

Chapter Two: INVENTORY



La Grande / Union County Airport

Airport Master Plan Update

FINAL – March 2018

Introduction

This chapter summarizes the La Grande / Union County Airport's (Airport's) background, existing airfield and landside facilities, airspace, land use and zoning, environmental considerations, and historical aviation activity and financial data. The information gathered as part of this initial step is the foundation for various analyses completed in the subsequent chapters of this Master Plan Update. An accurate inventory helps produce an aviation demand forecast that is reasonable and aids in identifying future facility development needs.

Background Data

Airport Location and Access

Union County is situated in Northeast Oregon. The County is bordered by Wallowa County to the east and north, Umatilla County to the west, and Baker and Grant Counties to the south. The Airport is located in the southern central portion of the County and is approximately five miles southeast of downtown La Grande, at the southern end of the Grande Ronde Valley. **Exhibit 2A** shows a map of the region and airport vicinity.

Access to the Airport is via Pierce Road, which can be accessed by Highway 82 from the north and Highway 203 from the south. Interstate 84 (co-listed as Highway 30) is less than two miles to the west, with access from Highway 203. Interstate 84 is the main thoroughfare, with connections to Portland, OR and Boise, ID.

Other public transportation options in the area are Greyhound and local bus services, both located in La Grande. Private cabs are available, as are rental car services offered by local car dealerships in La Grande.

Area Topography

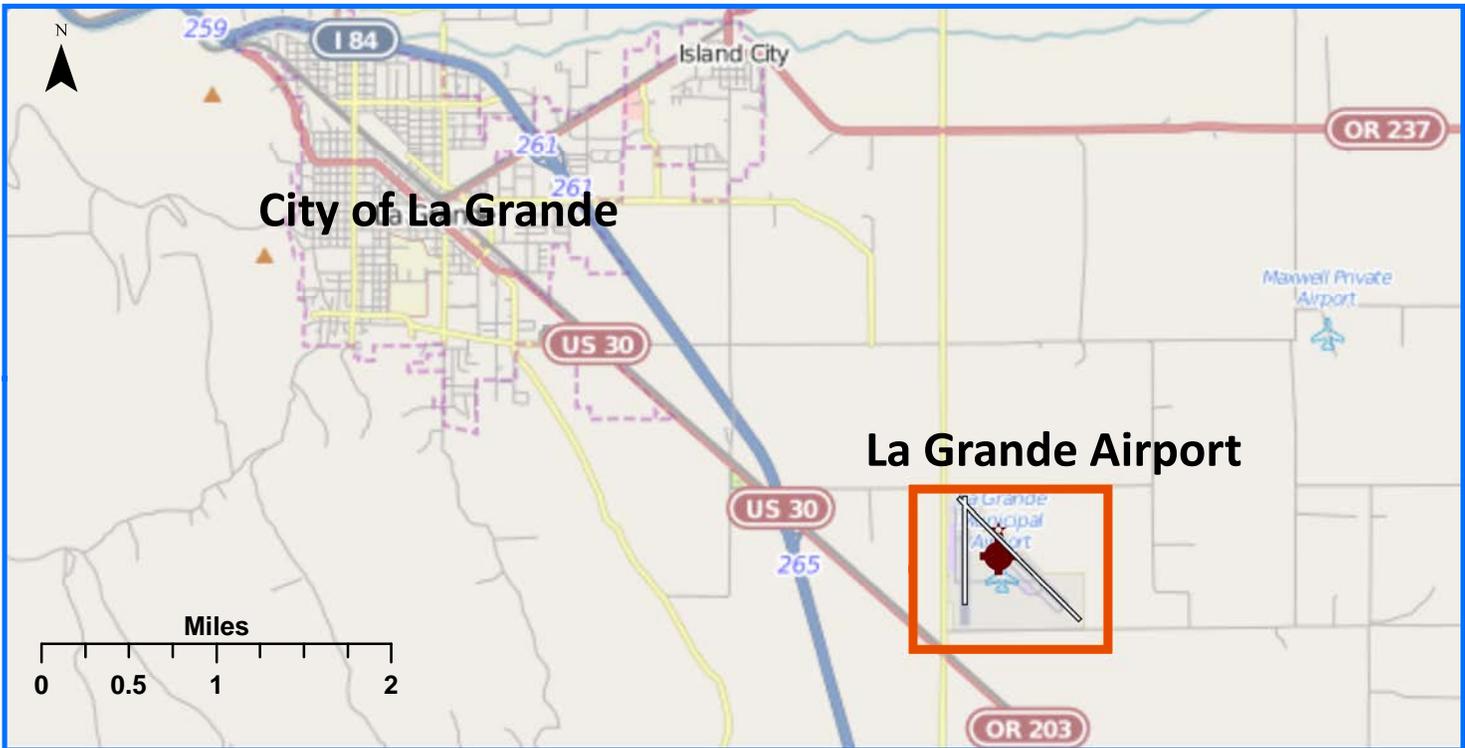
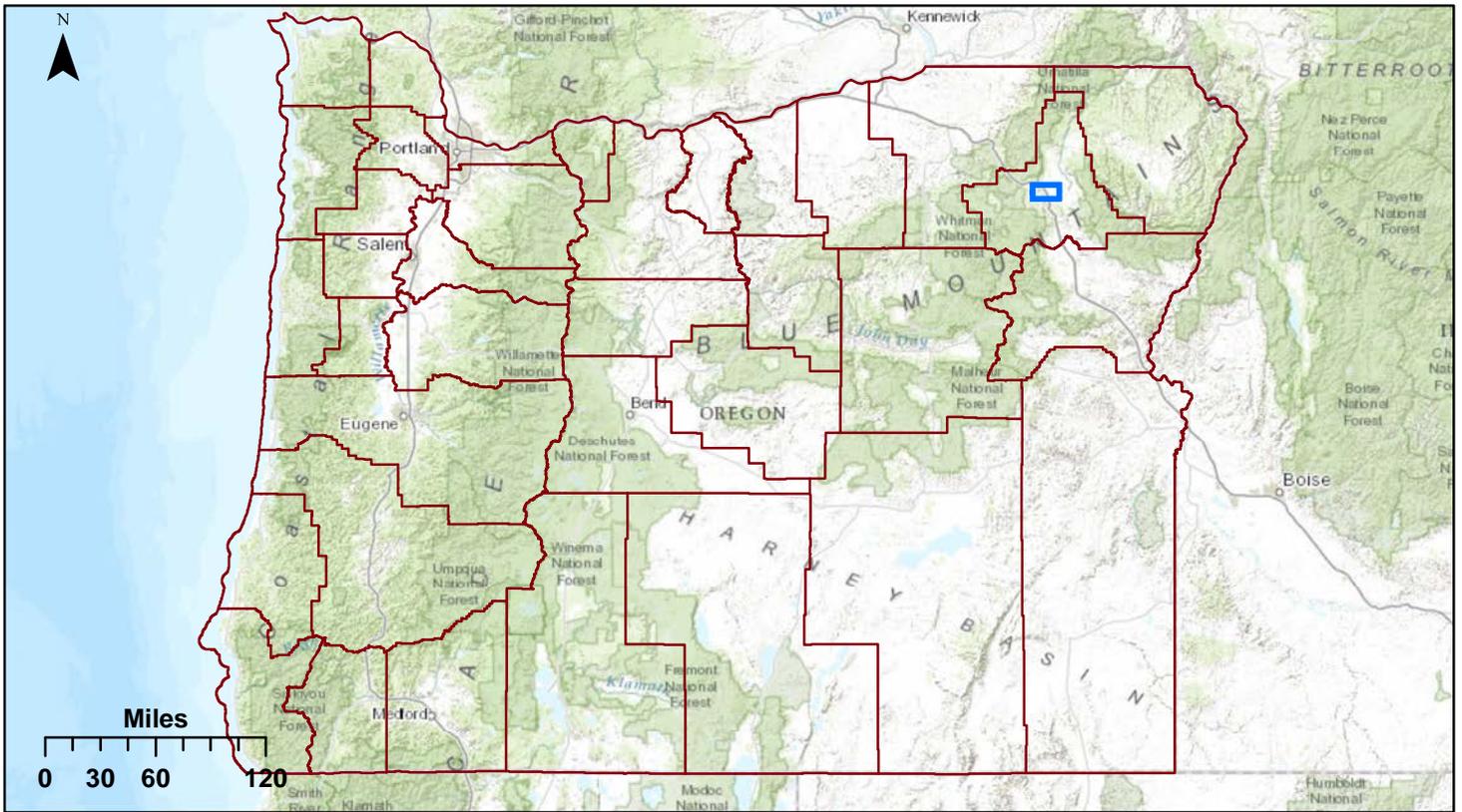
Union County lies between the Blue Mountains to the west, and the Wallowa Mountains to the east, with peaks ranging between 5,335 feet up to 7,136 feet mean sea level (MSL). Most cities and communities of Union County are situated within the Grande Ronde Valley. The valley floor sits at roughly 2,700 feet MSL. The surrounding mountains provide timber and recreational lands. Within the valley, farming and ranching dominate most of the landscape.

Climate

Union County experiences four seasons with warm, dry summers and cold, wet winters. Average summer temperatures range from highs of 75 to 86 degrees Fahrenheit with lows of 49 to 54 degrees. The mean maximum temperature in the hottest month (August) is 86 degrees. Average winter temperatures range from highs of 38 to 43 degrees and lows of 24 to 26 degrees. The annual rainfall average is 16.54 inches.

Community and Airport History

Land for airport development was purchased in 1938 by the City of La Grande. It was then leased to the Federal Government and airport construction was undertaken by the U.S. War Department, with



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**Location & Vicinity
Map**

EXHIBIT 2A

completion in 1941. In 1946, ownership of the Airport was transferred back to the City through the Federal Surplus Property Act of 1944, with two restrictions. The first restriction of the transfer was that the Airport must be retained for public use, and the second gives permission to the Federal Government to mine any fissionable materials which may be present on the property. On July 1, 1988 ownership was transferred from the City to Union County. The County has remained the Airport Sponsor since that time.

The Airport has operated continuously since 1941. Currently, there is no scheduled passenger service at the Airport. However, from 1952 to 1959 West Coast Airlines (Hughes Airwest) provided passenger service, and afterwards various other commuter airlines provided service on an intermittent basis.

