PRIEST RIVER AIRPORT MASTER PLAN

MASTER PLAN NARRATIVE REPORT | SEPTEMBER 14, 2016

T-O ENGINEERS

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Table of Contents

ATTACHMENTS

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1.0 INTRODUCTION

1.1 GENERAL

The purpose of the airport master planning process for Priest River Municipal Airport is to assist Bonner County to ensure that the airport is developed in a manner that coincides with current and future aviation demand. The local community initiated this airport planning effort with the desire to continue to meet the needs of the existing airport users as well as to understand the demands that future users will place upon the facility and reconcile the necessary improvements that need be made to the airport facilities in order to meet the expected demands. This planning process intends to address these local needs while maintaining compliance with the Federal Aviation Administration (FAA) and Idaho Transportation Department – Division of Aeronautics (ITD) requirements.

This airport master plan incorporates information from the previous Airport Layout Plan completed in 2010 and identifies new airport planning and development recommendations that are consistent with the airport's present and future needs for this 20-year planning horizon. The recommendations included in this plan were developed using sound variables based on the best current practices in the airport planning discipline.

1.2 PROJECT BACKGROUND

This airport master plan was originally identified and programmed through the FAA. Bonner County intends to identify sound planning recommendations in this airport master plan in order to meet the FAA's requirements for safe and efficient facilities as well as provide for a well-planned airport that is vital to the health and vitality of the Bonner County community.

1.2.1 PUBLIC OUTREACH

Over the course of the planning process, project meetings were held in the city of Priest River, Idaho, to discuss project goals, ideas and status. Public outreach efforts for this master plan included the following: formal Project Advisory Committee (PAC) coordination, public information and involvement meetings with the Bonner County Board of County Commissioners. Attendance at the public involvement meeting was decent for an airport this size and ample feedback was received.

All public meetings were advertised according to County requirements providing ample notice to the community regarding the planning project. Comments from the Public, PAC, Commissioners and Airport Board were incorporated as appropriate into the planning documents.

1.3 PROJECT GOALS

- Document existing airport facilities and activity levels.
- Update aircraft activity and fleet mix forecasts for the airport.
- Identify the present and future role(s) of the airport.
- Identify the size and layout of airside and landside facilities to accommodate projected aircraft demand and FAA airport design standards.
- Identify optimum landside uses that enhance the economic benefits of the airport and are compatible with airside operations.
- Quantify the airport's economic contribution to the community.
- Prepare compatible land-use and height restriction plans consistent for the airport vicinity including recommended zoning protection within the airport influence area.
- Involve the public throughout the planning process in a meaningful, efficient and productive manner.
- Develop realistic phased development and maintenance plans for the airport that provides the basis for future federal, state, local government and private investment in the airport.
- Screen proposed development projects for potential environmental impacts.
- Prepare an Airport Layout Plan drawing set and associated Master Plan narrative report that meets current FAA standards.

1.4 FUNDING AND ADMINISTRATION

This planning study is funded in part with Federal Aviation Administration (FAA) Airport Improvement Program (AIP) funds; Idaho Department of Transportation, Division of Aeronautics, Idaho Airport Aid Program (IAAP) and with local funds. FAA funding for this project was 90 percent of the total project cost with the remaining 10 percent split equally between IAAP and local funds. The master plan update document and Airport Layout Plan were prepared in accordance with the current regional FAA ALP checklist and guidance provided in FAA:

- Advisory Circular (AC) 150/5070-6B, Change 2 [*Airport Master Plans*]
- AC 150/5300-13A, Change 1, [*Airport Design*]
- AC 150/5060-5, [*Airport Capacity and Delay*]
- AC 150/5325-4C, [*Runway Length Recommendations for Airport Design*]
- FAR Part 77, [*Safe, Efficient Use and Preservation of the Navigable Airspace*]
- FAA Order 5100.38D, [*AIP Handbook*]
- FAA Order 1050.1E, Change 1, [*Environmental Impacts: Policies and Procedures*]
- Other applicable Advisory Circulars (ACs) and changes, FAA Orders and Federal Aviation Regulations (FARs)
- State of Idaho guidance

1.5 PLAN PROCESS

Development of the airport master plan with ALP requires a series of specific steps. The planning process will address several basic elements in the following chapters.

1.5.1 INVENTORY

The airport inventory is a collection of information about the existing airport facilities, including characteristics of the existing runway and taxiways, airport access, property holdings, airport users, airport services, hangars and aircraft parking aprons, population changes, land uses, development trends, changes in employment and income and future trends in the study area.

1.5.2 AVIATION ACTIVITY FORECASTS

The development of the aviation activity forecast for Priest River Municipal Airport provides a prediction of future aircraft operation levels and the types of aircraft that will operate at the airport. All predictions are made based on the accepted statistical methods practiced within the aviation planning industry, recognizing that no method for predicting future events exists which produces 100 percent accurate results. Forecasts are developed using various mathematical, market share and trend projection techniques to develop a statistically justifiable estimate of the future number of based aircraft, type of aircraft, and the total number of aircraft operations that should be expected at this airport. Anticipated levels of airport activity at the airport are organized in set intervals describing the expected future users. The FAA must approve aviation activity forecasts.

1.5.3 FACILITY REQUIREMENTS ANALYSIS

This section compares existing airport conditions to the expected future condition and recommends what is needed to sustain the current activity levels and the levels of activity forecast for the future. Using this comparison, it is possible to identify where there are deficiencies or excesses within the airport facility. The output of this section is a list of facility improvements that the airport endeavors to achieve.

1.5.4 AIRPORT ALTERNATIVES ANALYSIS

This portion of the master plan update compares the possible actions that may be taken to meet the needs of the airport. The options considered in the alternatives analysis can range from minor to major undertakings on the airport property and its facilities. The various alternatives

designated for this project will form the basis for future airport development at the Priest River Municipal Airport.

1.5.5 DEVELOPMENT PLAN

The development plan and the associated airport Capital Improvement Program (CIP) is a key plan for airport decision makers. It is a realistic listing of the projects required to satisfy the facilities requirements including the most viable manner of meeting these needs. The CIP includes a cost estimate based on current construction costs for each development. The CIP also identifies sources of funding and the phasing of the required improvements.

1.5.6 AIRPORT COMPLIANCE AND LAND USE POLICY REVIEW AND RECOMMENDATIONS

This section provides Priest River Municipal Airport with a clear understanding of its federal and state regulatory requirements and grant assurances. The management best practices the airport should have in place in order to ensure compliance with grant assurances and other policies are discussed.

In addition, compatible land use and zoning has become increasingly important for airports over the last decade and the FAA has stressed that each airport should have appropriate measures in place to ensure appropriate development occurs within the airport environs. This portion of the airport master plan will review existing policy and zoning in place in Bonner County and the adjacent city of Priest River, regarding airport land use and future development. Recommendations for improved policy to prevent incompatible land use surrounding the airport are also identified.

1.5.7 AIRPORT LAYOUT PLAN (ALP) DRAWING SET

Tied to the development of the airport master plan is the preparation of a series of drawings depicting the existing airport and the proposed changes to the airport over the next 20 years, commonly referred to as the ALP. A description of each drawing included in the ALP drawing set for the Priest River Municipal Airport is included in Chapter Eight along with a complete drawing set.

2.0 INVENTORY OF EXISTING CONDITIONS

2.1 INTRODUCTION AND PLANNING CONTEXT

2.1.1 GENERAL

The purpose of the inventory is to summarize existing conditions of all the facilities at the Priest River Municipal Airport (1S6) as well as summarize other pertinent information relating to the community and the airport background, airport role, surrounding environment and various operational and other significant characteristics.

The information in this chapter describes the current status of the Priest River Municipal Airport and provides the baseline for determining future facility needs. Information was obtained through various justifiable mediums including: consultant research, review of existing documents, interviews and conversations with airport stakeholders including the airport sponsor (Bonner County), City of Priest River, airport tenants, Idaho Transportation Department - Division of Aeronautics (ITD) and other knowledgeable sources.

2.1.2 FAA NATIONAL PLAN OF INTEGRATED AIRPORT SYSTEMS (NPIAS) AND ASSET STUDY

The United States has developed a national airport system. Known as the National Plan of Integrated Airport Systems (NPIAS), this system identifies public-use airports considered by the Federal Aviation Administration (FAA), state aviation agencies, and local planning organizations to be in the national interest and essential for the U.S air transportation system. Per the 2013-2017 NPIAS Report to Congress, guiding principles of the NPIAS include:

- The NPIAS will provide a safe, efficient and integrated system of airports;
- The NPIAS will ensure an airport system that is in a state of good repair, remains safe and is extensive, providing as many people as possible with convenient access to air transportation
- The NPIAS will support a variety of critical national objectives such as defense, emergency readiness, law enforcement, and postal delivery.

In addition, this system plan helps promoting airport permanence, to ensure the airports will remain open for aeronautical use over the long term; as well as compatible development with the surrounding communities, to maintain a balance between the needs of aviation, the environment and the requirements of the residents.

Only airports in the NPIAS are eligible for financial assistance and Federal Grants under the Airport Improvement Program (AIP). The NPIAS is updated and published biennially by the FAA. The updated NPIAS report is submitted to Congress and both identifies and reaffirms airports in the system and the amounts and types of airport development eligible for AIP funds over the next 5 year period.

Currently there are 5,171 public-use airports included in the NPIAS. The airports included in the NPIAS are classified into different categories: Primary Commercial Service Airports (further divided into large-, medium-, small- and non-hub), Non Primary Commercial Service Airports and General Aviation Airports. General Aviation airports are usually classified as Basic Utility, designed to handle single-engine and small twin-engine propeller aircraft and General Utility, designed to accommodate larger aircraft. Small aircraft are aircraft of 12,500 lbs. or less maximum certificated take-off weight, while large aircraft are those of more than 12,500 lbs. maximum certificated take-off weight. All primary and commercial service airports and selected general aviation airports are included in the NPIAS.

The FAA also released a study providing a deeper classification of the General Aviation airports included in the NPIAS. In this study, known as General Aviation Airports: A National Asset (Asset Study), the FAA further classifies the General Aviation airports into the following categories: National Airports, Regional Airports, Local Airports and Basic Airports.

Priest River Municipal Airport is part of the FAA's NPIAS and is recognized as a General Aviation airport. In addition, in the FAA study General Aviation Airports: A National Asset, Priest River Municipal Airport is classified as a Basic Airport, which are the airports often serving critical aeronautical functions within local and regional markets.

2.1.3 IDAHO AIRPORT SYSTEM PLAN (IASP)

The Idaho Airport System Plan (IASP) was initiated by the Idaho Transportation Department (ITD) Division of Aeronautics, to ensure that the state's airport system is developed to meet all of the transportation safety and economic needs. During this comprehensive study each airport in the system was evaluated to gauge its role, activity and needs for infrastructures. The IASP analyzed 75 of the 119 public use airports in Idaho.

The airports included in the IASP are divided according to their role in the state system. Five different functional roles are identified: Commercial Service, Regional Business, Community Business, Local Recreational and Basic Service.

The ITD State Aviation System Plan identifies the role for Priest River Municipal Airport to be Local Recreational because this airport serves as a recreational, personal flying and limited

local business activity role for the County and City of Priest River. (Idaho Airport System Plan, 2010).

2.2 AIRPORT AND COMMUNITY BACKGROUND

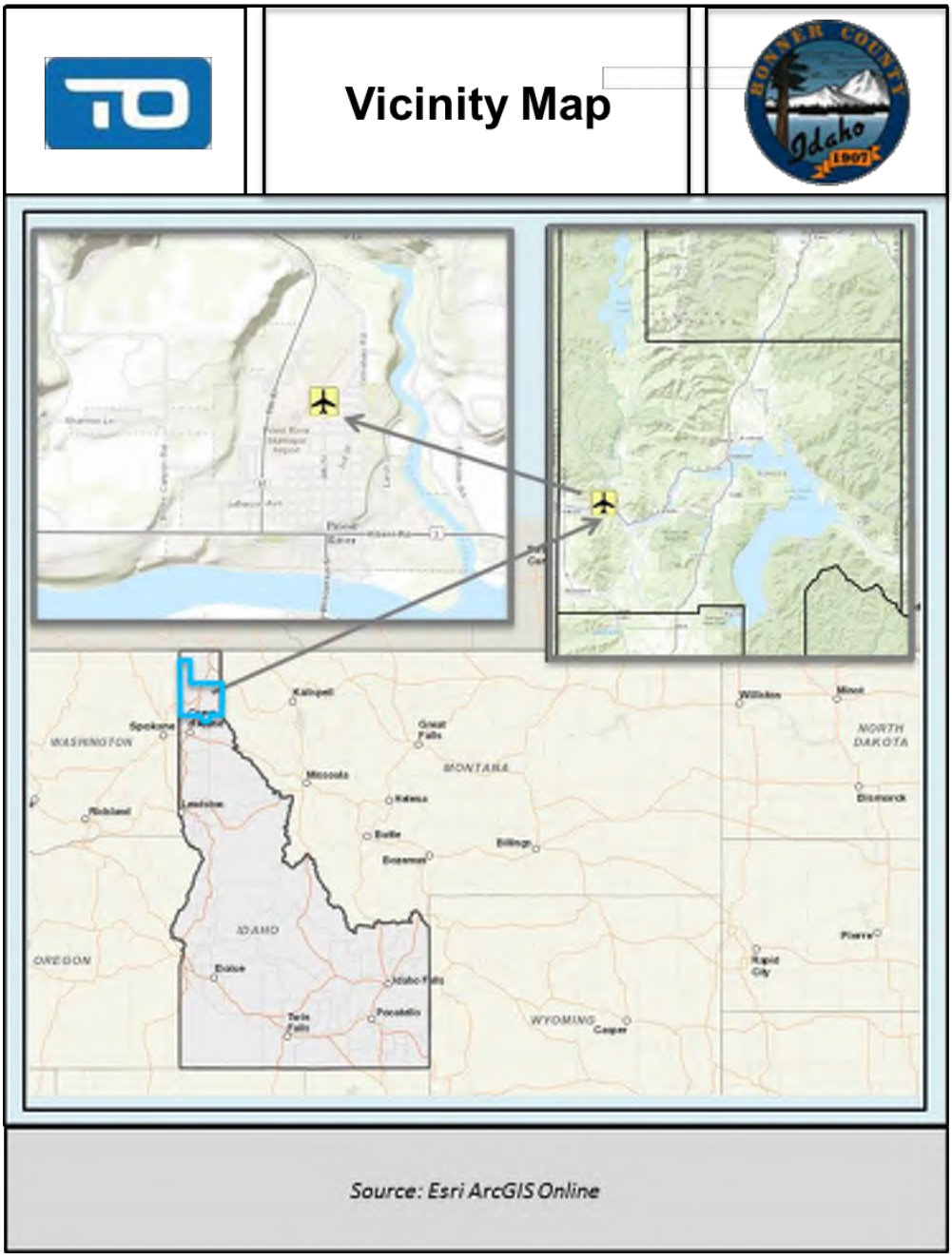
2.2.1 GENERAL

Priest River Municipal Airport is located on approximately 71 acres 0.8 miles north of the intersection of US-2 and SH-57 in the City of Priest River. It serves the western Bonner County region, Priest Lake and Newport, Washington.

2.2.2 AIRPORT LOCATION

The airport is located in North Idaho at 48° 11' 26.5" north latitude and 116° 54' 35.2" west longitude. The runway is oriented on heading(s) 10/190 degrees respectively (Runway 1/19), at an elevation of 2,193 feet. The airport is bounded by mountainous terrain to the north with the urbanized area of Priest River surrounding the remainder. **Figure 2-1** depicts a vicinity map for reference. The airport is situated near the confluence of Priest River and Pend Oreille River with State Highway 57 on the west side.

FIGURE 2-1 – VICINITY MAP



2.2.3 AIRPORT OWNERSHIP AND MANAGEMENT

The airport is currently owned, operated, and managed by Bonner County. The current Airport Director and Airport Manager are James Kaiser and Dave Schuck, respectively. A Volunteer Airport Advisory Board consisting of five appointed members oversee day-to-day operations at the airport. The Airport Board transmits recommended actions and policies to the Bonner

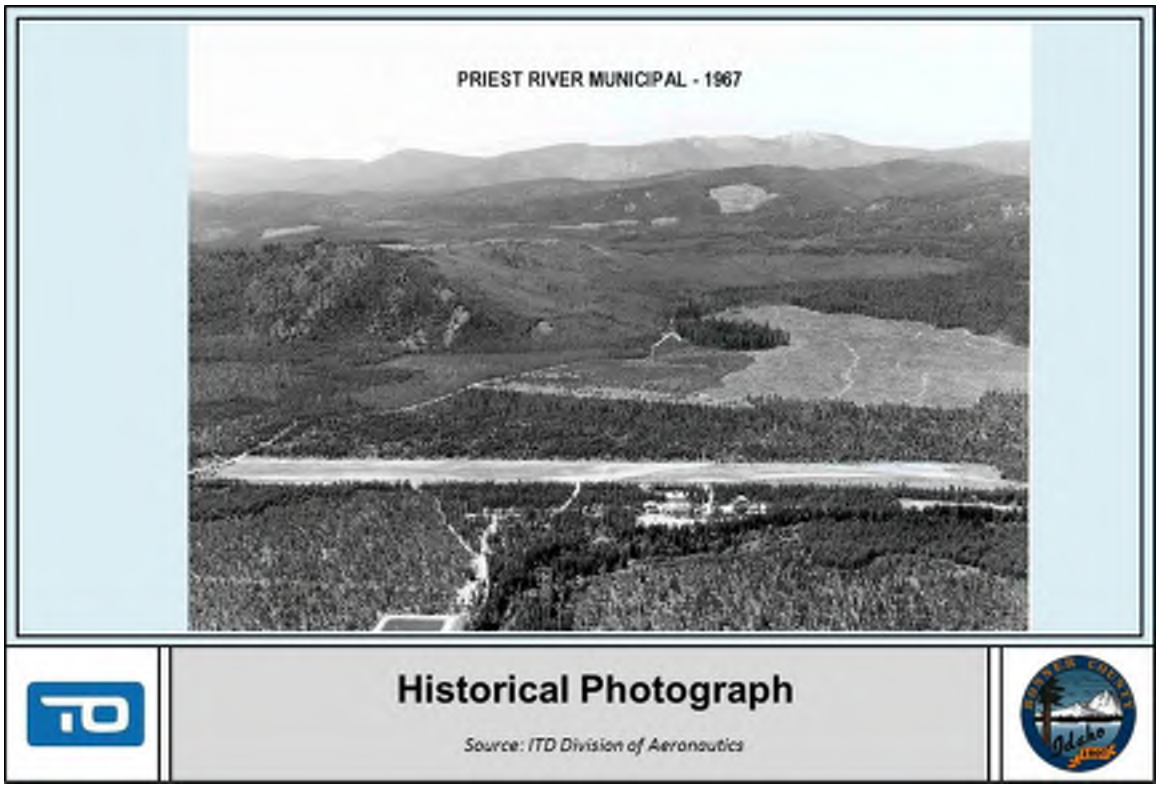
Although the airport is registered as Priest River Municipal Airport, the airport is a county-owned airport and not a city-owned airport anymore. As the airport was owned by the City of Priest River before 1979, the designation "Priest River Municipal Airport" is likely to be a remnant of this era.

2.2.4 AIRPORT HISTORY, PROJECTS AND MILESTONES

According to the Priest River Times, the Town of Priest River is the first in the county to secure an aircraft landing field. The airport property was originally acquired by the Village of Priest River in 1929. Over the next few years, the airfield was cleared of trees and stumps with the official airport dedication in May 1931. The runway consisted of a gravel or dirt strip that was about 2,000-feet long by 60-feet wide. This runway was described in an east west direction near the current pilot's lounge. A field investigation and airport engineering study in 1947 recommended abandoning the east-west runway and constructing a new SE/NW runway at about 4000-feet in length. The Village of Priest River changed the runway direction to the current alignment in the years before 1955. This runway was listed as 50-feet wide and 3,000-feet long with a sod surface. In 1969, Bonner County and the State of Idaho jointly paid to pave the runway for a total of $11,035. **Figure 2-2** shows the runway prior to being paved.

The local pilots and Wayne Merritt joined forces to construct the north shed style condo hangar in the late 1960's. Bonner County applied to be a part of the National Airports Systems Plan in 1975 making the airport eligible for Federal funding on future projects and lights were installed on the runway during the same year. In 1979, the City of Priest River transferred ownership of the airport to Bonner County for liability and maintenance reasons. In the early 1990's, the northern shed style hangar collapsed under snow weight and the insurance money funded the construction of the south shed style condo hangar with in-kind labor from local pilots and community. Wayne Merritt was a major benefactor for the airport; the Priest River Municipal Airport was co-named Wayne Merritt Field in 1997 to honor his support of aviation and this airport. During the 1990's, three enclosed box style hangars were constructed north of the existing shed hangars. Taxiways and apron were constructed in 2013 to provide additional hangar space and to relocate tie-downs out of the Runway Object Free Area (ROFA).

