2, SOULA 2021.12-H3, and SOULA 2021.12-H4).
- Wildlife hazard mitigation measures, as set out in FAA AC 150/5200-33C and the Washington State Department of Transportation Aviation Stormwater Design Manual will be incorporated into the detention pond design to reduce waterfowl attractancy of the stormwater facilities.

### 3.18 Permits or Other Approvals Required

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

- Josephine County Building Permit
- NPDES 1200-C Permit would be required as proposed ground disturbance would exceed one acre. This permit will be applied for by the contractor.



## CHAPTER 4

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# Agency Coordination, Tribal Consultation and Public Outreach

Agency coordination was conducted during the preparation of this EA to obtain information from interested agencies and to meet the consultation requirements of special purpose environmental laws (e.g., NHPA). A public outreach program was also implemented to ensure that information regarding the Proposed Action, alternatives, and its potential environmental impacts was made available to the public and that comments from the public were considered during the preparation of the EA. A summary of this coordination on the EA is provided below.

### 4.1 Agency Coordination

#### 4.1.1 State Historic Preservation Office

A State of Oregon Archaeological Excavation Permit (No. AP-3187) was issued by SHPO on October 5, 2021, for the project.

On July 20, 2022, the FAA initiated Section 106 of the NHPA consultation with the SHPO by submitting the Cultural Resources Assessment (SOULA 2022) along with its finding of *No Historic Properties Affected*. No comments were received from SHPO by August 18, 2022. Therefore, under 36 CFR 800.3(c)(4) and 36 CFR 800.4(d)(1)(i), the FAA's responsibilities under Section 106 have been fulfilled.

#### 4.1.2 National Marine Fisheries Service

The Endangered Species Act provides for the conservation of species that the federal government lists as endangered or threatened and the conservation of ecosystems on which those species depend. NMFS has jurisdiction over marine species, including anadromous fish and designated Critical Habitat listed under Endangered Species Act. SONCC coho salmon are present in the Rogue River and its tributaries, including Jumpoff Joe Creek (NMFS 2016). Critical Habitat includes Harris Creek. A meeting was held on July 14, 2022, with Kate Wells from NMFS to discuss the project and the potential impacts on SONCC coho salmon or Critical Habitat.

Topics discussed at the meeting included elements of the Proposed Action, stormwater treatment methods that should be used, and consultation timelines. It was explained that the project would add new impervious pavement that would need stormwater treatment. Stormwater is expected to be discharged into Harris Creek. NMFS suggested the more recent/contemporary programmatic Biological Opinions (Housing of Urban Development or the new Federal-Aid Highway Program) contain stormwater design criteria that should be used.

NMFS inquired about the make-up of airplane tires and whether they consist of rubber because rubber tires contain a known contaminant that is harmful to fish. The volume of highway traffic versus airport traffic was discussed (the traffic volume of airplanes is substantially lower than vehicle traffic on highways). Tire composition and volume should be considered in the Biological Assessment. NMFS suggested that if it was feasible, large trees should be left in the riparian zone of nearby streams because it would benefit fish habitat and could be considered a credit.

FAA initiated formal Section 7 of the Endangered Species Act consultation with NMFS on October 5, 2022, by submitting the Biological Assessment. The Biological Assessment included the proposed stormwater treatment system that was based on the design criteria contained in the 2021 Federal-Aid Highway Program Programmatic Biological Opinion in the State of Oregon. The stormwater design met the design parameters for both water quality and quantity. The stormwater design included intercepting the water quality flows, treating for water quality, and then detained and released at controlled rates into either Harris Creek or the unnamed tributary of Harris Creek. The design included removing riparian habitat along Harris Creek and the unnamed tributary of Harris Creek and new outfalls below ordinary high water line into both surface waters. Because of modification to Critical Habitat and the discharge of stormwater into Harris Creek, the Biological Assessment determined that the project “may effect, likely to adversely affect” SONCC coho salmon and Critical Habitat.

On December 21, 2022, the County decided to re-design the stormwater system to use infiltration for water treatment and quantity control, avoiding discharge into Harris Creek (Critical Habitat). The use of infiltration allowed FAA to make a no effect call for SONCC coho salmon and designated Critical Habitat. FAA withdrew the request for formal consultation with NMFS on February 1, 2023.

## 4.2 Tribal Consultation

FAA initiated consultation with the Cow Creek Band of the Umpqua Tribe of Indians, the Confederated Tribes of Grand Ronde Community of Oregon, and the Confederated Tribes of Siletz Indians on July 20, 2022, in accordance with Section 106 of the NHPA; implementing regulations 36 CFR Part 800; and 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 received an email from the Cow Creek Tribe on July 28, 2022, stating they do not have any cultural concerns. They requested that if cultural material becomes present during ground disturbances to contact them. No other comments were received back. Tribal correspondence is included in Appendix B.

## 4.3 Public Outreach

An update on the status of the EA was given to the Airport Advisory Board on November 8, 2022. Airport Advisory Board meeting agendas and minutes are posted on the County's website ([https://www.josephinecounty.gov/government/committees\\_and\\_advisory\\_boards/board\\_agendas\\_and\\_minutes.php](https://www.josephinecounty.gov/government/committees_and_advisory_boards/board_agendas_and_minutes.php)). Approximately 2 members of the public attended the meeting. Figures of the Proposed Action was presented and discussed. The board was informed that a public meeting on the EA was planned to be held after the Draft EA was released to the public for comment. They were told they would be provided specific meeting information when it was available and encouraged them to attend. No one who attended the meeting had any questions or comments about the project.

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# CHAPTER 5

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## List of Preparers

The following individuals were involved in the preparation of this EA. Information provided includes the organization for which each individual works, a brief synopsis of their experience and qualifications, and their responsibilities in preparing the EA document.

### 5.1 Josephine County Airports

Jason Davis, Josephine County Airports Director. Over 10 years of experience in airport operations and management. As the airport sponsor, responsible for FAA coordination, project direction, public outreach, and review of EA.

### 5.2 Environmental Science Associates

Susan Cunningham, Project Manager. Over 30 years of experience in environmental planning, with expertise in biological resources, wetlands, land use, and preparation of NEPA documents. Responsible for project management, project approach, technical writing and resource analysis, and technical compliance.

Sarah Hartung, PWS, Ecologist. Over 20 years of experience with expertise in wetland and riparian ecology and threatened and endangered species. Responsible for biological field surveys, preparing the No Effect Letter, technical writing on the EA, and agency coordination.

Justin W. Cook, INCE, LEED GA, Sr. Aviation Noise Analyst. 22 years of aviation noise and environmental experience. He has overseen the preparation of dozens of NEPA documents and 14 CFR Part 150 noise and land use compatibility planning studies. He provided technical oversight and review of the air quality and noise modeling results.

Chris Nottoli, Aviation Noise Analyst. 8 years of experience in modeling aviation and surface transportation noise. He has experience with FAA's AEDT noise model, and advanced knowledge of aviation practices and environmental concepts of aircraft noise modeling. He conducted the noise modeling and analysis for the EA.

Dominic Scarano, Air Quality Analyst. 6 years of experience in aviation noise and air quality modeling. He conducted the air quality analysis for the EA.

Peter Carr, Technical Editor. Over 20 years of experience in technical editing of NEPA documents and supporting technical studies. He conducted the technical editing on the EA.

### **5.3 Precision Approach Engineering**

Corley McFarland, P.E., Design Engineer. 15 years of the experience specializing in aviation design and construction services. Responsible for preliminary engineering of Proposed Action, project coordination, and technical review of the EA.

### **5.4 Southern Oregon University Laboratory of Anthropology**

Chelsea Rose, RPA, Principal Investigator. Over 10 years of experience working on archaeological sites in Oregon, serving as principal investigator on projects for a variety of state and federal agencies. She provided technical oversight of the cultural resources investigation and was responsible for coordination with SHPO.

Katie Johnson, Archaeologist. 5 years of experience in cartography and geographic information system database creation and management. Responsible for cultural resources leading field surveys and preparing the Cultural Resources Assessment.



# CHAPTER 6

## Acronyms, Abbreviations, and References

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### 6.1 Acronyms and Abbreviations

The following is a list of abbreviations and acronyms used throughout the document:

|                  |  |
|------------------|--|
| AC               | Advisory Circular  |
| AIP              | Airport Improvement Program                              |
| Airport          | Grants Pass Airport                                      |
| ALP              | Airport Layout Plan                                      |
| APE              | Area of Potential Effect                                 |
| BMPs             | Best Management Practices                                |
| CEQ              | Council on Environmental Quality                         |
| CFR              | Code of Federal Regulations                              |
| CH <sub>4</sub>  | methane  |
| CIP              | Capital Improvement Plan                                 |
| CO               | carbon monoxide  |
| CO <sub>2</sub>  | carbon dioxide   |
| County           | Josephine County   |
| dB               | decibel  |
| DEQ              | Department of Environmental Quality                      |
| DNL              | Day Night Average Sound Level                            |
| EA               | Environmental Assessment                                 |
| EFH              | Essential Fish Habitat                                   |
| EPA              | U.S. Environmental Protection Agency                     |
| ESU              | Evolutionarily Significant Unit                          |
| FAA              | Federal Aviation Administration                          |
| FAR              | Federal Aviation Regulation                              |
| FEMA             | Federal Emergency Management Agency                      |
| FR               | Federal Register   |
| FTE              | Full Time Equivalent                                     |
| GHG              | Greenhouse gas   |
| I-5              | Interstate 5   |
| IPCC             | Intergovernmental Panel on Climate Change                |
| MSA              | Magnuson-Stevens Fishery Conservation and Management Act |
| MBTA             | Migratory Bird Treaty Act of 1918                        |
| MSL              | mean seal level  |
| N <sub>2</sub> O | nitrous oxide  |
| NAAQS            | National Ambient Air Quality Standards                   |
| NEPA             | National Environmental Policy Act                        |
| NHPA             | National Historic Preservation Act                       |

|                   |   |
|-------------------|---|
| NMFS              | National Marine Fisheries Service                     |
| NO <sub>2</sub>   | nitrogen dioxide                                      |
| NO <sub>x</sub>   | Oxides of nitrogen                                    |
| NPDES             | National Pollutant Discharge Elimination System       |
| NPL               | National Priorities List                              |
| NRHP              | National Register of Historic Places                  |
| NRI               | Nationwide Rivers Inventory                           |
| O <sub>3</sub>    | ozone   |
| ODFW              | Oregon Department of Fish and Wildlife                |
| OHW               | Ordinary High Water                                   |
| ORS               | Oregon Revised Statutes                               |
| PAPI              | Precision Approach Path Indicator                     |
| Pb                | lead  |
| PCBs              | polychlorinated biphenyls                             |
| PM <sub>2.5</sub> | fine particulates                                     |
| PM <sub>10</sub>  | particulate matter                                    |
| RCRA              | Resource Conservation and Recovery Act                |
| REILs             | Runway End Identifier Lights                          |
| NRAV              | Area Navigation                                       |
| RM                | river mile  |
| RPZ               | Runway Protection Zone                                |
| SHPO              | Oregon State Historic Preservation Office             |
| SIP               | State Implementation Plan                             |
| SO <sub>2</sub>   | sulfur dioxide  |
| SONCC             | Southern Oregon/Northern California Coast             |
| SOULA             | Southern Oregon University Laboratory of Anthropology |
| SO <sub>x</sub>   | Sulfur oxides   |
| TFMSC             | Traffic Flow Management System Count                  |
| U.S.              | United States   |
| USC               | United States Code                                    |
| USFWS             | U.S. Fish and Wildlife Service                        |
| VOC               | Volatile organic compound                             |

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# Appendix A

## **FAA Letter to use B-II-1B as Critical Design Aircraft**





U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

Northwest Mountain Region  
Seattle Airports District Office  
2200 S. 216<sup>th</sup> Street  
Des Moines, WA 98198

October 19, 2020

Larry Graves, Director  
Josephine County Airports  
1441 Brookside Blvd  
Grants Pass, OR 97526

Dear Mr. Graves:

The Seattle Airports District Office (SEA ADO) received your request for a determination on a runway extension at Grants Pass Airport. The supplemental data you provided to the ADO is appreciated and was used in the determination. Thank you for your request and your patience as the ADO worked through this issue.

The SEA ADO has reviewed your request and accompanying data and determined a 5,500' runway, representing a 1,500' runway extension at Grants Pass Airport, is not eligible for Airport Improvement Program (AIP) funding at this time. Review of the supplemental aircraft data for the Cessna 560 demonstrated that 4,400' is an adequate runway length to operate the Cessna 560 at Grants Pass under the above conditions. However, the SEA ADO analyzed the data further and after considering the supplemental data for the CJ4 aircraft, as well as revisiting the aircraft data provided during the recent airport master planning process, it was determined that a runway length of 4,700', representing a 700' runway extension, is eligible for AIP funding.

Procedures for determining recommended runway length are stated in FAA Advisory Circular (AC) 150/5325-4B, Runway Length Requirements for Airport Design, Paragraph 403. These procedures were applied to the supplemental data you provided. Using the variables and processes prescribed in the AC, the recommended runway length is 4,660' at Grants Pass Airport. To accommodate lighting requirements and tolerances, the ADO determined that a runway length of 4,700' is eligible for AIP funding.

This decision is based on the Cessna CJ4 runway length requirements set forth in the supplemental data (Figure 1) you provided for a dry runway, maximum take-off weight (MTOW), 1,000' of elevation, zero wind, and a mean daily maximum temperature of the hottest month of the year (31 degrees C). An earlier letter from the CJ4 operator stated the CJ4 would be making more than 500 operations a year at the airport. A review of the Traffic Flow Management System Counts for other similar aircraft at the airport, as well as those associated with that particular operator supports this claim. In that regard, the ADO determined the recommended length for the CJ4 will be used to determine the eligibility of the runway extension.