The Federal Government has assisted in a multitude of airport improvement projects over the Airport's history. Below is a list of federally-assisted development projects:

- 1949: Grading, drainage improvements, and paving of apron extension and stub taxiway
- 1950: Medium intensity runway light (MIRL) installation on Runway 12-30, and additional pavement maintenance
- 1974: Runway 12-30 and Taxiway A pavement strengthening, and aviation easement acquisition for approaches to Runways 12 and 16
- 1976: Refurbishing of MIRL system
- 1978: Strengthening and resurfacing of Taxiway D
- 1979: First Airport Master Plan
- 1984: Reconstruction of Runway 16-34, and dimensions reduced to 60 feet by 3,400 feet. Reconstruction of Taxiway A, strengthening and expansion of parking apron. Crack sealing on Runway 12-30
- 1989: Update Airport Master Plan
- 1990: Extension of Runway 12-30, construction of parallel Taxiway C, seal coating on both runways, and Runway 30 precision approach path indicator (PAPI) installation
- 1992: Overlay of Runway 12-30, installation of airport signage, Runway 12 PAPI installation
- 1993: Reconstruction of Taxiway B, and installation of Runway 16-34 edge reflectors
- 1997: Update Airport Master Plan
- 2002: Improve Runway Safety Area (RSA)
- 2004: Rehabilitate Runway 16-34
- 2006: Rehabilitate Runway 16-34 and Taxiway
- 2008: Rehabilitate Runway 16-34 and Taxiway
- 2009: Improve RSA, Rehabilitate Taxiway A
- 2010 and 2011: Improve RSA
- 2013: Rehabilitate Runway 12-30
- 2014: Update Master Plan

Existing Facilities

Existing facilities at the Airport are divided into three categories: airfield, landside, and support facilities. Airfield facilities include areas such as runways, taxiways, and aprons. Landside facilities include areas such as hangars, airport buildings, and auto parking. Support facilities include emergency services,

utilities, and miscellaneous facilities that do not logically fall into either airfield or landside facilities. **Exhibit 2B** shows the existing facilities at the Airport.

Airfield Facilities

Airfield facilities include pavement used for the movement of aircraft (*i.e.*, runways, taxiways, taxilanes, and aprons). In July 2014, as part of a three-year rotation, the Airport's Pavement Condition Index (PCI) was updated for those pavements located on Airport Property. The condition of the airport pavements were rated on a scale of 0-100, with 0 being an unusable paved surface and 100 reflecting a just-constructed paved surface. Generally, ratings with a PCI above 70 require only preventative maintenance in the short term, while ratings between 40 and 70 require major rehabilitation and ratings less than 40 typically require reconstruction. **Exhibit 2C** depicts the pavement condition map for the Airport. At the time the PCI was updated pavement sections were documented. Pavement sections describe how individual sections of pavement were constructed. **Exhibit 2D** provides a detailed graphic of the existing pavement sections at the Airport.

Runways.

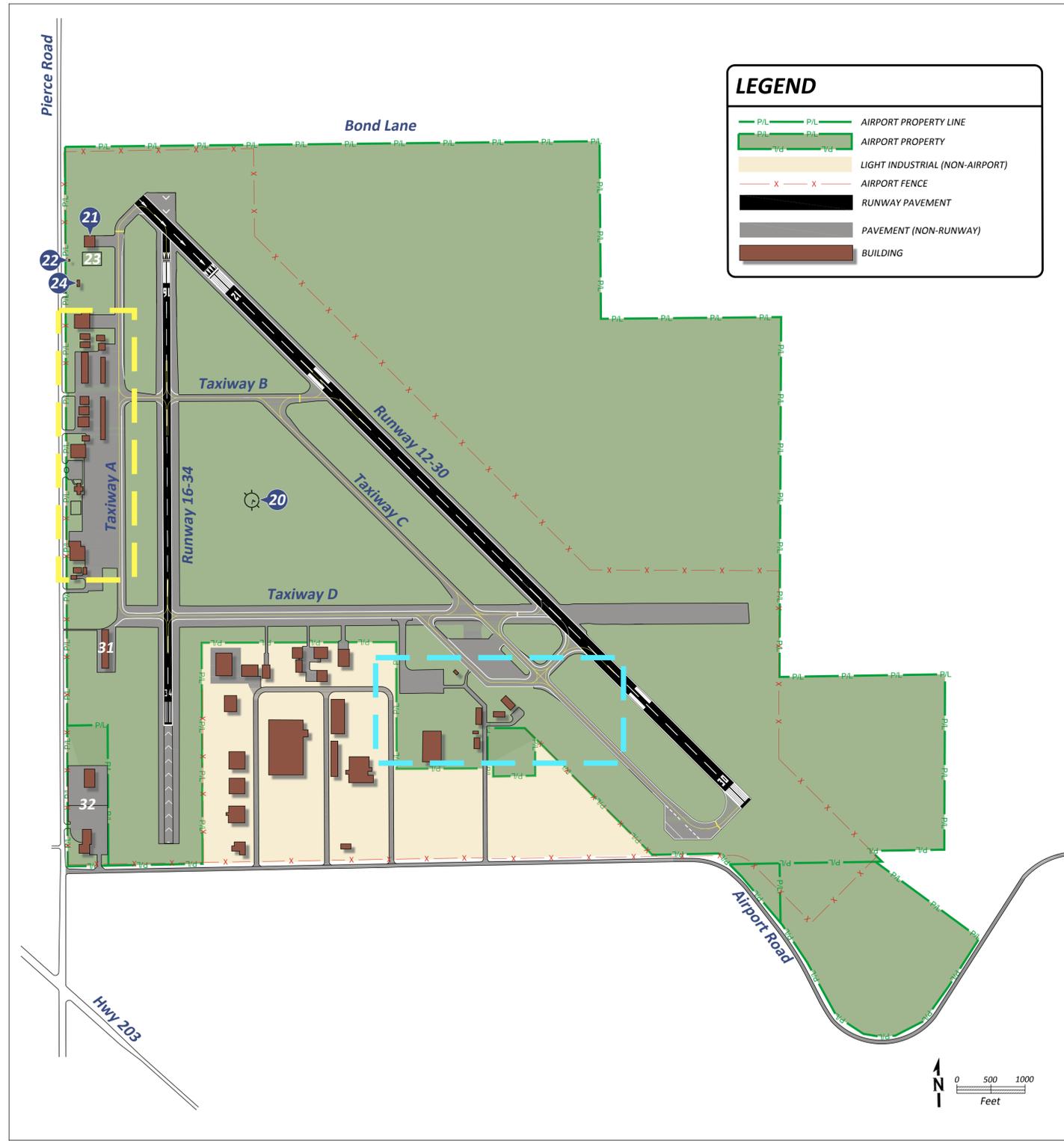
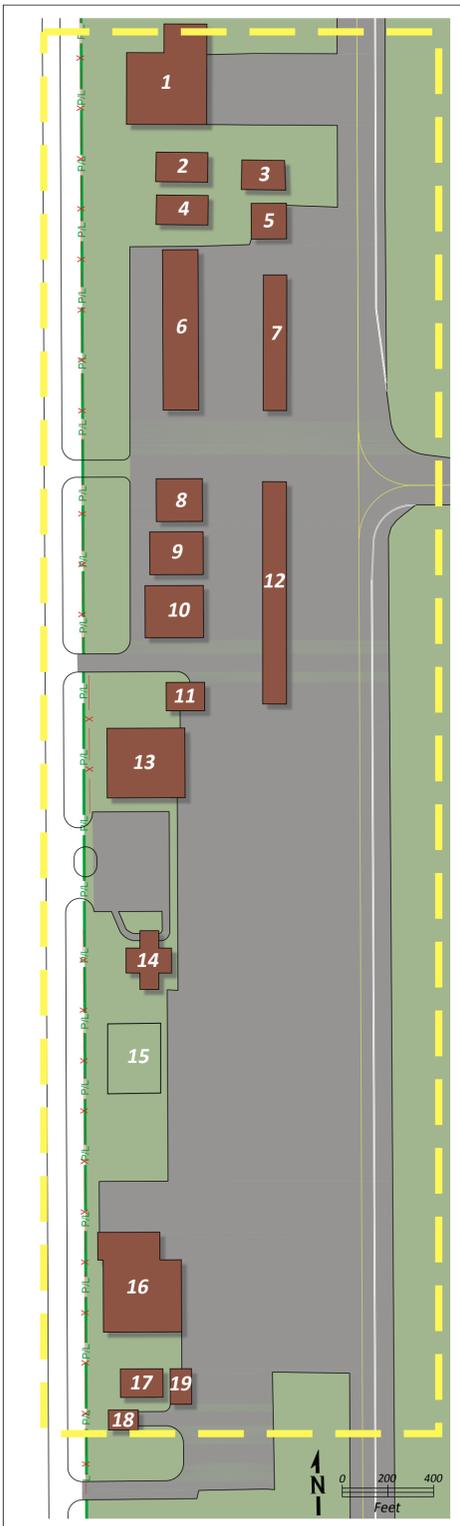
The Airport has two paved runways, 12-30 and 16-34.

Runway 12-30 is the primary runway, with a dimension of 6,260 feet by 100 feet. The PCI rating for Runway 12-30, as of July 2014, was good (PCI between 85 and 100). The Runway was extended and rehabilitated in 2012, which resulted in a 760-foot displacement on the Runway 12 threshold. The pavement strength of the runway is rated at 99,000 pounds for Single Wheel Gear (SWG)¹ aircraft and 129,000 pounds for Dual Wheel Gear (DWG). The runway supports general aviation aircraft, which includes private and business operators as well as wildland fire suppression aircraft.

Runway 16-34 is 3,876 feet long by 60 feet wide. Runway 16 has a displaced threshold of 486 feet, due to its proximity to Runway 12-30. The pavement was rated as either good or satisfactory depending on the pavement section (PCI between 70 and 100). The pavement strength is 45,000 pounds SWG and 60,000 pounds DWG. The runway supports general aviation aircraft, including private and business operators. Large Air Tankers do not utilize this runway for fire suppression due to runway length operational constraints.

Pavement markings and signage on both runways meet applicable FAA design standards for non-precision markings.

¹ Single Wheel Gear (SWG) is the term used to describe aircraft with one wheel per strut, while Dual Wheel Gear (DWG) is for aircraft with more than one wheel per strut. An aircraft's landing gear configuration and gross weight are critical components in airfield pavement design and are used to characterize pavement strength. Data for Runway 12-30 provided by Precision Approach Engineering; highest allowable gross weight calculated at 116,000 pounds SWG and 235,000 pounds DWG. Data for Runway 16-34 sourced from the FAA Form 5010.