FIGURE 2-2: HISTORICAL PHOTOGRAPH



2.2.5 SOCIOECONOMIC CONDITIONS

According to sources including the U.S. Census, and the Idaho Department of Labor, total county population in 2010 was approximately 40,877 with 24,669 households. Median household income is reported to be approximately $41,379. The City of Priest River contains approximately 1,715 people (4.2% total County population) in 798 households with a reported median household income of $29,583. Bonner County currently ranks 8th among Idaho counties in population and 19th in land. The federal government owns about 44 percent of the county.

Forest products, manufacturing, health care and education, trade, and government provide the foundation for the Bonner County local economy. Additional economic contributors include leisure and hospitality. Major employers in the region include the Bonner General Hospital, Litehouse, Thorne Research, Schweitzer Mountain Resort, Idaho Forest Group, Life Care Center, and Walmart.

2.3 AVIATION ACTIVITY

2.3.1 EXISTING AIRPORT ACTIVITIES AND USERS

The Priest River Municipal Airport provides for a variety of aviation uses and activities. The airport predominantly serves single-engine aircraft with occasional use by small multi-engine aircraft as well. Principal aviation activities occurring at this airport include recreational flights, flight instruction, medical evacuation and shipments, and occasional police or military use.

2.3.2 EXISTING ACTIVITY LEVELS

Airport activity levels include the number of aircraft operations and based aircraft. The FAA's 5010-1 Airport Master Record is the official record kept by the FAA for public-use airport activities and facility conditions. The 5010 data are populated by the reporting actions taken by the airport management and ITD. A single aircraft operation is defined as either an aircraft take-off or landing; therefore, a "touch-and-go" counts as two operations.

The airport's most recent FAA 5010 identifies 16 total aircraft (14 single-engine, 2 ultra-light) based at the Priest River Municipal Airport. The FAA's National Based Aircraft Inventory Program was also reviewed and it too reports 16 based aircraft. It should be noted that the Based Aircraft Inventory has not been updated since August, 2012. The sixteen based aircraft are all single-engine and include one Cessna 120, two Cessna 150, five Cessna 182, one Cessna 172, one Piper PA-18, one Beech G35, one Bellanca, one Aeronca 11AC, one registered ultralight Chehock Clyde and two other ultra-light aircraft.

An estimated 8,000 operations occur annually at the airport: approximately 20% of all operations are local and 80% are itinerant. According to the FAA, local operations are performed by aircraft which:

- Operate in the local traffic pattern or within sight of the airport, or
- Are known to be departing for, or arriving from, flight in local practice areas located within a 20-mile radius of the airport, or
- Execute simulated instrument approaches or low passes at the airport.

Itinerant operations are all aircraft operations, other than local operations. Priest River Municipal Airport is not used by air taxi or air carrier. Per the FAA Terminal Area Forecast (TAF) there are no military operations at the airport. However, airport management and users of the airport report minimal amount of military helicopter traffic throughout the year.

With the absence of a Traffic Control Tower, or other regular means of counting operations, it is important to recognize that current usage is an estimate. More detailed analysis of airport activity is included in Chapter 3, Aviation Activity Forecasts.

2.4 EXISTING AIRSIDE FACILITES

2.4.1 RUNWAY

The airport has been developed and improved over time to the present single asphalt concrete runway configuration designated respectively. The physical dimensions of the pavement based on available survey data are 2,983 feet in length and 48 feet in width. The airport's 5010 currently lists a published runway length of 2,950 feet and the existing Airport Layout Plan (ALP) also shows the runway length as 2,950 feet. The airport's 5010 should be updated to match the most recent survey data, which indicates an usable pavement length of Runway 01/19 of 2,983. There are no displaced thresholds listed or published for this airport.

Runway 01/19 is a visual only runway with basic runway markings. The markings are considered to be in fair condition. The asphalt pavement strength is designed for small aircraft weighing 12,500 lbs. or less, single wheel loading. Runway 19 is the primary runway end accommodating approximately 90% of departures, and approaches are about 50% for each runway end. Night operations recommended in the 5010 show approach on Runway 1 and depart from Runway 19. Additional details on the airport's design standards will be provided in section 2.5, Airport Design Standards.

2.4.2 TAXIWAY SYSTEM

The airport has a ramp edge partial parallel taxiway that is 25 feet wide and paved. The taxiway and associated taxiway connectors are not lit but are equipped with reflective markers. Both are marked with basic taxiway markings. This ramp edge partial parallel taxiway and associated taxiway connectors were reconstructed in 2013.

Figure 2-3 below provides an aerial view of existing airport facilities.

FIGURE 2-3 – AERIAL OF AIRPORT FACILITIES

2.4.3 AIRPORT PAVEMENT CONDITION

The Pavement Condition Index (PCI) and Pavement Condition Rating (PCR) are based on a visual inspection of pavement condition only. ITD completes a full PCI inspection of airport pavements on a statewide basis every three years. The last PCI inspection conducted at Priest River Municipal Airport by ITD was in 2012.

Per the 2012 ITD Report, the runway had an average PCI of 91.5, which is a good PCR rating. The ramp edge partial parallel taxiway and connector were reconstructed in 2013, and consequently has a good PCI value.

2.4.4 AIRFIELD LIGHTING, VISUAL AIDS AND NAVAIDS

A NAVAID is defined by the FAA as any facility used in the aid of air navigation, including landing areas, lights, any apparatus or equipment for disseminating weather information, for signaling, for radio direction-finding, or for radio or other electronic communication, and any other structure or mechanism having similar purpose and controlling flight in the air or the landing or takeoff of aircraft.

Runway 01/19 is equipped with a Non Standard Low Intensity Runway Lighting (LIRL) system with Pilot Controlled Lighting (PCL). PCL is activated via Common Traffic Advisory Frequency (CTAF) – 122.9. A lighted wind cone exists on the east side of the airport within the Runway Object Free Area (OFA).

Table 2-1 summarizes the existing visual aids and NAVAIDs available at Priest River Municipal Airport.

TABLE 2-1 – PRIEST RIVER MUNICIPAL AIRPORT VISUAL AND NAVIGATION AIDS (NAVAIDS)

GENERAL
UNICOM - 122.9
Lighted Wind Cone
RUNWAY 01/19
Low Intensity Runway Lighting (LIRL)

Source: ES Engineering, 5010

Nearby Navigation Aids are summarized in **Table 2-2**.

TABLE 2-2: NEARBY NAVIGATION AIDS

ID	Type	Name	Frequency	Range	Radial/Bearing
COE	VOR/DME	Coeur d'Alene	108.8	25.3 nm	332°
SKA	VORTAC	Fairchild	111.4	46.2 nm	024°
GEG	VORTAC	Spokane	115.5	47.4 nm	016°
MLP	VOR/DME	Mullan Pass	117.8	67.5 nm	296°
SZT	NDB	Sandpoint	264	15.5 nm	047°
DPY	NDB	Deer Park	365	24.7 nm	218°
LEN	NDB	Post Falls	347	27.0 nm	165°
ION	NDB	Ione	379	37.1 nm	308°

Source: SkyVector.com, T-O Engineers

2.4.5 INSTRUMENT APPROACH CAPABILITIES

The Priest River Municipal Airport is currently a VFR only airport with no instrument approach capabilities. **Table 2-3** lists the nearby airports equipped with instrument approaches.

TABLE 2-3: NEARBY AIRPORTS EQUIPPED WITH INSTRUMENT APPROACHES

ID	Name (State)	Distance	Direction	Type of Approach	Height Above Touchdown (HAT)	Visibility AAC A (AAC B)*
KSZT	Sandpoint Airport (ID)	15 nm	northeast	RNAV (GPS)-B	1589	1¼ (1½)
				LOC/DME-A	989	1¼ (1½)
KDEW	Deer Park Airport (WA)	36 nm	southwest	RNAV (GPS) RWY 34	265	1
				NDB-A	789	1 (1¼)
KCOE	Coeur d'Alene – Pappy Boyington Field (ID)	25 nm	south	ILS RWY 6	200	½
				RNAV (GPS) RWY 6	200	½
				VOR/DME RWY 2	435	1
				VOR RWY 6	410	½
				NDB RWY 6	490 (610)	¾
KSFF	Felts Field Airport (WA)	35 nm	southwest	ILS RWY 22R	270	¾
				RNAV (GPS) RWY 4L	250	1
				RNAV (GPS)-A	923	1¼
				VOR RWY 4L	991	1¼ (1½)
65S	Boundary County Airport (ID)	40 nm	northeast	GPS RWY 2	930	1¼

* Visibility in Statute Miles. Aircraft Approach Category A (Aircraft Approach Category B if different)

Source: Airnav.com, T-O Engineers

2.4.6 HELICOPTER LANDING AREA/PARKING

Although Priest River Municipal Airport accommodates helicopter operations, including Life Flight helicopter operations, the airport is currently not equipped with a dedicated helipad and helicopter parking area. The helicopters currently park on the apron in front of the open shed style hangars, which cause Foreign Object Damage (FOD) issues. A designated helicopter landing and parking area will be considered in the subsequent chapters of this plan.

2.4.7 AIR TRAFFIC CONTROL

Priest River Municipal Airport is not equipped with an Air Traffic Control Tower (ATCT). The airport is located in the service area of Boise Flight Service Station (FSS) and in the jurisdiction of the Seattle's Air Route Traffic Control Center (ARTCC).

2.4.8 OBSTRUCTIONS TO AIR NAVIGATION

Table 2-4 lists the obstructions to Air Navigation in the vicinity of the runways of Priest River Municipal Airport. Additional information regarding airspace and Part 77 is included in Section 2.9, Airspace.

TABLE 2-4: PART 77 OBSTRUCTION DATA FOR RUNWAY 1-19

Runway End	Obstructions	Obstruction Height Above RW end	Obstruction Distance from RW end	Clearance Slope	Recommended Slope	Close In Obstruction
1	Trees	80'	1,000' from runway	10:1	20:1	No
19	Trees	75'	650' from runway 150' left of centerline	6:1	20:1	No

Source: FAA Form 5010, T-O Engineers

2.4.9 SUMMARY OF AIRSIDE FACILITIES

Table 2-5 summarizes the existing airside facilities at the Priest River Municipal Airport.

TABLE 2-5 – SUMMARY OF EXISTING AIRSIDE FACILITIES

ITEM		CURRENT DATA
Airport Role		GA/Basic (FAA)/Local Recreational (ITD)
Airport Elevation		2,193' MSL
Airport Property (acres)		75.54
Highest Average of Monthly Maximum Temperature		82.3° F
Airport Reference Point Coordinates (NAD 83)	Latitude	48° 11' 26.4" N
	Longitude	116° 54' 35.5" W
Magnetic Declination (Year 2014)		14° 52' 30" East
Annual Magnetic Variation (Year 2014)		0° 11' West per year
Instrument Approaches		None
Runway (1/19)		
Runway Length		2,983'
Runway Width		48'
Runway Pavement Type		Asphalt
Runway Pavement Strength - SW		12,500 lbs.
Runway Pavement Strength - DW		---
% Effective Runway Gradient		0.7%
Runway Lighting Type		Non Standard. LIRL
Runway Marking Type		Visual
Ramp edge Partial Parallel Taxiway		
Taxiway Pavement Type		Asphalt
Taxiway Pavement Strength - SW		12,500 lbs.
Taxiway Width		25'
Taxiway Lighting Type		Reflector

Source: Existing ALP and Narrative, NOAA ES Engineering, T-O Engineers, Inc.

2.5 AIRPORT DESIGN STANDARDS

Most public use airports are developed based on certain design standards. FAA NPIAS airports, including Priest River Municipal Airport, are required to be designed and built in accordance with the FAA defined classification system referred to as the Runway Design Code (RDC). The RDC is a code signifying the design standards to which the runway is to be built. Runway design standards are related not only to operational and physical characteristics of the critical aircraft intended to operate at the airport, such as aircraft approach speed, wingspan and tail height, but also to the approach visibility minimum associated with the runway. Typically, the FAA determination of a critical aircraft is based on a substantial use threshold of 500 operations per year, or more, of the most demanding aircraft.

Design standards associated with the RDC provide for the runway width and proper ground based "set-backs" or safety related areas around the runway environment. The RDC has three components related to the airport design aircraft; (a) approach speed, (b) wingspan and tail height, and (c) designated or planned approach visibility minimums.

The first component of the RDC is depicted by a letter and is based on the aircraft approach speed. The second component, depicted by a Roman numeral, is the airplane "Design Group" and is based on either the aircraft wingspan or the tail height. The third component, depicted by a numeric value or “VIS” (visual approach only), is the visibility minimums expressed by Runway Visual Range (RVR) values in feet. A summary of the FAA approach categories, design groups, and visibility minimums that result in the RDC is included below:

Aircraft approach category: Grouping of aircraft is based on 1.3 times their stall speed in their landing configuration at their maximum certificated landing weight. The categories are as follows:

- Category A: Speed less than 91 knots.
- Category B: Speed 91 knots or more but less than 121 knots.
- Category C: Speed 121 knots or more but less than 141 knots.
- Category D: Speed 141 knots or more but less than 166 knots.
- Category E: Speed 166 knots or more.

Airplane Design Group (ADG): A classification of airplanes based on their wingspan or tail height. The groups are depicted in **Table 2-6** below:

TABLE 2-6: AIRPLANE DESIGN GROUP (ADG)

Group	Tail Height	Wingspan
I	< 20’	< 49’
II	20’ - < 30’	49’ - < 79’
III	30’ - < 45’	79’ - < 118’
IV	45’ - < 60’	118’ - < 171’
V	60’ - < 66’	171’ - < 214’
VI	66’ - < 80’	214’ - < 262’

Source: FAA AC 150/5300-13A Change 1

Visibility Minimums: A grouping of RVR values based on flight visibility category (statute mile). The RVR’s are as follows:

- 4000: Lower than 1 mile but not lower than ¾ mile (Approach Procedure with Vertical Guidance (APV) ≥ ¾ but < 1 mile).
- 2400: Lower than ¾ mile but not lower than ½ mile (CAT-I PA).
- 1600: Lower than ½ mile but not lower than ¼ mile (CAT-II PA).
- 1200: Lower than ¼ mile (CAT-III PA).
- VIS: Visual approach only

An analysis of the FAA Runway Design Standards Matrices, included in the FAA AC 150/5300-13A Change 1, shows that A-I Small and B-I Small standards are identical; similarly A-I and B-I standards are identical. Based on these matrices there is no difference between the design standards for A-I Small and B-I Small aircraft.

The existing Airport Layout Plan (ALP), designed in 2010, classifies Priest River Municipal Airport as an ARC A-I airport and plans for B-I Small standards in the future. Priest River Municipal Airport currently does not meet most A-I standards, but does meet most A/B-I Small standards. In addition, Priest River Municipal Airport primarily serves small single-engine aircraft weighing 12,500 pounds or less, with approach speeds of 91 knots or more but less than 121 knots, wingspans less than 49 feet and tail height less than 20 feet. As previously mentioned, the airport is currently visual only with no instrument approach capabilities. Therefore, because the airport meets most A-I Small design standards, and because A-I Small and B-I Small standards are identical, the airport will be classified as a B-I Small airport in the subsequent sections of this Airport Master Plan.

Further, the Airport Reference Code (ARC) is an airport designation that signifies the airport's highest RDC, minus the third (visibility) component of the RDC. The ARC is used for planning and design only and does not limit the aircraft that may be able to operate safely on the airport. The ARC and RDC are used during the airport planning process to design and determine the dimensions of most airfield pavements. As Priest River is equipped with one runway only, the ARC is currently B-I Small. This designation is a reflection of the types of aircraft that predominately use the airport.

2.5.1 RUNWAY WIDTH

The required runway width for ADG I is 60 feet. The width of Runway 1/19 is 48 feet and Runway 1/19 width does not meet design standards for RDC A/B-I Small aircraft.

2.5.2 RUNWAY PROTECTION STANDARDS

FAA design standards help promote an acceptable level of safety at the airport. Runway protection standards include the Runway Safety Area (RSA), the Runway Object Free Area (ROFA), the Runway Obstacle Free Zone (OFZ), and the Runway Protection Zone (RPZ).

Runway Safety Area (RSA)
The RSA is a defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway. The RSA should be cleared and graded and not have potentially hazardous ruts, humps, depressions, or other surface variations.

The design standard for B-I Small-VIS is 120 feet wide and 240 feet beyond each runway end. The RSA for Runway 1/19 at Priest River Municipal Airport meets design standards.

Runway Object Free Area (ROFA)
A defined surface surrounding the runway that is required in order to keep above ground objects from protruding about the RSA edge area. Objects can be located in the ROFA for air navigation or aircraft ground maneuvering purposes including taxiing or holding aircraft. Parked aircraft are not allowed in the ROFA.

The design standards for a B-I Small-VIS ROFA is 250 feet wide and 240 feet beyond each runway end. The ROFA for Runway 1/19 at Priest River Municipal Airport does not meet design standards and is impacted by the wind cone and an air relief valve.

Runway Obstacle Free Zone (OFZ)
The Runway Obstacle Free Zone (OFZ) is a three-dimensional volume of airspace reserved for the exclusive use of one aircraft landing or taking off from the runway. It is centered above the runway centerline, extends 200 feet beyond each end of the runway and is 250 feet wide for operations by small aircraft for runways with approach visibility minimums not lower than ¾ statute miles or 400 feet wide for use by large airplanes. When an aircraft is taking-off or landing nothing can protrude into the OFZ such as signs or other tail, or wingtips of aircraft.

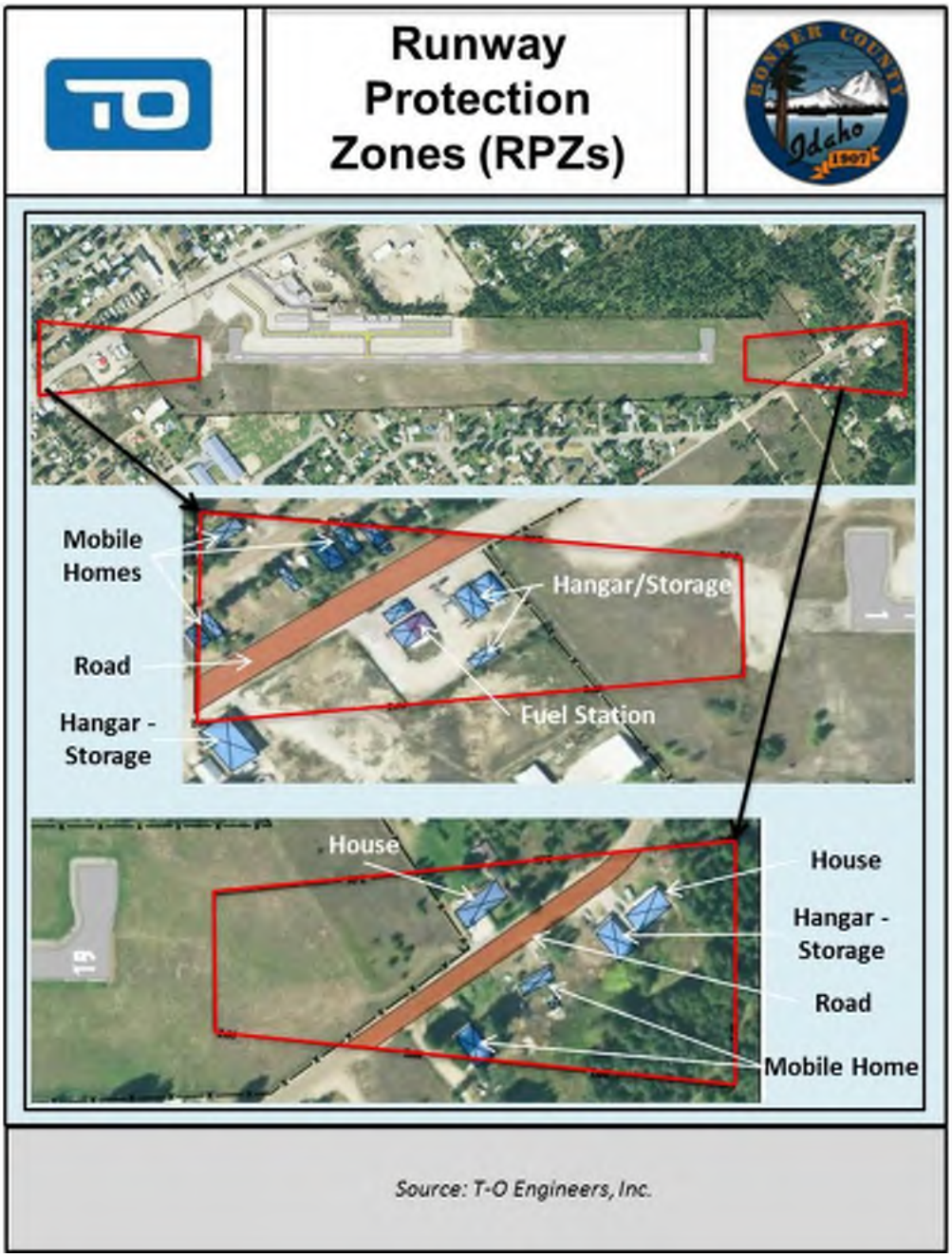
Runway Protection Zones (RPZ)
RPZ's are defined areas on the ground beyond the end of the runway that are maintained clear of incompatible objects and activity in order to enhance the safety and protection of people and property on the ground. The FAA recommends airport sponsors control the RPZs, preferably exercised through the acquisition of sufficient property interest in the RPZ and clearing RPZ areas (and maintaining them clear) of incompatible uses or objects.