**FIGURE 1**

**TAKEOFF FIELD LENGTH - FEET**  
(OVER 35 FOOT SCREEN HEIGHT)

**FLAPS - 0°**  
**1000 FEET**

CONDITIONS: DRY RUNWAY                      ANTI-ICE - OFF  
 RUNWAY GRADIENT - ZERO                    INOPERATIVE ENGINE - WINDMILLING AFTER V1  
 LANDING GEAR - DOWN                      OPERATIVE ENGINE - TAKEOFF THRUST  
 SPEEDBRAKES - RETRACT

**SOME CONDITIONS DO NOT MEET CLIMB REQUIREMENTS. OBTAIN ALLOWABLE WEIGHT FROM MAXIMUM TAKEOFF WEIGHT TABLES.**

| WEIGHT = 17110 LBS |                |            |              |            |                   |                |                |      |            |            |            | WEIGHT = 16500 LBS |                  |            |            |                |            |                   |            |                |                |                |      |            |            |
|--------------------|----------------|------------|--------------|------------|-------------------|----------------|----------------|------|------------|------------|------------|--------------------|------------------|------------|------------|----------------|------------|-------------------|------------|----------------|----------------|----------------|------|------------|------------|
| TEMP<br>DEG<br>C   | TAILWIND       |            | ZERO<br>WIND |            | H E A D W I N D S |                |                |      |            |            | VR<br>KIAS | V2<br>KIAS         | TEMP<br>DEG<br>C | TAILWIND   |            | ZERO<br>WIND   |            | H E A D W I N D S |            |                |                |                |      |            |            |
|                    | 10 KTS<br>KIAS | DIST<br>FT | V1<br>KIAS   | DIST<br>FT | 10 KTS<br>KIAS    | 20 KTS<br>KIAS | 30 KTS<br>KIAS | FT   | V1<br>KIAS | DIST<br>FT |            |                    |                  | V1<br>KIAS | DIST<br>FT | 10 KTS<br>KIAS | DIST<br>FT | V1<br>KIAS        | DIST<br>FT | 10 KTS<br>KIAS | 20 KTS<br>KIAS | 30 KTS<br>KIAS | FT   | V1<br>KIAS | DIST<br>FT |
| -30                | 111            | 4440       | 108          | 3460       | 109               | 3230           | 110            | 3020 | 110        | 2800       | 115        | 128                | -35              | 108        | 4160       | 106            | 3240       | 107               | 3020       | 108            | 2800           | 109            | 2590 | 114        | 127        |
| -25                | 110            | 4510       | 108          | 3520       | 109               | 3300           | 109            | 3080 | 110        | 2860       | 115        | 128                | -30              | 108        | 4230       | 106            | 3300       | 107               | 3080       | 108            | 2870           | 109            | 2650 | 114        | 127        |
| -20                | 110            | 4590       | 108          | 3590       | 109               | 3360           | 109            | 3140 | 110        | 2930       | 115        | 128                | -25              | 108        | 4300       | 106            | 3360       | 107               | 3150       | 108            | 2930           | 109            | 2710 | 114        | 127        |
| -15                | 110            | 4670       | 108          | 3650       | 109               | 3430           | 109            | 3200 | 110        | 2990       | 115        | 128                | -20              | 108        | 4370       | 106            | 3430       | 107               | 3210       | 107            | 2990           | 108            | 2770 | 114        | 127        |
| -10                | 110            | 4740       | 108          | 3720       | 109               | 3490           | 109            | 3260 | 110        | 3050       | 115        | 128                | -15              | 108        | 4450       | 106            | 3490       | 107               | 3260       | 107            | 3050           | 108            | 2830 | 114        | 127        |
| -5                 | 110            | 4820       | 108          | 3790       | 109               | 3550           | 109            | 3320 | 110        | 3110       | 115        | 128                | -10              | 108        | 4520       | 106            | 3550       | 107               | 3320       | 107            | 3110           | 108            | 2890 | 114        | 127        |
| 0                  | 110            | 4900       | 108          | 3850       | 109               | 3620           | 109            | 3390 | 110        | 3170       | 115        | 128                | -5               | 108        | 4590       | 106            | 3610       | 107               | 3390       | 107            | 3170           | 108            | 2950 | 114        | 127        |
| 5                  | 110            | 4970       | 108          | 3920       | 109               | 3680           | 109            | 3450 | 110        | 3230       | 115        | 128                | 0                | 108        | 4660       | 106            | 3670       | 107               | 3440       | 107            | 3230           | 108            | 3020 | 114        | 127        |
| 10                 | 110            | 5050       | 108          | 3990       | 109               | 3740           | 109            | 3510 | 110        | 3280       | 115        | 128                | 5                | 108        | 4740       | 106            | 3740       | 107               | 3510       | 107            | 3280           | 108            | 3070 | 114        | 127        |
| 15                 | 110            | 5130       | 108          | 4050       | 109               | 3810           | 109            | 3570 | 110        | 3340       | 115        | 128                | 10               | 108        | 4810       | 106            | 3800       | 107               | 3570       | 107            | 3340           | 108            | 3130 | 114        | 127        |
| 20                 | 110            | 5220       | 108          | 4130       | 109               | 3880           | 109            | 3640 | 110        | 3410       | 115        | 128                | 15               | 108        | 4890       | 106            | 3860       | 107               | 3630       | 107            | 3400           | 108            | 3180 | 114        | 127        |
| 25                 | 111            | 5460       | 109          | 4320       | 110               | 4060           | 110            | 3810 | 111        | 3570       | 116        | 128                | 20               | 108        | 4970       | 106            | 3930       | 107               | 3690       | 107            | 3480           | 108            | 3240 | 114        | 127        |
| 30                 | 114            | 5890       | 112          | 4660       | 112               | 4380           | 112            | 4110 | 113        | 3860       | 117        | 128                | 25               | 108        | 5090       | 106            | 4030       | 107               | 3780       | 107            | 3550           | 108            | 3320 | 113        | 125        |
| 35                 | 115            | 6490       | 114          | 5050       | 114               | 4750           | 115            | 4460 | 115        | 4190       | 117        | 128                | 30               | 110        | 5470       | 108            | 4320       | 109               | 4060       | 109            | 3810           | 109            | 3570 | 114        | 125        |
| 40                 | 114            | 7570       | 118          | 5490       | 117               | 5160           | 117            | 4850 | 117        | 4550       | 118        | 128                | 35               | 113        | 5910       | 110            | 4670       | 111               | 4390       | 111            | 4120           | 112            | 3860 | 115        | 125        |
| 45                 | 114            | 8850       | 118          | 5950       | 119               | 5600           | 119            | 5270 | 119        | 4950       | 119        | 128                | 40               | 115        | 6400       | 113            | 5070       | 113               | 4770       | 113            | 4480           | 114            | 4200 | 115        | 125        |
| 49                 | 113            | 10130      | 120          | 6430       | 120               | 6110           | 120            | 5790 | 120        | 5480       | 120        | 128                | 45               | 116        | 7170       | 115            | 5490       | 115               | 5160       | 115            | 4850           | 116            | 4550 | 116        | 125        |
| 50                 | 113            | 10520      | 120          | 6620       | 120               | 6280           | 120            | 5960 | 120        | 5640       | 120        | 128                | 50               | 115        | 8590       | 117            | 5960       | 117               | 5640       | 117            | 5340           | 117            | 5050 | 117        | 125        |
| 52                 | 112            | 11410      | 120          | 7030       | 120               | 6680           | 120            | 6330 | 120        | 6000       | 120        | 128                | 52               | 115        | 9250       | 117            | 6290       | 117               | 5970       | 117            | 5650           | 117            | 5340 | 117        | 125        |

We understand that operators at the airport have proposed longer runway lengths than what this analysis recommends in order to accommodate operations under unfavorable conditions. The lengths required for unfavorable conditions at the airport would indeed be more than what the AC prescribes. However, the AC only allows the ADO to support recommended lengths for the conditions set forth above. The FAA relies on pilot judgment to either delay a flight or divert to a different airport when unfavorable or unsuitable conditions are present at a particular airport. The ADO coordinated with members of the Flight Standards District Office, as well as our Regional and Headquarters Offices to ensure the methods, variables and conclusions regarding the recommended runway lengths were sound and valid.

If you have any questions or need any additional information regarding this determination, please contact Scott Eaton of my staff at (406) 441-5408.

Sincerely,



Digitally signed by WILLIAM C  
 GARRISON  
 Date: 2020.10.19 18:02:10  
 -06'00'

William C. Garrison  
 Acting Manager, Seattle Airports District Office



# Appendix B

## **Tribal Correspondence**





U.S. Department of Transportation  
**Federal Aviation Administration**

**Seattle Airports District Office**  
2200 S. 216th Street  
Des Moines, WA 98198

July 19, 2022

Review and Compliance  
Oregon State Historic Preservation Office  
725 Summer Street, NE, Suite C  
Salem, Oregon 97301-1266

Subject: Determination of Effect on Historic Properties for Grants Pass Airport Runway Extension Project  
SHPO Case No. (not assigned yet)  
Grants Pass Airport (3S8)  
Grants Pass, Oregon

Dear Oregon SHPO:

The Federal Aviation Administration (FAA) is examining the potential environmental impacts associated with a proposed runway extension project at Grants Pass Airport in Grants Pass, Oregon. The proposed improvements are subject to the National Historic Preservation Act (NHPA) and its implementing regulations under Section 106 36 CFR part 800 (as amended) as well as the National Environmental Policy Act (NEPA). 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**

Grants Pass Airport is upgrading its existing infrastructure to accommodate larger aircraft, as identified within the recent Airport Master Plan (2020). The proposed improvements include up to a 1500-foot extension of Runway 13-31 (the sole runway at Grants Pass Airport), and corresponding extensions of Taxiway A and Taxiway B. The extension of Taxiway B will become a full-length parallel taxiway providing future development opportunities and serving the eastern half of the airport. The project work elements will include pavement section construction, grading, drainage, airfield lighting, obstruction removal, and signage improvements.

**Area of Potential Effect (APE)**

The Area of Potential Effect (APE) is 222.6 acres and is located on airport-owned land.

**Cultural Resource Assessment**

An archaeological survey for the proposed undertaking was conducted by Erica Thompson (MA, RPA), Katie Johnson, Chelsea Rose, Matthew Macfarlane, Tyler Davis, and Travis Pfohl of Southern Oregon University Laboratory of Anthropology (SOULA) to address the potential for archaeological resources. The SOULA survey included background review, pedestrian survey, and subsequent subsurface survey consisting of 50 shovel test probes. Fieldwork was carried out according to SHPO guidelines for conducting cultural resource surveys in Oregon and under archaeological permit no. AP-3187.

SOULA's field investigations revealed that large portions of the survey area had been previously disturbed as a result of the construction and maintenance of the current airport facilities. A total of four sites (SOULA 2021.12-H1, SOULA 2021.12-H2, SOULA 2021.12-H3, and SOULA 2021.12-H4) and two isolates (SOULA 2021.12-H5(IF) and 2021.12-H6(IF)) were identified during the pedestrian survey (Figure 14 in the attached report). With the exception of SOULA 2021.12-H2, the sites and isolates identified during this investigation were located in the western portion of the APE. No cultural materials were collected during the survey, and all of the observed resources were consistent with mid-20th century material. No cultural materials associated with the pre-contact

occupation of the project area were observed. Based on their evaluation of each resource against NRHP criteria, SOULA concluded that none of the resources identified would be eligible for listing. A discussion of the eligibility of each resource is presented in the attached report. Furthermore, based on the location and nature of the cultural resources identified, they will likely be able to be avoided during project construction.

**Tribal Consultation**

FAA is concurrently conducting government-to-government consultation with the Cow Creek Band of the Umpqua Tribe of Indians, Confederated Tribes of Grande Ronde Community of Oregon, and the Confederated Tribes of Siletz Indians. FAA will notify SHPO of any concerns raised during the tribal consultation process.

**Request for Concurrence with Section 106 Finding**

Based upon the results and recommendations in the report by SOULA, 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 do not hesitate to contact me at (206) 231-4220 or [Ilon.Logan@faa.gov](mailto:Ilon.Logan@faa.gov) with any questions, comments or concerns.

Sincerely,

Ilon Elizabeth Logan  
Environmental Protection Specialist

Cc:  
Susan Cunningham, Environmental Science Associates

Enclosures:  
Subsurface Survey of the Grants Pass Airport Expansion Project, Josephine County, Oregon (SOULA 2021.12)  
dated 2022

Spatial Data associated with archaeological survey



# 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



April 24, 2023

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

RE: SHPO Case No. 22-1577

FAA 3-41-0024-017-2022, Runway Protection Zone Project—Realignment of S. Ott Road  
Realign approximately 4,000 feet of S. Ott Road  
1600 Airport Way, Hermiston, Umatilla 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 33526. 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@oprds.oregon.gov

cc: Susan Cunningham, Environmental Science Associates

**From:** [THPO](#)  
**To:** [Logan, Ilon \(FAA\)](#)  
**Subject:** RE: [EXTERNAL EMAIL] FAA Grants Pass Airport Runway Extension - tribal consultation request  
**Date:** Thursday, July 28, 2022 8:51:59 AM

---

Thank you for contacting the Cow Creek Tribe. At this time we don't have any cultural concerns. If cultural material becomes present during ground disturbances please contact the Cow Creek Tribe within one business day.

Thank You.

Brandi Knutzen

Wik'uuyà'mhan, Wokít<sup>h</sup> K<sup>h</sup>ay' laàp<sup>h</sup>a, k<sup>h</sup>weteyt<sup>h</sup>k  
Nahankuotana eyithe'  
My friend, Frog Woman, is my name,  
I am of the Cow Creek People.

**WITHOUT CULTURE WE CANNOT EXIST AS DISTINCT AND SOVEREIGN PEOPLES. AND WE LOSE OUR WAY.**

Brandi Knutzen, Curatorial Specialist  
Cow Creek Band of Umpqua Tribe  
2371 NE Stephens  
Roseburg, Or 97470

Email [bknutzen@cowcreek.com](mailto:bknutzen@cowcreek.com)  
Phone (541) 677-5575 ext. 5228  
Fax (541) 691-2920

*In our every deliberation, we must consider the impact of our decisions on the next seven generations.*

—Iroquois maxim

Regular business hours are Monday thru Thursday, 7am-5pm. The office is closed on Fridays. Emails and messages received on Fridays will be returned during the next available business day. For emergent issues please contact the Tribe's reception desk at 541-677-5575 and they will direct you to the appropriate staff.