EXISTING FACILITIES

KEY	DESCRIPTION	KEY	DESCRIPTION
1	FedEx Facility	18	County Maintenance
2	Hangars A5 & A6	19	County Maintenance
3	Hangars A1 & A2	20	Segmented Circle & Wind Cone
4	Hangars A4 & A3	21	Becker Hangar
5	Quonset Hut Hangar	22	Electrical Building
6	County Hangars - Tan	23	Agricultural Operations Area
7	County Hangars - Green	24	Agricultural Operations Area
8	Blue Mountain Aircraft Mechanic	25	USFS - La Grande Hot Shots
9	Private Hangar	26	USFS - Storage
10	Private Hangar	27	USFS - Warehouse
11	Private Hangar	28	USFS - Tanker Base Office
12	County T-Hangars - Galvanized Steel	29	USFS - Storage
13	Private Hangar - Leased to Life Flight	30	USFS - Electrical Building
14	FBO	31	Private - Blue Mountain Hangars
15	Fuel Farm	32	Oregon National Guard
16	USFS - Blue Mountain Rappel Base	33	USFS - Blue Mountain Interagency Fire Center
17	County Maintenance		



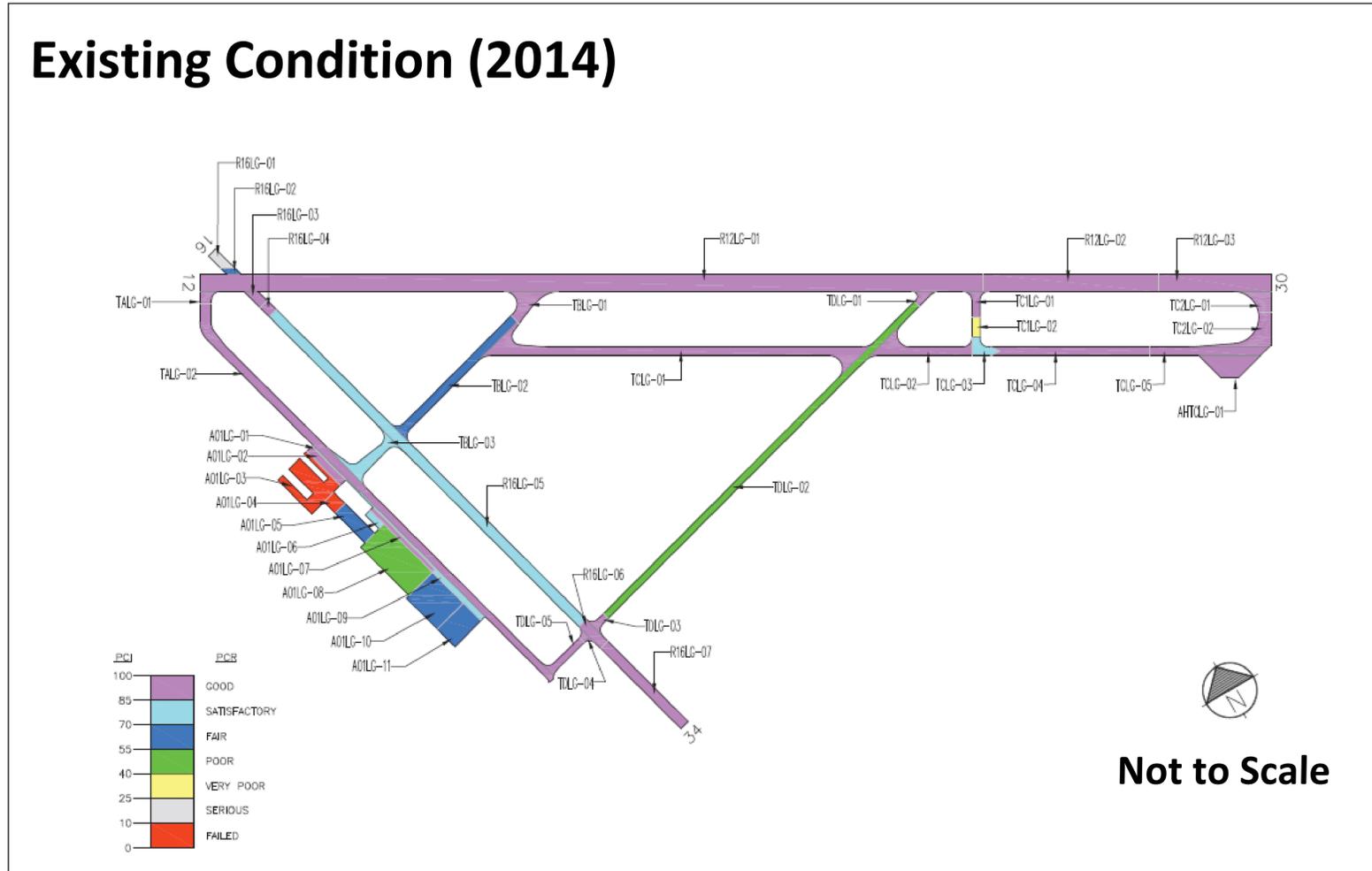
Union County

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Existing Airport Facilities

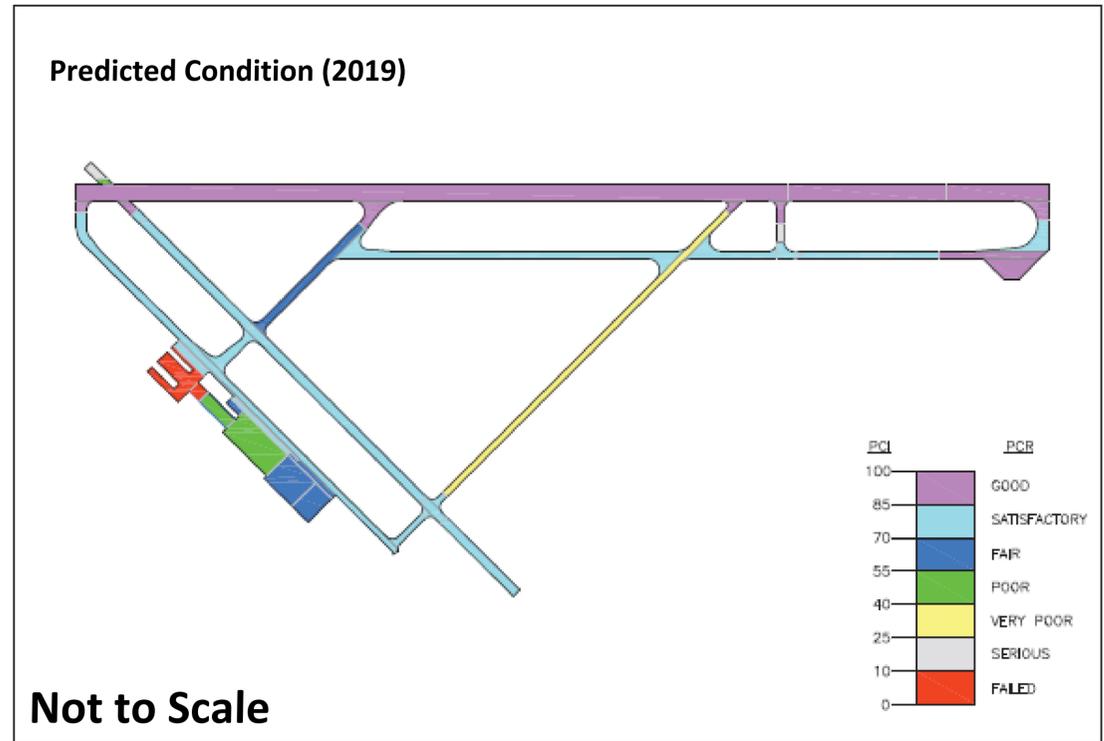
Exhibit 2B

Existing Condition (2014)

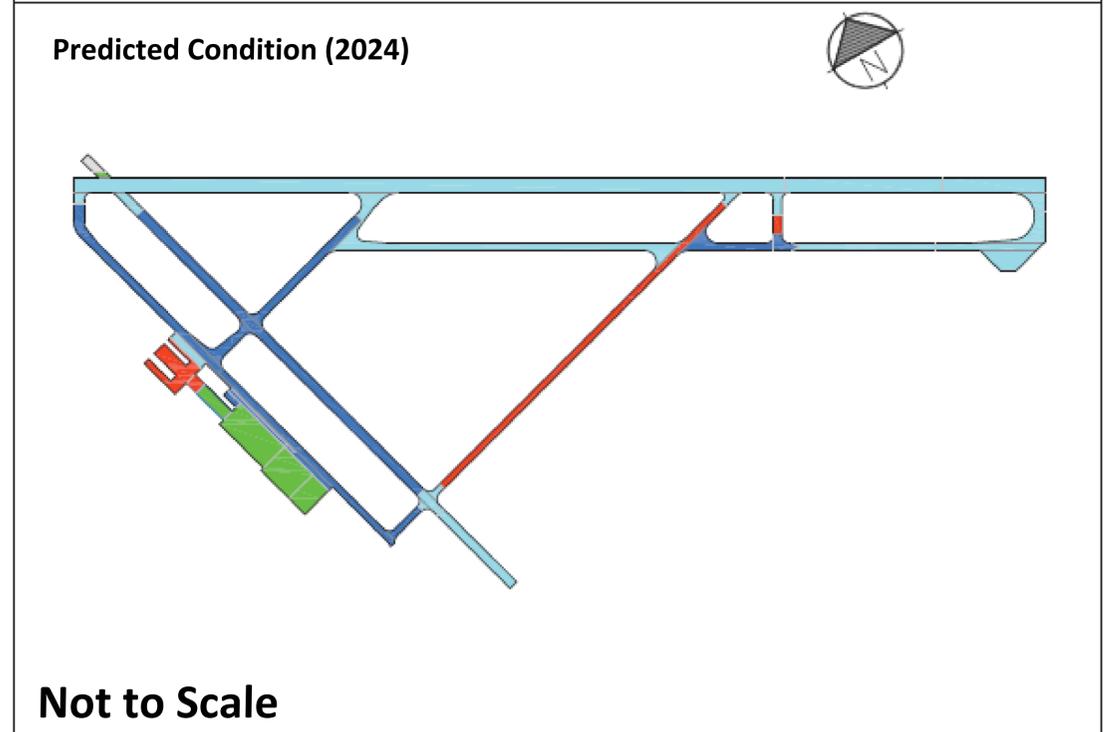


Pavement Consultants Inc.

Predicted Condition (2019)



Predicted Condition (2024)