The RPZ is trapezoidal in shape and usually begins 200 feet from the end of each runway. The RPZs associated with Runway 1/19 are sized to accommodate FAA design standards for "visual and not lower than 1 mile approach visibility minimums". The existing RPZ inner dimension is 250 feet centered on the runway, the length is 1000 feet, and the width at the outer end of the trapezoid is 450 feet.

The RPZ on both runway ends are impacted by physical features that are by definition not acceptable in RPZ's; namely, Runway 19 by State Highway 57 and Runway 1 by Cemetery Road. Other obstructions in the RPZ's on each end include trees and power lines that need removed or relocated as well as buildings, including mobile homes, houses, storage buildings and a fuel station. **Figure 2-4** depicts the existing RPZs at Priest River Municipal Airport.

Further analysis of existing and future RPZs will be conducted in the subsequent chapters of this plan to determine potential mitigation measures and the feasibility of removing obstacles to provide the highest level of safety for airport users as well as people and property on the ground.

FIGURE 2-4 – RPZS



2.5.3 RUNWAY SEPARATION STANDARDS

Runway separation standards ensure operational safety at the airport. They are based on the Aircraft Approach Category (AAC), the Airplane Design Group (ADG) and Visibility minimum. The runway separation standards include the runway centerline to parallel taxiway centerline

separation, the runway centerline to holdline separation and the runway centerline to edge of parking distance.

Runway/Taxiway Separation
The required separation distance between runway and parallel taxiway centerlines is 150 feet for Airplane Design Group I airports, small airplanes exclusively, for visual runways and runways with approaches with not lower than ¾ mile approach visibility minimums.

The current runway/taxiway centerline separation at the Priest River Municipal Airport meets design standards.

2.5.4 TAXIWAY DESIGN STANDARDS

The required distance between a taxiway/taxilane centerline and other objects is based on the required wingtip clearance, which is a function of the wingspan, and thus determined by the Airplane Design Group (ADG) the second component of the Airport Reference Code (ARC). The design of pavement fillet must consider aircraft undercarriage dimensions and is based on the Taxiway Design Group (TDG), a coding system according to the Main Gear Width (MGW) and the Cockpit to Main Gear Distance (CMG). The existing taxiway fillets at the airport are designed based on TDG-I.

Taxiway Safety Area (TSA)
A defined surface centered on the taxiway centerline. The surface should be cleared and graded, free of objects, capable under dry conditions of supporting aircraft, snow removal equipment and aircraft rescue and firefighting equipment to reduce the risk of damage to an airplane unintentionally departing the taxiway.

The TSA for the ramp edge partial parallel taxiway at Priest River Municipal Airport meets design standards.

Taxiway Object Free Area (TOFA)
A defined surface centered on the taxiway centerline. This area prohibits roads, parked aircrafts and above ground objects except for objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes.

The TOFA for the ramp edge partial parallel taxiway at Priest River Municipal Airport meets design standards.

2.5.5 DESIGN STANDARDS SUMMARY

Table 2-7 presents the dimensional standards for a FAA ARC B-I Small airport. A description of various design standards is included below. Currently, the Priest River Municipal Airport meets most FAA B-I Small design standards. Dimensions of specific FAA designs standards are depicted on the Airport Layout Plan drawing set.

TABLE 2-7: AIRPORT DIMENSIONAL CRITERIA (FEET)

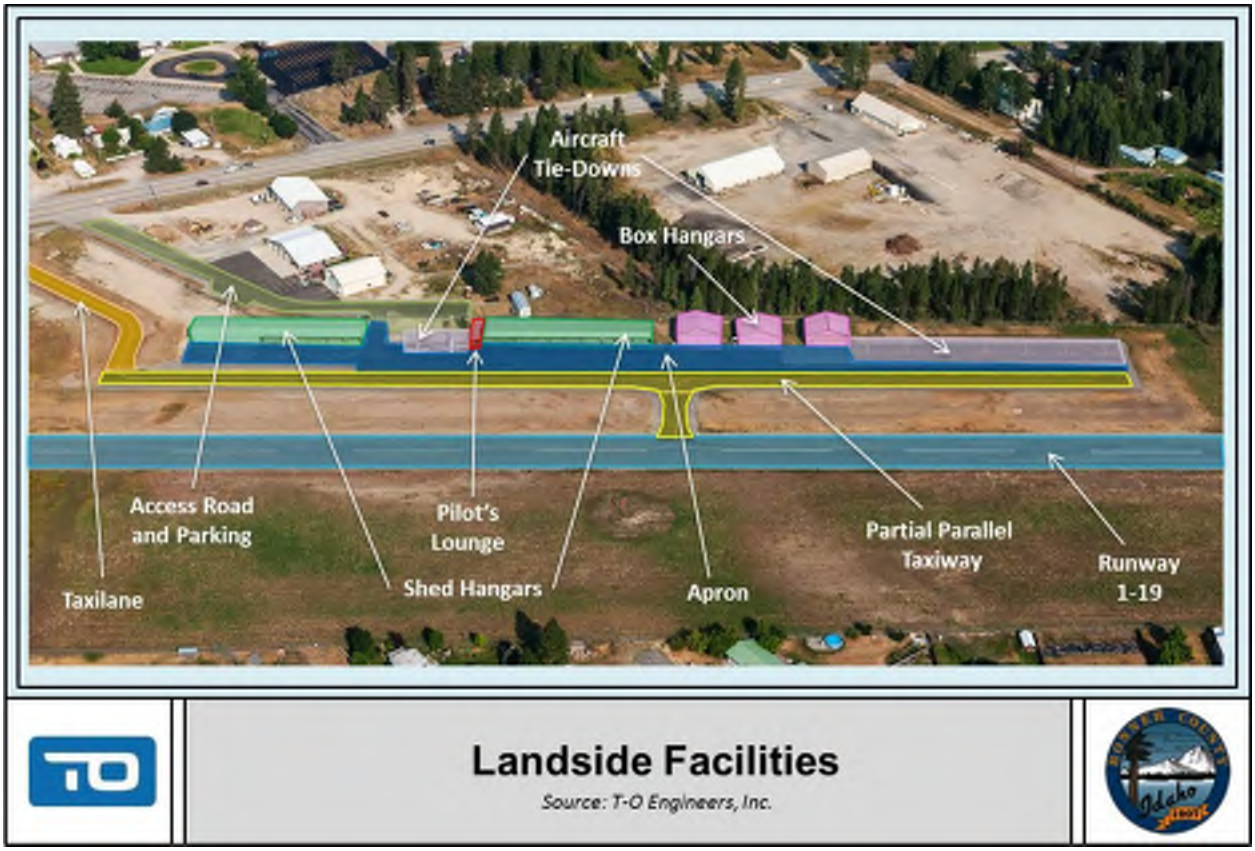
FAA DESIGN STANDARD	FAA STANDARD (A/B-I)	FAA STANDARD (A/B-I Small)	EXISTING
Runway Design Code (RDC)	-	-	B-I Small-VIS
Approach and Departure Reference Codes	-	-	Approach: B-I Small-VIS Departure: B-I Small
Runway Width	60	60	48
Runway Protection Standards			
Runway Safety Area Length beyond each runway end (RSA)	240	240	240
Runway Safety Area Width (RSA)	120	120	120
Runway Object Free Area (ROFA) Length beyond each runway end	240	240	240*
Runway Object Free Area (ROFA) Width	400	250	250**
Runway Protection Zone (RPZ) Length	1000	1000	1000***
Runway Protection Zone (RPZ) Inner and Outer Width	500 / 700	250 / 450	250 / 450***
Runway Obstacle Free Zone (OFZ)	400 (Large aircraft)	250 (Small aircraft)	250
Runway Separation Standards			
Runway Centerline to Ramp Edge Partial Parallel Taxiway Centerline	225	150	150
Runway Centerline to Holding position	200	125	125
Runway Centerline to Edge of Aircraft Parking	200	125	224
Taxiway Design Standards			
Taxiway Width	25	25	25
Taxiway Safety Area (TSA)	49	49	49
Taxiway Object Free Area (TOFA)	89	89	89

* An air relief valve is in the ROFA beyond Runway 1 end
** The wind cone is in the ROFA
*** The RPZ are encroached by State Highway 57 and Cemetery Road as well as trees and power lines
Source: Existing ALP and Narrative, ES Engineering, T-O Engineers, Inc.

2.6 EXISTING LANDSIDE FACILITES

Figure 2-5 hereafter provides an aerial view of existing airport landside facilities.

FIGURE 2-5 – AIRPORT LANDSIDE FACILITIES



2.6.1 GENERAL AVIATION TERMINAL

The general aviation terminal consists of a 400 square foot pilot's lounge and 156 square feet of public restrooms and storage areas. The airport is open 24 hours a day but is not attended. **Figure 2-6** depicts the general aviation pilot's lounge and hangars at Priest River Municipal Airport.

FIGURE 2-6 – GENERAL AVIATION TERMINAL AND HANGARS

2.6.2 AIRCRAFT APRON AND TIE-DOWNS

The parking apron consists of asphalt pavement designed for small aircraft. During the 2013, the apron was reconstructed and relocated out of the runway object free area. Pavement on the apron has a good PCR rating. There are currently 9 fully improved tie-down positions on the apron.

2.6.3 HANGARS

There are 5 hangars located on the airport property, two county owned condo hangars and three box style hangars. The condo hangars are mainly shed style with no door (except two on the south end). Currently there is a 100% utilization rate for hangar capacity. Historically, demand exists for additional hangars at the airport. As of spring 2012, ten interested parties were on a waiting list. Despite a taxilane being built in 2013 to accommodate this demand, the airport has not received any applications for the construction of new hangars. Most of the aircraft owners on the waiting list are interested in leasing hangars already built, rather than building their own hangars.

2.6.4 AIRPORT ROADSIDE ACCESS

There is one defined access point providing ingress/egress onto the airport property from State Highway 57, commonly known as Airfield Way. The access road was paved with the 2013 construction project at the airport.

2.6.5 PERIMETER FENCING

The airport perimeter is completely enclosed with 7 foot chain link fence. Parcel G (12.49 acres) is not enclosed in the fence due to its recent acquisition. The fence limits access from the road at the public access point with an automatic access gate at the main airport entrance.

FIGURE 2-7 – GATE ACCESS

2.6.6 AUTOMOBILE PARKING AND GROUND TRANSPORTATION

A paved automobile parking area is next to the pilot's lounge which can accommodate approximately 5 vehicles. Another parking area adjacent to the Taxilane B development

accommodates 5 additional vehicles. There are no on-airport rental cars. A courtesy vehicle is stored at the airport inside the fence and is available for public use with a nominal use fee.

FIGURE 2-8 – COURTESY CAR

2.7 WEATHER AND CLIMATE

2.7.1 TEMPERATURE AND PRECIPITATION

According to the National Weather Service (NWS), the airport resides in a temperate climate characterized by a variety of weather. On the National Climatic Data Center, from the National Oceanographic and Atmospheric Administration (NOAA), data was available from a weather station, known as the Priest River Experiment Station, located approximately 11 miles north of the airport. Between 1981 and 2010, the average temperature was 44.2° F with the highest average monthly temperature of 82.3° F occurring in July and the lowest average monthly temperature of 30.0° F occurring in December. The airport typically receives majority of the yearly precipitation during the winter months (specifically, November – March), but still receives moderate precipitation throughout the year. The average annual precipitation for the City of Priest River is 31.46 inches. The month of November typically accumulates the most

precipitation with an average of 4.32 inches and the month of August typically accumulates the least with an average of 1.07 inches. Snowfall is most likely to occur between November and March, with the heaviest snows usually recorded in December, however, accumulated snow or snow depth is highest in January.

2.7.2 AUTOMATED WEATHER

Priest River Municipal Airport is currently not equipped with an automated weather reporting system. Weather data in the general vicinity is available 24 hours a day from an automated system at the Sandpoint Airport located 15 nautical miles (NM) east and also from Coeur d'Alene Airport located 25 NM south of Priest River.

2.7.3 RUNWAY WIND COVERAGE

Priest River Municipal Airport does not have an on-site certified weather station. Available data from the National Climatic Data Center (NCDC) was reviewed; however no NCDC site was in reasonable proximity to the airport. The MesoWest weather station summary website, made available from the University of Utah, was reviewed to determine if any other weather stations were located in a reasonable proximity to the airport. MesoWest is an ongoing cooperative project between University of Utah and different educational institutions, public agencies and commercial firms. The project started in 1996 and its goal is to provide access to current and archived weather observations across the United States.

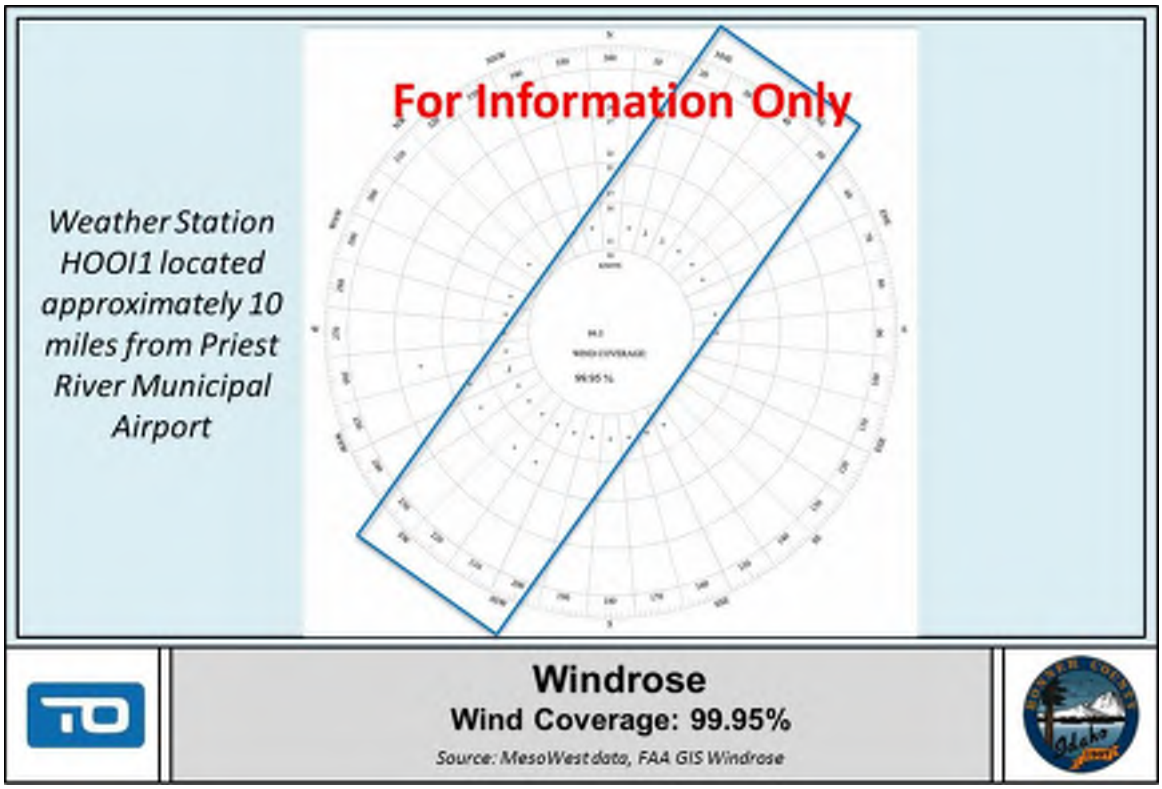
The MesoWest website showed that two stations were located within 10 miles of the airport. Data available from these stations was reviewed for use in evaluating weather conditions at the airport.

The first station ID is ITDA8. It is located near Newport, approximately 6 miles from the airport, but it has only 6 months of data (from December 2013 to July 2014). The second station ID is HOOI1, it is located approximately 10 miles from the airport in the Hoodoo Valley and has data available for more than 10 years.

The annual percent of wind coverage for Runway 1/19 from the Newport station is 99.84% for all weather. From the Hoodoo Valley data, the annual percent of wind coverage for Runway 1/19 is 99.95% for all weather. Both wind results are above the minimum threshold of 95% for this airport.

The windrose for Runway 1/19, using data from weather station HOOI1, is depicted in **Figure 2-9**. However, due to the location of the station, approximately 10 miles from the airport, this is for information purposes only.

FIGURE 2-9 – RUNWAY 1/19 WINDROSE



2.8 SUPPORT FACILITIES

The airport sponsor, Bonner County, and the volunteer airport advisory board provides most maintenance activities for the airport, including snow removal, weed abatement, landscape maintenance, and mowing. All pavement maintenance is completed on a contract basis. Additional details about maintenance and support activities are provided in subsequent sections.

2.8.1 FUEL FACILITIES

The airport currently does not provide any sort of fuel.

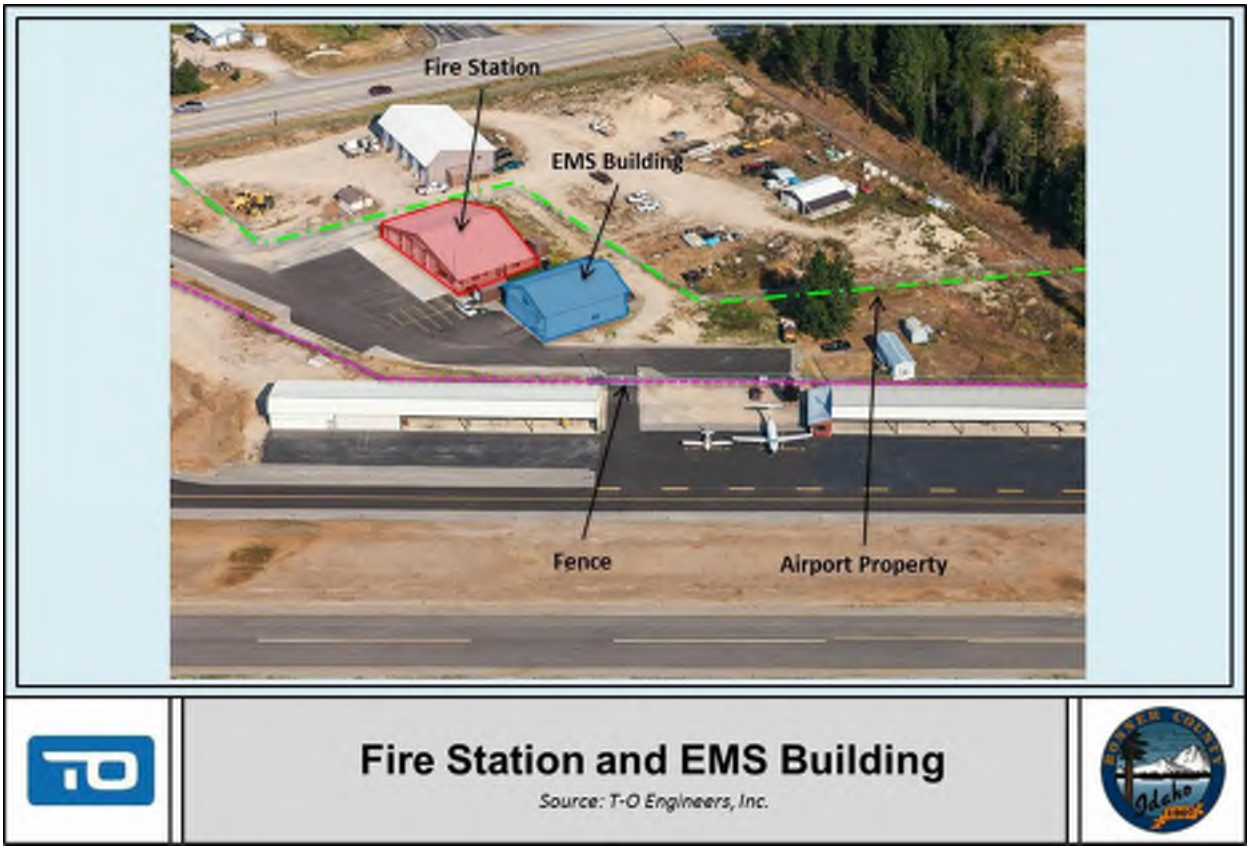
2.8.2 AIRPORT RESCUE AND FIRE FIGHTING (ARFF)

Currently emergency response and security efforts are conducted by the West Bonner Fire District, the Bonner County Sheriff Department, and the Priest River Police Department. Priest River Municipal Airport does not have any dedicated ARFF equipment at the airport and general aviation airports are not required to provide this service onsite.