---

**From:** Logan, Ilon (FAA) <[Ilon.Logan@faa.gov](mailto:Ilon.Logan@faa.gov)>

**Sent:** Wednesday, July 20, 2022 7:26 AM

**To:** Logan, Ilon (FAA) <Ilon.Logan@faa.gov>

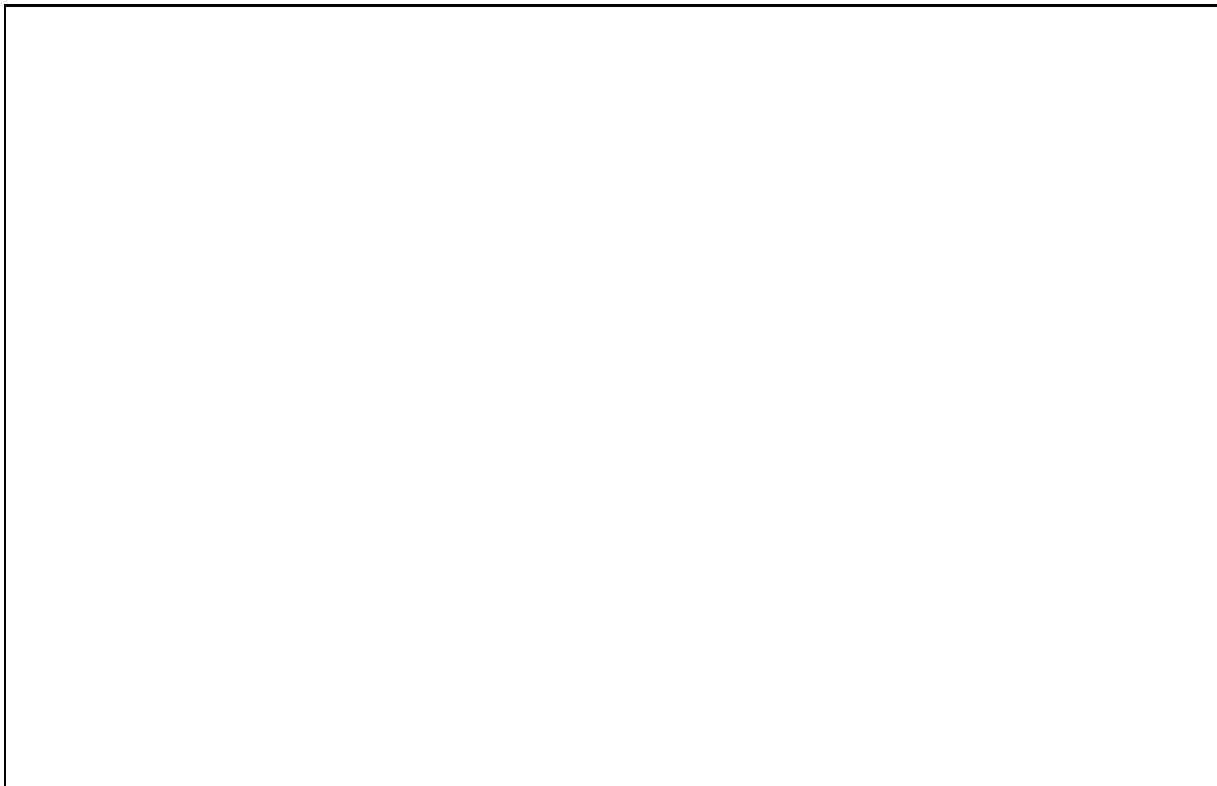
**Subject:** [EXTERNAL EMAIL] FAA Grants Pass Airport Runway Extension - tribal consultation request

Good morning,

The Federal Aviation Administration (FAA) is examining the environmental impacts associated with a proposed runway extension project at Grants Pass Airport in Grants Pass, 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**

Grants Pass Airport is upgrading its existing infrastructure to accommodate larger aircraft, as identified within the recent Airport Master Plan (2020). The proposed improvements include up to a 1500-foot extension of Runway 13-31 (the sole runway at Grants Pass Airport), and corresponding extensions of Taxiway A and Taxiway B. The extension of Taxiway B will become a full-length parallel taxiway providing future development opportunities and serving the eastern half of the airport. The project work elements will include pavement section construction, grading, drainage, airfield lighting, obstruction removal, and signage improvements. The Area of Potential Effect (APE) is 222.6 acres and is located on airport-owned land.





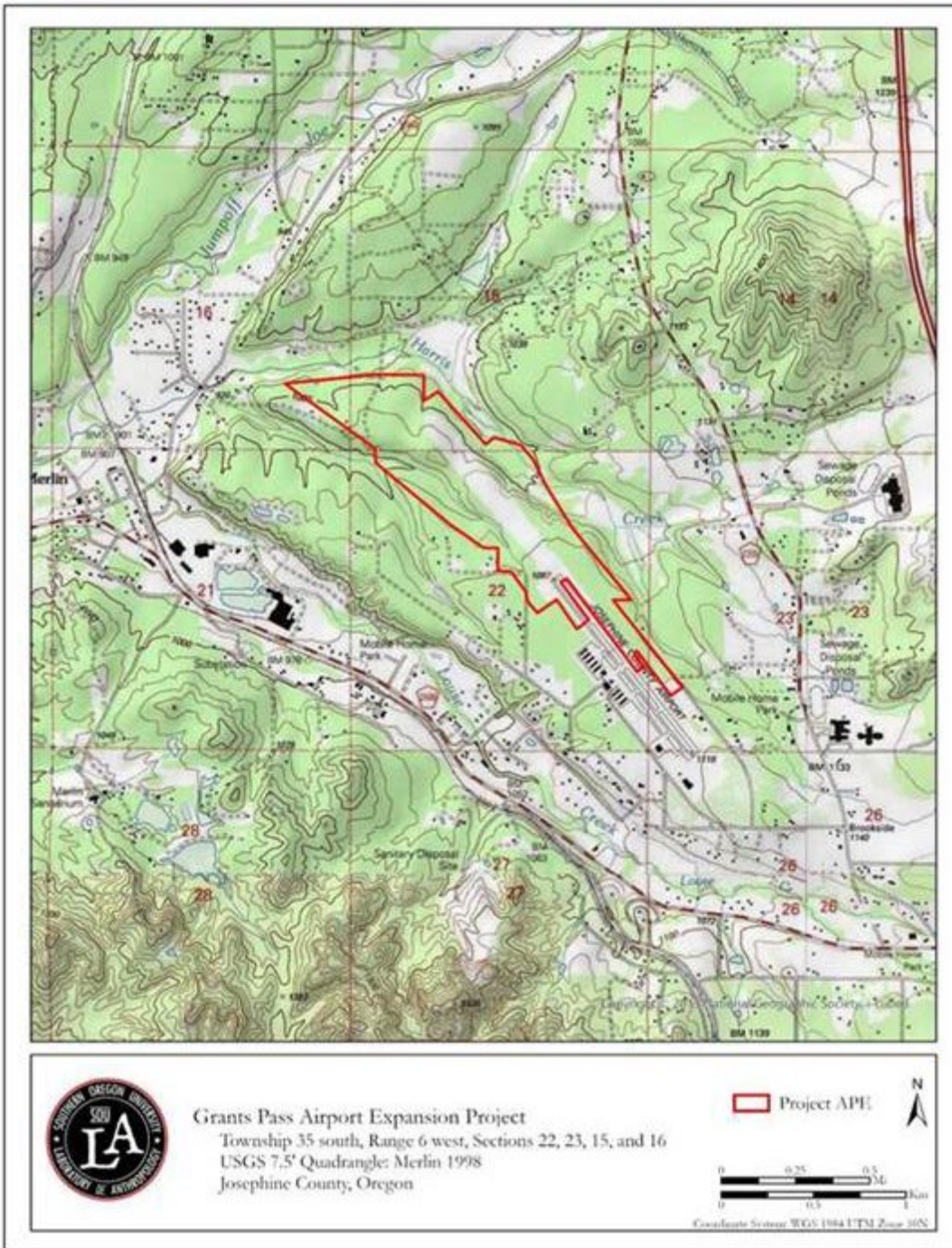


Figure 1. Proposed Grants Pass Airport Expansion Project Area.

### Cultural Resource Assessment

An archaeological survey for the proposed undertaking was conducted by Erica Thompson (MA, RPA), Katie Johnson, Chelsea Rose, Matthew Macfarlane, Tyler Davis, and Travis Pfohl of Southern Oregon University Laboratory of Anthropology (SOULA) to address the potential for archaeological resources. The SOULA survey included background review, pedestrian survey, and subsequent subsurface survey consisting of 50 shovel test probes. Fieldwork was carried out according to SHPO guidelines for conducting cultural resource surveys in Oregon and under archaeological permit no.

AP-3187.

SOULA's field investigations revealed that large portions of the survey area had been previously disturbed as a result of the construction and maintenance of the current airport facilities. A total of four sites (SOULA 2021.12-H1, SOULA 2021.12-H2, SOULA 2021.12-H3, and SOULA 2021.12-H4) and two isolates (SOULA 2021.12-H5(IF) and 2021.12-H6(IF)) were identified during the pedestrian survey (Figure 14 in the attached report). With the exception of SOULA 2021.12-H2, the sites and isolates identified during this investigation were located in the western portion of the APE. No cultural materials were collected during the survey, and all of the observed resources were consistent with mid-20th century material. No cultural materials associated with the pre-contact occupation of the project area were observed. Based on their evaluation of each resource against NRHP criteria, SOULA concluded that none of the resources identified would be eligible for listing. A discussion of the eligibility of each resource is presented in the attached report.

**Request for Concurrence with Section 106 Finding**

Based upon the results and recommendations in the report by SOULA, the FAA proposes a finding of *No Historic Properties Affected* for the proposed undertaking and we request your concurrence. Please review and provide any comments within 30 days. After 30 days, FAA will make a determination on how to proceed.

Please do not hesitate to contact me at (206) 231-4220 or [llon.Logan@faa.gov](mailto:llon.Logan@faa.gov) with any questions, comments or concerns.

Sincerely,

**Ilon E. Logan**

Regional Environmental Protection Specialist  
Federal Aviation Administration  
Airports Division, Northwest Mountain Region  
2200 S. 216<sup>th</sup> Street  
Des Moines, WA 98198  
(206) 231-4220  
[llon.Logan@faa.gov](mailto:llon.Logan@faa.gov)

# Appendix C

## **Noise Analysis**





# Technical Memorandum

Date August 29, 2022

To Ilon Logan, FAA

CC Susan Cunningham, ESA

From Chris Nottoli, ESA  
Justin Cook, ESA

Subject Grants Pass Airport Runway 13-31 Runway Extension Environmental Assessment  
Noise Modeling Approach, Input Assumptions, and Results

## 1. Background

ESA is preparing an Environmental Assessment (EA) for the extension of Runway 13-31 at Grants Pass Airport (3S8). Phase 1 of the Proposed Action evaluates a 700-foot extension of Runway 13-31 with the relocation of Runway End 13. Phase 2 of the Proposed Action evaluates an additional 800-foot extension (in addition to Phase 1) of Runway 13-31 with the relocation of Runway End 13. In accordance with the scope of work, the noise contours produced will be for four scenarios: 2025 No Action, 2025 Proposed Action (Phase 1), 2035 No Action (with Phase 1 700-foot extension), and 2035 Proposed Action (Phase 2). The latest Airport Master Plan, as completed by Coffman Associates in July 2020 (hereinafter, “the Master Plan”), was used as the basis for the noise modeling inputs.<sup>1</sup> The purpose of this technical memorandum discusses the noise modeling approach, input assumptions, and results.

The subsequent sections address the FAA’s Aviation Environmental Design Tool (AEDT)<sup>2</sup>, Version 3e, inputs developed under the following categories:

- Airport layout physical descriptions
- Aircraft operations
- Aircraft noise and performance characteristics
- Runway utilization
- Flight track geometry and use
- Meteorological conditions
- Terrain
- Results

---

<sup>1</sup> “Airport Master Plan for Grants Pass Airport (3S8)”, Coffman Associates, July 2020.

<sup>2</sup> <https://aedt.faa.gov/>

## 2. Airport Layout Physical Descriptions

3S8 is located five miles northwest of the City of Grants Pass in Josephine County, Oregon, and consists of one runway (Runway 13-31). Each end of the runway is designated by a number that, with the addition of a trailing “0”, reflects the magnetic heading of the runway to the nearest 10 degrees, as seen by the pilot.

Runway length, runway width, instrumentation and declared distances may affect which aircraft might use a particular runway and under what conditions, and therefore how often a runway would be used relative to the other runway at the airport.

This technical memorandum includes: (1) the Existing airport layout, which will be used in the 2025 No Action Scenarios; (2) the Phase 1 airport layout to be used in the 2025 Proposed Action and 2035 No Action Scenarios; and (3) the Phase 2 airport layout to be used in the 2035 Proposed Action Scenario. **Table 1** provides the runway data for each airport layout to be used in each scenario.

**Table 1. Runway Data**  
 Source: Grants Pass Airport Layout Plan, 2021

| Runway   | Latitude   | Longitude   | Elevation<br>(Feet MSL) | Length<br>(Feet) | Approach<br>Angle<br>(Degrees) | Displaced<br>Arrival<br>Threshold<br>(Feet) |
|--|------------|-------------|-------------------------|------------------|--------------------------------|---|
| <b>Existing Airport Layout (2025 No Action Scenarios)</b>  |            |             |                         |                  |                                |   |
| 13   | 42.5144169 | -123.392607 | 1,098.57                | 4,100            | 3.5                            | 0   |
| 31   | 42.5058244 | -123.383372 | 1,130.13                | 4,100            | 4                              | 0   |
| HP1  | 42.5101222 | -123.387974 | 1,105.00                | -                | -                              | -   |
| <b>Phase 1 Airport Layout (700-foot Extension) (2025 Proposed Action Scenario) (2035 No Action Scenario)</b> |            |             |                         |                  |                                |   |
| 13   | 42.5159211 | -123.394190 | 1,089.14                | 4,799            | 3.5                            | 0   |
| 31   | 42.5058244 | -123.383372 | 1,130.13                | 4,799            | 4                              | 0   |
| HP1  | 42.5101222 | -123.387974 | 1,105.00                | -                | -                              | -   |
| <b>Phase 2 Airport Layout (1,500-Foot Extension) (2035 Proposed Action Scenario)</b>                         |            |             |                         |                  |                                |   |
| 13   | 42.5176392 | -123.396036 | 1,081.31                | 5,599            | 3.5                            | 0   |
| 31   | 42.5058244 | -123.383372 | 1,130.13                | 5,599            | 4                              | 0   |
| HP1  | 42.5101222 | -123.387974 | 1,105.00                | -                | -                              | -   |

### 3. Aircraft Operations

Title 14 of the Code of Federal Regulations (CFR) Part 150 (14 CFR Part 150) and its table of noise/land use compatibility guidelines require the calculation of “yearly Day-Night Average Sound Level (DNL)” values. That is, the daily noise exposure (in DNL) averaged over a year – typically a calendar year. AEDT produces these values of exposure utilizing an “average annual day” of airport operations.

Airport operations for all four modeling scenarios were derived based on forecast data from the Cumulative Average Growth Rate (CAGR) between 2017 and 2037 as provided in the Master Plan. **Table 2** provides the annual local and itinerant operations from 2017 to 2037 and includes the project years (2025 and 2035) modeled as part of this EA.