Union County

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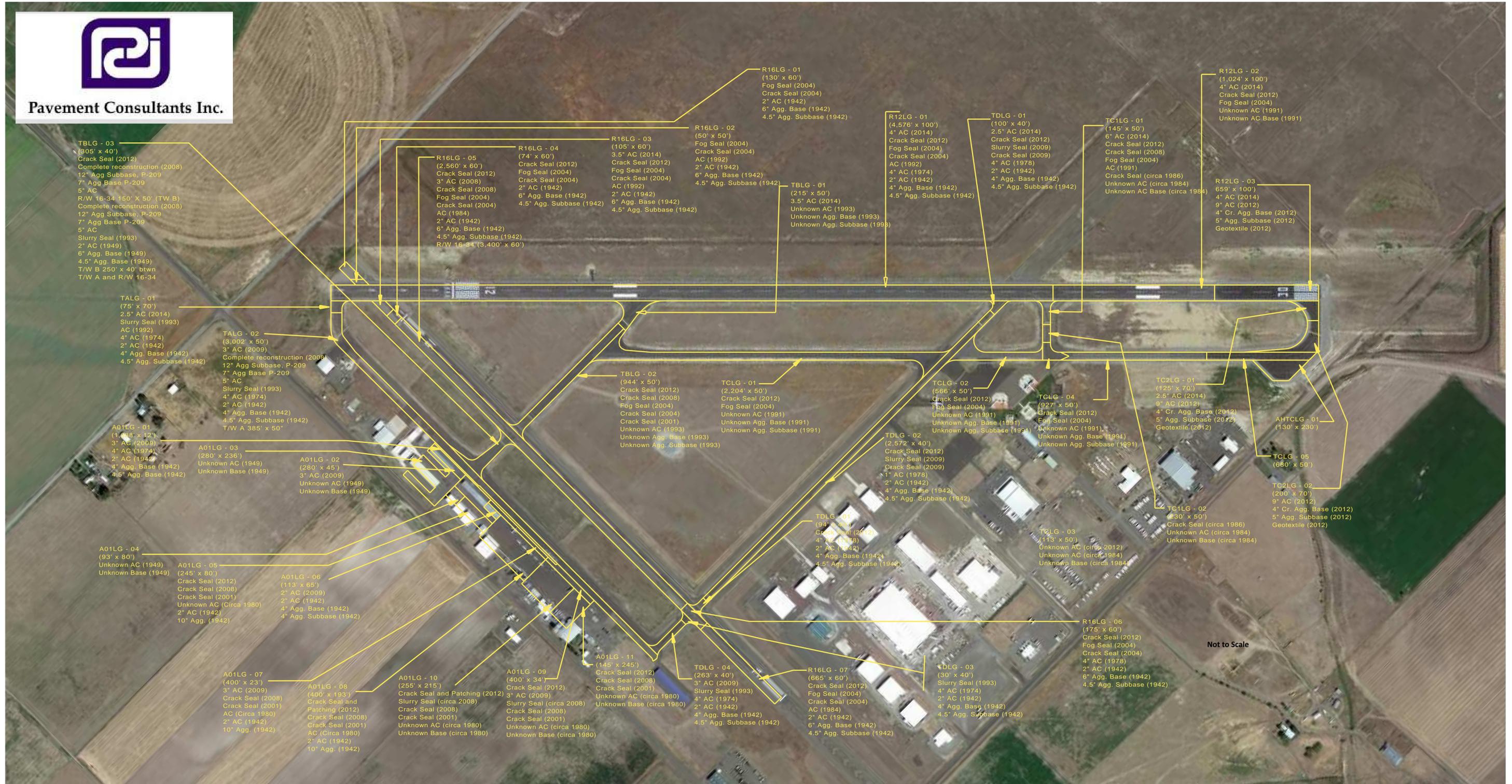
Pavement Condition Map

Exhibit 2C





Pavement Consultants Inc.



Not to Scale



Union County

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Pavement Section Map

Exhibit 2D



Taxiways and Taxilanes.

Taxiways are constructed primarily to facilitate aircraft movements to and from the runway. Some taxiways are necessary simply to provide access between aprons and the runway, and other taxiways are necessary to provide safe and efficient use of the airfield. Taxilanes are for aircraft movements to access taxiways, for example from a hangar or tiedown area.

There are four taxiways at the Airport:

- Taxiway A runs parallel to Runway 16-34 and is located between the runway and the tiedown/hangar area.
- Taxiway B provides access from the northern hangar/tiedown area to Runway 12-30. It intersects Runway 12-30 approximately 1,300 feet from the Runway 12 threshold.
- Taxiway C is parallel to Runway 12-30 from the end of Taxiway B to the end of Runway 30.
- Taxiway D provides access to Taxiway C and Runway 12-30 from the southern end of the tiedown area. At one time it served as a third runway but was converted prior to 1977.

The 2014 PCI rating for Taxiways A and C were listed as good, Taxiway B was listed as fair, while Taxiway D received a rating of poor. Actual numerical ratings of pavement sections are shown on Exhibit 2C, and the description listed here corresponds with those numerical designations.

Taxiway markings, such as holding position markings, meet applicable FAA design standards. There are no taxiway guidance signs.

There is a system of taxilanes accessing Taxiway A from the hangar area. These were given a PCI rating of fair, poor, and failed.

Aprons and Aircraft Parking.

There are 25 designated tiedown positions in front of the fixed base operator (FBO) area. There are no designated helicopter landing areas; however, helicopters typically park at the southern end of the tiedown area. The USFS has limited parking space for air attack aircraft, lead aircraft, and air tankers, as well as helicopters, although most firefighting helicopters park at the southern end of the GA apron.

Airfield Lighting.

Runway and taxiway edge lighting systems are categorized as low, medium, or high intensity. The color of the lights is also important as it indicates to pilots where they are in the airport environment. For example, runway edge lights are white and taxiway edge lights are blue.

At the Airport, only Runway 12-30 is lit. Medium Intensity Runway Lights (MIRL) are pilot controlled for Runway 12-30. All other movement areas (Runway 16-34 and the taxiways) are lined with edge reflectors.

Airport Navigational Aids.

Airport Navigational Aids, or NAVAIDS, provide navigational assistance to aircraft for approaches to an airport. NAVAIDS are classified as visual approach aids or instrument approach aids; the former providing a visual navigational tool and the latter being an instrument-based navigational tool. The types of approaches available at an airport are based on the NAVAIDS provided. The following sections describe existing NAVAIDS at the Airport.

Visual Approach Aids.

Both ends of Runway 12-30 have a two-light Precision Approach Path Indicator (PAPI), while Runway 16 has a four-light PAPI system. A PAPI provides guide slope information to pilots on final approach by displaying sequences of different colored lights to maintain a safe glide path for landing.

Instrument Approach Aids.

All runway ends are serviced by a circling instrument approach procedures, which can be used when the visibility and cloud ceiling are below minimums for Visual Flight Rules (VFR). Only the Runway 16 end is serviced with a straight in approach. **Table 2A** details the approaches available at the Airport, along with the ceiling and visibility requirements for each.

Special departure procedures apply for aircraft departing the Airport during Instrument Meteorological Conditions (IMC), as a result of the high terrain surrounding the Airport.

Table 2A. La Grande / Union County Airport Instrument Approach Procedures & Approach Minima

Approach Name ²	Runway End Serviced	Approach Minimums ³	
		Ceiling (feet, above ground level)	Visibility (statute miles)
RNAV (GPS)	Runway 16	Varies from 1,459 to 1,723	Varies from 1 ¼ to 3
NDB-B	All Runway Ends	1,643	1 ¼ (Cat A) 1 ½ (Cat B) 3 (Cat C)

Source: FAA National Aeronautical Charting Office/National Ocean Service (NACO/NOS) charts, effective through February 5, 2015.

Other NAVAIDS.

There is a segmented circle and lighted windsock located mid-field. A rotating beacon is located in the southwestern corner of the Airport property. The Airport also has an Automated Weather Observing System (AWOS), which reports real-time weather information, including the altimeter setting, visibility, cloud/ceiling data, and wind speed and direction. AWOS information can be accessed via aircraft radio or telephone.

NAVAID Ownership.

Ownership of the NAVAIDS is as follows:

FAA-Owned NAVAIDS

- Non-Precision approach to Runway 16
- NDB (all runway ends)
- Runway 16 PAPI

² Area Navigation (Global Positioning Systems) (RNAV (GPS)) is a space-based global navigation satellite system. Non-directional Radio Beacon (NDB) uses radio transmitter frequencies.

³ Ceiling and visibility requirements vary by category of aircraft, which is determined as a function of aircraft approach speeds.

- AWOS

County-Owned NAVAIDS

- Runway 30 REILs
- Runway 12-30 PAPIs
- Runway 12-30 MIRL
- Airport Rotating Beacon

Landside Facilities

Hangars and Other Buildings.

There are 33 buildings on the Airport property. **Table 2B** details the function of those buildings and their ownership – these facilities can be cross referenced with Exhibit 2B to show location.

Aviation Services.

An FBO is an individual or a business that offers aviation-related services such as flight instruction, aircraft rental, aircraft maintenance, hangar/tiedown storage, and aircraft fueling to Airport users. Union County provides FBO services at the Airport. The FBO is centrally located near the tiedown area.

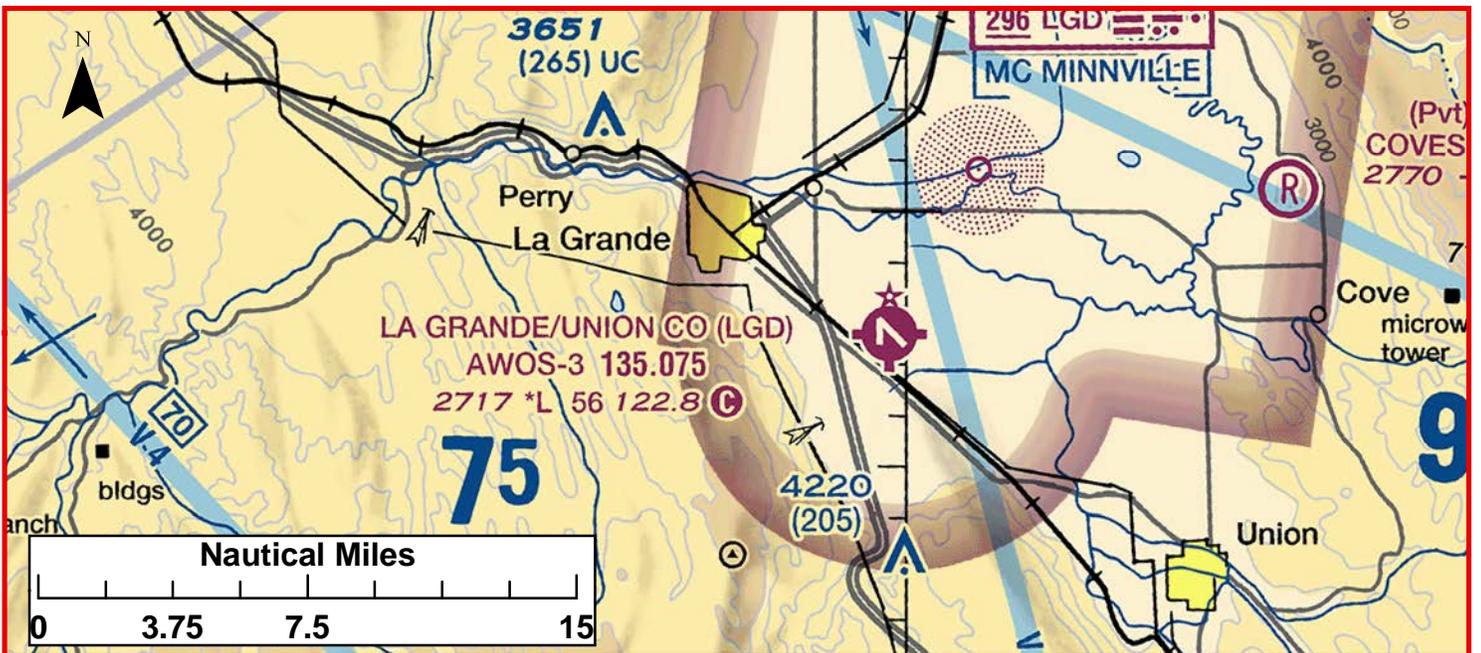
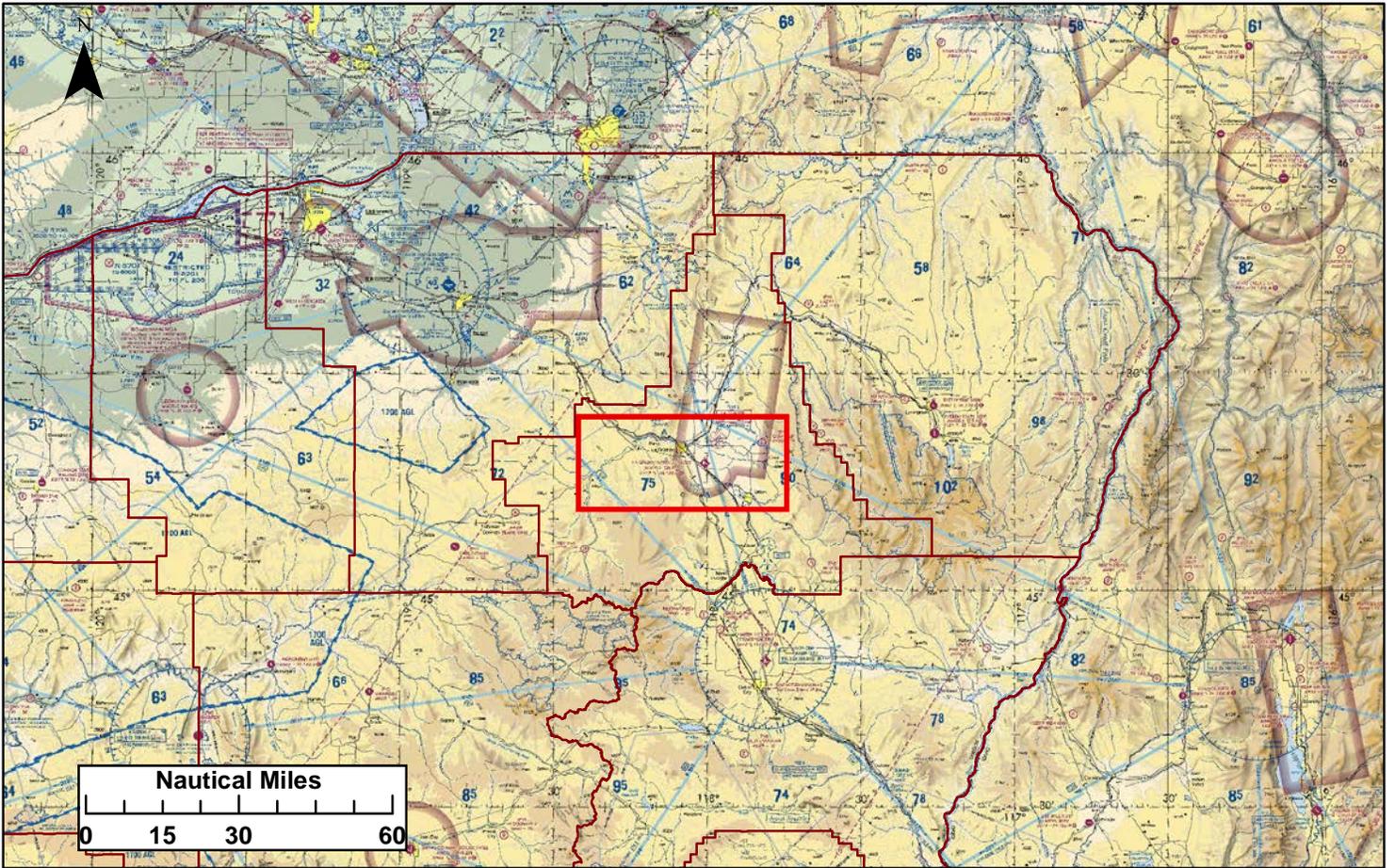
Airport Access and Vehicle Parking.