2.8.3 FIRE STATION AND EMERGENCY MEDICAL SERVICES BUILDINGS

Two buildings housing the West Pend Oreille Fire District Station #1 and Emergency Medical Services (EMS) facilities are located on airport property, but outside the fence, along Airfield Way, as depicted in **Figure 2-10**. The EMS building is 2,880 square feet and houses personnel and ambulances. The Fire station is 5,400 square feet. The EMS operator and the Fire Department both have a lease agreement with Bonner County.

FIGURE 2-10 – FIRE STATION AND EMS BUILDING



2.8.4 SNOW REMOVAL

The County provides all maintenance and emergency response activities, including snow removal.

The airport has a surplus 1980 Mack Truck with snow plow mounted to the front and sand bin on the rear. This equipment is used for both snow removal operations and general airport maintenance activities. It is dedicated for airport use only and remains on airport. The truck is stored outside and is considered in fair condition though the county reports frequent break

downs during winter months while plowing due to broken parts. The equipment is at the end of its useful life. **Figure 2-11** depicts the SRE at Priest River Municipal Airport.

FIGURE 2-11 – SNOW REMOVAL EQUIPMENT

2.8.5 AIRPORT MAINTENANCE

The airport sponsor, Bonner County, and the volunteer airport advisory board provides most maintenance activities for the airport, such as limited mowing, weeds spraying and landscape maintenance using equipment from the County. All pavement maintenance, including pavement crack sealing and seal coats, is completed on a contract basis.

2.8.6 UTILITIES

Table 2-8 depicts the current utilities and service providers at Priest River Municipal Airport.

Table 2-8 – Airport Utilities and Service Providers

Utility	Source	Provider
Water	Yes	City of Priest River
Sewer	Yes	City of Priest River
Electric	Yes	Avista Utilities
Natural Gas	No	Not Available
Refuse	Yes	Waste Management
Phone	Yes	Frontier Communications
Internet	No	Not Available
Fire Protection	Emergency Response	West Bonner Fire Department

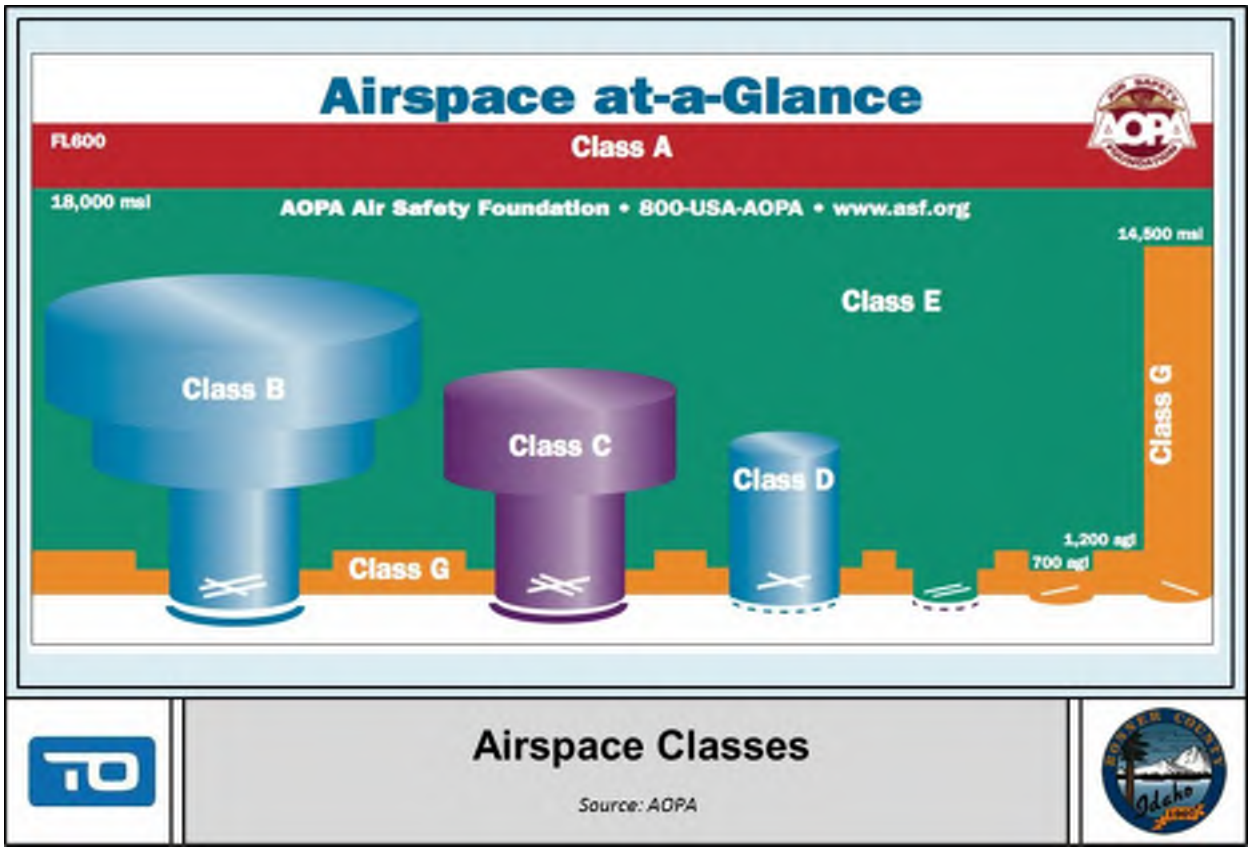
Source: ES Engineering

2.9 AIRSPACE

2.9.1 SURROUNDING AIRSPACE

The National Airspace System (NAS) is configured based on areas of controlled and uncontrolled airspace. There are established operating procedures and requirements in both controlled and uncontrolled airspace. Controlled airspace includes more stringent requirements in terms of Air Traffic Control (ATC) procedures, aircraft equipment and pilot certification. Typically, the busier the airport and airspace, the more restrictive the airspace and more stringent the operating requirements. **Figure 2-12** below depicts the current U.S. airspace classifications.

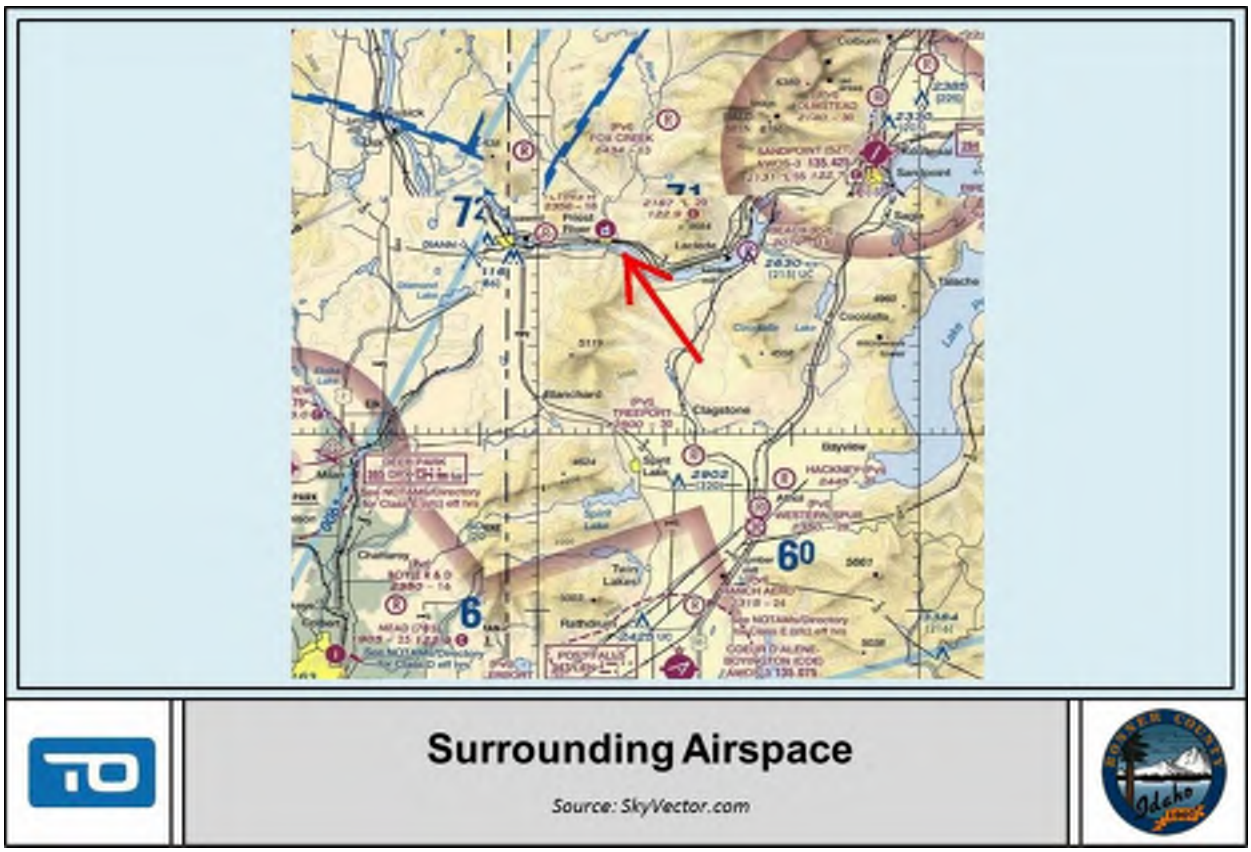
FIGURE 2-12 – AIRSPACE CLASSES



Priest River Municipal Airport is currently in Class G uncontrolled airspace. VFR minimums for Class G airspace are 1 mile flight visibility and clear of clouds. Class E airspace as a result of various Victor Airways resides in close proximity to the airport. Pilots using Priest River should be diligent and understand the airspace environment before operating in the vicinity of the airport.

Figure 2-13 depicts the airspace sectional in the immediate vicinity of the airport.

FIGURE 2-13 – PRIEST RIVER MUNICIPAL AIRPORT SURROUNDING AIRSPACE



2.9.2 CODE OF FEDERAL REGULATIONS PART 77 IMAGINARY SURFACES

Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace (Part 77), provides airspace protection requirements at public-use airports. Airspace requirements are determined by the weight of the aircraft that predominantly operate at an airport and the type of instrument approach, if any, that exists or is planned.

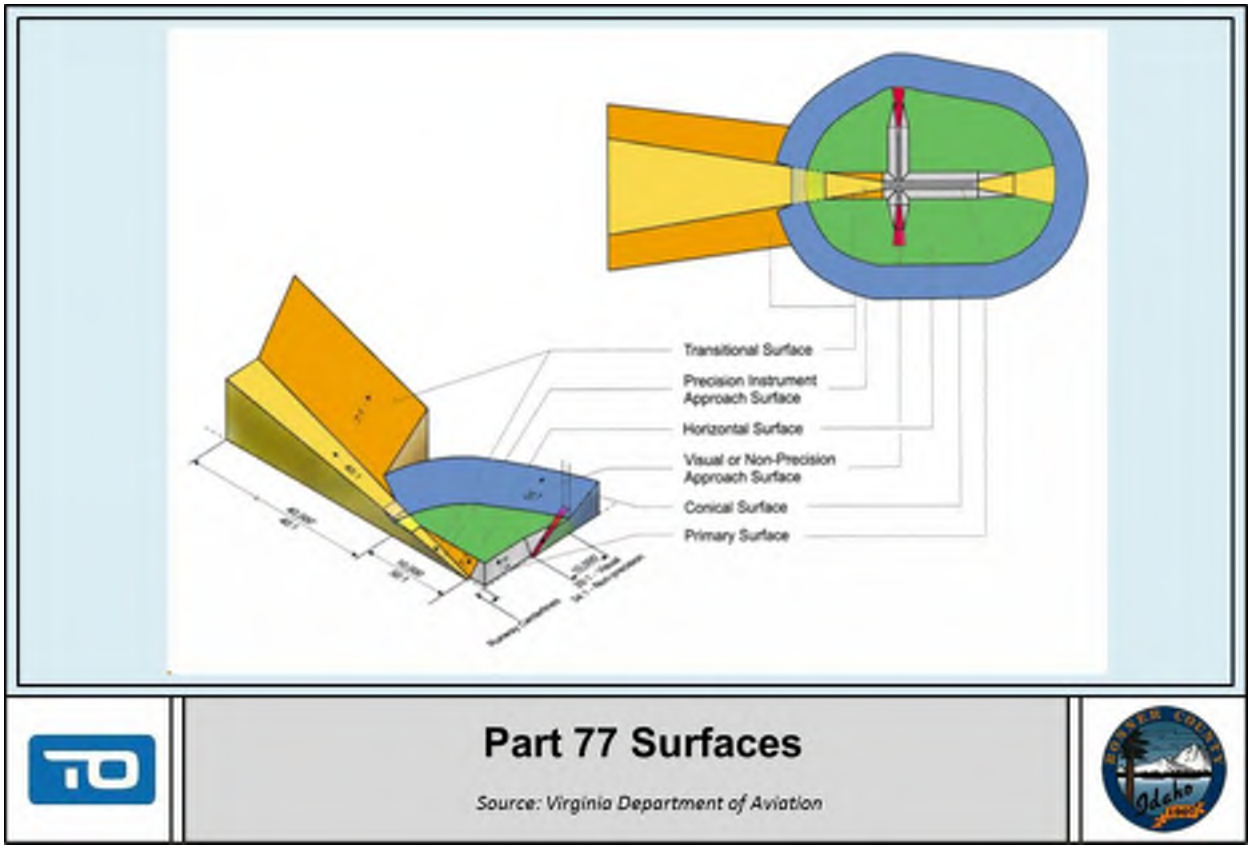
Airport runways which predominantly accommodate aircraft of less than or equal to 12,500 pounds maximum gross takeoff weight (MGTOW) are known as “Utility” runways. Runways accommodating aircraft of greater than 12,500 pounds MGTOW are known as “Other Than Utility Runways”. Either “Utility” or “Other Than Utility” FAR Part 77 runway designations can include visual only runways or runways with a precision instrument approach or runways with a non-precision instrument approach. Once a runway has been designated as either ‘Utility or “Other Than Utility” and the type of approach identified, specific airspace dimensions can be determined.

For public-use civilian airports, FAR Part 77 identifies the following “imaginary” airport airspace surfaces.

- Primary Surface
- Approach Surface
- Transitional Surface
- Horizontal Surface
- Conical Surface

For purposes of FAR Part 77, Runway 1/19 at Priest River Municipal Airport is considered a “Utility” runway. Runway 1/19 has a visual approach only. A description of each FAR Part 77 airspace surface and specific dimensions for Priest River Municipal Airport are included below. **Figure 2-14** depicts the FAR Part 77 Surfaces.

FIGURE 2-14 – FAR PART 77 IMAGINARY SURFACES



Primary Surface

A rectangular surface longitudinally centered on the runway. For hard surfaced runways, the surface extends a distance of 200 feet beyond each runway end. Its elevation is the same as that of the runway at any given point perpendicular to the runway at that point. The width of the Primary Surface is set by the most demanding type of approach existing or planned for either end of the runway. Widths can be 250 feet, 500 feet or 1,000 feet if the existing or planned

approach has approach visibility minimums as low as ¾ statute mile or a precision instrument approach.

The current width of the Primary Surface at the Airport is 250 feet, or 125 feet either side of centerline and extending 200 feet beyond each runway end.

The existing Primary Surface is impacted by the wind cone. Dispositions to address this obstruction will be discussed in the following chapters of this plan.

Approach Surface

The Approach Surface begins at the ends of the Primary Surface and slopes upward and outward. An Approach Surface is applied to each runway end and is based upon the type of approach planned for that runway end. For visual and utility runways, the Approach Surface slope extends for a distance of 5,000 feet at a slope of 20:1. For all non-precision instrument runways "Other Than Utility" the distance is 10,000 feet at a slope of 34:1. For all precision instrument runways the slope is 50:1 for 10,000 feet then 40:1 for additional 40,000 feet. The ultimate width of the Approach Surface is dependent upon the specific approach minimum to that runway end.

As a "Utility" runway, the current Approach Surfaces for both Runway 1 and 19 are 5,000 feet in length with a slope of 20:1. The ultimate width of the Approach Slope for Runway 1/19 is 1,250 feet.

Obstructions in the Approach Surface include several trees, roads, power poles and buildings. These obstructions will be addressed in the following chapters of this plan.

Transitional Surface

A sloping area that begins at the edge of the primary surface and slopes upward at a ratio of 7:1 until it intersects the Horizontal Surface.

Obstructions in the Transitional Surface include several aircraft storage hangars and trees. Dispositions to address these obstructions will be discussed in the following chapters of this plan.

Horizontal Surface

The Horizontal Surface is an oval-shaped, level area situated 150 feet above the airport elevation, the perimeter of which is established by swinging arcs of specified radii from the center of each end of the Primary Surface of each runway and connecting the adjacent arcs by lines tangent to those arcs. The arcs at either end will have the same value.

The radius of each arc is:

- 5,000 feet for all runways designated as 'Utility" or "Visual"
- 10,000 feet for all other runways.

The elevation of the Horizontal Surface at Priest River Municipal Airport is 2,343 feet MSL.

Conical Surface
A sloping area whose inner perimeter conforms to the shape of the horizontal surface. It extends outward for a distance of 4,000 feet measured horizontally, while sloping upward at a 20:1 ratio resulting in an additional 200 feet of height around the Horizontal Surface.

The elevation at the outer edge of the conical surface at Priest River Municipal Airport is 2,543 feet MSL.

2.10 LAND USE COMPATIBILITY

Effective compatible land use planning serves to protect the public health of both aircraft operators and the surrounding community from safety related concerns as a result of airport operations. Such planning also serves to preserve the quality of life of surrounding neighborhoods from the by products of airport/aircraft operations which include such things as aircraft noise, dust and fumes. Effective land use planning via mechanisms such as Zoning protects airspace, defines use of land and considers aircraft noise impacts. Currently the FAA and the State of Idaho consider airport compatible land use planning, including Through-the-Fence access, to be a top priority for airport sponsors to be aware of, concerned with, and prepared to address through local planning and the airport planning process.

Following is a summary of existing land use planning measures in place related to Priest River Municipal Airport.

2.10.1 BONNER COUNTY COMPREHENSIVE PLAN AND ZONING ORDINANCE

Priest River Municipal Airport is located in Bonner County and is owned and operated by the County. The County's current Comprehensive Plan was adopted in August, 2002. Airports are part of the Transportation Component of the Plan included in Chapter 9. Chapter 9 summarizes various aspects of the four public-use airports located in Bonner County including the Sandpoint and Priest River Municipal Airports. Information such as facilities, activity levels, economics, and future are analyzed in this section.

Under the Implementation Component of the comprehensive plan, there is no mention of specific objectives or goals related to land use planning around airports. It is stated that "Bonner County intends to provide a transportation system that is safe, uncongested, and well maintained". In addition, "future development shall not adversely impact the existing transportation system by reducing the quality or level of service or creating hazards or congestion."

Zoning Ordinances

Title 12, Chapter 5 – Overlay Districts, Subchapter 5.2 of the current Bonner County Revised Code includes an Airport Overlay District (AOD). As written, the current AOD is only applicable to the Sandpoint Airport with no zoning restrictions in place for the Priest River Municipal Airport. Title 12, Chapter 4 – Development Standards, includes a requirement that, "the location, building height and lighting of residential and commercial development shall be restricted within airport approach areas as required by the State Department of Transportation, Division of Aeronautics and Public Transportation and Federal Aviation Administration."

2.10.2 SURROUNDING JURISDICTIONS

Priest River Municipal Airport is located within the City limits of Priest River. Bonner County does not have jurisdiction to regulate the land use within the City of Priest River. As a critical community within Bonner County, understanding the City's development goals that relate to Priest River Municipal Airport is important.

A review of the Priest River comprehensive plan was conducted. The current plan was adopted in 2013 and does not mention the Priest River Municipal Airport. The City of Priest River Planning and Zoning Administrator did advise that efforts are underway to update the comprehensive plan and include Priest River Municipal Airport.

Zoning Ordinance

In the city's current zoning ordinance, Ordinance 279, Zoning Ordinance, the airport is mentioned in Section IV, General Provisions, and Section V, Supplemental Regulations. Subsection 4.1.5 states that, "…development close to the airport shall be restricted with airport approach areas as required by the State Department of Transportation, Division of Aeronautics and Public Transportation and Federal Aviation Administration." Subsection 5.7.6 establishes height limitations on various structures that, "…will constitute and hazard to the safe landing and take-off of aircraft at an established airport."