**Table 2. Total Operations Forecast**

Source: Grants Pass Master Plan, 2020

| Aircraft Category                          | 2017          | 2025          | 2035          | 2037          | CAGR <sup>1</sup> |
|--|---------------|---------------|---------------|---------------|-------------------|
| Local                                      |               |               |               |               |                   |
| General Aviation                           | 17,200        | 19,553        | 22,952        | 23,700        | 1.62%             |
| <b>Total</b>                               | <b>17,200</b> | <b>19,553</b> | <b>22,952</b> | <b>23,700</b> |                   |
| Itinerant Operations                       |               |               |               |               |                   |
| General Aviation                           | 25,800        | 29,280        | 34,298        | 35,400        | 1.59%             |
| Air Taxi                                   | 400           | 444           | 506           | 519           | 1.31%             |
| Military                                   | 100           | 100           | 100           | 100           | 0.00%             |
| <b>Total</b>                               | <b>26,300</b> | <b>48,601</b> | <b>34,903</b> | <b>36,019</b> | <b>1.59%</b>      |
| <b>Subtotal</b>                            | <b>43,500</b> | <b>49,377</b> | <b>57,856</b> | <b>59,719</b> | <b>1.60%</b>      |
| <b>Note:</b>                               |               |               |               |               |                   |
| <b>CAGR based on 2017 and 2037 totals.</b> |               |               |               |               |                   |

ESA applied the 2027 and 2037 fleet mix operations forecast split from the Master Plan, as shown in **Table 3**, to the annual operations in 2025 and 2035, respectively. The modeled 2025 and 2035 fleet mix split by aircraft category is shown in **Table 4**. The aircraft types modeled also remained consistent with the Master Plan. Additionally, the same day-night split of 98% (day) and 2% (night) were applied to the annual operations. Touch-and-go operations were assigned to the local piston aircraft operations. **Table 5** presents the 2025 No Action and Phase 1 Proposed Action forecasted annual operations. **Table 6** presents the 2035 No Action (with Phase 1 700-foot extension) and Phase 2 Proposed Action forecasted annual operations.



**Table 3. 2027 and 2037 Fleet Mix Split by Category**

Source: Grants Pass Master Plan, 2020

| Aircraft Category   | 2027          |               | 2037          |               |
|---|---------------|---------------|---------------|---------------|
|   | Operations    | Split         | Operations    | Split         |
| <b>Local Operations</b>   |               |               |               |               |
| Piston  | 19,000        | 94.1%         | 22,300        | 94.1%         |
| Helicopter  | 1,200         | 5.9%          | 1,400         | 5.9%          |
| <b>Local Total</b>  | <b>20,200</b> | <b>100.0%</b> | <b>23,700</b> | <b>100.0%</b> |
| <b>Itinerant Operations</b>   |               |               |               |               |
| Single-Engine Piston  | 23,056        | 75.0%         | 25,519        | 70.8%         |
| Multi-Engine Piston   | 2,000         | 6.5%          | 2,000         | 5.6%          |
| Turboprop   | 3,000         | 9.8%          | 5,000         | 13.9%         |
| Jet   | 1,500         | 4.9%          | 2,100         | 5.8%          |
| Helicopter  | 1,200         | 3.9%          | 1,400         | 3.9%          |
| <b>Total Itinerant</b>  | <b>30,756</b> | <b>100.0%</b> | <b>36,019</b> | <b>100.0%</b> |
| <b>Total Operations</b>   | <b>50,956</b> | <b>-</b>      | <b>59,719</b> | <b>-</b>      |
| <b>Note:</b><br>Data in table is an extract from Table 2V of the Master Plan showing the 2027 and 2037 fleet mix split. |               |               |               |               |

**Table 4. Forecast of Annual Aircraft Operations**

Source: Grants Pass Master Plan, 2020; ESA, 2022

| Aircraft Category           | 2025          | 2035          |
|-----------------------------|---------------|---------------|
| <b>Local Operations</b>     |               |               |
| Single-Engine Piston        | 18,392        | 21,596        |
| Helicopter                  | 1,162         | 1,356         |
| <b>Total</b>                | <b>19,553</b> | <b>22,952</b> |
| <b>Itinerant Operations</b> |               |               |
| Single Engine Piston        | 22,309        | 24,682        |
| Multi-Engine Piston         | 2,000         | 2,000         |
| Turboprop                   | 2,903         | 4,836         |
| Jet                         | 1,451         | 2,031         |
| Helicopter                  | 1,161         | 1,354         |
| <b>Total</b>                | <b>29,824</b> | <b>34,903</b> |
| <b>Subtotal</b>             | <b>49,377</b> | <b>57,856</b> |

**Table 5. Forecast of Annual Aircraft Operations – 2025 No Action and Phase 1 Proposed Action**

Source: Grants Pass Master Plan, 2020; ESA, 2022

| AEDT Aircraft Type                  | AEDT ANP ID | AEDT Equipment ID | Arrivals         |               |                  | Departures       |               |                  | Touch-and-Go     |               |                  | Total Operations |
|-------------------------------------|-------------|-------------------|------------------|---------------|------------------|------------------|---------------|------------------|------------------|---------------|------------------|------------------|
|                                     |             |                   | Day              | Night         | Total            | Day              | Night         | Total            | Day              | Night         | Total            |                  |
| <b>Single-Engine Piston</b>         |             |                   |                  |               |                  |                  |               |                  |                  |               |                  |                  |
| EADS Socata TB-9 Tampico            | GASEPF      | 1885              | 5,465.65         | 111.54        | 5,577.20         | 5,465.65         | 111.54        | 5,577.20         | 9,011.87         | 183.92        | 9,195.78         | 20,350.17        |
| Piper PA-24 Comanche                | GASEPV      | 1901              | 5,465.65         | 111.54        | 5,577.20         | 5,465.65         | 111.54        | 5,577.20         | 9,011.87         | 183.92        | 9,195.78         | 20,350.17        |
| <b>Multi-Engine Piston</b>          |             |                   |                  |               |                  |                  |               |                  |                  |               |                  |                  |
| Raytheon Beech Baron 58             | BEC58P      | 1196              | 980.00           | 20.00         | 1,000.00         | 980.00           | 20.00         | 1,000.00         | 0.00             | 0.00          | 0.00             | 2,000.00         |
| <b>Turboprop</b>                    |             |                   |                  |               |                  |                  |               |                  |                  |               |                  |                  |
| Cessna 208 Caravan                  | CNA208      | 2106              | 609.58           | 12.44         | 622.02           | 609.58           | 12.44         | 622.02           | 0.00             | 0.00          | 0.00             | 1,244.05         |
| Pilatus PC-12                       | CNA208      | 3122              | 162.56           | 3.32          | 165.87           | 162.56           | 3.32          | 165.87           | 0.00             | 0.00          | 0.00             | 331.75           |
| Cessna 441 Conquest II              | CNA441      | 1278              | 487.67           | 9.95          | 497.62           | 487.67           | 9.95          | 497.62           | 0.00             | 0.00          | 0.00             | 995.24           |
| DeHavilland DHC-6-200<br>Twin Otter | DHC6        | 3054              | 162.56           | 3.32          | 165.87           | 162.56           | 3.32          | 165.87           | 0.00             | 0.00          | 0.00             | 331.75           |
| <b>Jet</b>                          |             |                   |                  |               |                  |                  |               |                  |                  |               |                  |                  |
| Cessna 500 Citation I               | CNA500      | 1291              | 154.09           | 3.14          | 157.23           | 154.09           | 3.14          | 157.23           | 0.00             | 0.00          | 0.00             | 314.47           |
| Cessna 525 CitationJet (CJ4)        | CNA525C     | 6061              | 474.12           | 9.68          | 483.80           | 474.12           | 9.68          | 483.80           | 0.00             | 0.00          | 0.00             | 967.59           |
| Eclipse 500 / PW610F                | ECLIPSE500  | 3159              | 47.41            | 0.97          | 48.38            | 47.41            | 0.97          | 48.38            | 0.00             | 0.00          | 0.00             | 96.76            |
| Bombardier Learjet 35A/36A (C-21A)  | LEAR35      | 2441              | 35.56            | 0.73          | 36.28            | 35.56            | 0.73          | 36.28            | 0.00             | 0.00          | 0.00             | 72.57            |
| <b>Helicopter</b>                   |             |                   |                  |               |                  |                  |               |                  |                  |               |                  |                  |
| Bell 206 JetRanger                  | B206L       | 26                | 398.34           | 8.13          | 406.47           | 398.34           | 8.13          | 406.47           | 0.00             | 0.00          | 0.00             | 812.94           |
| Robinson R22B                       | R22         | 3807              | 739.77           | 15.10         | 754.87           | 739.77           | 15.10         | 754.87           | 0.00             | 0.00          | 0.00             | 1,509.74         |
| <b>Total</b>                        |             |                   | <b>15,182.96</b> | <b>309.86</b> | <b>15,492.81</b> | <b>15,182.96</b> | <b>309.86</b> | <b>15,492.81</b> | <b>18,023.73</b> | <b>367.83</b> | <b>18,391.56</b> | <b>49,377.19</b> |

**Table 6. Forecast of Annual Aircraft Operations – 2035 No Action and Phase 2 Proposed Action**

Source: Grants Pass Master Plan, 2020; ESA, 2022

| AEDT Aircraft Type               | AEDT ANP ID | AEDT Equipment ID | Arrivals         |               |                  | Departures       |               |                  | Touch-and-Go     |               |                  | Total Operations |
|----------------------------------|-------------|-------------------|------------------|---------------|------------------|------------------|---------------|------------------|------------------|---------------|------------------|------------------|
|                                  |             |                   | Day              | Night         | Total            | Day              | Night         | Total            | Day              | Night         | Total            |                  |
| <b>Single-Engine Piston</b>      |             |                   |                  |               |                  |                  |               |                  |                  |               |                  |                  |
| EADS Socata TB-9 Tampico         | GASEPF      | 1885              | 6,047.12         | 123.41        | 6,170.53         | 6,047.12         | 123.41        | 6,170.53         | 10,582.27        | 215.96        | 10,798.24        | 23,139.29        |
| Piper PA-24 Comanche             | GASEPV      | 1901              | 6,047.12         | 123.41        | 6,170.53         | 6,047.12         | 123.41        | 6,170.53         | 10,582.27        | 215.96        | 10,798.24        | 23,139.29        |
| <b>Multi-Engine Piston</b>       |             |                   |                  |               |                  |                  |               |                  |                  |               |                  |                  |
| Raytheon Beech Baron 58          | BEC58P      | 1196              | 980.00           | 20.00         | 1,000.00         | 980.00           | 20.00         | 1,000.00         | 0.00             | 0.00          | 0.00             | 2,000.00         |
| <b>Turboprop</b>                 |             |                   |                  |               |                  |                  |               |                  |                  |               |                  |                  |
| Cessna 208 Caravan               | CNA208      | 2106              | 1,042.65         | 21.28         | 1,063.93         | 1,042.65         | 21.28         | 1,063.93         | 0.00             | 0.00          | 0.00             | 2,127.85         |
| Pilatus PC-12                    | CNA208      | 3122              | 189.57           | 3.87          | 193.44           | 189.57           | 3.87          | 193.44           | 0.00             | 0.00          | 0.00             | 386.88           |
| Cessna 441 Conquest II           | CNA441      | 1278              | 805.68           | 16.44         | 822.12           | 805.68           | 16.44         | 822.12           | 0.00             | 0.00          | 0.00             | 1,644.25         |
| DeHavilland DHC-6-200 Twin Otter | DHC6        | 3054              | 331.75           | 6.77          | 338.52           | 331.75           | 6.77          | 338.52           | 0.00             | 0.00          | 0.00             | 677.04           |
| <b>Jet</b>                       |             |                   |                  |               |                  |                  |               |                  |                  |               |                  |                  |
| Cessna 500 Citation I            | CNA500      | 1291              | 157.15           | 3.21          | 160.35           | 157.15           | 3.21          | 160.35           | 0.00             | 0.00          | 0.00             | 320.70           |
| Cessna 525 CitationJet (CJ4)     | CNA525C     | 6061              | 680.96           | 13.90         | 694.86           | 680.96           | 13.90         | 694.86           | 0.00             | 0.00          | 0.00             | 1,389.72         |
| Eclipse 500                      | ECLIPSE500  | 3159              | 52.38            | 1.07          | 53.45            | 52.38            | 1.07          | 53.45            | 0.00             | 0.00          | 0.00             | 106.90           |
| Bombardier Learjet 35            | LEAR35      | 2441              | 104.76           | 2.14          | 106.90           | 104.76           | 2.14          | 106.90           | 0.00             | 0.00          | 0.00             | 213.80           |
| <b>Helicopter</b>                |             |                   |                  |               |                  |                  |               |                  |                  |               |                  |                  |
| Bell 206 JetRanger               | B206L       | 26                | 474.24           | 9.68          | 483.91           | 474.24           | 9.68          | 483.91           | 0.00             | 0.00          | 0.00             | 967.83           |
| Robinson R22B                    | R22         | 3807              | 853.62           | 17.42         | 871.05           | 853.62           | 17.42         | 871.05           | 0.00             | 0.00          | 0.00             | 1,742.09         |
| <b>Total</b>                     |             |                   | <b>17,767.00</b> | <b>362.59</b> | <b>18,129.59</b> | <b>17,767.00</b> | <b>362.59</b> | <b>18,129.59</b> | <b>21,164.55</b> | <b>431.93</b> | <b>21,596.48</b> | <b>57,855.66</b> |

#### 4. Aircraft Noise and Performance Characteristics

Specific noise and performance data must be entered into AEDT for each aircraft type operating at 3S8. Noise data is included in the form of Sound Exposure Level (SEL) at a range of distances (from 200 feet to 25,000 feet) from a particular aircraft with engines at a specific thrust level. Performance data includes thrust, speed and altitude profiles for takeoff and landing operations. The AEDT database contains standard noise and performance data for over 300 different fixed-wing aircraft types, most of which are civilian aircraft. AEDT automatically accesses the noise and performance data for takeoff and landing operations by those aircraft.

Within the AEDT database, aircraft takeoff or departure profiles are usually defined by a range of trip distances identified as “stage lengths.” A longer trip distance or higher stage length is associated with a heavier aircraft due to the increase in fuel requirements for the flight.

Besides identifying the aircraft types in the database, AEDT has STANDARD, ICAO, and Noisemap aircraft flight profiles for takeoffs, landings, and flight patterns or touch-and-go operations. ESA will use standard profiles for all aircraft types in the 3S8 fleet mix, consistent with the Master Plan.

#### 5. Runway Utilization

The primary factor affecting runway use at airports is weather, in particular the wind direction and wind speed. Additional factors that may affect runway use include the position of the facility or ramp relative to the runways, or operational proficiency training for military units. **Table 7** shows runway use as determined through the Master Plan. ESA assumes that runway use will remain consistent between day-night splits and aircraft category.

**Table 7. Runway Use**  
 Source: Grants Pass Master Plan, 2020

| Runway       | Runway Use  |
|--------------|-------------|
| Fixed Wing   |             |
| 13           | 34%         |
| 31           | 66%         |
| <b>Total</b> | <b>100%</b> |
| Helicopter   |             |
| HP1          | 100%        |
| <b>Total</b> | <b>100%</b> |

## 6. Flight Track Geometry and Use

Model flight tracks were repurposed from the Master Plan. ESA updated arrival and touch-and-go flight tracks assigned to Runway 13 by shifting the entire track based on the added runway length for 2025 Phase 1 Proposed Action (700 feet) and 2035 Phase 2 Proposed Action (1,500 feet), as compared to existing flight tracks. Figures for the model flight tracks can be found in the Appendix. Flight track use remained the same as the Master Plan for each modeling scenario and is presented in **Table 8** and **Table 9**.