The main vehicular access points to the Airport areas (hangars, FBO, etc.) are from Pierce Road, and they are un-gated. Airport Lane provides access to the Tanker Base area, as well as the light industrial zone located adjacent to the Airport.

Vehicle parking is available near the FBO, with 25 paved parking spaces located to the north of the FBO. Additional overflow and fire support vehicle parking is located south of the fuel farm. Individual tenants typically park adjacent to or in their hangars while flying.

Other.

There is a light industrial park located south of the Airport. Most uses in the park are manufacturing; however, there are some hangars with through-the-fence (TTF) access to the Airport. These TTF agreements will be discussed further in Chapter 6, *Compliance Review*.



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**Area Airspace
 EXHIBIT 2E**

Table 2B. La Grande / Union County Airport Building & Facility Ownership and Use

Number (per Exhibit 2B)	Description	Use	Ownership
1	Fed Ex Facility	Fed Ex package sorting and transit	Private
2	Hangars A-5 and A-6	Aircraft storage	Private
3	Hangars A-1 and A-2	Aircraft storage	Private
4	Hangars A-3 and A-4	Aircraft storage	Private
5	Quonset Hut Hangar	Aircraft storage	Private
6	Tan Hangars	Aircraft storage, T-hangar	County
7	Green Hangars	Aircraft storage, T-hangar	County
8	Blue Mtn Aircraft	Airframe and Powerplant services	County
9	Hangar	Aircraft storage	Private
10	Hangar	Aircraft storage	Private
11	Hangar	Aircraft storage	Private
12	Galvanized Steel Hangar	Aircraft storage, T-hangar	County
13	Hangar	Aircraft storage and office space, leased to Life Flight	Private
14	Fixed Base Operator (FBO)	Aircraft services and pilots lounge	County
15	Fuel Farm	Fuel storage	County
16	Rappel Base	USFS – Blue Mountain Rappel Base	County
17	Shed	County airport-related maintenance	County
18	Shed	County airport-related maintenance	County
19	Shed	County airport-related maintenance	County
20	Segmented Circle and Windsock	Visual navigational aid	County
21	Becker Hangar	Aircraft storage	Private
22	Electrical Building	Electrical Building	County
23	Ag Ops Area	Agricultural Operations Area	Private
24	Ag Ops Area	Agricultural Operations Area	Private
25	USFS	La Grande Hot Shots	USFS
26	USFS	Storage	USFS
27	USFS	Warehouse	USFS
28	USFS	Tanker Base Office	USFS
29	USFS	Storage	USFS
30	USFS	Electrical Building	USFS
31	Blue Mtn Hangars	Aircraft Storage	Private
32	OR National Guard	Oregon National Guard (ONG) Base	ONG
33	USFS	Blue Mountain Interagency Fire Center	USFS

Source: WHPacific, Inc. visual inspection and Union County records.

Airport Support Facilities

Emergency Services.

Emergency services are provided by the La Grande Rural Fire District and the Union County Sherriff's Department.

The Airport serves a critical need by accommodating fire suppression air tankers and helicopters that provide protection for the surrounding forest lands.

Two LifeFlight helicopters are based at the Airport to provide essential medical air transport to the rural communities within Union County.

Airport Maintenance.

Airport Maintenance is provided by Union County. Some maintenance equipment is stored onsite in the County's storage buildings. The remaining equipment is stored offsite at the Public Works Department's facility.

Airport Fencing.

The Airport is partially fenced, the majority of which is livestock fencing, with some chain-link security fencing. The perimeter is fenced, with the exception of frontage along Pierce Road.

Utilities.

Utilities and public services provided at the Airport include:

- Water – City of La Grande
- Sanitary Sewer – La Grande Waste Water Treatment
- Telephone – Local franchise companies
- Electricity – Oregon Trail Electric Cooperative
- Natural Gas – Avista Utilities

Highway Signage.

Guidance signs to the Airport are located on County Highway 203 and are maintained by the Oregon Department of Transportation.

Airspace

The FAA is responsible for the control and use of navigable airspace within the United States. Aircraft in flight, whether approaching or departing an airport, are subject to varying degrees of FAA control depending on location and meteorological conditions. These levels of control are called airspace classes. The alphabet characters A through G distinguish classes. Each class has its own unique shape and rules that govern such things as visibility minimums and cloud clearances, as depicted in **Figure 2A**.

Figure 2A. Civil Airspace Classifications



Source: iflyamerica.org

The Airport is located in Class G airspace, with Class E starting 700 feet above the Airport's surface. Class G airspace is considered uncontrolled in that pilots are not required to communicate with air traffic controllers; however, regulations regarding visibility minimums and cloud clearances still apply. The Airport's airspace is depicted on the Seattle sectional chart (see **Exhibit 2E**). The Airport is located north of Baker City (BKE) and south of Walla Walla, WA (ALW) airports, and it lies underneath Victor Airway V357, which is a "highway in the sky" sourced from the Baker City very high frequency omnidirectional range (VOR). A Victor Airway is a corridor of protected airspace defined by radio navigational aids. The Victor Airway, depicted with semi-transparent blue lines on Exhibit 2E, makes over flying traffic a common occurrence. Victor Airways V298 and V182 also pass over the area just north of the Airport.

Traffic patterns at the Airport are standard, left-hand patterns. Pilots are to fly the patterns at 800 feet above ground level (3,517 feet mean sea level).

Airport Land Use and Zoning

The following land use and zoning discussion focuses on four areas:

- Airport Environs zoning and land use
- Surrounding area zoning and land uses
- Protection of airport airspace to prevent hazards and land uses that may interfere with the safety of aircraft operations
- Ownership / control of Airport runway protection zones to enhance the safety of people and property on the ground

Federal, State, Regional, County, and City land use regulations need consideration when reviewing existing land uses for airport compatibility and when planning for future development at and around an airport.

Federal regulations are also concerned with airspace protection (14 CFR Part 77) and noise levels, particularly for areas that fall within the 65-decibel (dBA) noise contour line. 14 CFR Part 77, *Objects*

Affecting Navigable Airspace, establishes obstruction standards used to identify potential adverse effects to air navigation and notice standards for proposed construction. Imaginary surfaces are the basis for protecting the airspace around runways. There are five imaginary surfaces: primary, approach, transitional, horizontal, and conical. Definitions of each imaginary surface will be discussed in a later chapter. These surfaces should be kept clear of all obstructions.

FAA guidelines state that before FAA grants can be received the Airport Sponsor must provide assurances that appropriate actions have been (or will be) taken, to the extent reasonable, to restrict the use of land adjacent to or in the immediate vicinity of the Airport to those that are compatible with normal airport operations.

Existing Airport Environs Zoning and Land Use

The entire Airport Property is zoned as Public Airport in the Union County Comprehensive Land Use Plan, as Union County is the planning and building permit authority for the Airport. The Public Airport Zone is intended to recognize those areas devoted to or most suitable for the immediate operational facilities necessary for commercial and non-commercial aviation. The Airport's existing zoning classification complies with Oregon Revised Statutes (ORS) 836.600 through 836.630, *Local Government Airport Regulation*. The County has adopted airport overlay imaginary surface protection, based on Part 77 imaginary surfaces.

Use of the Airport land is public airport. During late summer, a portion of the northern section of Airport property is short-term leased as a staging area for local sugar beet producers to ship their product outside of the County. The lease for this operation was reviewed and appears to be compatible with airport operations, as the lease area is outside of any protected design surfaces and dust abatement methods are employed.