2.10.3 FUTURE LAND USE PLANNING

Per Idaho Statewide Land use Legislation, effective July 1, 2014, all local jurisdictions with a public-use airport in or near its jurisdiction are required to include a separate Airport section in its Comprehensive Plans. This section must consider current and future needs of the airport, as well as impacts on the communities in the vicinity of the airport. In addition, the local planning and zoning commissions must adopt standards and zoning mechanisms to protect lands around airports from incompatible land use or incompatible development.

As part of this Airport Master Plan effort, coordination with Bonner County and City of Priest River Planning and Zoning officials was conducted. Recommendations related to airspace and land use protections were also made.

Additional information and recommendations regarding land use and airport zoning around the airport can be found in **Chapter X.**

2.10.4 THROUGH-THE-FENCE (TTF)

Through-the-fence activities are those which reside on property outside of the airport property boundary that have an access directly on to airport property. Currently no TTF activities exist at the airport.

2.11 ENVIRONMENTAL OVERVIEW

An environmental overview will be completed as part of the project. This section will be revised upon completion of the overview.

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3.0 AVIATION ACTIVITY FORECAST

This chapter discusses the findings and methodologies used to project aviation demand at Priest River Municipal Airport. The forecasts developed in the airport master plan provide a framework to guide the analysis for future development needs and alternatives. It should be recognized that there are always short and long-term fluctuations in an airport's activity due to a variety of factors that cannot be anticipated.

Projections of aviation activity for Priest River Municipal Airport were prepared for the 20-year planning horizon including the near-term (2014-2019), mid-term (2020-2024), and long-term (2025-2034) timeframes. These projections are generally unconstrained and assume the airport will be able to develop the various facilities necessary to accommodate based aircraft and future operations. The projections of aviation demand developed for Priest River Municipal Airport are documented in the following sections:

- Historic Aviation Activity
- Trends/Issues Influencing Future Growth
- Projections of Aviation Demand
  - Forecasting Methodologies
  - Based Aircraft Projections
  - Aircraft Local Operations Projections
  - Aircraft Itinerant Operations Projections
  - Aircraft Total Operations Projections
- Peaking Characteristics
- Critical Aircraft
- Summary

3.1 HISTORIC AVIATION ACTIVITY

Historic activity data for the airport provides the baseline from which future activity can be projected. Historic aviation activity and aviation activity projections at the airport are based on FAA 5010 Master Records and available FAA Terminal Area Forecasts (FAA TAF) data.

While historic trends are not always reflective of future periods, historic data does provide insight into how local, regional, and national demographic and aviation-related trends may be tied to the Airport.

Aviation activity is measured in operations were an operation is defined as either a takeoff or a landing. Historic aircraft operations data for Priest River Municipal Airport are summarized in **Table 3-1**.

TABLE 3-1 HISTORIC AIRCRAFT OPERATIONS AND BASED AIRCRAFT

	Itinerant Operations				Local Operations			TOTAL ALL OPS	Based Aircraft
Year	Air Taxi	General Aviation	Military	Total	General Aviation	Military	Total		
2004	0	7,320	0	**7,320**	1,857	0	**1,857**	**9,177**	**19**
2005	0	7,520	0	**7,520**	1,926	0	**1,926**	**9,446**	**19**
2006	0	7,688	0	**7,688**	1,981	0	**1,981**	**9,669**	**16**
2007	0	7,859	0	**7,859**	2,037	0	**2,037**	**9,896**	**16**
2008	0	7,978	0	**7,978**	2,074	0	**2,074**	**10,052**	**13**
2009	0	8,066	0	**8,066**	2,097	0	**2,097**	**10,163**	**14**
2010	0	8,154	0	**8,154**	2,120	0	**2,120**	**10,274**	**13**
2011	0	6,400	0	**6,400**	1,600	0	**1,600**	**8,000**	**12**
2012	0	6,400	0	**6,400**	1,600	0	**1,600**	**8,000**	**16**
2013	0	6,470	0	**6,470**	1,618	0	**1,618**	**8,088**	**16**
2014	0	6,540	0	**6,540**	1,636	0	**1,636**	**8,176**	**16**

Source: FAA 5010 Master Records, FAA TAF and Airport Records

- Total Operations: As shown, according the FAA TAF and FAA 5010 records, total annual operations have slightly declined over the last 10 years, down 11% overall or a compound annual growth rate (CAGR) of -1.1% between 2004 and 2014. This decline in general aviation activity at Priest River Municipal Airport is consistent with national trends.

- Air Taxi Operations: There were no air taxi operations at Priest River Municipal Airport over the last 20 years.

- General Aviation Operations: Total general aviation operations (both local and itinerant) have slightly declined over the last 10 years. Operations peaked in 2010 at 10,274 annual operations. In 2011, general aviation operations dropped to 8,000 per year and have remained unchanged since 2011. This decline is not unique to Priest River Municipal Airport and is reflective of the decline in general aviation activity across the nation due to economic weakness during the recession coupled with high fuel prices.

- Military Operations: Although, airport management and users of the airport report minimal amount of military helicopter traffic throughout the year, the FAA TAF indicates no military operations at Priest River Municipal Airport since 1990.

- Based Aircraft: The number of aircraft based at Priest River Municipal Airport has slightly declined over the last 20 years. In 2014, 16 aircraft, all single-engine aircraft and including two ultra-light, were based at the airport.

3.2 TRENDS/ISSUES WITH THE POTENTIAL TO INFLUENCE FUTURE AIRPORT GROWTH

There are several factors that may influence aviation activity which are independent of airport activity. It is worthwhile to review outside influences to determine how they may impact future growth. These factors include regional demographics and outlook, national aviation trends, and local factors.

3.2.1 REGIONAL DEMOGRAPHICS

Socioeconomic characteristics are collected during the airport planning process and examined to derive an understanding of the dynamics of historic and projected growth within the geographic area served by an airport. This information is then typically used as one tool to forecast aviation demand. The types of socioeconomic data that are presented include population, employment, and per capita personal income.

The Airport is located in Bonner County, which counts two main public airports: Sandpoint Airport and Priest River Municipal Airport. Priest River Municipal Airport mostly serves the towns of Priest River and Newport, WA located at the border of Bonner County. Sandpoint Airport serves the towns of Sandpoint, Kootenai, Ponderay and Dover. A summary of historic and projected socioeconomic trends for Bonner County is presented below.

Population

The population in Bonner County is on an upward trend since 1969. Between 1980 and 2008, the population increased at a Compound Annual Growth Rate (CAGR) of 1.88% from 24,301 to 40,966, fueled by recreational opportunities and quality of life. However, from 2003 to 2013, the County's population grew only 6 percent, while that of Idaho grew 18 percent and the U.S population grew 9 percent. Since 2008, the population remained unchanged at approximately 40,800. Bonner County also has hundreds of summer residents.

Sandpoint is the county seat and the largest city of the County with a population of 7,577 in 2013. Priest River is the largest city west of Sandpoint and has a population of 1,720 residents. (Source: U.S. Census Bureau and Idaho Department of Labor)

Employment

According to the Idaho Department of Labor, Bonner County has successfully been able to expand and diversify its economy. The manufacturing jobs rose 27 percent from 1,486 in 2000 to 1,880 in 2010. However, the County sawmills have suffered from low prices and the Priest River area has lost more than 650 jobs in sawmills and logging since 2006.

The civilian labor force in Bonner County increased from 18,460 in 2003, with an unemployment rate of 7.3 percent to 19,040 in 2013, with an unemployment rate of 8.6 percent. In May 2014, the unemployment rate was 6.5 percent, slightly higher than the U.S unemployment rate of 6.3 percent and the State of Idaho unemployment rate of 4.9 percent.

The unemployment rate peaked in 2010 at 6.2 percent and has been slowly declining over the last three years. In 2012, the unemployment rate in Bonner County was 4.7 percent; comparatively, the unemployment rates for Idaho and the U.S. were 7.3 percent and 8.1 percent, respectively.

Employment in northern Idaho (Bonner, Benewah, Boundary, Kootenai and Shoshone counties) is projected to grow at a CAGR of 1.56 percent between 2010 and 2020. (Source: Idaho Regional Economic Analysis Project, U.S. Bureau of Economic Analysis, Idaho Department of Labor)

Per Capita Income

In 2012, the per capita personal income (PCPI) of Bonner County was $33,749. The PCPI has grown over the last 22 years (1990 - 2012) with a CAGR of 4.30 percent. The PCPI growth for Bonner County has outpaced that of Idaho (3.57 percent CAGR) and of the U.S. (3.72 percent CAGR). However, the level of the PCPI in Bonner County remains lower than that of Idaho and the United States (respectively $34,481 and $43,735 in 2012).

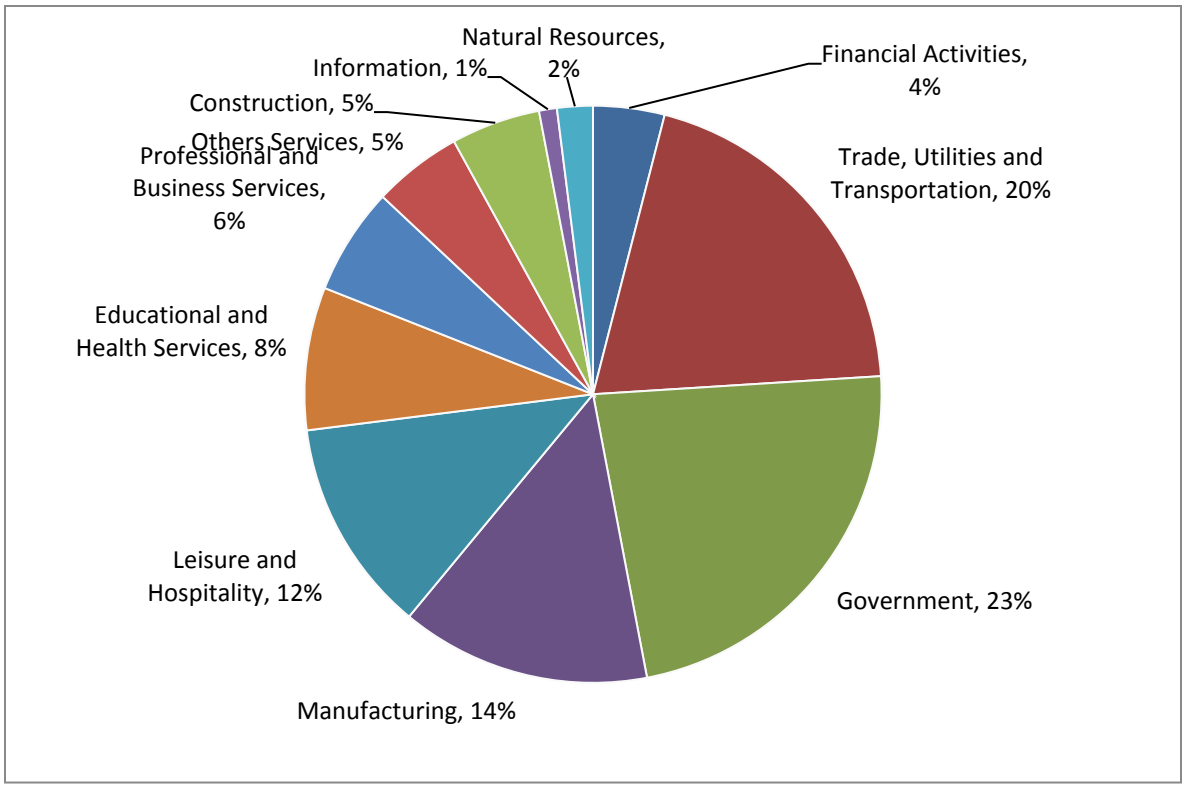
The Median Household Income was $29,583 in Priest River and $41,379 in Bonner County in 2012. (Source: Idaho Regional Economic Analysis Project, U.S. Bureau of Economic Analysis, U.S. Census Bureau – American Fact Finder)

Industry Mix

The largest nonfarm industries in Bonner County are Government, Trade, Utilities and Transportation and Manufacturing. According to the Idaho Department of Labor, manufacturing jobs rose 27 percent between 2000 and 2010, while they fell 26 percent statewide. The main contributor to this expansion were Litehouse salad dressings, Quest Aircraft, Unicep Packaging plastic applicators, Thorne Research's nutritional supplements, Cygnus machining, Diedrich's coffee-roasting machines and Encoder Products electronics. Quest Aircraft is headquartered in Sandpoint and is the manufacturer of the Kodiak, a 10-seat single engine turboprop airplane. The company is currently located at the Sandpoint Airport.

Figure 3-1 displays the repartition of the nonfarm payroll jobs in Bonner County in 2012: 20 percent of the nonfarm payroll jobs in the County were in the trade, utilities, and transportation industries, while the government sector accounted for 23 percent, manufacturing accounted for 14 percent and leisure and hospitality jobs accounted for 12 percent.

FIGURE 3-1 – NONFARM PAYROLL JOBS



Source: T-O Engineers, Inc., Idaho Department of Labor

The tourism sector in Bonner County is an important part of the local economy both in winter and summer. The development of Schweitzer Mountain Resort and its expansions since 1990 have boosted winter employment at local motels, restaurants and stores. In addition, Sandpoint's reputation for recreational activities as well as for the arts has contributed to tourism growth.

However, as previously mentioned, the sawmill industry, which is the county's mainstay, have been suffering and the Priest River area has lost numerous sawmill and logging jobs. (Source: Idaho Department of Labor)

Newport and Pend Oreille County, Washington

The city of Newport, WA is located on the Washington/Idaho border, just west of the Pend Oreille River, approximately 7 miles from the City of Priest River. Newport is the County seat of Pend Oreille County and developments in the eastern portions of Pend Oreille County may have potential impacts on demand at Priest River Municipal Airport.

The population in Newport was 2,116 in 2013 and the median household income was $28,265 in 2012. In Pend Oreille County, the population was 13,150 in 2013 and the median household income was $37,582 in 2012.

Pend Oreille County is a very rural county and highly depends on resources extraction, specifically gold, lead and zinc mining as well as timber and cement manufacturing. Pend Oreille County experiences high unemployment rate and low labor force participation compared to the State of Washington.

Two major employment sectors in Pend Oreille County are manufacturing and government. Further, the Ponderay Newsprint Company, a paper manufacturer, is also a major employer in Pend Oreille County.

The average unemployment rate in 2013 was 11.2 percent and 11.6 percent in 2012, which is one of the highest unemployment rates in the state of Washington. The drop in the unemployment rate was due to decreases in the labor force, not because of increases in jobs. (Source: United States Census Bureau – American Fact Finder, Employment Security Department – Washington State)

3.2.2 NATIONAL AVIATION TRENDS

Historic and anticipated trends related to general aviation will be important considerations in developing forecasts of demand for Priest River Municipal Airport. National trends can provide insight into the potential future of aviation activity and anticipated facility needs. The aviation industry has experienced significant changes over the last 30 years. This section will briefly discuss the tendencies and factors that have influenced those trends in the U.S.

National General Aviation Industry Trends

At the national level, fluctuating trends regarding general aviation usage and economic upturns/downturns resulting from the nation's business cycle have impacted general aviation demand. Slow economic recovery and economic uncertainties will continue to impact demand for general aviation at many airports throughout the U.S., including Priest River Municipal Airport, over the next several years.

- General Aviation Fleet Changes: While single-engine piston aircraft still account for the majority (61%) of the U.S. general aviation aircraft fleet in 2013, the national historic trends indicate that multi-engine turboprop and business jet fleets grew at a faster rate than the single-engine piston fleet. The most active growth in the fleet size has been in turbine aircraft and rotorcraft. According to the *FAA General Aviation and Air Taxi Activity Survey*s, as a result of the recent recession, the U.S. general aviation aircraft fleet has declined 4.7% from 231,606 aircraft in 2007 to an estimated 202,875 in 2013. General aviation industry began to show signs of recovery in 2012 and 2013, especially with strong growth in turbine aircraft (both rotorcraft and turbo jet) deliveries.

- Active Pilots: There were over 599,000 active pilots in the United States at the end of 2013. An active pilot is a person with a pilot certificate and a valid medical certificate. There was a -0.3% CAGR in pilot population between 2000 and 2013. Recreational and private pilot certificates accounted for the largest declines.

- General Aviation Operations: According to FAA air traffic activity, between 2000 and 2013, general aviation operations experienced a -3.3% CAGR. In 2013, there were approximately 25.8 million general aviation operations at 514 towered airports, 55% of which were itinerant operations. General aviation operations at combined FAA and contract towers were down 1.2% between 2012 and 2013.

National Projections of Demand

On an annual basis, the FAA publishes aerospace forecasts that summarize anticipated trends in all components of aviation activity. Each published forecast revisits previous aerospace forecasts and updates them after examining the previous year's trends in aviation and economic activity. Many factors are considered in the FAA's development of aerospace forecasts, some of the most important of which are U.S. and international economic forecast and anticipated trends in fuel costs. The recent projections found in *FAA Aerospace Forecast Fiscal Years 2014-2034* are summarized below.

- During the five year period between 2013 and 2018, U.S. economic growth is projected to grow at a CAGR of 2.9%. For the remaining years of the forecast period, real Gross Domestic Product (GDP) growth is assumed to slow to around 2.4% annually.

- The FAA estimates that the U.S. general aviation aircraft fleet will grow from an estimated 203,000 aircraft in 2013 to 225,700 aircraft in 2034. This is equal to a CAGR of 0.5%. Most of this growth is driven by turbo jet, turboprop, and turbine rotorcraft markets, while the number of piston aircraft is expected to slightly decrease.

- Strong growth is anticipated in the turbine aircraft (turboprop and jets) fleet, estimated to grow at a CAGR of 2.4% between 2013 and 2034.

- General aviation hours flown will increase at a CAGR of 1.4% between 2013 and 2034.

- It is anticipated that general aviation aircraft operations will grow at a CAGR of 0.5% through 2034.

3.2.3 LOCAL FACTORS AFFECTING DEMAND

There are other factors, unique to Priest River Municipal Airport, which have the potential to impact the forecasts developed in this chapter.

Proximity to Competing Airports

The proximity to competing airports is one of the key determinants of the demand and size of an airport's service or catchment area. For comparative purposes, only the airports equipped with a paved runway have been included hereafter; two airports with a turf/gravel runway are also located in close proximity to Priest River Municipal Airports: Priest Lake USFS Airport and Cavanaugh Bay Airport, respectively at 26 and 23 miles.

Sandpoint Airport is also located in Bonner County, approximately 17 miles northeast of Priest River Municipal Airport. However, beside Sandpoint Airport, there are few airports in northern Idaho and eastern Washington that are within close proximity of Priest River Municipal Airport, mainly due to mountainous terrain.

As depicted with **Figure 3-2**, the only other public-use airport located within a 20 miles radius of Priest River Municipal Airport is Sandpoint Airport. There are two other airports located within a 30 miles radius: Deer Park Airport in Washington and Coeur d'Alene Airport in Idaho.

As noted in **Table 3-2**, all except one of the neighboring or competing airports have runway length that exceed that presently available at Priest River Municipal Airport. When total based aircraft among all of the general aviation airports in the area are considered, there are presently 607 general aviation aircraft based in the area, most of them based at Coeur d'Alene, Deer Park, WA and Sandpoint.

FIGURE 3-2: AREA AIRPORTS

TABLE 3-2 AREA AIRPORTS SUMMARY

Airport	Runway Length*	Based Aircraft**	Annual Operations	Distance from Priest River Municipal Airport
Priest River Municipal	2,983 feet	16	8,000	-
Sandpoint	5,501 feet	79	30,100	17.8 miles
Deer Park (WA)	6,100 feet	94	36,540	28.5 miles
Coeur d'Alene	7,400 feet	252	123,048	29.1 miles
Sand Canyon	3,446 feet	17	11,000	39.4 miles
Ione Municipal (WA)	4,059 feet	3	2,700	42.6 miles
Boundary County	4,002 feet	57	18,925	46.5 miles
Troy (MT)	3,570 feet	0	700	50.5 miles
Colville Municipal (WA)	2,695 feet	35	7,550	51.1 miles
Spokane International (WA)	11,002 feet	54	67,131	54.5 miles
	TOTAL	***607***	***305,694***	

*Longest Runway if the airport is equipped with several runways

** Includes Fixed wing aircraft (Single-engine, multi-engine and jet), Helicopters, Gliders and Ultra-Light

Source: FAA 5010 Master Records and T-O Engineers Inc.

Local Business and Tourism Usage

There are several areas of economic growth in Bonner County that have the potential to increase the usage of Priest River Municipal Airport.

According to the ITD Individual Airport Summary, completed in 2009, two area businesses depend on the airport: Northland Aviation and Aerocet Floats. However, Northland Aviation was dissolved in 2009 and no longer operates a business in Priest River. Further, the airport manager and users of the airport advise that Quest Kodiak occasionally uses the airport.

The tourism industry is also an important component of Bonner County. It has experienced significant growth in the past and may continue to experience growth in the future. The development of the nearby Schweitzer Mountain Resort, as well as the reputation of Bonner County for its scenic landscapes, recreational and outdoors activities certainly contributes to increase the tourism in the area.