**Table 8. Arrival and Departure Track Use**

Source: Grants Pass Master Plan, 2020

| Runway                    | Arrival Track ID | Departure Track ID | Track Use   |
|---------------------------|------------------|--------------------|-------------|
| <b>13</b>                 | 13ARR_A          | 13DEP_A            | 68%         |
|                           | 13ARR_B          | 13DEP_B            | 11%         |
|                           | 13ARR_C          | 13DEP_C            | 11%         |
|                           | 13ARR_D          | 13DEP_D            | 10%         |
| <b>Runway 13 Subtotal</b> |                  |                    | <b>100%</b> |
| <b>31</b>                 | 31ARR_A          | 31DEP_A            | 68%         |
|                           | 31ARR_B          | 31DEP_B            | 11%         |
|                           | 31ARR_C          | 31DEP_C            | 11%         |
|                           | 31ARR_D          | 31DEP_D            | 10%         |
| <b>Runway 31 Subtotal</b> |                  |                    | <b>100%</b> |
| <b>HP1</b>                | HP1_ARR_A        | HP1_DEP_A          | 50%         |
|                           | HP1_ARR_B        | HP1_DEP_B          | 50%         |
| <b>HP1 Subtotal</b>       |                  |                    | <b>100%</b> |

**Table 9. Touch-and-Go Track Use**

Source: Grants Pass Master Plan, 2020

| Runway                    | Track ID | Track Use   |
|---------------------------|----------|-------------|
| <b>13</b>                 | 13TGO    | 100%        |
| <b>Runway 13 Subtotal</b> |          | <b>100%</b> |
| <b>31</b>                 | 31TGO    | 100%        |
| <b>Runway 31 Subtotal</b> |          | <b>100%</b> |

## 7. Meteorological Conditions

AEDT has several settings that affect aircraft performance profiles and sound propagation based on meteorological data. Meteorological settings include 10-year average temperature, barometric pressure, and relative humidity at the airport. AEDT holds the following values for annual average weather conditions at 3S8:

- Temperature: 44.29° F
- Pressure: 883.56 millibars
- Sea-level Pressure: 1016.81 millibars
- Relative Humidity 74.45%
- Dew Point: 36.68° F
- Wind Speed: 6.44 Knots

## 8. Terrain

Terrain data describes the elevation of the ground surrounding the airport and on airport property. If the AEDT user selects the use of terrain data, AEDT uses terrain data to adjust the ground level under the flight paths. The terrain data does not affect the aircraft's performance or noise levels, but does affect the vertical distance between the aircraft and a "receiver" on the ground. This in turn affects noise propagation assumptions about how noise propagates over ground. ESA obtained 1/3 arcsecond terrain data from the United States Geological Survey (USGS) National Map Viewer and it will be used with the terrain feature of the AEDT in generating the noise contours.<sup>3</sup>

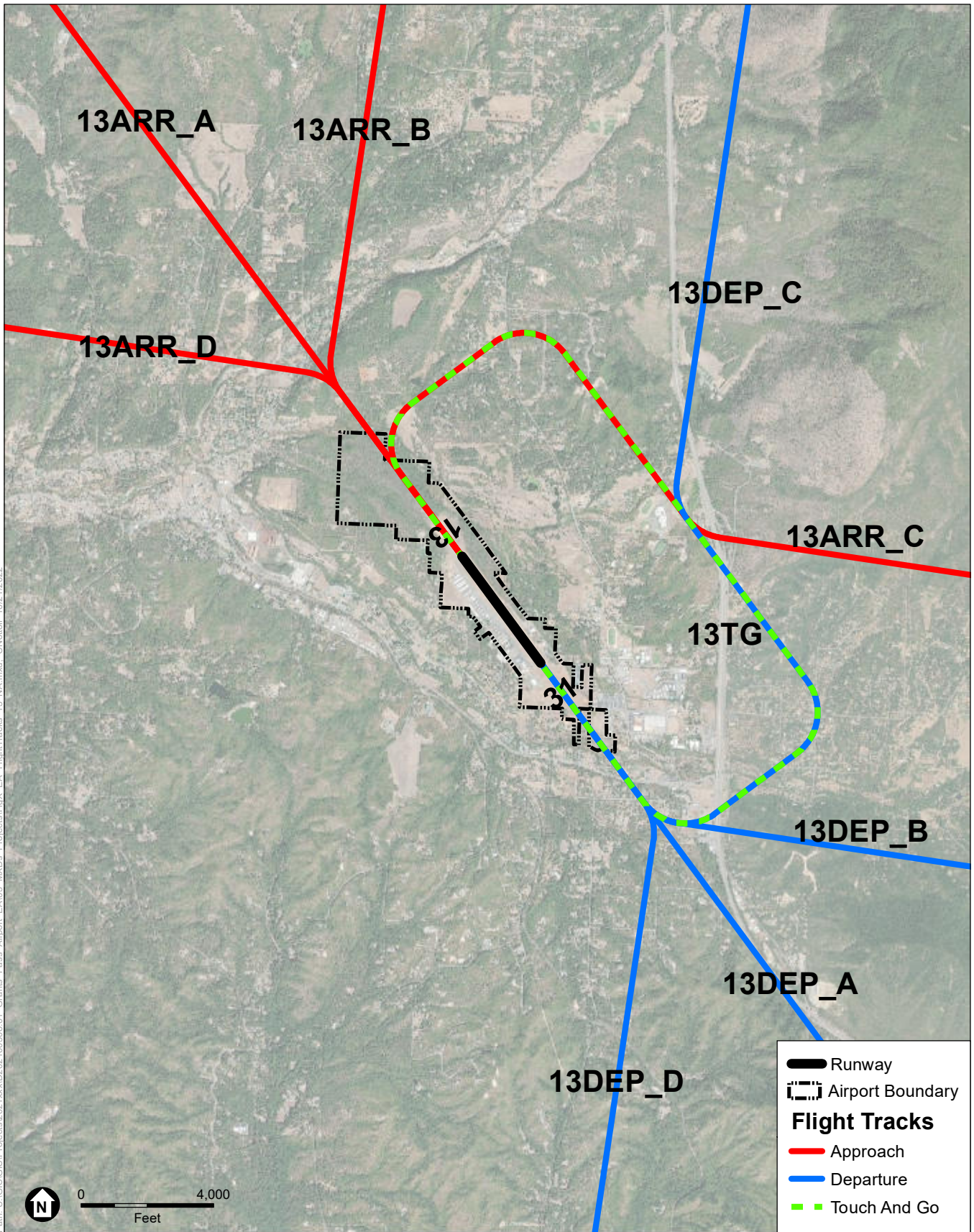
## 9. Results

The DNL noise contour results are presented in Figures 5 through 10 in the Appendix. The figures show the 65 through 75 DNL noise contours in 5 dB increments and are presented over an aerial basemap. Figures 5 and 6 present the 2025 No Action and 2025 Phase 1 Proposed Action DNL noise contour results, respectively. A comparison of the 2025 No Action and 2025 Phase 1 Proposed Action DNL noise contour results are presented in Figure 7. Figures 8 and 9 present the 2035 No Action and 2035 Phase 2 Proposed Action, respectively. A comparison of the 2035 No Action and 2035 Phase 2 Proposed Action DNL noise contour results are presented in Figure 10.

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<sup>3</sup> USGS terrain obtain on July 12, 2022.

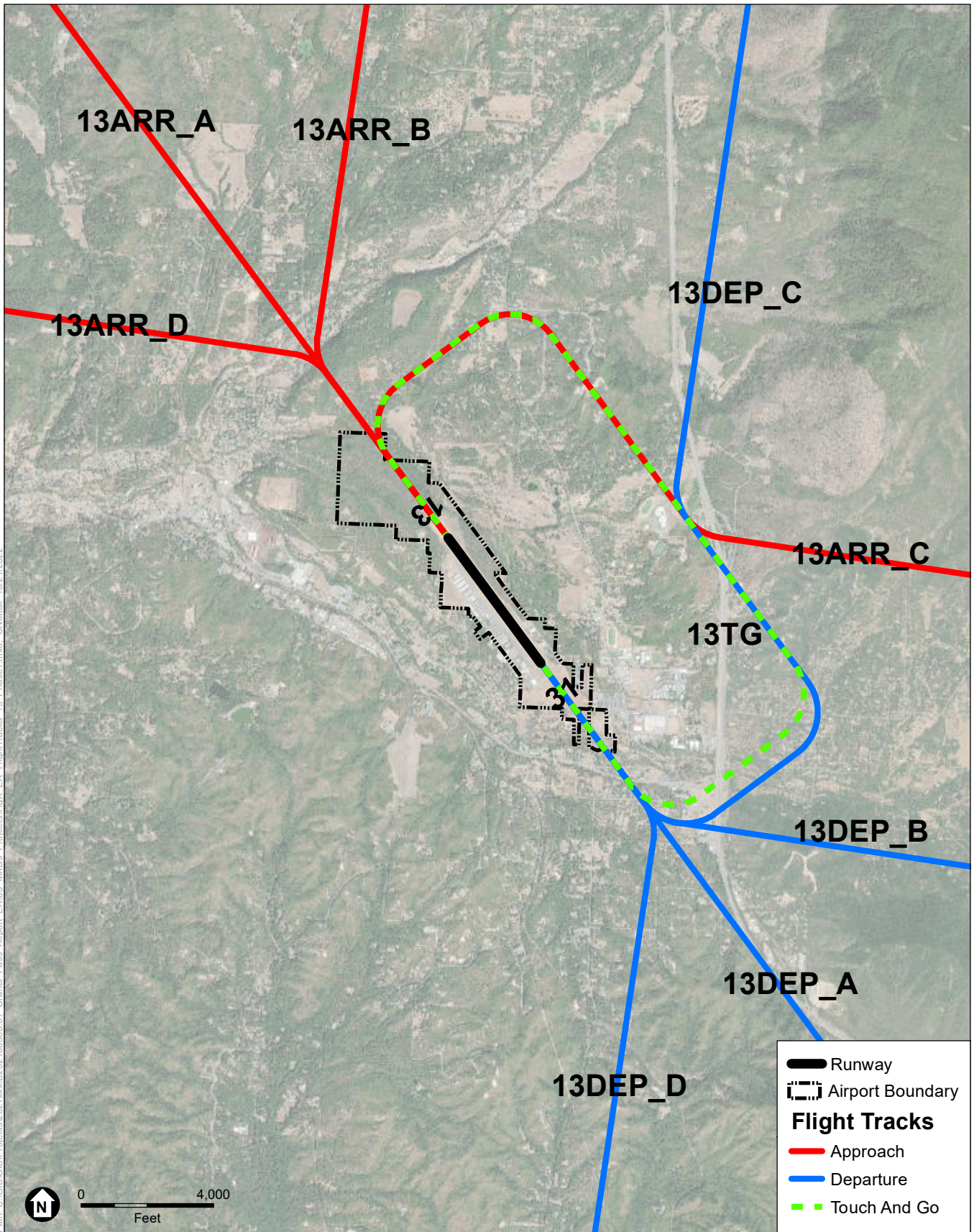




SOURCE: ESA, 2022; ESRI, 2022; Grants Pass Master Plan, 2020

**Figure 1A**  
 2025 No Action Flight Tracks  
 South Flow (Fixed Wing Aircraft)





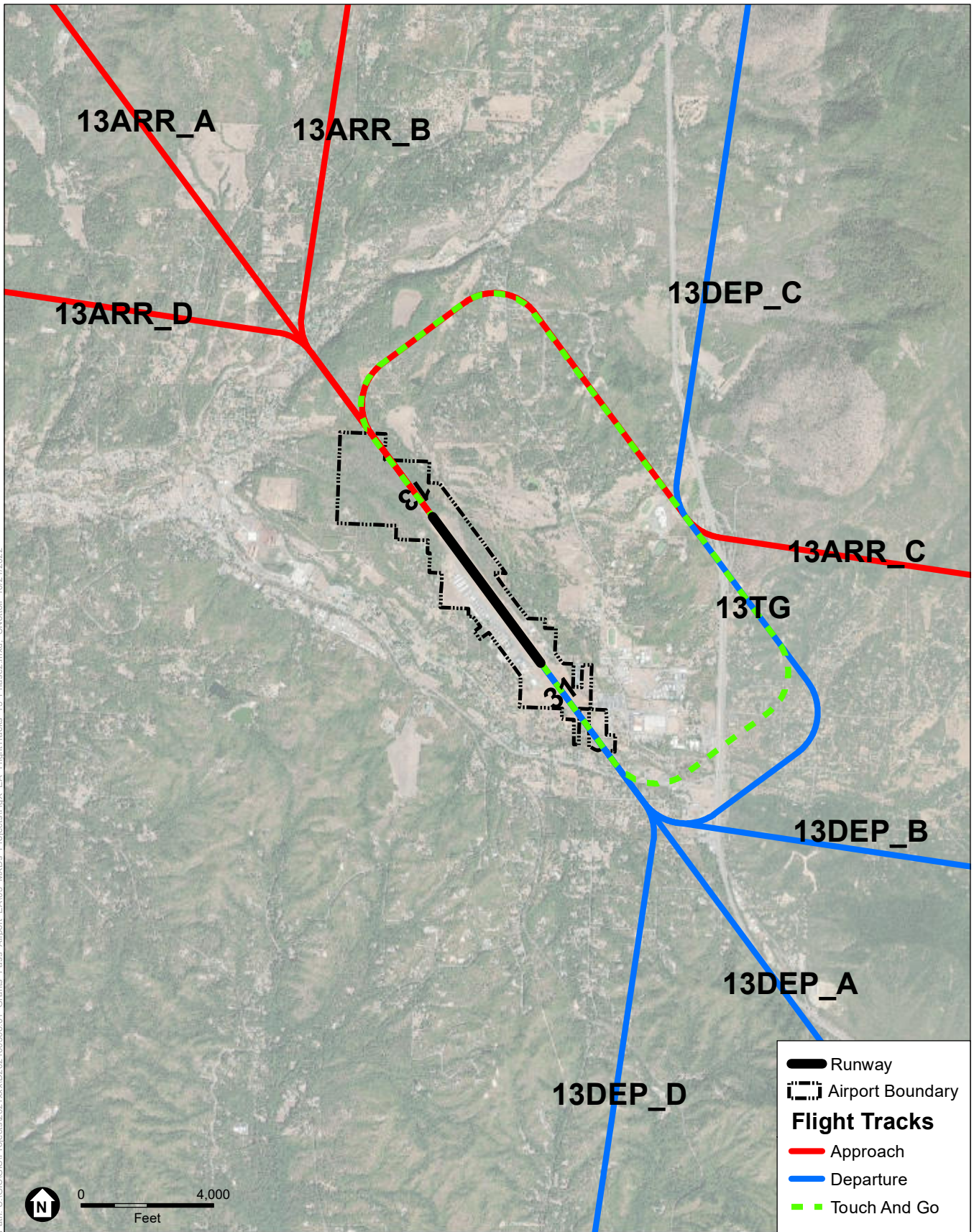
SOURCE: ESA, 2022; ESRI, 2022; Grants Pass Master Plan, 2020