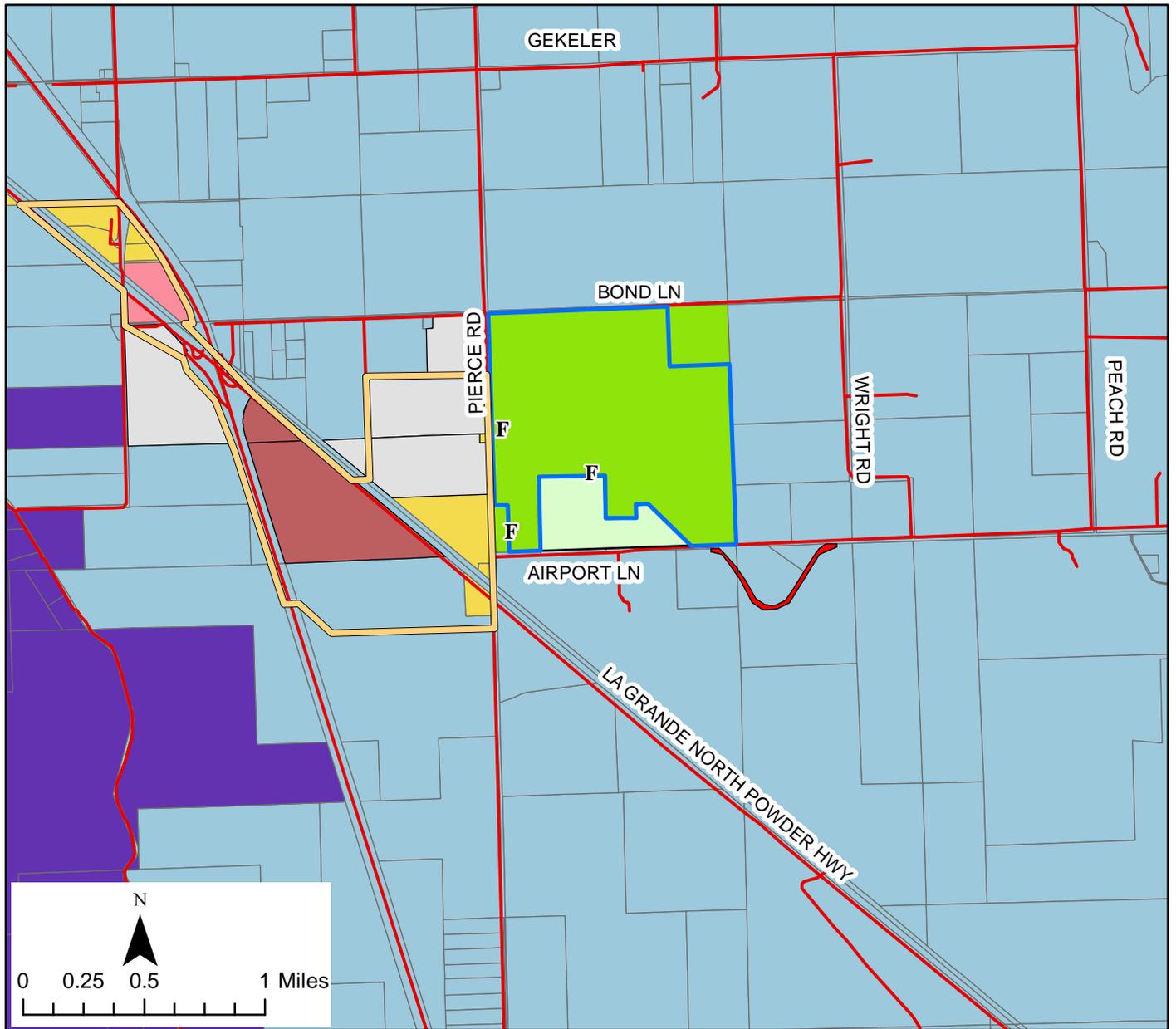
Surrounding Area Zoning and Land Uses

The Airport is mostly surrounded by agricultural, with a few single family dwellings, and light industrial uses, as shown in **Exhibit 2F**. The zoning is Union County Exclusive Farm Use and Airport Light Industrial

West of the Airport, across Pierce Road, is located within the City of La Grande Urban Growth Boundary (UGB) and is zoned Heavy Industrial (LG: M-2). Future development in this area has yet to be determined, and is currently in farm use.

Protection of Airport Airspace

The FAA requires that Airport Sponsors, to the extent of their ability, restrict zoning on adjacent lands and lands within an airport's immediate vicinity to compatible land uses. Union County has established an Airport Overlay Zone to protect the Airport and its airspace from hazards to air navigation, such as tall structures and other non-compatible land uses. An overlay zone may restrict the height of buildings and other structures or trees. An airport overlay zone also may restrict any land use that would create such hazards as electrical interference with airport radio communications, cause glare or impede visibility near the airport or would attract hazardous wildlife.



Union County Zoning:	La Grande City Zoning:	Other:
Exclusive Farm Use	Public Facility	Airport Property
Public Airport	Industrial Commercial	La Grande Urban Growth Boundary
Airport Light Industrial	Light Industrial	F Fuel Storage Locations
Airport Industrial		Roadway
Transitional Agriculture		

* Airport Zone is not shown on map



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Zoning Map

EXHIBIT 2F

Ownership / Control of Runway Protection Zones

Runway Protection Zones (RPZs) are designated areas off runway ends that enhance the protection of people and property on the ground. RPZs are trapezoidal in shape and have dimensions determined by the aircraft type and runway approach visibility minimums. The FAA strongly encourages Airport Sponsors to either own or exercise land use control within the RPZs, in an effort to eliminate incompatible land uses within the area. If an airport does not own the RPZs in fee, land use control can be achieved through aviation easements. Union County owns all land within the Runway 30 RPZ, but controls only portions of the Runway 12, 16, and 34 RPZs through aviation easements.

Environmental Inventory

The purpose of this section is to summarize the environmental setting of the Airport, and identify any potential environmental constraints. The FAA requires early review of environmental issues that will help identify opportunities and challenges for future development. The categories are organized as outlined in the FAA's Airport Environmental Handbook (FAA Order 5050.4A).

The categories listed in FAA's Airport Environmental Handbook have been reviewed for the project area. Data compiled from relevant agencies and local government sources were referenced and applicable data was input into maps. When applicable, data requests or direct contact with agencies was used to obtain information specific to the project site. None of the compiled information has been field verified for this preliminary review.

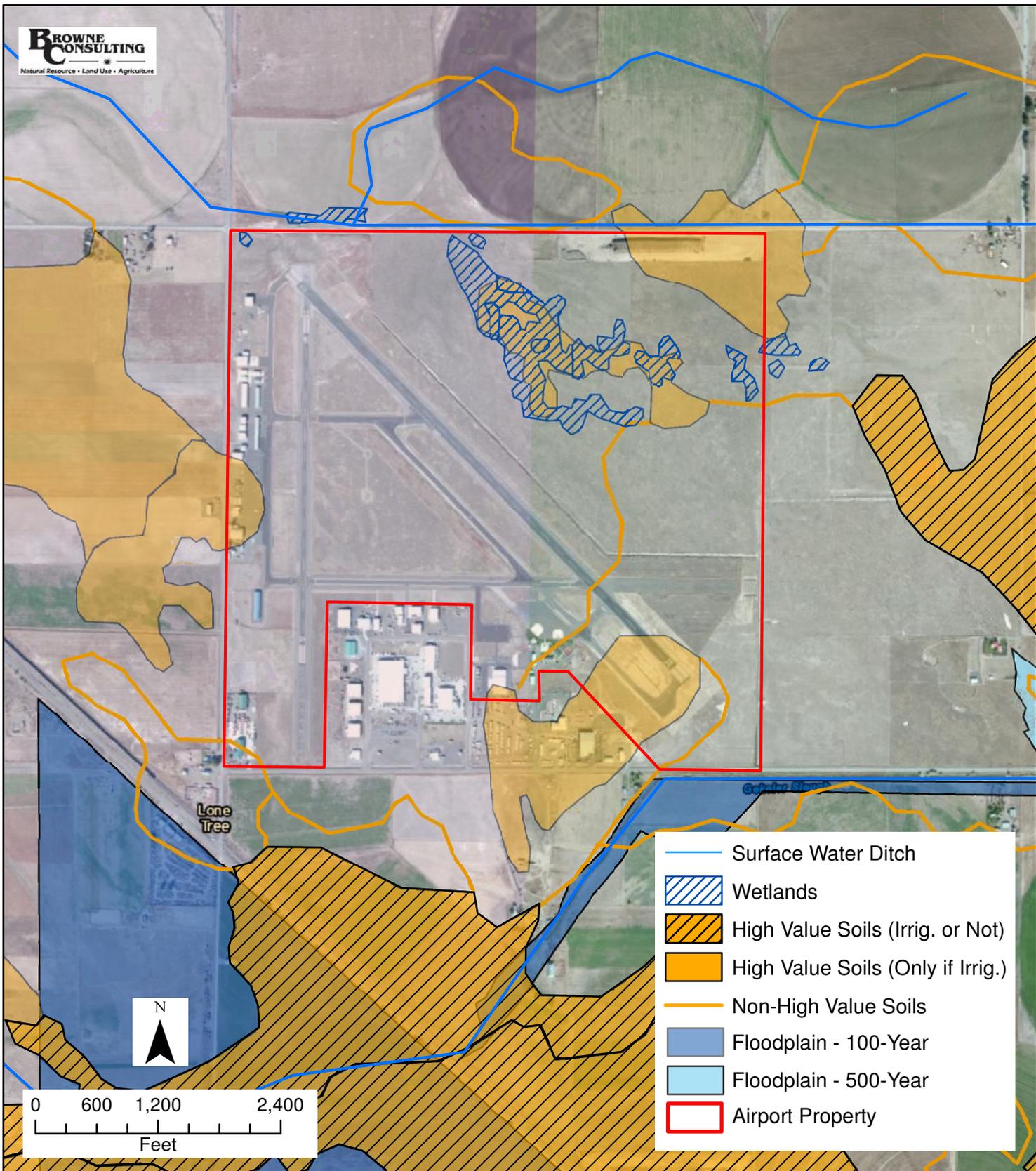
Environmental constraints for airport typically fall into two general categories: human environment and natural environment. Human factors that can constrain airports include existing settlements and incompatible land use, noise, social or socioeconomic conditions, light and glare, and the general controversial nature of airports. Natural environmental elements include various aspects of air quality, water resources, fish and wildlife, hazardous materials, energy and other resource issues.

Some of the FAA categories do not apply to this region (*i.e.*, coastal barriers, coastal management zone, and historic properties) and others cannot be determined without a site-specific review (*i.e.*, lands with cultural or religious importance to Native American Tribes). **Exhibit 2G** displays the various environmental considerations that will likely be factors to consider in more detail prior to future development.

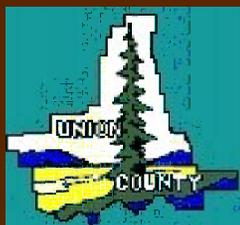
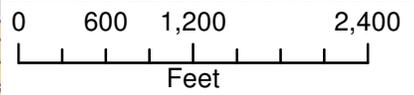
Human Factors

Noise.