Although the proximity with Sandpoint Airport and the absence of fuel at Priest River Municipal Airport are limiting factors, the increased tourism in Bonner County and the Priest Lake area has the potential to in turn increase the use of Priest River Municipal Airport. Priest Lake is a popular tourist destination, especially during the summer months and the airport is used by both tourists and second-home owners, mostly with single engine aircraft.

The Priest River Museum and Timber Education Center provide history and activities relating to the timber industry and, historical economic foundation of the Priest River area. In addition, local festivals in the Priest River and Priest Lake Area, such as the Priest River Timber Days and Priest Lake Huckfest in July, have the potential to attract tourists and increase the use of the airport.

Aerial Firefighting & Life Flight/Medical Related Activity

In 2014, the Idaho Department of Lands (IDL) advised there were no IDL or United States Forest Service (USFS) aerial firefighting activities conducted out of Priest River Municipal Airport. Due to the proximity with Sandpoint Airport, there is limited need for aerial firefighting activities at Priest River Municipal Airport. Both fixed-wing (Single Engine Air Tanker) and helicopter activities by the USFS are conducted out of the Panhandle Heli-tac base at Sandpoint Airport.

However, the Airport Board advised the Priest River Municipal Airport was used by single-engine firefighting aircraft during the summer 2015, and that firefighting aircraft occasionally used the airport during this fire season. The magnitude of use is dictated by the severity of the fire season and the proximity of the fire to the airport.

Although there is limited used by Life Flight fixed-wing aircraft, the airport is regularly used by Life Flight helicopters, and the ability of the airport to support and accommodate Life Flight helicopters and fixed-wind operations is viewed as critical to the overall health and well-being of the community.

Further, airport management and users of the airport report minimal amount of military helicopter traffic throughout the year.

Summary of local factors

The use of the airport for tourism, recreational flight, business, occasional firefighting, and Life Flight operations is considered to be an important function of the airport over the planning horizon. It is not anticipated that the various aircraft associated with these activities will approach the threshold to consider changes to the identified critical aircraft at the airport and the existing runway length may limit the type of aircraft that can use the airport without weight or fuel restrictions. Recommended facilities and strategies to address potential impacts are considered in later chapters of this report.

3.3 PROJECTIONS OF DEMAND

While the Priest River Municipal Airport has experienced a decline in its number of based aircraft and operations since the events of September 11, 2001 and the recent economic recession; it is considered to be unlikely that this pattern will continue over the forecasted period. The airport will most likely experience moderate growth over the next 20-year forecast period, the rate of that growth will be somewhat comparable to others in the region, but somewhat dependent on the future facilities and services provided at the airport.

Projections of aviation demand at Priest River Municipal Airport for the 20-year planning period are presented here using various methodologies. The results of these different methodologies are compared and a preferred projection of each is selected.

The following assumptions were made in developing the projections of aviation demand at Priest River Municipal Airport:

- The national and local economies will continue to grow through the overall forecast period.
- Economic disturbances may cause year-to-year traffic variations, but the long term projections will likely be realized.
- Aviation at Priest River Municipal Airport will generally reflect the national aviation industry. The FAA projects growth in all aspects of aviation.

- Airport facilities will keep pace with and meet the demand for aviation use and a lack of facilities will not limit the number of based aircraft to be accommodated in the future.

3.3.1 FORECASTING METHODOLOGIES

Several forecasting techniques were used to project future aviation demand at Priest River Municipal Airport. There are two basic approaches to forecasting: top-down or bottom-up. The top-down approach forecasts aviation demand for the nation or for a region and allocates portions of the total demand to geographic areas, based on historical shares or assumed growth rate. The bottom-up approach consists in forecasting aviation demand for an airport using data for a specific geographic area.

When forecasting aviation demand, it is assumed there is a relationship between historical events and conditions, and that this relationship will continue into the future. The following methods were used to predict future activity levels at Priest River Municipal Airport.

Market Share

This method of forecasting is a relatively easy method to use and the required data is often available in the FAA's Terminal Area Forecast (TAF). It assumes a top-down relationship between national, regional and local forecasts and considers that local forecasts are a percentage (market share) of regional or national forecasts. Historical market shares are calculated for a given time period (often a 5- or 10-year period) and used as a basis for projecting future market shares.

Regression Analysis - Trend Analysis

A regression analysis is a type of econometrics analysis, and uses mathematical and statistical tools. The value being estimated or forecasted (here aviation activity) is called the dependent variable, while the value used to prepare the forecast is called the independent variable. A simple regression analysis uses one independent variable, while multiple regression analyses use two or more independent variables.

A regression equation is computed with historical values and is used to project future values. It is possible to use socioeconomic data as independent variables, such as population, per capita income, or employment. It is also possible to use time as the independent variable to perform a Trend Analysis. This method is a basic technique, which can capture economic growth and recession.

Compound Annual Growth Rate

The Compound Annual Growth Rate (CAGR) can be defined as the year-over-year growth rate. It is an imaginary number that describes the rate at which a data series would have grown if it had grown at a steady rate.

It is computed with the following formula:

$$CAGR = -1 + \left(\frac{Ending\ Value}{Beginning\ Value}\right)^{\left(\frac{1}{number\ of\ years}\right)}$$

It is possible to forecast future values based on the CAGR of a data series, assuming that the rate will remain the same in the future. As with every forecasting method uncertainties remain.

Summary

These different methodologies can be used in an infinite number of ways, with several distinct variables. Regression analyses can be used with population, employment, personal per capita income, or even a combination of the three as the independent variable. Market share can be computed using a five-year average or a ten-year average and data from the state or from a FAA region. In addition, predictions with the CAGR can be computed using the historic rate for the last 10 years, or the historic rate for the last 20 years, as well as the projected employment growth or the historic Per Capita Personal Income (PCPI) growth.

The following methodologies and variables were used to predict the number of based aircraft and operations at Priest River Municipal Airport.

- Linear Regression
  - With Employment as the independent variable
  - Trend Analysis
- CAGR
  - Historic Growth (Last 10 years)
  - Historic Growth (Last 20 years)
  - Projected Employment Growth
  - Historic PCPI growth
- Market Share
  - Northwest Mountain Region (5-year average)
  - Northwest Mountain Region (10-year average)
  - State of Idaho (5-year average)
  - State of Idaho (10-year average)

Not all these methodologies yielded coherent or reasonable results. In addition, some methodologies, in particular the market shares yielded similar or very close results. Therefore, not all the methodologies used during the initial analysis will be presented in the subsequent

sections of this report; based on the consultant's professional opinion only the methods leading to coherent and reasonable results will be described in details hereafter.

3.3.2 BASED AIRCRAFT

Based aircraft are those aircraft that are permanently stored at an airport. Estimating the number and type of aircraft expected to be based at Priest River Municipal Airport over the next 20 years is crucial to evaluate the need for future facility and infrastructure requirements.

As discussed in the Inventory chapter, the airport's most recent FAA 5010 (09/18/2014) and the FAA National Based Aircraft Inventory Program identify 16 total aircraft based at Priest River Municipal Airport: 14 single-engine and 2 ultra-light. Sixteen based aircraft will be used as the base year (2014) based aircraft number from which projections are developed.

Based aircraft at Priest River Municipal Airport were projected using the methodologies previously described. A summary of the methodologies yielding coherent and reasonable results is below and shown in **Table 3-3** and **Figure 3-3**.

- Scenario 1: Historic Based Aircraft Growth. This scenario projects based aircraft to increase at an average annual rate of growth of 0.32%, equal to the historic CAGR in based aircraft at Priest River Municipal Airport between 1994 and 2014.

- Scenario 2: Projected Employment Growth. This scenario projects based aircraft to increase at an average annual rate of growth of 1.56%, equal to the projected employment growth developed for northern Idaho, as part of the Idaho Regional Economic Analysis Project.

- Scenario 3: 10-year average Market Share of Northwest Mountain Region Based Aircraft. During the last ten years, Priest River Municipal Airport's share of Northwest Mountain (NWM) Region's based aircraft fleet as reported in the FAA's Terminal Area Forecasts, was on average 0.0065%. This scenario assumes that Priest River Municipal Airport will maintain this share of the NWM Region Based Aircraft and that the NWM Region Based Aircraft will grow as predicted in the FAA's Terminal Area Forecasts. The annual growth rate for this scenario is 0.95%.

- Scenario 4: 10-year average Market Share of Idaho Based Aircraft. During the last ten years, Priest River Municipal Airport's share of Idaho's based aircraft fleet as reported in the FAA's Terminal Area Forecasts, was on average 0.56%. This scenario assumes that Priest River Municipal Airport will maintain this share of the State of Idaho Based Aircraft and that the Idaho Based Aircraft will grow as predicted in the FAA's Terminal Area Forecasts. The annual growth rate for this scenario is 1.29%.

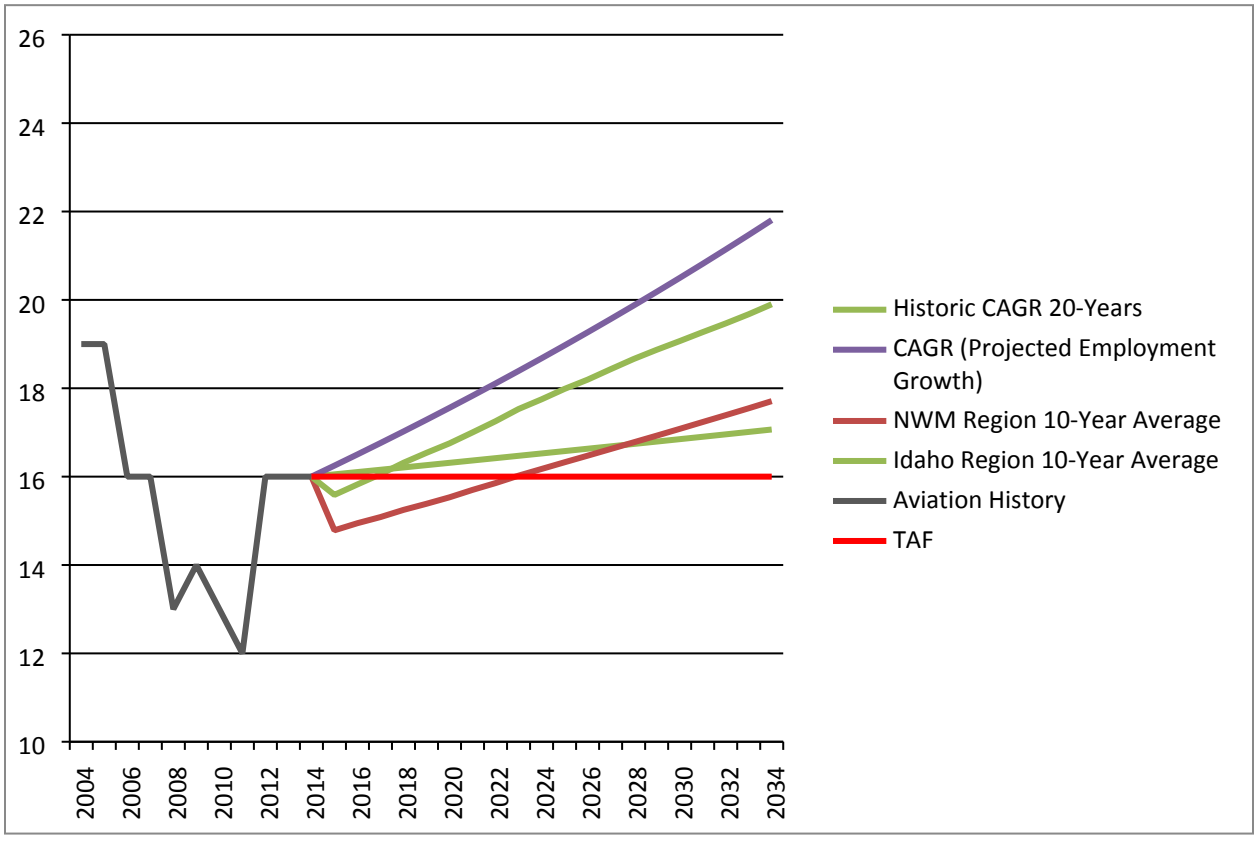
The results of these forecasting methodologies were compared and are listed and depicted in **Table 3-3 and Figure 3-3**. The FAA TAF notes that 16 aircraft were based at the airport and maintains this number through the planning period. This scenario was not considered as the traffic and number of based aircraft in north Idaho is experiencing significant growth.

TABLE 3-3 – BASED AIRCRAFT PROJECTIONS

Year	Scenario 1 Historic Based Aircraft Growth	Scenario 2 Projected Employment Growth	Scenario 3 NWM Region Market Share	Scenario 4 Idaho Market Share	FAA Terminal Area Forecast (TAF)
2014	16	16	16	16	16
2019	16	17	16	17	16
2024	17	19	16	18	16
2034	17	22	18	20	16
CAGR (2015-2034)	**0.32%**	**1.56%**	**0.95%**	**1.29%**	**0%**
2019 Variation from TAF	**1.62%**	**8.05%**	**-3.84%**	**3.37%**	**-**
2024 Variation from TAF	**3.28%**	**16.74%**	**1.09%**	**10.94%**	**-**
2034 Variation from TAF	**6.67%**	**36.29%**	**10.68%**	**24.38%**	**-**

Source: T-O Engineers, Inc.

FIGURE 3-3 – BASED AIRCRAFT PROJECTIONS



Source: T-O Engineers, Inc.

The results of the four scenarios examined in this analysis were compared to the FAA's Terminal Area Forecast (TAF) for Priest River Municipal Airport.

The four scenarios predict a growth in the number of based aircraft and all the scenarios are higher than the TAF at the end of the planning period. Scenario 2 (Projected Employment growth) was chosen as the preferred based aircraft projection, with a CAGR of 1.56%. Based on this methodology, by the end of the forecast period, 22 based aircraft are projected at Priest River Municipal Airport. This is 36.29% more than the TAF projections of based aircraft at the end of the planning period. During the first 5 years of the planning period (2014-2019), the maximum variation from the TAF projections is 8.05%; during the following 5 years of the planning period (2020-2024) the maximum variation from the TAF projections is 16.74%.

The projected employment growth as noted by the State of Idaho points to new jobs and business growth around Priest River Municipal Airport which can correlate to additional based aircraft at the airport. It was considered that six additional based aircraft at the end of the planning period was not unrealistic given the growth experienced in north Idaho. Based on this correlation as well as the consultant's professional opinion, the Projected Employment Growth Rate methodology (Scenario 2) is the preferred forecast for based aircraft.

Fleet Mix

Total based aircraft projected for the airport over the planning period using the preferred based aircraft projection were allocated to four aircraft categories – single-engine, multi-engine and jet, helicopter, and other – to develop a projection of the airport's based aircraft fleet mix through the planning period. The fleet mix projections developed for Priest River Municipal Airport were developed based on the fleet mix percentages exhibited at the airport and in the *FAA Aerospace Forecast, Fiscal Years 2014-2034* projection of active general aviation aircraft.

The preferred based aircraft fleet mix projections are shown in **Table 3-4**. Turbine aircraft are anticipated to grow at the national level through the forecast period. However, existing facilities constraints and limitations may hinder the growth in multi-engine at Priest River Municipal Airport. Based on the anticipated national growth, current facilities constraints and the consultant's professional opinion two small multi-engine aircraft are estimated to be based at Priest River Municipal Airport by 2034.

Further, two ultra-light aircraft are currently based at the airport. Based on the anticipated national growth in Experimental, Sport Aircraft and Other Aircraft through the planning period, four aircraft classified as "Other" are expected to be based at the airport at the end of the planning period. The "Other" category includes the ultra-light aircraft currently based at the airport as well as experimental and sport aircraft. There is potential for additional ultra-light aircraft based at Priest River Municipal Airport.

TABLE 3-4 – PROJECTED BASED AIRCRAFT FLEET MIX

Aircraft Type	2014	2019	2024	2034	CAGR 2014-34
Single-Engine	14	14	15	16	0.67%
Multi-Engine	0	0	1	2	-
Helicopter	0	0	0	0	-
Other*	2	3	3	4	3.53%
Total	**16**	**17**	**19**	**22**	**1.56%**

*Includes Ultra-Light, Experimental, Sport Aircraft and Other aircraft

Source: T-O Engineers, Inc.

3.3.3 AIRCRAFT OPERATIONS

Aircraft operations are divided into two types: local and itinerant. Local operations are classified as operations by aircraft, which:

- Operate in the local traffic pattern or within sight of the airport, or
- Are known to be departing for or arriving from flights in local practice areas within a 20-mile radius of the airport, or
- Execute simulated approaches or low passes at the airport.

Itinerant operations are defined as:

- All other operations other than local.

The current ratio of local to itinerant general aviation is 20 percent local and 80 percent itinerant.

Different factors impact the number of operations at an airport including but not limited to, the total based aircraft, area demographics, activity and policies of neighboring airports, and national trends. These factors were examined and projections were developed for the local operations, itinerant operations as well as for the total number of operations.

Local Operations

A summary of the methodologies used to develop the aircraft local operations are below and shown in **Table 3-5** and **Figure 3-4.**

- Scenario 1: Historic Local Operations Growth. This scenario projects local operations to increase at an average annual rate of growth of 0.78%, equal to the historic CAGR in local operations at Priest River Municipal Airport between 1994 and 2014.

- Scenario 2: Projected Employment Growth. This scenario projects local operations to increase at an average annual rate of growth of 1.56%, equal to the projected employment growth developed for northern Idaho, as part of the Idaho Regional Economic Analysis Project.

- Scenario 3: 5-year average Market Share of Northwest Mountain Region Local Operations. During the last five years, Priest River Municipal Airport's share of Northwest Mountain (NWM) Region's local operations as reported in the FAA's Terminal Area Forecasts, was on average 0.044%. This scenario assumes that Priest River Municipal Airport will maintain this share of the NWM Region local operations and that the NWM Region local operations will grow as predicted in the FAA's Terminal Area Forecasts. The annual growth rate for this scenario is 0.84%.

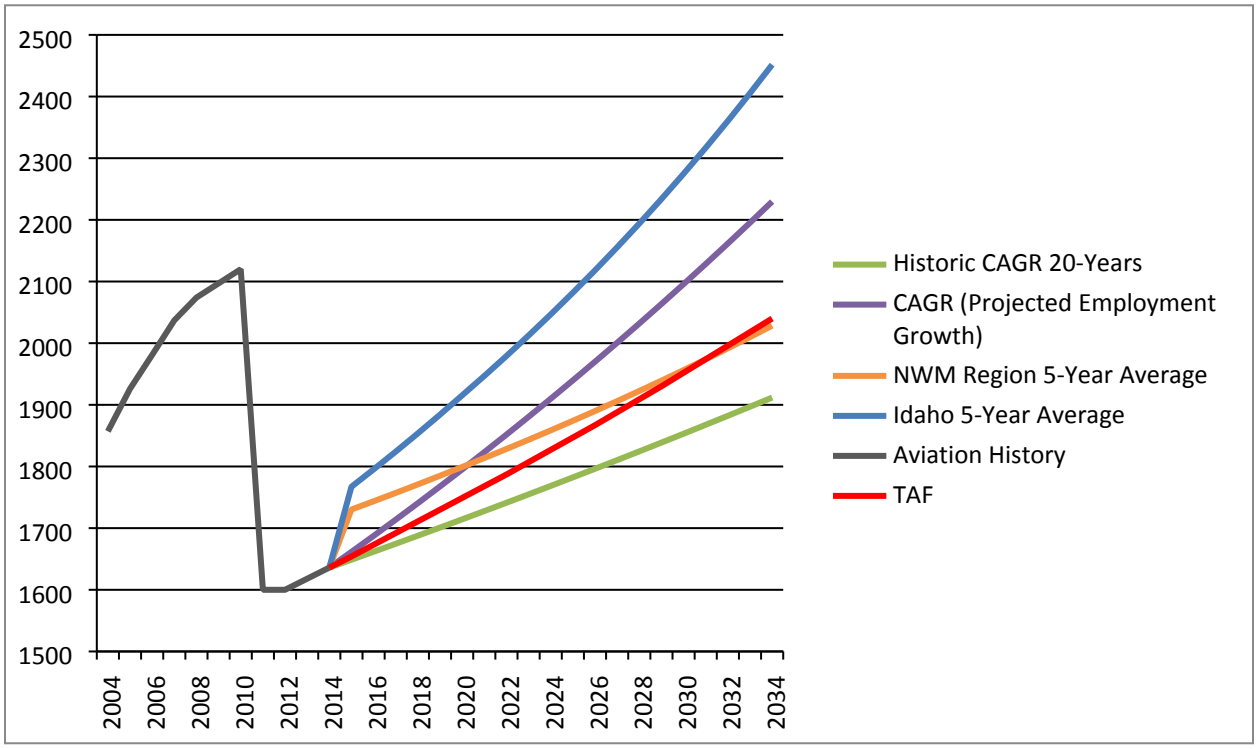
- Scenario 4: 5-year average Market Share of Idaho Local Operations. During the last five years, Priest River Municipal Airport's share of Idaho's local operations as reported in the FAA's Terminal Area Forecasts, was on average 0.43%. This scenario assumes that Priest River Municipal Airport will maintain this share of the State of Idaho Local Operations and that the Idaho Local Operations will grow as predicted in the FAA's Terminal Area Forecasts. The annual growth rate for this scenario is 1.73%.