**Figure 1B**

2025 Phase 1 Proposed Action/2035 No Action Flight Tracks  
South Flow (Fixed Wing Aircraft)



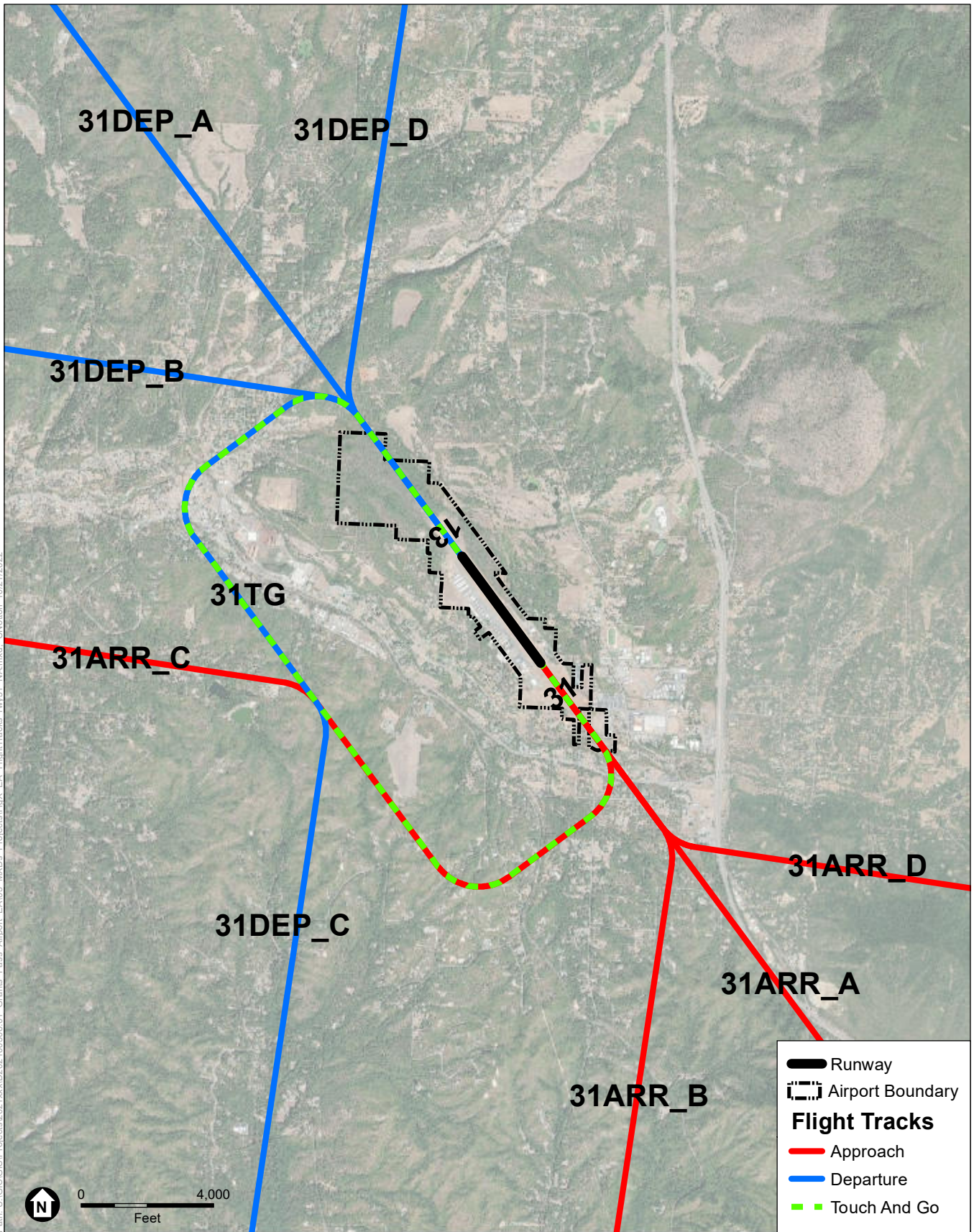




SOURCE: ESA, 2022; ESRI, 2022; Grants Pass Master Plan, 2020

**Figure 1C**  
 2035 Phase 2 Proposed Action Flight Tracks  
 South Flow (Fixed Wing Aircraft)

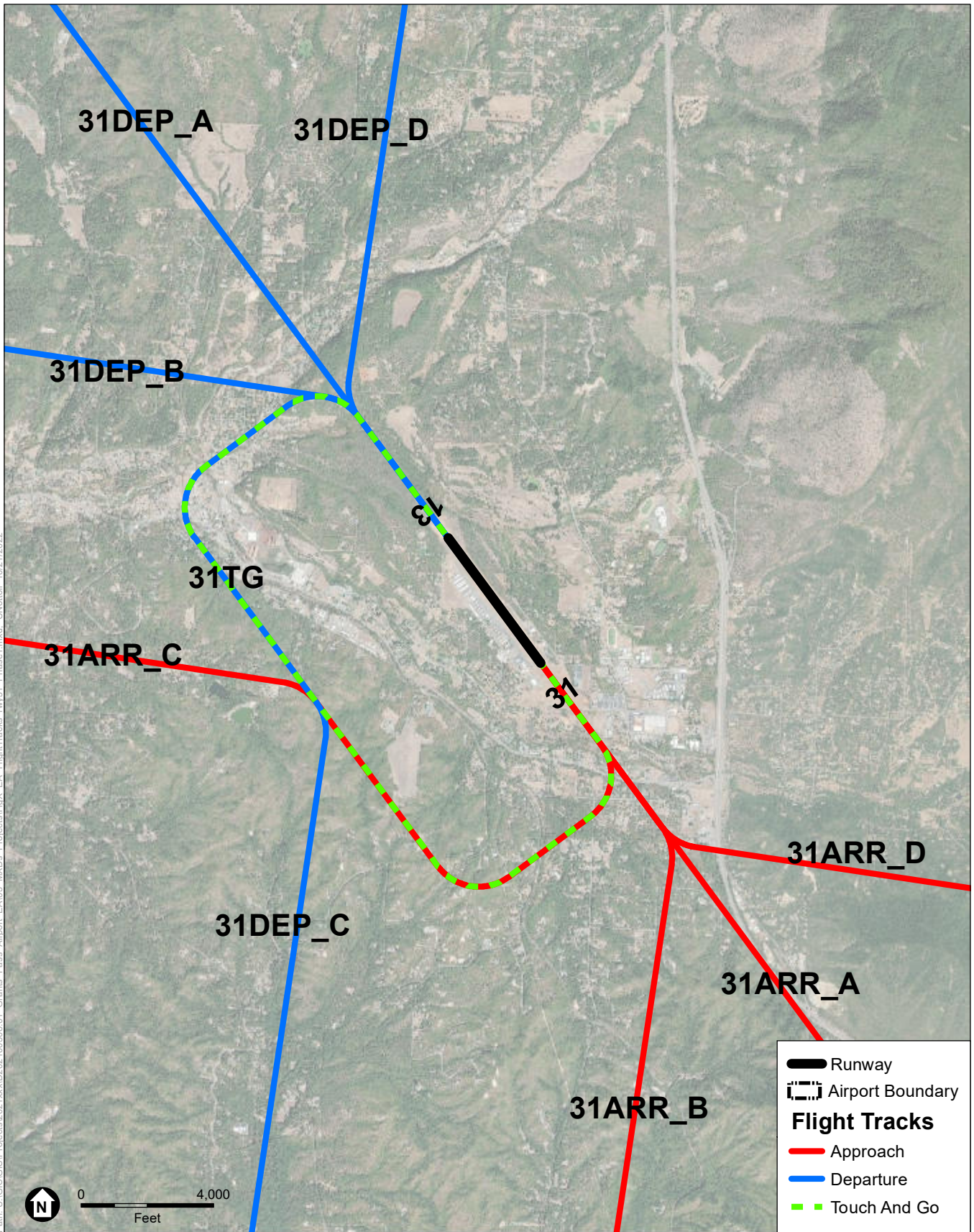




SOURCE: ESA, 2022; ESRI, 2022; Grants Pass Master Plan, 2020

**Figure 2A**  
 2025 No Action Flight Tracks  
 North Flow (Fixed Wing Aircraft)



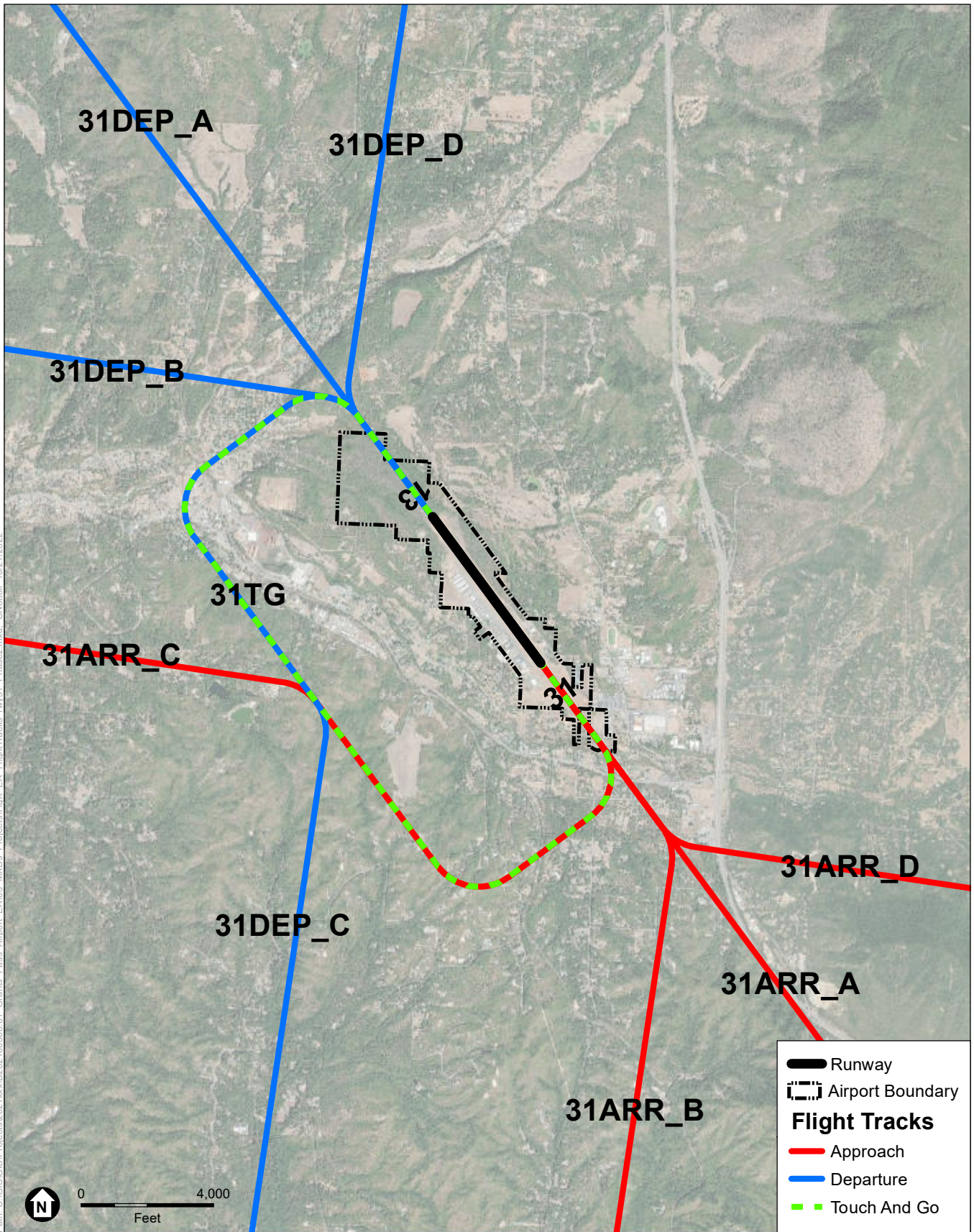


SOURCE: ESA, 2022; ESRI, 2022; Grants Pass Master Plan, 2020



**Figure 2B**  
 2025 Phase 1 Proposed Action/2035 No Action Flight Tracks  
 North Flow (Fixed Wing Aircraft)