The Airport currently supports approximately 16,000 annual operations (FAA Terminal Area Forecast). The typical threshold of concern is when the 65 DNL (Yearly Day-Night Average Sound Level) contour extends over noise sensitive land uses. The airport area is not bordered by any noise sensitive areas at this time. In addition, the projected forecast operation levels for the period of analysis, 20 years, will not



- Surface Water Ditch
- Wetlands
- High Value Soils (Irrig. or Not)
- High Value Soils (Only if Irrig.)
- Non-High Value Soils
- Floodplain - 100-Year
- Floodplain - 500-Year
- Airport Property



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**Environmental
 Considerations Map**

EXHIBIT 2G

exceed 90,000 annual adjusted propeller operations or 700 annual adjusted jet operations, which is a guidance level for when to prepare a noise analysis according to the FAA⁴.

The nearest recreational, Section 4(f), property to the Airport is the Ladd Marsh Wildlife Area, located approximately two miles due southwest of the airport and five miles south of La Grande. All other park areas are located within La Grande City Limits, approximately four miles northwest of the Airport. Noise has not been a reported issue. The land surrounding the airport is zoned industrial and agricultural.

Land Use.

As stated above, the Airport is zoned as Public Airport (UC: PA) in compliance with the Union County Comprehensive Land Use Plan. The airport overlay zone exists to provide safe airport operations without obstructions to airspace and to provide an environment around airports, which will not be adversely affected by noise and safety issues. The zone is for development that is compatible with an airport and its operations. The Airport Overlay Zone acts to set boundaries, define Federal Aviation Regulations for height restriction, and limit structures within approaches. Any permitted use in compliance with the underlying zone is allowed in the airport overlay zone.

Adjacent land uses are agricultural and light industrial, with consistent zoning classifications and potential for heavy industrial uses west of the Airport.

Social Impact and Induced Socioeconomic Issues.

Social impacts are typically related to relocation of residents or business or community disruptions in the form of alteration of established patterns of life. The Airport does not have an adjacent residential population and is surrounded by industrial and agricultural land uses as described above.

Significantly positive or negative socio-economic impact to this area is unlikely because there are no plans for shifts in patterns of population movement or growth, major changes in business and economic activity. The airport provides economic benefit to the community by providing a location for private aircraft storage and use, wildland firefighting base, aerial agricultural applicators, Life Flight, FedEx freight transport, and rental income to the County for hangar space.

The potential for displacement of minority or low-income populations is unlikely because there does not appear to be populations within the immediate airport vicinity. Environmental Justice is the specific aspect of socioeconomic impact which addresses whether a facility places a disproportionate burden on a population that is otherwise subject to perceived discrimination or other burden. There are no such population groups located near the Airport.

Historic Properties, Cultural Resources (Section 106 Resources).

There are no historical properties located within the airport area according to the Oregon State Historic Preservation Office (SHPO). Above ground structures of historical and cultural significance, a concern of

⁴ Chapter 3, *Forecast*, determined the projected propeller operations by 2034 to estimate approximately 19,555 operations and jet operations to be approximately 1,000.

the National Historical Preservation Act (NHPA), do not exist near the airport grounds. Historically, the land fell into the range of the Confederated Tribes of Umatilla Indians.

The airport was built in the 1940s during the war effort and was transferred to the City of La Grande in 1946 and to Union County, the current owner, in 1988. The subject site has been disturbed during the construction of the initial airport as well as construction of private hangars and other structures. During excavation for these activities, it is believed that no artifacts were found. Cultural Resource inventories have been conducted at the Airport for various improvements. These studies should be consulted prior to scoping future improvements, and are on record with the County.

Recreational Lands (Section 4(f)) Resources.

Public recreation or park areas do not exist within the immediate vicinity of the airport. The Ladd Marsh Wildlife Management Area is located approximately two miles due southwest of the airport and five miles south of La Grande. Ladd Marsh Wildlife Management Area was established in 1949, with primary objectives of protecting and improving waterfowl habitat and providing a public hunting area.

Section 4(f) of the Department of Transportation Act aims to protect the use of land in publicly owned parks, recreation areas, wildlife or waterfowl refuges, or public and private historic sites from impacts associated with transportation projects.

Wild and Scenic Rivers.

The Grande Ronde River is designated a Wild and Scenic River from its confluence with the Willowa River to the Oregon-Washington border, a total of 26.4 miles. Given the Airport's distance from the river (about 30 miles), it can be stated that there are no Wild and Scenic Rivers in the immediate vicinity of the Airport.

Farmland Preservation.

Farmlands are determined by soil composition and characteristics. The National Resources Conservation Service online soil database map (Soil Survey of Union County, Oregon) found five soil types in the airport property:

- Unit 23 – Hoopal fine sandy loam (0 to 2% slope) – East and southeast corner of the property. This soil is considered somewhat poorly drained and slow permeability. It has low to no saline content.
- Unit 30B – Imbler final sandy loam (1 to 5% slopes) – Limited to a small area on the south end of Runway 12-30. This soil has similar properties to the Hoopal soil and is considered high-value farmland only if irrigated, which it is not.
- Unit 31 – Jett silt loam (0 to 2% slope) – This soil is located on the west edge near the parking area in addition to the east-northeast region. Soil properties show this soil is well drained and has no saline content. It is considered high-value farmland only if irrigated, which it is not.
- Unit 62 – Umapine silt loam (0 to 2% slop) – The majority of the airport parcel is comprised of this soil including the majority of both runways. This soil is somewhat poorly drained with a moderately high to high permeability. The salinity is very slightly saline to slightly saline.

Certain soils are considered high-value, or prime, farmland depending on drainage, mineral and other characteristics. There are no lands within the Airport that qualify as protected agricultural lands based on the NRCS soil survey. The land surrounding the airport is zoned agricultural land and some of it comprises prime farmland.

Light Emissions and Visual Impacts.

On-airport lighting is focused toward visibility to aviators, without creating a disturbance or distraction, and is typically placed with an orientation that does not affect nearby residents. On airport lighting is pilot-activated. Any future development will take into account light emissions and the visual impact effects it will have on pilots as well as neighboring properties. Decisions on the placement of any new lights must be made with consideration for proximity of residences and commercial facilities. In addition, any industrial development made within proximity of the airport will require review by the Planning Commission to evaluate the potential impacts on aircraft.

Natural Factors

Air Quality.

In 1991, The City of La Grande became a nonattainment area for particulate matter (PM₁₀). Previously, high levels of PM₁₀ were monitored in the airshed and were high enough to cause a violation in the National Ambient Air Quality Standard (NAAQS). A plan was written to bring La Grande back into compliance with regulations and was adopted in 1991. Several projects were conducted annually in La Grande to improve the air quality and the program was successful. In 1995, the Environmental Protection Agency (EPA) acknowledged that La Grande had not exceeded the standards since implementing the regulations. In 2006, the EPA approved the Maintenance Plan and associated rules and EPA has changed the legal status of La Grande from nonattainment to attainment for PM₁₀ effective July 19, 2006.

The Airport is outside of the La Grande Maintenance Area boundary. Any future development will require the consideration of PM₁₀ impact on the local environment, including water quality and other resources. At this time, FAA is updating the threshold for air quality analysis at general aviation airports.

Water Quality.

The Airport is located within the Grande Ronde hydrographic drainage basin. Major point sources of water pollution historically have been from the La Grande Wastewater Treatment Plant (WWTP), located less than a mile from the airport. Minor point sources include the City of Union WWTP, Boise Cascade (2 plants), Northwood Manufacturing, and Union Pacific Railroad. The La Grande WWTP and Northwood Manufacturing are located within the vicinity of the Airport. Nonpoint sources of pollution to the Grande Ronde drainage include timber harvesting, livestock grazing, crop agriculture, road construction and maintenance, rural residential development, and urban runoff. Natural disturbance processes can also have a negative effect on water quality.

DEQ conducted an assessment of water quality in Oregon to meet the federal Clean Water Act Sections 305(b) and 303(d) requirements to report on conditions in Oregon's surface waters. The 2012 Integrated Report combines reporting on conditions for all waters in the state with identification of waters that do not meet water quality standards where Total Maximum Daily Loads are needed to reduce pollutants (303(d) list). The Grande Ronde River is not listed among the water identified as water quality limited that need TMDLs, because of an adopted management plan.

It is unknown at this time if future development will have any negative quality impacts to ground water, surface water or public water supply systems. There are approximately 12 ground water wells and three water rights permits that apply surface or ground water to the land existing within the Airport and

surrounding area. Surface water bodies are limited to Gekeler Slough south of the airport. Public utilities for the Airport and Industrial Park are tied to the City's water and sewer supply.

Fish, Wildlife and Plants.

The proximity to Ladd Marsh Wildlife Area (LMWA) and agricultural land surrounding the Airport leads to the presence of wildlife in the region although there have been no wildlife strikes documented for this Airport and only one bird strike. Wildlife and bird habitat from the Ladd Marsh Wildlife Area is located far enough from the Airport area that any project influence would be limited. Any activity on the Airport would need to consider impacts to the species under the Endangered Species Act as well as habitat impacts under the Magnuson-Stevens Act to avoid, minimize, or compensate for impacts.

Endangered and Threatened Species

Under Section 7 of the Endangered Species Act (ESA), projects that may potentially impact listed species must be evaluated through a Biological Assessment (BA) and mitigation should be taken if a Biological Opinion is determined. A Biological Assessment was performed in 2001 for airport infrastructure improvements in order to address the potential effects of relocating Gekeler Slough and Airport Lane on species listed as Threatened or Endangered under the ESA. It was determined the project would have no effect on native biological resources; however, future study and determination will be required for specific projects and will be determined on a case-by-case basis.

The U.S. Fish and Wildlife Service (USFWS) lists the bald eagle, yellow-billed cuckoo and the gray wolf as ESA listed species in this region. The ESA candidate species listed include the greater sage-grouse and no populations or habitat is identified in the vicinity of the Airport. An Oregon Biodiversity Information Center (ORBIC) search of the area shows sensitive or vulnerable species in the area but no data for the airport specific area.

Essential Fish Habitat (EFH)

Under Section 305 of the Magnuson-Stevens Act, federal agencies that authorize, fund or undertake any action that may adversely affect any essential fish habitat (EFH) are required to consult with NOAA Fisheries to receive recommendations on measures necessary to conserve or enhance EFH.

Gekeler Slough is the closest surface water to the Airport and is located along the southeast boundary of the property. Gekeler Slough is a tributary of Ladd Creek Pickup Ditch, which is a tributary to Ladd Creek. The Upper Grande Ronde watershed drainage lists Snake River Basin steelhead as threatened species by National Marine Fisheries Service (NMFS) under the Endangered Species Act (ESA). StreamNet documents Steelhead and Redband Trout to be present in Gekeler Slough. Although no use of Gekeler Slough by steelhead has been documented, there is potential for them to move into the slough from Ladd Creek in the winter.

Migratory Bird Act

The protection of birds is regulated by the Migratory Bird Treaty Act (MBTA) and the Bald and Golden Eagle Protection Act (BGEPA). Any activity, intentional or unintentional, resulting in taking of migratory birds, including eagles, is prohibited unless otherwise permitted by the U.S. Fish and Wildlife Service [50 C.F.R. Sec. 10.12 and 16 U.S.C. Sec. 668(a)].