TABLE 3-5 – GENERAL AVIATION LOCAL OPERATIONS PROJECTIONS

Year	Scenario 1 Historic Local Operations Growth	Scenario 2 Projected Employment Growth	Scenario 3 NWM Region Market Share	Scenario 4 Idaho Market Share	FAA Terminal Area Forecast (TAF)
2014	1,636	1,636	1,636	1,636	1,636
2019	1,701	1,768	1,785	2,101	1,730
2024	1,769	1,910	1,859	2,282	1,807
2034	1,912	2,230	2,028	2,734	2,040
CAGR (2015-2034)	**0.78%**	**1.56%**	**0.84%**	**1.73%**	**1.11%**
2019 Variation from TAF	**-1.68%**	**2.18%**	**3.18%**	**8.91%**	**-**
2024 Variation from TAF	**-3.20%**	**4.54%**	**1.73%**	**12.02%**	**-**
2034 Variation from TAF	**-6.29%**	**9.30%**	**-0.57%**	**20.18%**	**-**

Source: T-O Engineers, Inc.

FIGURE 3-4 – GENERAL AVIATION LOCAL OPERATIONS PROJECTIONS



Source: T-O Engineers, Inc.

The results of the four scenarios examined in this analysis were compared to the FAA's TAF for Priest River Municipal Airport. All the scenarios are higher than the TAF except for Scenario 1 (Historic Local Operations Growth). The four scenarios predict a growth in the number of local operations. Scenario 1 (Historic growth rate) is the less aggressive with 1,912 local operations forecasted at the end of the planning period, while Scenario 4 (Idaho Market Share) is the most aggressive with 2,734 local operations at the end of the planning period.

Scenario 2 (Projected Employment Growth) was chosen as the preferred general aviation local operations projection, with a CAGR of 1.56%. Based on this methodology, 2,230 local operations are projected at Priest River Municipal Airport, by the end of the forecast period. This is 9.3% more than the TAF projections of local operations. This scenario is considered to be reasonable without being overly aggressive. It is higher than Scenario 1 (Historic Local Operations Growth), but lower than Scenario 4 (Idaho Market Share).

Aviation demand is considered to be a derived demand; one that depends upon the level of business and leisure activity in the economy. The projected employment growth as noted by the State of Idaho points to new jobs and business growth around Priest River, which can correlate to anticipated increased future usage of the airport. Based on this correlation as well as the consultant's professional opinion, the Projected Employment Growth rate methodology (Scenario 2) is the preferred forecast for general aviation local operations.

Itinerant Operations

A summary of the methodologies used to develop the aircraft itinerant operations are below and shown in **Table 3-6** and **Figure 3-5.**

- Scenario 1: Historic Itinerant Operations Growth. This scenario projects itinerant operations to increase at an average annual rate of growth of 0.43%, equal to the historic CAGR in itinerant operations at Priest River Municipal Airport between 1994 and 2014.

- Scenario 2: Projected Employment Growth. This scenario projects itinerant operations to increase at an average annual rate of growth of 1.56%, equal to the projected employment growth developed for northern Idaho, as part of the Idaho Regional Economic Analysis Project.

- Scenario 3: 10-year average Market Share of Northwest Mountain Region Local Operations. During the last ten years, Priest River Municipal Airport's share of Northwest Mountain (NWM) Region's itinerant operations as reported in the FAA's Terminal Area Forecasts, was on average 0.17%. This scenario assumes that Priest River Municipal Airport will maintain this share of the NWM Region itinerant operations and that the NWM Region itinerant operations will grow as predicted in the FAA's Terminal Area Forecasts. The annual growth rate for this scenario is 1.05%.

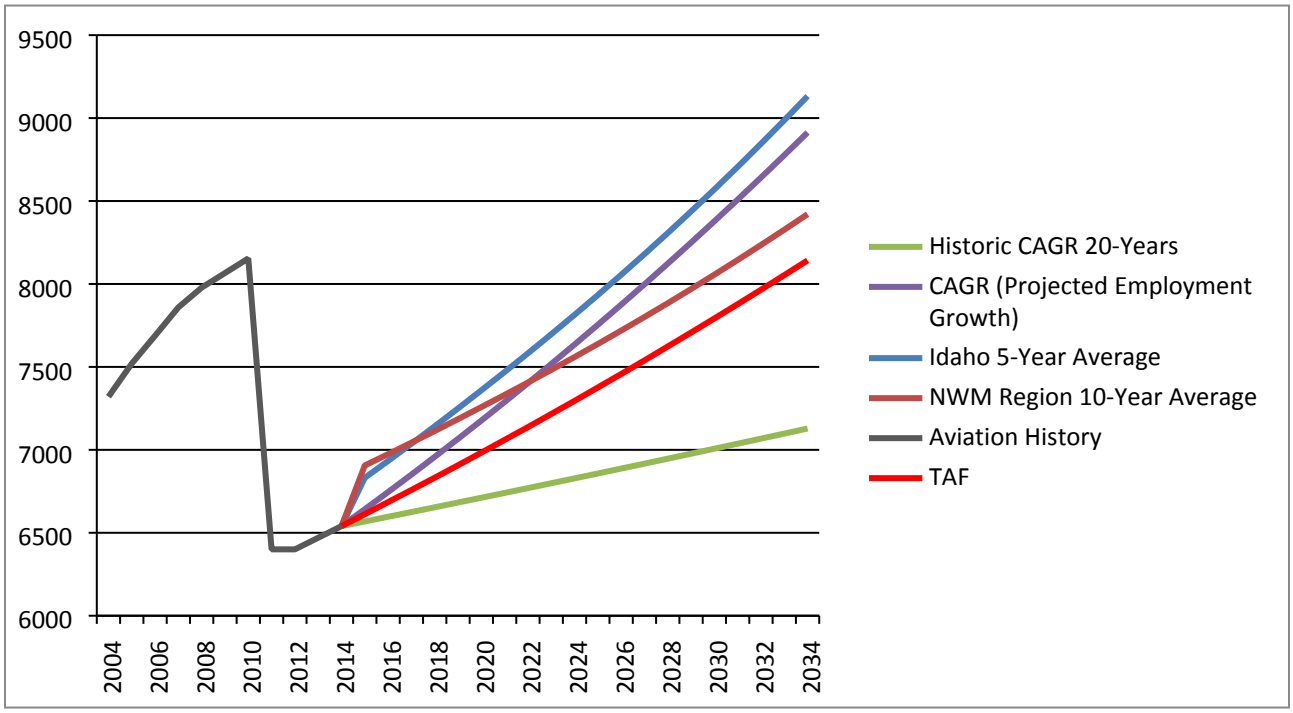
- Scenario 4: 5-year average Market Share of Idaho Local Operations. During the last five years, Priest River Municipal Airport's share of Idaho's itinerant operations as reported in the FAA's Terminal Area Forecasts, was on average 1.34%. This scenario assumes that Priest River Municipal Airport will maintain this share of the State of Idaho itinerant operations and that the Idaho itinerant operations will grow as predicted in the FAA's Terminal Area Forecasts. The annual growth rate for this scenario is 1.54%.

TABLE 3-6 – GENERAL AVIATION ITINERANT OPERATIONS PROJECTIONS

Year	Scenario 1 Historic Itinerant Operations Growth	Scenario 2 Projected Employment Growth	Scenario 3 NWM Region Market Share	Scenario 4 Idaho Market Share	FAA Terminal Area Forecast (TAF)
2014	6,540	6,540	6,540	6,540	6,540
2019	6,682	7,066	7,185	7,250	6,907
2024	6,828	7,635	7,559	7,814	7,216
2034	7,129	8,913	8,421	9,132	8,142
CAGR (2015-2034)	**0.43%**	**1.56%**	**1.05%**	**1.54%**	**1.10%**
2019 Variation from TAF	**-3.25%**	**2.31%**	**4.03%**	**4.96%**	**-**
2024 Variation from TAF	**-6.4%**	**4.66%**	**3.62%**	**7.11%**	**-**
2034 Variation from TAF	**-12.45%**	**9.47%**	**3.42%**	**12.16%**	**-**

Source: T-O Engineers, Inc.

FIGURE 3-5 – GENERAL AVIATION ITINERANT OPERATIONS PROJECTIONS



Source: T-O Engineers, Inc.

The results of the four scenarios examined in this analysis were compared to the FAA's TAF for Priest River Municipal Airport. All the scenarios are higher than the TAF except for Scenario 1 (Historic Itinerant Operations Growth). The four scenarios predict a growth in the number of itinerant operations. Scenario 1 (Historic growth rate) is the less aggressive with 7,129 itinerant operations forecasted at the end of the planning period, while Scenario 4 (Idaho Market Share) is the most aggressive with 9,132 itinerant operations at the end of the planning period.

Scenario 2 (Projected Employment growth) was chosen as the preferred general aviation itinerant operations projection, with a CAGR of 1.56%. Based on this methodology, by the end of the forecast period, 8,913 itinerant operations are projected at Priest River Municipal Airport. This is 9.47% more than the TAF projections of itinerant operations at the end of the planning period. This scenario is considered to be reasonable without being overly aggressive. It is higher than Scenario 1 (Historic Itinerant Operations Growth), but lower than Scenario 4 (Idaho Market Share).

As previously mentioned, aviation demand is considered to be a derived demand and depends upon the level of business and leisure activity in the economy. The projected employment growth as noted by the State of Idaho points to new jobs and business growth around Priest River, which can correlate to anticipated increased future usage of the airport especially for business and tourism. Based on this correlation as well as the consultant's professional opinion, the Projected Employment Growth rate methodology (Scenario 2) is the preferred forecast for general aviation itinerant operations.

Total Operations

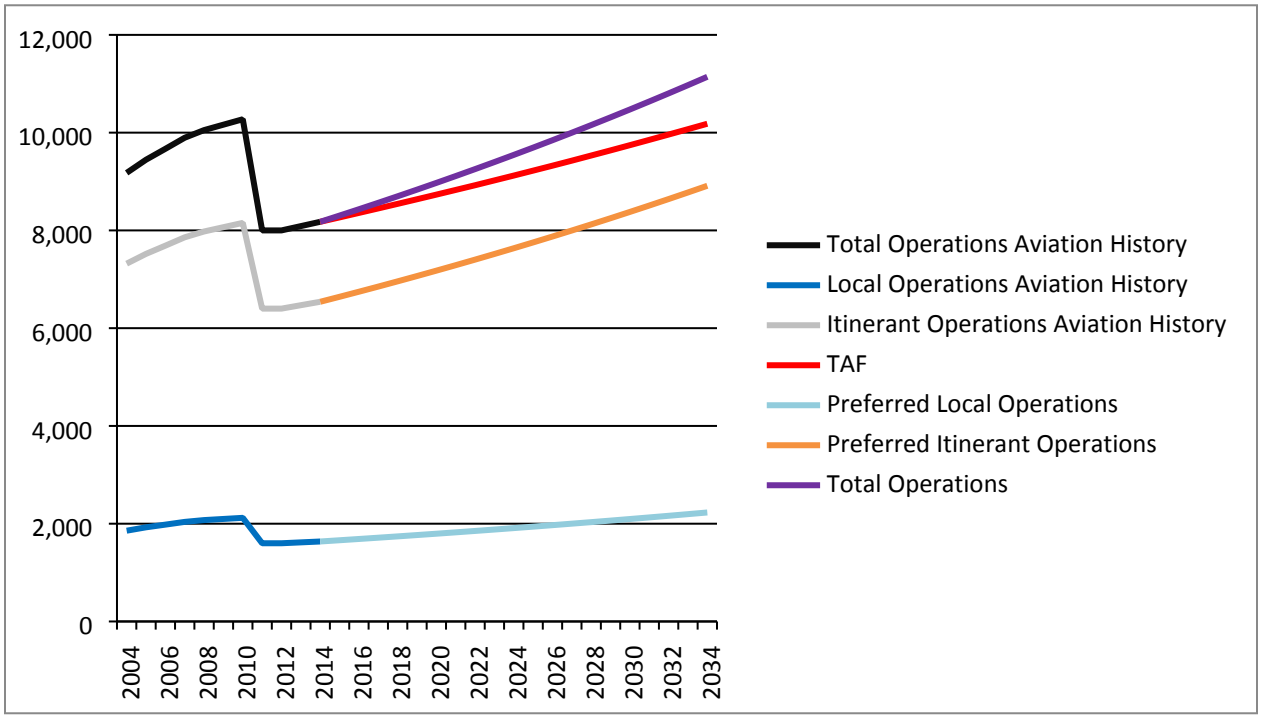
Total aircraft operations projections were derived by combining the local and itinerant operations preferred forecasts. The total aircraft operations were also compared to the FAA TAF, as shown in **Table 3-7** and **Figure 3-6.**

TABLE 3-7 – GENERAL AVIATION TOTAL OPERATIONS PROJECTIONS

Year	Local Operations Preferred Forecast	Itinerant Operations Preferred Forecast	Total Operations Projections	FAA Terminal Area Forecast (TAF)
2014	1,636	6,540	8,176	8,176
2019	1,768	7,066	8,834	8,637
2024	1,910	7,635	9,545	9,122
2034	2,230	8,913	11,143	10,182
CAGR (2015-2034)	**1.56%**	**1.56%**	**1.56%**	**1.10%**
2019 Variation from TAF	**2.18%**	**2.31%**	**2.28%**	**-**
2024 Variation from TAF	**4.54%**	**4.66%**	**4.64%**	**-**
2034 Variation from TAF	**9.30%**	**9.47%**	**9.44%**	**-**

Source: T-O Engineers, Inc.

FIGURE 3-6 – GENERAL AVIATION TOTAL OPERATIONS PROJECTIONS



Source: T-O Engineers, Inc.

This methodology results in an annual growth rate of 1.56%, which is slightly higher than the TAF's annual growth rate of 1.10%. Based on this methodology, 11,143 general aviation operations are projected to occur at Priest River Municipal Airport, by the end of the forecast period. This is 9.44% more than the adjusted TAF projections of total operations in 2034.

The preferred general aviation operations projection for Priest River Municipal Airport is carried forward in the master planning process and is used to examine future airport facility needs.

3.3.4 PEAKING ANALYSIS

Another primary consideration for facility planning at airports relates to peak hour, also referred to as design level activity. This operational characteristic is decisive because some facilities should be sized to accommodate the peaks in activity, for example, the aircraft apron or terminal areas.

In calculating the number of general aviation operations occurring during the peak hour, it was assumed that the peak day was 20 percent higher than the average day and that the peak hour was 20 percent of the peak day operations. **Table 3-8** presents peak factors for the 20-year planning period.

TABLE 3-8 – OPERATIONS FORECASTS – PEAKING FACTORS

Year	Total Annual Operations	Average Daily Total	Peak Day	Peak Hour
2014	8,176	22	27	5
2019	8,834	24	29	6
2024	9,545	26	31	6
2034	11,143	31	37	7

Source: T-O Engineers, Inc.

3.3.5 ANNUAL INSTRUMENT APPROACH OPERATIONS

Forecasts of annual instrument approaches are used by the FAA in evaluating an airport's requirements for navigational aid facilities. The FAA defines an instrument approach as an approach to an airport with the intent to land an aircraft in accordance with an instrument flight rule (IFR) flight plan, when visibility is less than three miles and/or when the ceiling is at or below the minimum initial approach altitude.

Currently, Priest River Municipal Airport does not have an instrument approach. Analysis on the ability of the airport to obtain approach capabilities over the 20 year planning horizon is included in later chapters. Because no instrument approaches currently exist, no forecast has been developed for annual instrument approaches.

3.3.6 CRITICAL AIRCRAFT

The development of airport facilities is impacted by both the demand for those facilities and the type of aircraft that are expected to make use of those facilities. Generally, airport infrastructure components are designed to accommodate the most demanding aircraft which will utilize the facilities on a regular basis, also referred to as the critical aircraft. The factors used to determine an airport's critical aircraft are the approach speed and wing span of the most demanding class of aircraft anticipated to perform at least 500 annual operations at the airport during the 20 year planning period.

The existing ARC for Priest River Municipal Airport is B-I Small. Common aircraft using the airport today include single-engine aircraft with occasional use by small multi-engine aircraft. Based on available operating data at the airport and discussions with airport management, it appears single-engine aircraft 12,500 lbs or less (small aircraft) are the primary aircraft type operating at the airport.

Small multi-engine aircraft do utilize the airport occasionally throughout the year. Based on the analysis completed as part of this forecasting effort, no solid data exists that would indicate increased demand of larger aircraft over the 500 annual operations threshold during the forecast period. Further the existing runway length is a limiting factor for regular use by large aircraft.

Based on information obtained by the consultant and conversations with users and airport management, the Cessna 182 was selected as the critical aircraft. Further, according to data in the FAA National Based Aircraft Inventory Program, five Cessna 182 are based at Priest River Municipal Airport. **Table 3-9** summarizes the characteristics of the selected critical aircraft.

TABLE 3-9 – CHARACTERISTICS OF DESIGN AIRCRAFT

Approach Speed	64 knots
Wing Span	36.1 feet
Length	28.1 feet
Tail Height	9.2 feet
Maximum Take Off Weight	3,100 lbs

Source: FAA and airliners.net

Based on the analysis conducted in this forecasting effort, the fleet using the airport today will be similar in the future. Several existing constraints and development (to small aircraft standards) limit the ability of the airport to meet new and larger design standards. These constraints include the State Highway 57 as well as other roads, trees, power lines and buildings located in the immediate vicinity of the airport.

However, it is recommended that the traffic be monitored at Priest River Municipal Airport to evaluate the use by larger aircraft. Occasional use is acceptable, but regular use by larger aircraft could necessitate drastic change in the geometry of the airport and could shorten the life of the existing footprint of the airport.

3.3.7 FORECAST SUMMARY

It is anticipated that Priest River Municipal Airport will see some growth in all activity areas during the 20-year planning period. By 2034, approximately 11,143 general aviation operations are projected to occur and 22 aircraft are projected to be based at Priest River Municipal Airport. **Table 3-10** summarizes the projections in this chapter.

TABLE 3-10 – SUMMARY OF AVIATION ACTIVITY FORECASTS 2014-2034

Year	Local Operations Preferred Forecast	Itinerant Operations Preferred Forecast	Total Operations Projections	Based Aircraft
2014	1,636	6,540	8,176	16
2019	1,768	7,066	8,834	17
2024	1,910	7,635	9,545	19
2034	2,230	8,913	11,143	22
CAGR	**1.56%**	**1.56%**	**1.56%**	**1.56%**
2019 Variation from TAF	**2.18%**	**2.31%**	**2.28%**	**8.05%**
2024 Variation from TAF	**4.54%**	**4.66%**	**4.64%**	**16.74%**
2034 Variation from TAF	**9.30%**	**9.47%**	**9.44%**	**36.29%**

Source: T-O Engineers, Inc. and FAA Terminal Area Forecasts

4.0 FACILITY REQUIREMENTS

The purpose of this chapter of Priest River Municipal Airport Master Plan is to identify the needs for additional facilities, or improvements to existing facilities over the planning period. By comparing current demand to projected demand, based on the 20-year forecasts presented in Chapter 3, Aviation Activity Forecasts, it is possible to identify the need for new or expanded facilities at the airport, as well as the ability of existing facilities to meet projected demand.

Aviation demand projections for each planning horizon year (2019, 2024 and 2034) will be evaluated against the airport's available infrastructure, to determine if any additional facilities are needed within each planning period. Facility improvements can be justified to meet FAA design standards, most of which relate to airport safety, but also based on criteria set forth by the FAA in Advisory Circulars (AC). Specific recommendations for improvements developed as part of the Idaho Airport System Plan for Priest River Municipal Airport in 2009 will also be taken into consideration in developing facility requirements.

The following operational areas are evaluated to determine existing and future facility requirements at Priest River Municipal Airport; these include:

- Airside Facilities (Capacity, Runways, Taxiway, Aircraft Parking Aprons, Design Standards, Part 77 Surfaces, Navigational Aid and Approaches)
- Terminal Facilities (Aircraft Storage, Terminal Building, FBO, Auto Parking, Fuel)
- Support Facilities (Access Roads, Infrastructure/Utilities, Fencing and Security, Snow Removal Equipment)
- Other Requirements (Airport Property)

Unless dictated by design standards and safety, the identification of recommended facilities does not constitute a requirement, but rather an option to resolve facility, operational or safety inadequacies, or to make improvements to the airside or landside components as aviation demand warrants.