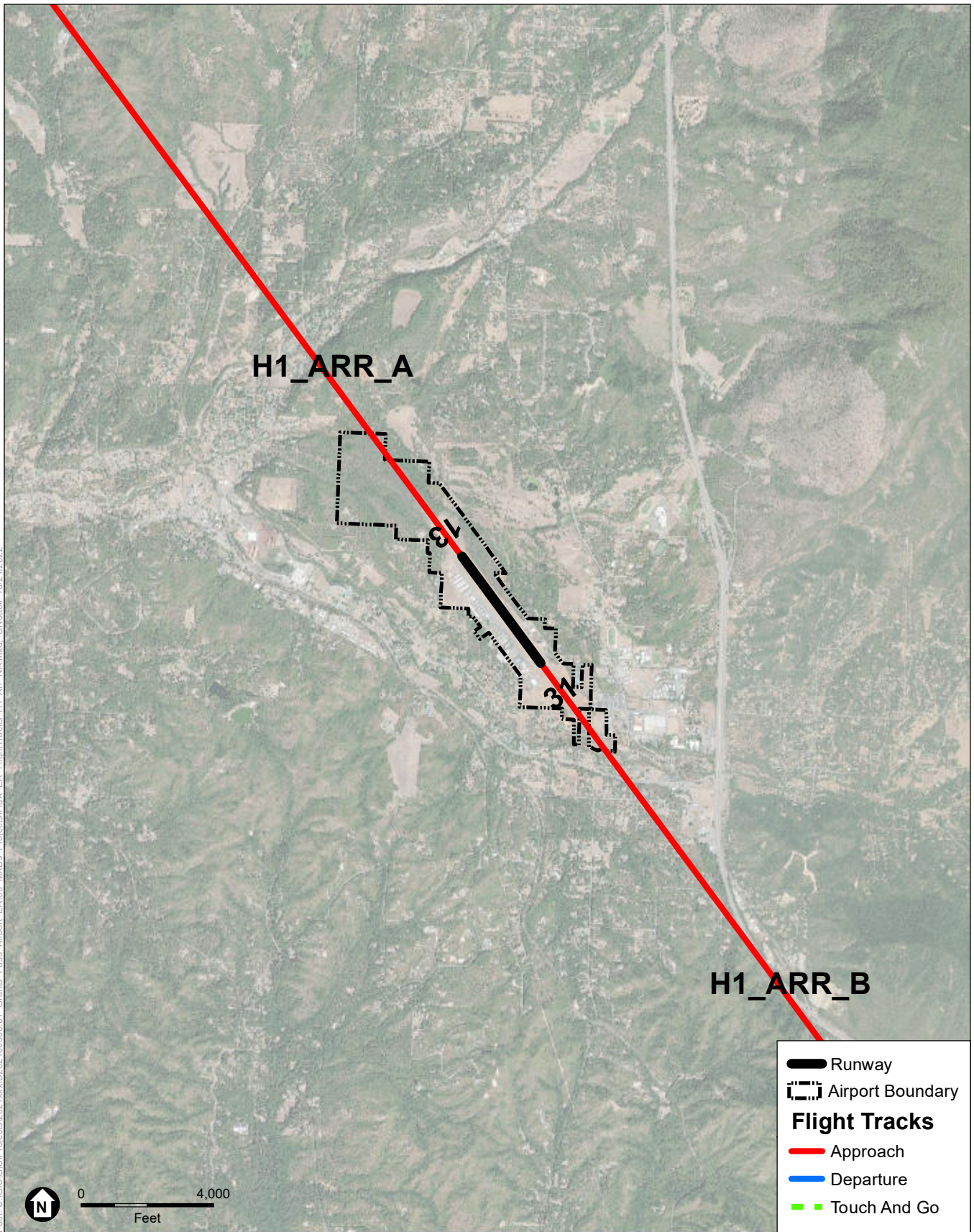


SOURCE: ESA, 2022; ESRI, 2022; Grants Pass Master Plan, 2020



**Figure 2C**  
2035 Phase 2 Proposed Action Flight Tracks  
North Flow (Fixed Wing Aircraft)

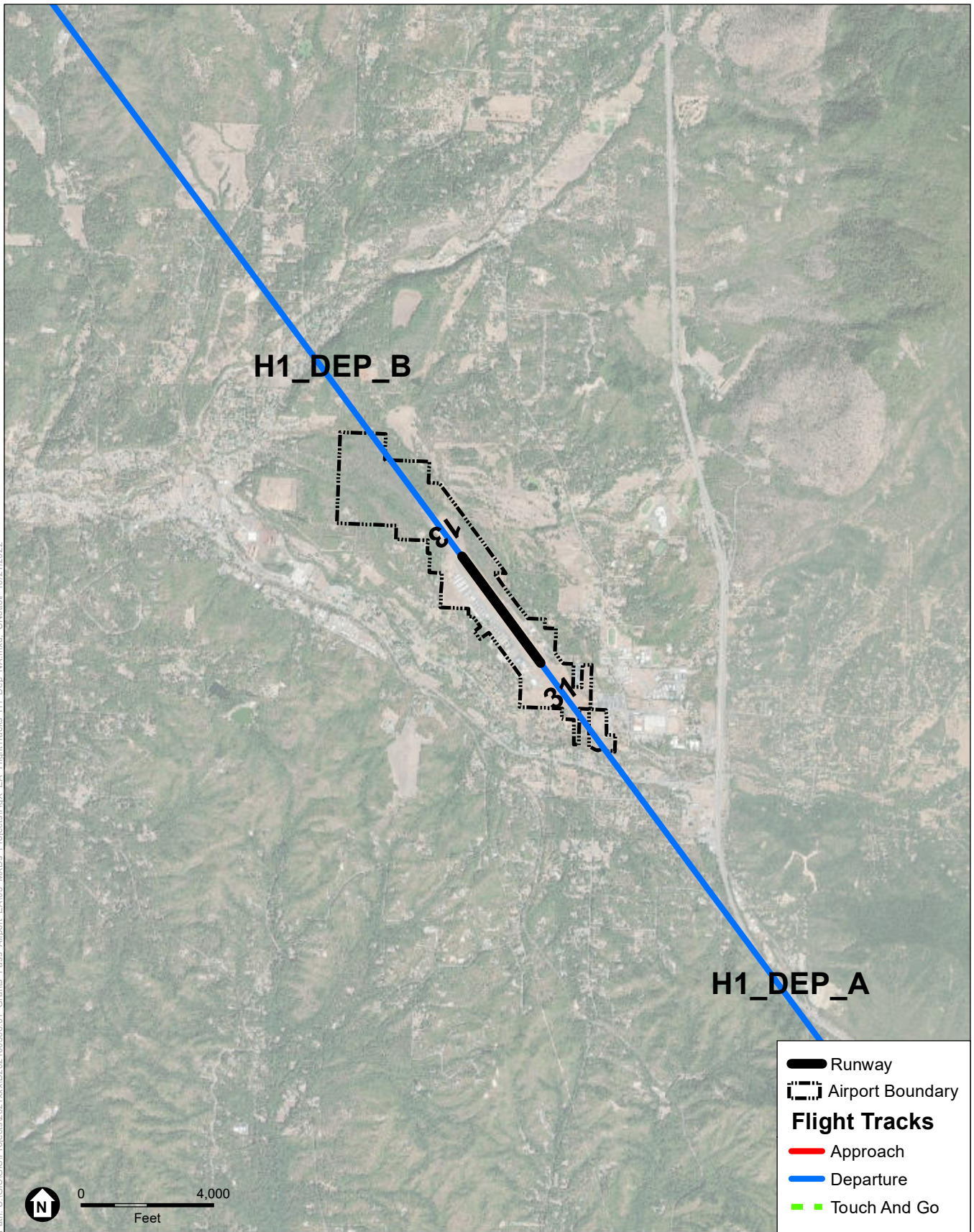




SOURCE: ESA, 2022; ESRI, 2022; Grants Pass Master Plan, 2020

**Figure 3**  
Helicopter Arrival Flight Tracks

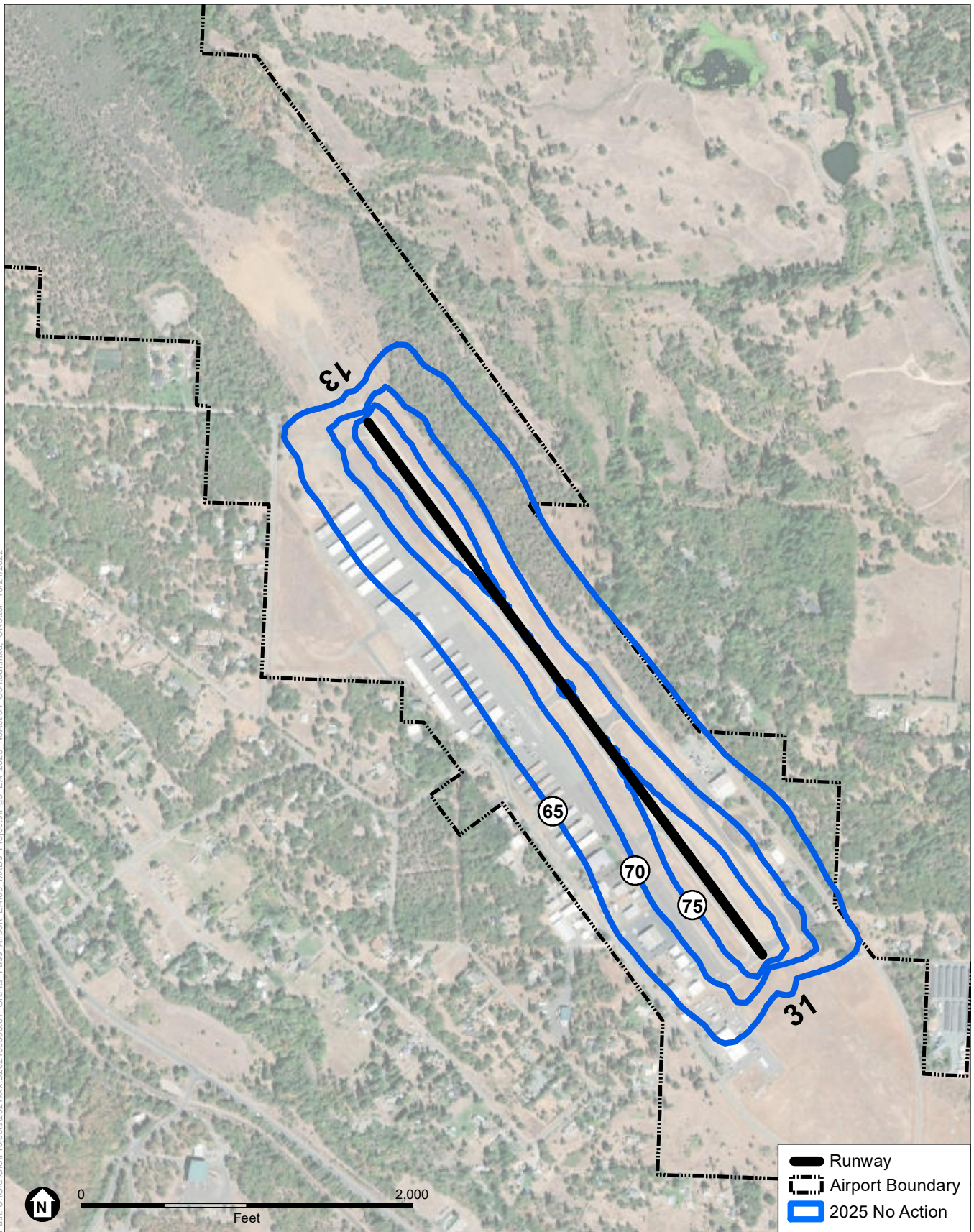




SOURCE: ESA, 2022; ESRI, 2022; Grants Pass Master Plan, 2020

**Figure 4**  
Helicopter Departure Flight Tracks

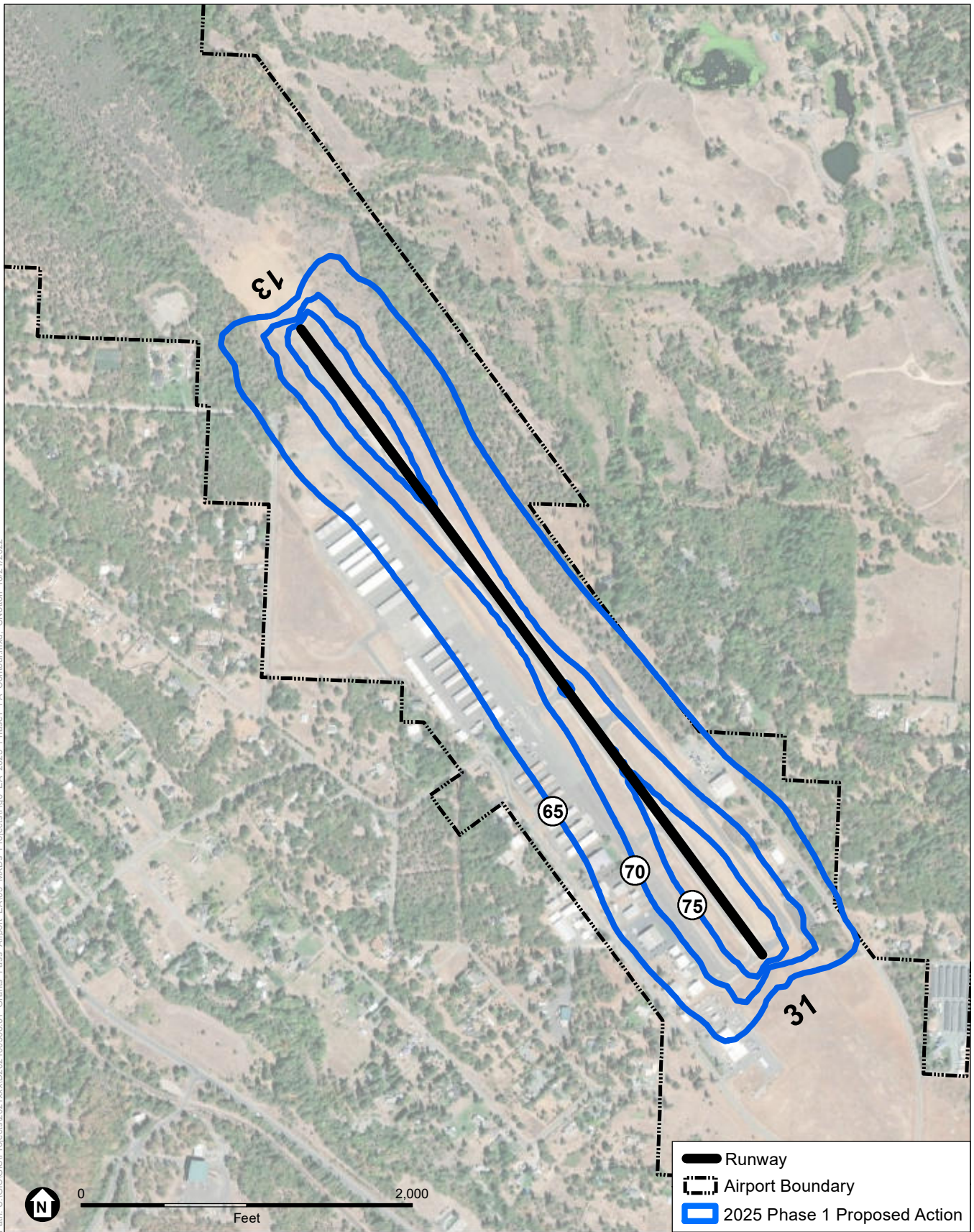




SOURCE: ESA, 2022; ESRI, 2022; Grants Pass Master Plan, 2020

**Figure 5**  
2025 No Action DNL Noise Contours

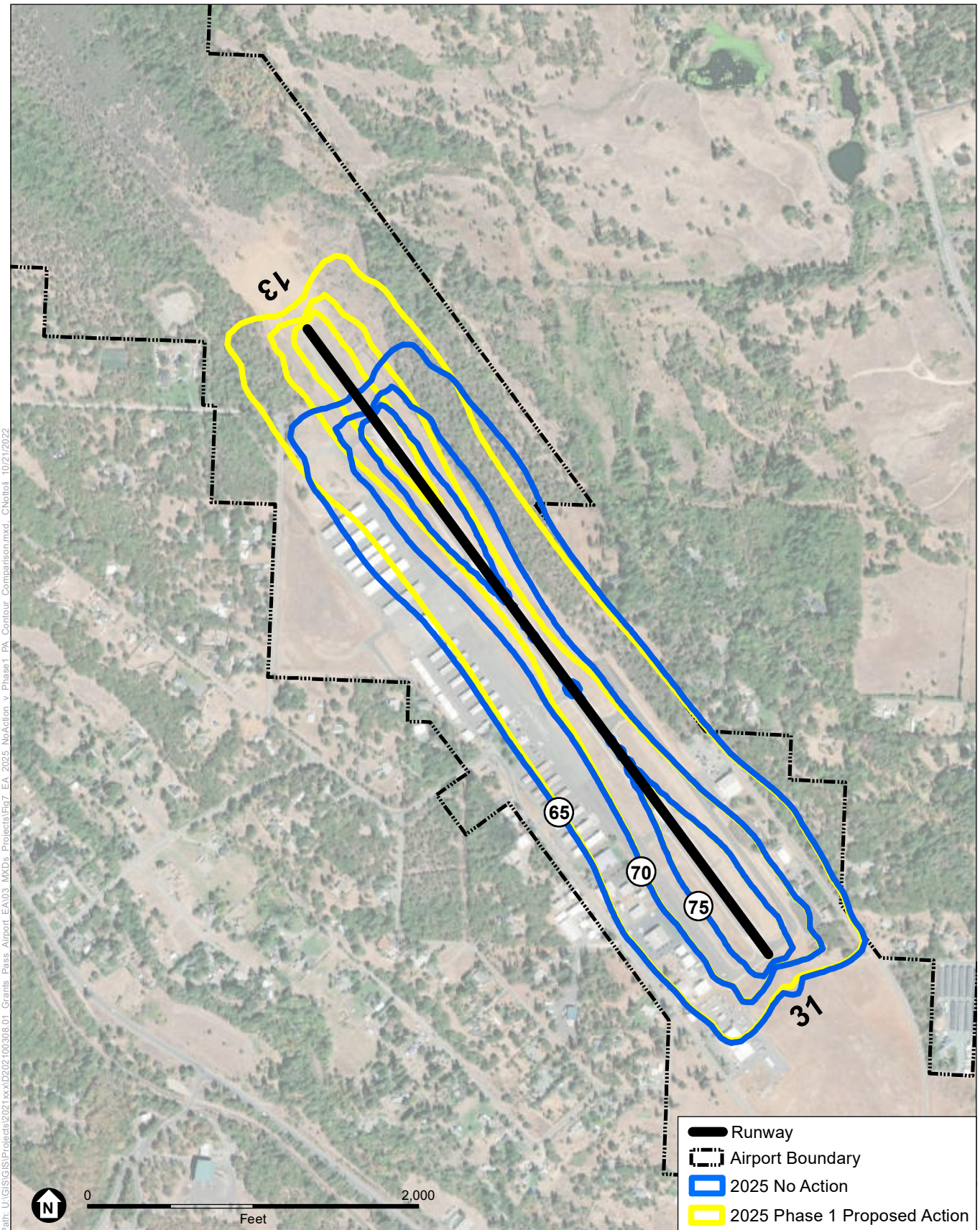




SOURCE: ESA, 2022; ESRI, 2022; Grants Pass Master Plan, 2020