For general aviation airports, measures are taken to exclude, or at least not attract, migratory birds from the airport area. Drainage measures are taken to limit open ponding areas or other migratory bird attractants. There has been one documented bird strike within the last ten years, which occurred in 2002 and was presumed to be a goose or owl.

The Ladd Marsh Wildlife Area features the largest hardstem bulrush marsh remaining in Northeast Oregon. Because this area is intended to protect nesting and migrating waterfowl, public access is limited to viewpoints and a one-mile nature trail, except during hunting season.

Wetlands.

The federal government protects wetlands through regulations like Section 404 of the Clean Water Act (CWA). Section 404 regulates the discharge of dredged or fill material into waters of the United States, including wetlands. Activities in waters of the United States regulated under this program include fill for development, water resource projects (such as dams and levees), infrastructure development (such as highways and airports) and mining projects.

The National Wetland Inventory (NWI) under the U.S. Fish and Wildlife Service (USFWS) shows a small freshwater emergent wetland area in the northeast section of the property. Further study would be necessary to determine the type and size of any potential wetland(s), the potential impact from airport improvements in that area and whether any mitigation measures would be required.

Floodplains.

The Airport is not located within a 100-year floodplain according to the Flood Insurance Rate Map (FIRM) of the Federal Emergency Management Agency (FEMA). Map number 4102160295 B indicates that the airport is outside the 500-year floodplain as well as the 100-year floodplain.

Energy Supply and Natural Resources.

Airport development actions have the potential to change energy requirements or use consumable natural resources. This category focuses specifically on energy impacts and natural resource consumption during the operation and/or construction of the project.

The Airport will have to determine future action-related impacts on energy supplies and consumable natural resources if proposed development impacts utility consumption and/or consumes significant materials and aircraft fuel.

Solid Waste.

Construction, renovation, or demolition of most airside projects produce debris (*i.e.*, dirt, concrete, asphalt) that must be properly disposed. This category reviews whether any proposed development will result in a significant amount of solid waste and if local solid waste facilities are capable of accommodating the waste. The Airport does not generate significant amounts of waste because it is used predominantly by private aircraft and does not provide commercial services.

Hazardous Materials.

The Airport has commercial fueling locations and the Blue Mountain Interagency Fire Center, located on the south boundary, has tanks of fire retardant. Other hazardous waste locations are limited in the airport

area (such as agricultural operation areas) and may include older buildings and/or hangars that may have used hazardous building materials.

Federal, State, and local laws regulate hazardous materials use, storage, transport or disposal. In addition, disrupting sites that contain hazardous materials or contaminants may cause significant impacts to soil, surface and ground water, air quality and organisms using these resources. Hazardous materials, waste and substances are associated with industrial wastes, petroleum products, dangerous goods or other contaminants.

The Airport has a fueling site with two fuel types available (100LL – 100 octane low lead avgas and Jet A – national grade aviation turbine fuel). The fuel tanks are located near the terminal building along Pierce Lane. In addition, the Airport has three fuel trucks and fuel trailers. The Blue Mountain Interagency Fire Center has three tanks of Phos-Chek LC-95A fire retardant. Other propane and fuel tanks are located throughout the Airport area and surrounding properties.

Any future airport development will have to establish a criteria for recovery, clean-up and response plan to hazardous materials as well as identify the use, storage, and disposal of hazardous materials and the environmental threats caused by mishandling these materials. The Oregon Department of Environmental Quality (DEQ) has some documented historical cleanup site information listed in their database for the Airport area. The sites are limited to site screening recommendations for aerial applicators, and fueling and fuel storage facilities, as well as one documented removal of a hangar structure (with asbestos facilities, insecticide chemicals, and underground storage tanks and pipe). Any future development or demolition will require site evaluation and inspection.

Construction Impacts.

Construction impacts may cause various environmental effects primarily due to dust, emissions, storm water runoff containing sediment and/or hazardous materials, and noise. Once construction activities are identified for any future airport development, construction impacts should be described and evaluated in order to propose measures to minimize the potential, construction-induced adverse effects.

Controversy.

Project development involving controversy usually involves projects that are opposed on environmental grounds by a Federal, State, or local government agency, or by a substantial number of the persons affected by such action. In the case of the Airport, there appears to be minimal, if any, controversy surrounding the Airport.

Secondary or Cumulative Impacts.

Any proposed project development will most likely not result in shifts in patterns of population movement and growth unless commercial operations are introduced. If this occurs, there may be secondary impacts on public service demand and economic opportunities. At this time, there is no proposed commercial operation development planned.

Environmental Conclusion

Significant cumulative effect of any of the environmental categories considered above does not exist at this time but will have to be considered in the event of any future development. The potential impact will

need to be measured by the County and FAA as specific projects are put forth and formal NEPA environmental documentation is initiated.

Aviation Activity Data

There are two primary measures of aviation activity at a GA airport: based aircraft and aircraft operations. Each activity is discussed below.

Based Aircraft

Based aircraft are the number of aircraft that are stored at an airport in a hangar or tied down on either a paved apron surface or a grassy area designated for such a use. The County's records indicate there are currently 76 aircraft based at the Airport. Of the aircraft based at the Airport, they can be further broken down into the following categories, per **Table 2C**.

Table 2C. Based Aircraft at La Grande / Union County Airport

Aircraft Category	Number Based at LGD
Single Engine	65
Jet	0
Multi-engine	3
Helicopter	8
Total	76

Source: Union County, January 2015.

Aircraft Operations

Annual operations are the total number of aircraft takeoffs and landings occurring at the Airport in a year. A touch-and-go, which occurs during pilot training, counts as two operations. Touch-and-go operations are categorized as local, along with other operations that remain within 20 miles of the Airport. Operations not categorized as local are categorized as itinerant. The FAA's Terminal Area Forecast estimates operations for base year 2012. Review from Airport management concurs with these operation estimates, which are shown in **Table 2D**.

Table 2D. La Grande / Union County Airport Operations Records, 2012

	FAA Terminal Area Forecast Estimate (2012)
Air Taxi	2,500
General Aviation Local	4,000
General Aviation Itinerant	9,000
Military	500
Total	16,000

Source: Terminal Area Forecast Detailed Report for LGD, issued February 2014.

Airport Financial Data

The following subsections provide a brief summary of historical financial information for the Airport.

Airport Operating Revenues

Table 2E shows the Airport's revenues and expenses for fiscal years 2008-2009 through 2014-2015 (partial data⁵).

Federal grants from the Airport Improvement Program (AIP) are the major source of funding for airport capital expenditures. **Table 2F** depicts the AIP funding the Airport has received for airport improvement projects since 2004.

Table 2F. Recent Federal AIP Grant Projects at the La Grande / Union County Airport

Year	Project Description	Total AIP Funding
2004	Rehabilitate Runway 16-34	\$216,106
2006	Rehabilitate Runway 16-34 and taxiway	\$1,318,544
2008	Rehabilitate Runway 16-34 and taxiway	\$1,263,445
2009	Rehabilitate taxiway, improve RSA	\$1,146,116
2010	Improve RSA	\$2,800,154
2011	Improve RSA	\$2,676,625
2013	Rehabilitate Runway 12-30, conduct AGIS survey	\$3,241,063
2014	Update Master Plan	\$260,381
Total Federal AIP Funding		\$12,922,434

Source: Federal Aviation Administration.

Rates and Charges

The County leases hangar space to users at a rate varying from \$50 to \$425 per month, with most being \$100 per month. Hangar ground leases vary from \$75 to \$250 annually. There does not appear to be a standard hangar ground lease rate based on square footage. The Army National Guard has a land lease from the County for \$1 per year. The USFS facilities are a combination of building and/or land leases ranging from \$30 to \$23,222 per month.

⁵ Partial data 07/01/2014 through 01/27/2015.

Table 2E. La Grande / Union County Airport Revenues and Expenses by Fiscal Year (FY)

	2008-2009 FY	2009-2010 FY	2010-2011 FY	2011-2012 FY	2012-2013 FY	2013-2014 FY	2014-2015 FY
Revenues							
Fuel Flowage Fee	\$0	\$0	\$0	\$.50	\$0	\$0	\$0
Jump Start Fee	\$0	\$0	\$0	\$390.00	\$4,170.00	\$6,640.00	\$1,920.00
Landing Fees	\$1,480.50	\$8,554.00	\$804.00	\$810.00	\$11,505.00	\$5,667.75	\$0
Yearly Maint. Fees	\$0	\$0	\$0	\$0	\$3,800.00	\$3,900.00	\$0
Tiedown Fees	\$3,050.00	\$3,600.00	\$3,600.00	\$2,300.00	\$0	\$0	\$0
AirLife Callouts	\$7,335.00	\$8,955.00	\$7,965.00	\$7,605.00	\$7,110.00	\$11,160.00	\$1,665.00
Aviation Fuel Sales	\$615,065.03	\$616,462.22	\$479,089.76	\$435,184.95	\$698,604.98	\$595,891.63	\$808,075.25
Fuel Tax Refund	\$24,039.48	\$18,903.27	\$16,361.65	\$3,211.31	\$1,307.82	\$0	\$1,263.84
Aviation Oil	\$5,456.25	\$2,216.00	\$1,285.00	\$13.50	\$7,807.00	\$5,743.20	\$9,568.00
Forest Service Rent	\$111,000.00	\$44,084.50	\$30,699.51	\$38,191.38	\$60,668.88	\$60,668.88	\$30,334.44
Hangar Rent	\$8,780.00	\$9,185.00	\$13,055.00	\$16,055.00	\$12,760.00	\$12,830.00	\$4,860.00
Car Rental	\$20.00	\$0	\$58.55	\$0	\$0	\$0	\$0
Misc. Refund & Resource	\$653.31	\$61,109.88	\$2,307.04	\$2,782.95	\$10,974.75	\$2,440.78	\$788.96
Disposition of Assets	\$402.27	\$510.00	\$0	\$0	\$0	\$0	\$0
Total Revenues	\$777,281.84	\$773,579.87	\$555,225.51	\$506,544.59	\$818,708.43	\$704,942.24	\$858,475.49
Expenses							
Personnel Services	\$75,294.21	\$66,282.70	\$78,494.22	\$82,413.21	\$84,967.78	\$101,019.67	\$56,906.70
Materials & Services	\$664,056.34	\$616,891.90	\$492,012.48	\$469,592.16	\$658,649.05	\$632,799.55	\$656,007.33
Capital Outlay	\$194,295.00	\$307,160.00	\$0	\$366,141.00	\$0	\$0	\$0
Transfer to Public Works *	\$30,000.00	\$30,000.00	\$30,000.00	\$30,000.00	\$30,000.00	\$30,000.00	\$0
Loans	\$15,111.56	\$69,361.78	\$110,187.78	\$90,046.78	\$4,886.79	\$0	\$0
Total Expenditures	\$1,018,757.11	\$1,089,696.38	\$710,694.48	\$1,038,193.15	\$778,503.62	\$763,819.22	\$712,914.03

Source: Union County, January 2015. Fiscal Year runs July 1 through June 30. *Transfer supplements Director's salary for his/her work at the Airport. No compliance concern.