**Figure 6**  
2025 Phase 1 Proposed Action DNL Noise Contours

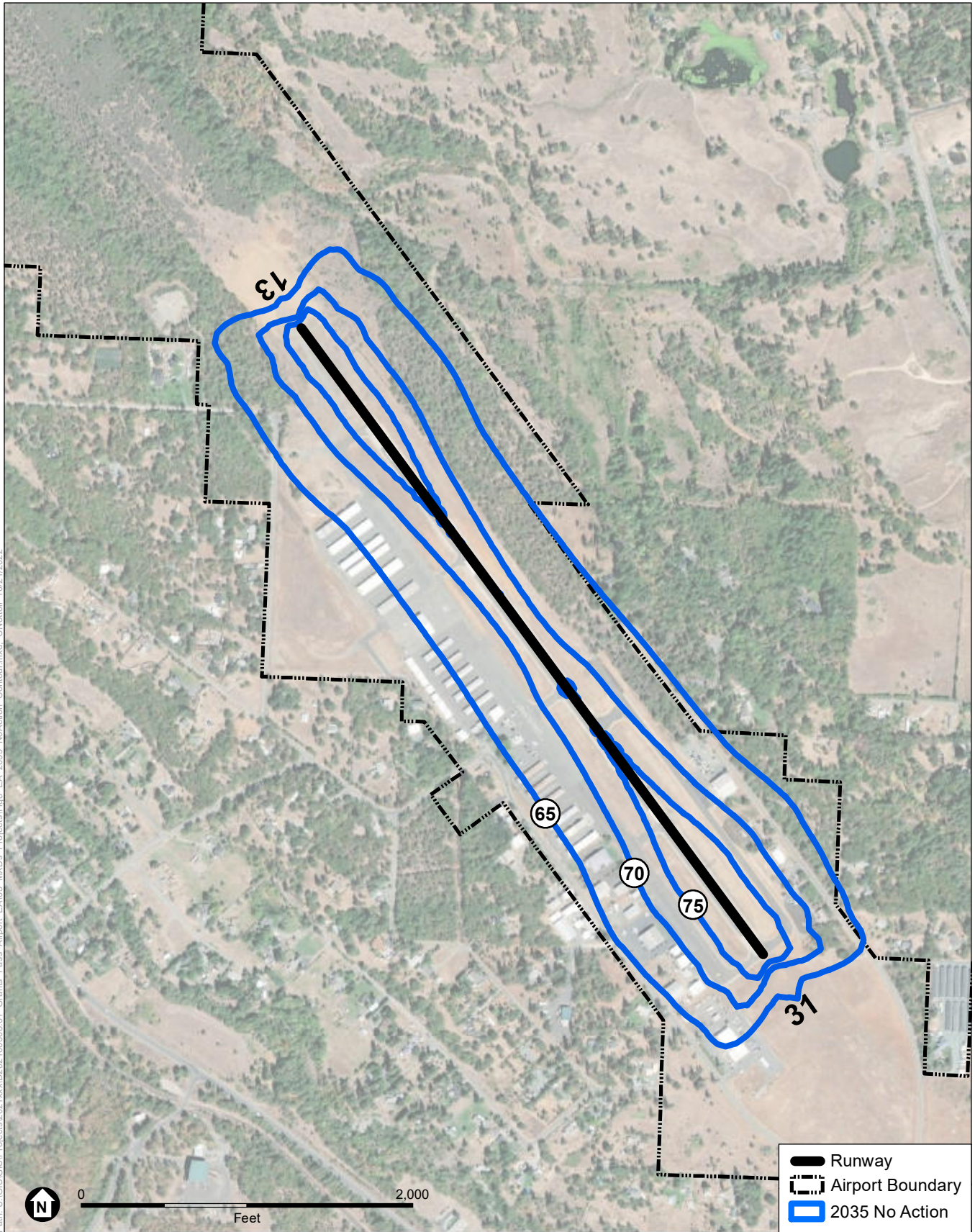




SOURCE: ESA, 2022; ESRI, 2022; Grants Pass Master Plan, 2020

**Figure 7**  
2025 No Action and 2025 Phase 1 Proposed Action  
DNL Noise Contours

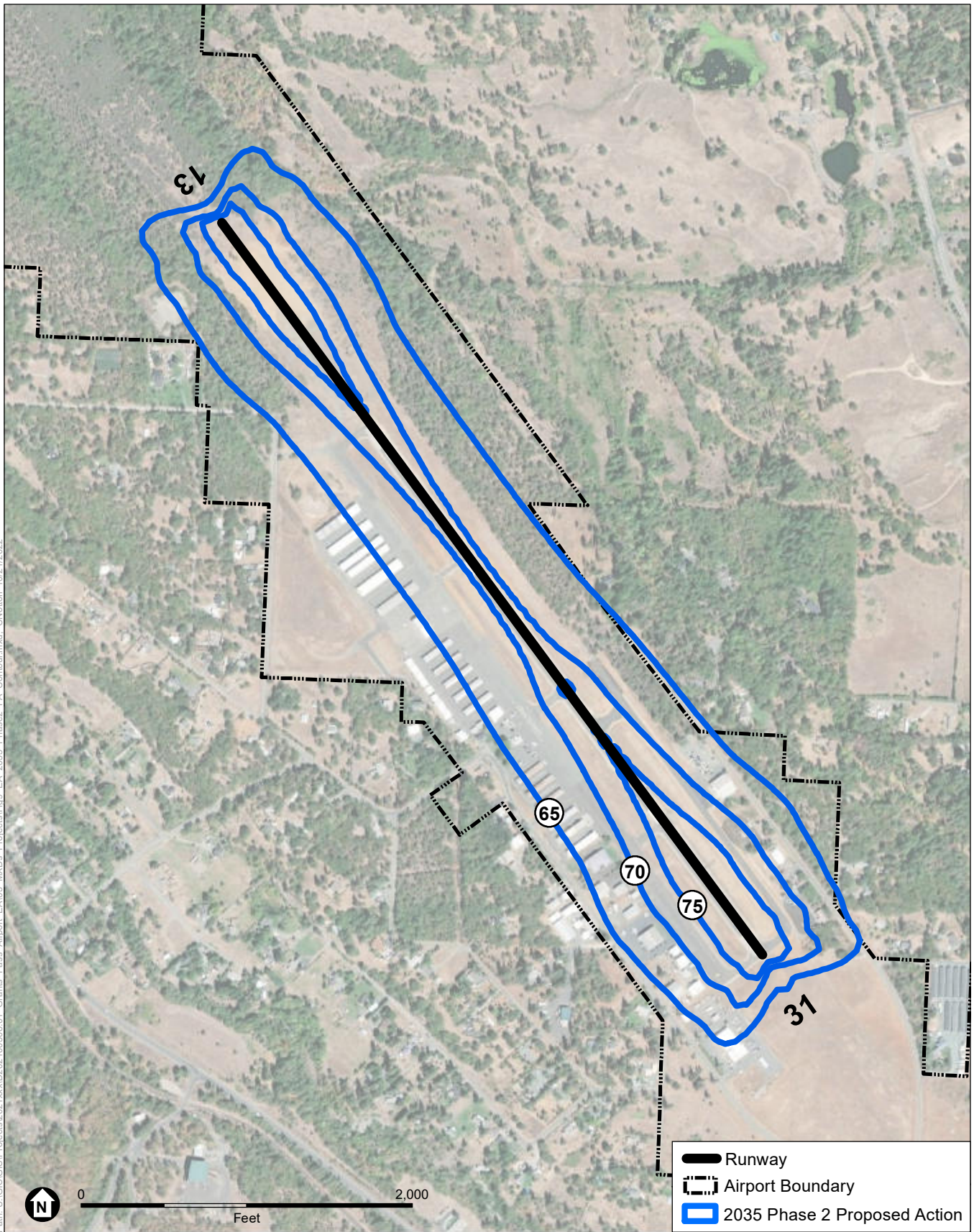




SOURCE: ESA, 2022; ESRI, 2022; Grants Pass Master Plan, 2020

**Figure 8**  
2035 No Action DNL Noise Contours

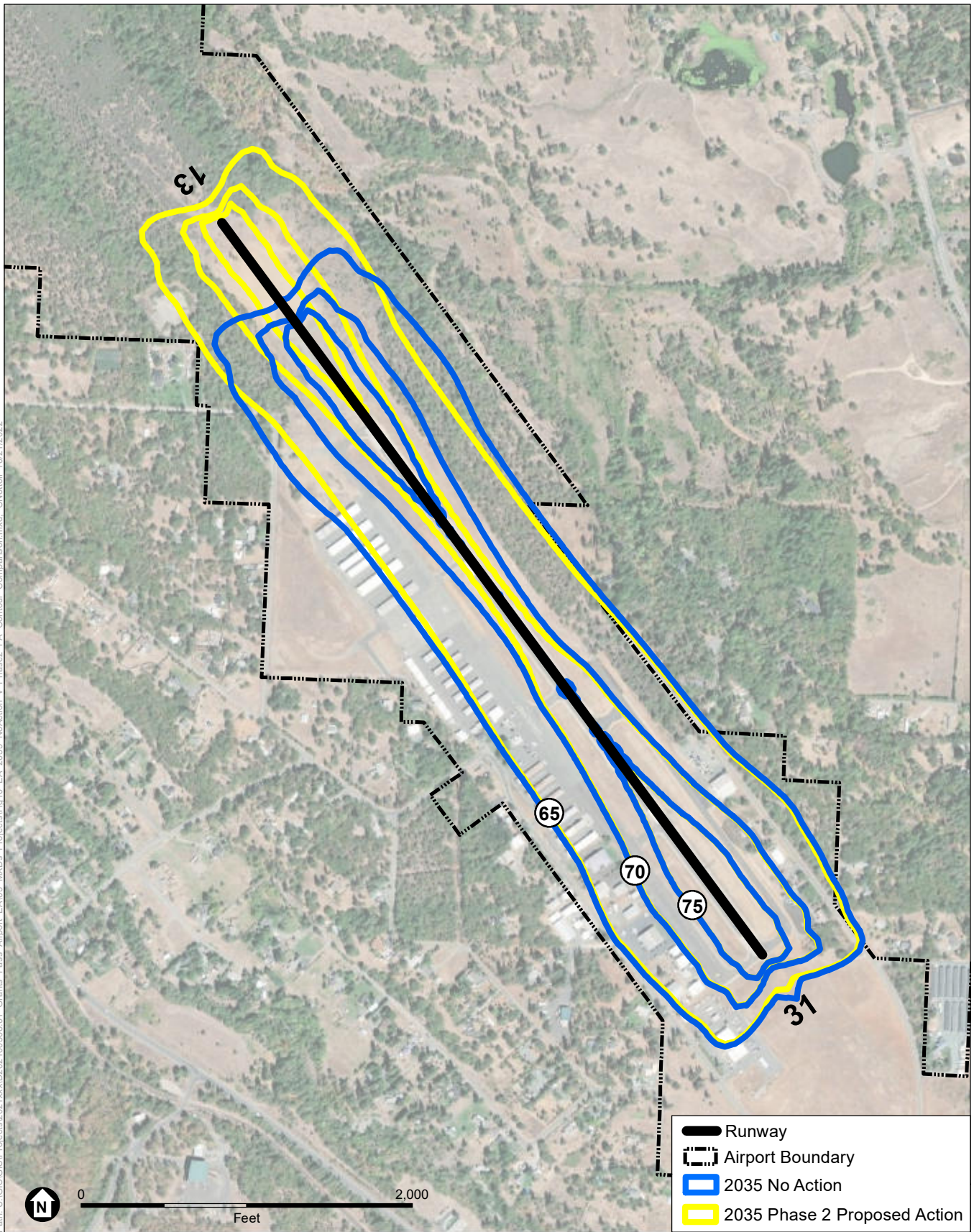




SOURCE: ESA, 2022; ESRI, 2022; Grants Pass Master Plan, 2020

**Figure 9**  
2035 Phase 2 Proposed Action DNL Noise Contours





SOURCE: ESA, 2022; ESRI, 2022; Grants Pass Master Plan, 2020



**Figure 10**  
 2035 No Action and 2035 Phase 2 Proposed Action  
 DNL Noise Contours