4.1 IDAHO AIRPORT SYSTEM PLAN RECOMMENDATIONS FOR PRIEST RIVER MUNICIPAL AIRPORT

The Idaho Airport System Plan (IASP) was published by the Idaho Department of Transportation Aeronautics Division in 2010. The IASP provides the state with a top down analysis of its airports and recommendations to improve the overall airport system. The plan recommends facility improvements at each public airport in Idaho including Priest River Municipal Airport. Whether or not recommended improvements can be implemented at an airport must still be analyzed and justified during an airport specific planning process.

The IASP placed each airport in one of five functional roles or categories based on current airport performance. Facility and service objectives were then developed for each airport role category. Individual airport recommendations depend on which role the airport plays in the overall system.

Priest River Municipal Airport was categorized in the IASP as a "Local Recreational" airport. According to the IASP, "Local Recreational Airports serve a supplemental role in local economies, primarily accommodating recreational, personal flying, and limited local business activities." Priest River Municipal Airport met the recommendations for several facilities including runway strength, terminal with public restrooms, auto parking, and services. The IASP facility and services recommendations for the airport, based on the Local Recreational role, are summarized in **Table 4-1**.

TABLE 4-1: IDAHO AIRPORT SYSTEM PLAN PROJECT RECOMMENDATIONS FOR PRIEST RIVER MUNICIPAL AIRPORT

Facility or Service	Existing	System Objective	Recommendation
Runway Length	2,983 feet*	3,090 feet or greater	Extend 107 feet
Runway width	48 feet	60 feet	Widen 12 feet
Fuel	None	AvGas only	Provide AvGas

* The IASP identifies an existing runway length of 2,960 feet, while survey data reports a usable pavement length of 2,983 feet.

Source: Idaho Airport System Plan, 2009

The IASP did recommend that Priest River Municipal Airport slightly extend the Runway, meet FAA design standards with a runway width of 60 feet and provide AvGas fuel.

4.2 AIRSIDE FACILITY REQUIREMENTS

Like other small communities in Idaho, Bonner County and the towns around the airport are rural communities. Infrastructure, including airports, is essential to rural communities because it provides vital connectivity to the outside community. Airports sustain economic development and support critical services that directly affect the well-being of the community it serves.

Examples of these services include:

- Emergency medical evacuation (Life Flights)
- Specialized professional services ("flying" doctors)
- Wildland firefighting
- Law enforcement
- Mail/package delivery
- Business and commerce
- Recreation (hiking, biking, access to the ski areas)

Such activities occur at many rural airports on an everyday basis. Priest River Municipal Airport accommodates a variety of activities including recreational flight, flight instruction, medical evacuation and shipment, as well as occasional police or military use. The location of the airport in a constrained environment, due to urbanization and relief, also presents significant challenges not common to airfields with unrestricted airspace. Constrained environments mean lesser approach capabilities and other operational challenges for aircraft operators caused by weather, terrain and obstructions.

Further, the cost to maintain and improve mountain airports is greater than at comparable size airports throughout the country due to difficult terrain and short construction season. Pavement maintenance costs are also higher due to higher construction prices.

When considering the needs of Priest River Municipal Airport over the next twenty years, the above dynamics should not be overlooked.

4.2.1 AIRFIELD CAPACITY ANALYSIS

Airport capacity is a function of the number and physical layout of available runways and taxiways, as well as their orientation and their relative location. Although Priest River Municipal Airport does not experience capacity or delay issues, a formal capacity analysis was conducted to assess the capacity of the airport.

Airport capacity can be expressed by the maximum number of aircraft per hour or per year. When capacity is provided on an annual basis, it is referred to as the airport's Annual Service Volume (ASV), defined as ''a reasonable estimate of an airport's annual capacity.'' Methods to determine airport capacity and delay are discussed in the FAA Advisory Circular (AC) 150/5060-5, Airport Capacity and Delay, and have been used as part of this analysis.

ASV is a reasonable estimate of an airport's annual capacity that takes into consideration a variety of applicable parameters affecting airfield capacity levels and it was estimated at Priest River Municipal Airport based on the following factors:

- Runway/taxiway configuration
- Aircraft mix
- Percentage of touch & go operations
- Weather conditions

FAA Advisory Circular 150/5060-5 categorizes runway configurations typical of those at airports throughout the United States in order to determine the ASV. The configuration of Priest River Municipal Airport, a single runway configuration supported by a partial parallel taxiway, most closely reflects the operational and physical characteristics of configuration Number 1. The

presence of a full parallel taxiway system at the airport would enhance the capacity of the runway.

The Aircraft Mix Index is the percentage of aircraft operations by large multi-engine aircraft. Primary usage of Priest River Municipal Airport is currently by small aircraft and based on the current fleet using the airport, the mix index is assumed to be less than one percent.

Wind speed and direction, cloud ceiling conditions and visibility are additional factors that affect airport capacity, as they typically dictate which runway pilots can use or whether a pilot can operate in Visual Flight Rules (VFR) or Instrument Flight Rules (IFR) conditions. IFR conditions greatly impact airport capacity due to specialized aircraft and airspace procedures. Priest River Municipal Airport is currently a VFR only airport with no instrument approach capabilities and current wind coverage does not significantly impact capacity at the airport.

Existing Airfield Capacity

The ASV for a single-runway airport with a full-length parallel taxiway is estimated to be 230,000 annual operations. The hourly capacity for this type of airports is estimated to be approximately 98 VFR operations. Because the airport does not have a full parallel taxiway, capacity is assumed to be reduced by 20%. The corrected ASV at the airport is approximately 184,000 annual operations.

Future Capacity Requirements

In 2034, projected demand at Priest River Municipal Airport is forecast to be approximately 11,143 annual operations. These projected operations represent 6.1 percent of the estimated ASV of 184,000 annual operations. FAA guidelines suggest that facility improvements should be considered to increase capacity when annual operations reach 60 percent of the Annual Service Volume. Although Priest River Municipal Airport is not currently equipped with a full length parallel taxiway, the airport is not expected to have any capacity issues over the planning period.

Recommendations: Since demand at the airport is not expected to reach 60 percent of the ASV within the 20-year planning period, no airfield development projects are recommended for capacity purposes.

4.2.2 RUNWAY

Runway 1/19 is the single most important element of the airfield and has the most impact on overall airport accessibility and safety. The Runway Design Code (RDC) is a coding system signifying the design standards to which a runway is to be built. As previously discussed in Section 2.10, Design standards, the RDC has three components based not only on the approach speed, the wingspan and tail height of the critical aircraft, but also on the designated

or planned visibility minimum. Further, the Airport Reference Code (ARC) is an airport designation that signifies the airport's highest RDC, minus the third (visibility) component of the RDC.

Currently Runway 1/19 has an RDC of B-I (small airplanes exclusively)-VIS (B-I(S)-VIS), and the airport an ARC of B-I (Small). No major change in the fleet is expected and the critical aircraft is expected to remain the Cessna 182 throughout the planning period. Nonetheless, it is recommended that the traffic be monitored at Priest River Municipal Airport to evaluate the use by larger aircraft. The following sections will discuss design factors that directly impact runway geometry and, therefore, the ARC.

Runway Length

A review of Priest River Municipal Airport's role and how that role relates to FAA runway length criteria is necessary when discussing required runway length. Airport function, elevation, mean maximum temperature of the hottest month, aircraft take-off weight, aircraft performance, runway gradient and runway surface condition are some of the criteria used when calculating required runway length. These factors affect performance of departing aircraft and thus the length necessary to take-off. Aircraft manufacturer's performance curves or calculations based on FAA Advisory Circulars are common methods of determining runway length for airport planning purposes.

As previously discussed, small aircraft (MGTOW 12,500 lbs. or less) predominately use Priest River Municipal Airport. Aircraft Approach Category (AAC) and Airport Design Group (ADG) for these aircraft consist of an approach speed of 91 knots or more, but less than 121 knots (Category B) and with wingspans up to but not including 49 feet (Group I) respectively.

The runway length requirement at Priest River Municipal Airport was computed according to the FAA AC 150/5325-4C, Runway Length Recommendations for Airport Design, using the mean daily maximum temperature of the hottest month of the year. The required runway length was determined for small propeller-driven airplanes with an approach speed of 50 knots or more, using the runway length curves provided in the Advisory Circular AC 150/5325-4C.

Table 4-2 presents the runway length requirements, based on an airport elevation of 2,193 feet Above Mean Sea Level (AMSL) and a mean maximum temperature of 82.3 degrees Fahrenheit for the hottest month of the year. The runway length requirement ranges from 3,800 feet to 4,500 feet for small airplanes (aircraft with maximum takeoff weights of 12,500 pounds or less).

TABLE 4-2: RUNWAY LENGTHS RECOMMENDED FOR AIRPORT DESIGN

Airport and Runway Data	Inputs
Airport Elevation	2,193' AMSL
Mean Maximum Temperature of the hottest month	82.3° F
Small propeller-driven airplanes with approach speeds of more than 50 knots	
Small airplanes with less than 10 passenger seats	
95 percent of these small airplanes	3,800'
100 percent of these small airplanes	4,400'
Small airplanes with 10 or more passengers	4,500'

Source: T-O Engineers Inc., FAA AC 150/5325-4C

As discussed in Chapter 3, Aviation Activity Forecasts, the design aircraft is the Cessna 182. In addition, the airport occasionally accommodates small multi-engine and turboprop aircraft. The runway length requirement for a sample of the aircraft using Priest River Municipal Airport was computed based on guidance in the FAA AC 150/5325-4C, Runway Length Recommendations for Airport Design, using manufacturer's Airport Planning Manuals, the mean daily maximum temperature of the hottest month of the year and the airport elevation. **Table 4-3** presents these runway length requirements at Priest River Municipal Airport.

TABLE 4-3: RUNWAY LENGTHS RECOMMENDED FOR JET AND AIRCRAFT USING THE AIRPORT

Airport and Runway Data Assumptions			Inputs
Airport Elevation			2,193' AMSL (Estimated 3,000')
Mean Maximum Temperature of the hottest month			82.3° F (Estimated 83° F)
Type of Aircraft	**Maximum Take Off Weight (lbs.)**	**AAC, ADG, and TDG**	**Runway Length Requirements**
Cessna 180K	2,800	AAC-ADG: A-I TDG: 1A	Short Field Technique 1,800'
Cessna 182Q	2,980	AAC-ADG: A-I TDG: 1A	Short Field Technique 2,000'
Gulfstream American GA-7/Cougar	3,800	AAC-ADG: A-I TDG: 1A	2,700'
Pilatus PC-12	10,450	AAC-ADG: A-II TDG: 1A	Flap 15: 4,500' Flap 30: 3,800'
Piper PA-46	4,318	AAC-ADG: A-I TDG: 1A	Flap 0: 3,400' Flap 20: 2,600'
Quest Kodiak	7,255	AAC-ADG: A-I TDG: 1A	2,200' (2,500' with external cargo compartment)

Per the FAA AC 150/5325-4C, Lengths of 30 feet and over are rounded to the next 100-foot interval.
Source: T-O Engineers Inc., FAA AC 150/5325-4C, Cessna Flight Planning Guide, PC-12 Digital Airplane Flight Manual, Piper Malibu Mirage Pilot's Operating Handbook.

The current published runway length at Priest River Municipal Airport is 2,950 feet (FAA 5010 Master Record). Based on existing survey data, the usable pavement length is 2,983 feet. The runway does not have a displaced threshold, therefore the landing distance available is 2,983 feet (published 2,950 feet).

Based on runway length curves provided in the Advisory Circular AC 150/5325-4C and based on the temperature and elevation at Priest River Municipal Airport, the existing take-off length may limit aviation activity, especially during the hotter summer days.

Based on the Advisory Circular AC 150/5325-4C, the runway length recommended to accommodate 100 percent of small airplanes with less than 10 passenger seats without weight restriction is 4,400 feet. However, per the Cessna 182Q Pilot's Operating Handbook, the existing runway length allows accommodating the design aircraft, the Cessna 182, without any weight restriction, using a short field take-off technique. In addition, the existing runway length can accommodate aircraft such as the Quest Kodiak or the Piper Malibu PA-46.

The FAA Advisory Circular 150/5325-4C*,* Runway Length Requirements for Airport Design and the Planning Guidance No. 09-01, Runway Extension Justification Considerations, provide current guidance for runway extensions at airports. One basic rule of thumb for a runway extension to be justified is that the airport must support 500 total annual itinerant operations of a designated critical aircraft or ARC.

Although the airport is uncontrolled (no Air Traffic Control Tower), analysis of existing user data, interviews with local airport management and tenants, interviews with itinerant airport users including Life Flight, and corporate operators, indicates substantial use by small aircraft. As mentioned above, large aircraft activity also occasionally takes place at the airport to a lesser extent. The airport is expected to continue to serve more than 500 annual itinerant of AAC/ADC B-I (Small) aircraft throughout the planning period. No data exists that would indicate increased demand of larger aircraft over 500 annual itinerant operations.

Recommendations: Based on the FAA runway length recommendations, current and future aircraft demand, and IASP recommendations, a runway extension is justified at the airport. The IASP recommended a runway length of 3,090 or greater for Local Recreational Airports.

While justified, the constrained environment of the airport is not conducive to a runway extension on the existing site. As a result, it is not recommended that any further analysis of an extension be considered as part of this planning study.

Further, based on various Pilot's Operating Handbooks, the current Runway length at Priest River Municipal Airport accommodates the design aircraft as well as small general aviation aircraft such as the PA-46 or Cessna 180. Although larger multi-engine and turboprop aircraft do utilize the airport occasionally throughout the year, this activity does not occur on a regular

basis and is not forecast to meet the substantial use threshold (more than 500 annual operations) over the planning period.

However, it is recommended that Bonner County continues to monitor the traffic as well as the fleet mix using the airport. In addition, it is also recommended that the FAA Form 5010 be updated to reflect the surveyed length of the usable pavement of 2,983 feet.

Lastly, it should also be noted that the larger aircraft that currently use the airport do so at their own risk. It is the responsibility of each pilot/crew to understand their particular aircraft's performance requirements and how such requirements relate to existing airport facilities, including available runway strength and length.

Runway Width

Per FAA airport design standards, runway width for Airplane Design Group I is 60 feet. The width of Runway 1/19 is 48 feet. In order to meet design standards the runway needs to be widened, and two alternatives are possible: widening the runway on both sides, or widening the runway on one side only. This second alternative would shift the runway centerline by six feet to the east. As all the design and protection standards are based on the runway centerline, this alternative would also translate these various protections areas by six feet to the east. An analysis of the consequences of widening the runway will be conducted in Chapter 5, Alternatives Analysis.

Recommendation: Runway 1/19 width does not meet design standards for Runway Design Code RDC B-I (Small) aircraft. It is recommended that Runway 1/19 be widened to 60 feet to meet FAA design standards. Additional details will be provided in Chapter 5, Alternatives Analysis.

Runway Strength

Current Runway 1/19 pavement strength is reported to be 12,500 pounds single wheel loading as published on the FAA 5010 master data record.

The designated critical aircraft at Priest River Municipal Airport, the Cessna 182, has a maximum gross takeoff weight (MGTOW) of 3,100 pounds. Current pavement strength is sufficient to accommodate existing as well as the forecast aircraft activity expected to operate at the airport on a regular basis throughout the planning period. Foreseeable conditions do not indicate the need for additional runway pavement strength.

Recommendation: The existing pavement strength is appropriate and it is recommended to conduct routine pavement maintenance as necessary

Wind Coverage and Crosswind Analysis

The wind coverage is the percentage of time when the crosswind component does not exceed the limit for the design aircraft using the runway. FAA criterion recommends a minimum of 95 percent wind coverage for all airports.

Wind data from the weather station HOOOI1, located in the Hoodoo Valley approximately 10 miles from the airport, was reviewed and used to evaluate the wind coverage at Priest River Municipal Airport.

In the absence of weather station on the airport, this was deemed to be the best data available. Based on this data and a maximum crosswind speeds of 10.5 knots for A/B-I-Small aircraft, the annual average wind coverage for Runway 1/19 is 99.95 percent wind coverage. This is for informational purposes only, as the weather station used to compute this wind coverage is not located on the airport. Based on the estimated coverage, the existing Runway 1/19 alignment provides the FAA minimum wind coverage recommended.

Recommendation: Based on the data available, the runway alignment meets the FAA recommendations. Further, based on the existing location of the airport, surrounded by urbanized area and mountainous terrain, a major realignment of the runway or addition of a crosswind runway is not realistic or feasible.

Runway Markings

The markings on the runway are in fair condition. According to the National Geophysical Data Center, the magnetic declination is changing by 11’ W per year at Priest River Municipal Airport, so a change of 220’ W (3° 40’ W) at the end of the planning period. The current declination is 14° 52’ 30’’ E (2014). In 20 years, the new declination will be 11° 12' 30’’ E. The true orientation of Runway 1/19 is 035° 29’ 20.54”, which will give a magnetic orientation of 024° 16' 50.54’’ (204° 16' 50.54’’) in 2034. In addition, given the true orientation of each runway and the current magnetic declination, the magnetic orientation of Runway 1/19 is 020° 36' 50.54’’ (200° 36' 50.54’’). This analysis indicates Runway 1/19 should be re-designated Runway 2/20 to address this natural magnetic shift.

Recommendation: It will be required that the Priest River Municipal Airport Runway be re-designated Runway 1/19 to 2/20 in the near future, to address the natural magnetic shift. The new designation, Runway 2-20, will be depicted on the Airport Layout Plan (ALP). As Priest River Municipal Airport is equipped with a visual runway only, markings can be changed at any time and reflected on the 5010 and in the FAA OE/AAA database. To minimize costs it is recommended that the airport updates the runway markings at the same time as runway projects.

Runway Signs

Airfield signage, such as instruction signs, location signs, direction signs, destination signs, or information signs, is essential to give pilots visual guidance for all phases of movement on the airfield. Priest River Municipal Airport is not equipped with runway or airfield signs.

Recommendation: To improve safety, it is recommended that Priest River Municipal Airport be equipped with Taxiway/Runway holding position signs.

4.2.3 DESIGN STANDARDS

The FAA design standards are requirements to provide an acceptable level of safety at the airport. Recommendations for runway protection and separation requirements are included below. Graphical representation is also depicted on the Airport Layout Plan drawing set.

Accommodating ARC B-I (Small) vs. B-I

The existing ARC for Priest River Municipal Airport is B-I Small. Common aircraft using the airport today include single-engine aircraft with occasional use by small multi-engine aircraft. Single-engine aircraft 12,500 lbs or less (small aircraft) are the primary aircraft type operating at the airport. Small multi-engine aircraft do utilize the airport occasionally throughout the year, but no solid data exists that would indicate current or future use of larger aircraft over the 500 annual operations threshold. Further, as previously mentioned in Section 4.2.2 Runway Length, the existing runway length is a limiting factor for regular use by large aircraft.

It is the policy of the FAA to meet design standards for the design aircraft determined for the 20-year planning period, which is B-I Small at Priest River Municipal Airport. The policy of meeting design standards provides an increased level of safety and a more proactive approach to airport planning. Accommodating larger design standards, such as B-I standards, at Priest River Municipal Airport would result in increased separations or width adjustment to the Runway protection standards, such as the Runway Object Free Area (ROFA), the Runway Protection Zones (RPZ), and to the Runway separation standards, such as the Runway centerline to Taxiway centerline separation.

However, Priest River Municipal Airport is a highly constrained airport and is located in an urbanized and already developed environment. Therefore, it is not realistic to consider meeting design standards B-I at Priest River Municipal Airport. Furthermore, it is not foreseeable that demand of large aircraft will increase over the 500 annual operations threshold during the planning period.

It should be noted that actions to attract aircraft larger than A/B-I Small on a regular basis and over the substantial use threshold of 500 annual operations should not be pursued at Priest River Municipal Airport, before the airport is ready to meet the FAA dimensional standards to

accommodate these aircraft. If the airport were to exceed B-I Small few options would be available: one of them would be to relocate the airport.

Runway Protection Standards

The runway protection standards include the Runway Safety Area (RSA), the Runway Object Free Area (ROFA), the Runway Obstacle Free Zone (OFZ), and the Runway Protection Zone (RPZ).

Runway Safety Area (RSA)

The required Runway Safety Area (RSA) for airports accommodating ARC B-I(S) extends 240 feet beyond departure end and prior to threshold and is 120 feet wide.

Recommendations: The existing RSA of Runway 1/19 at Priest River Municipal Airport meets design standards.

Runway Object Free Area (ROFA)

The required Runway Object Free Area (ROFA) for airports accommodating ARC B-I(S) extends 240 feet beyond departure end and prior to threshold and is 250 feet wide. The ROFA for Runway 1/19 at Priest River Municipal Airport does not meet design standards as it is impacted by the existing wind cone as well as an air relief valve. **Figure 4-1** depicts the location of this wind cone and air relief valve.

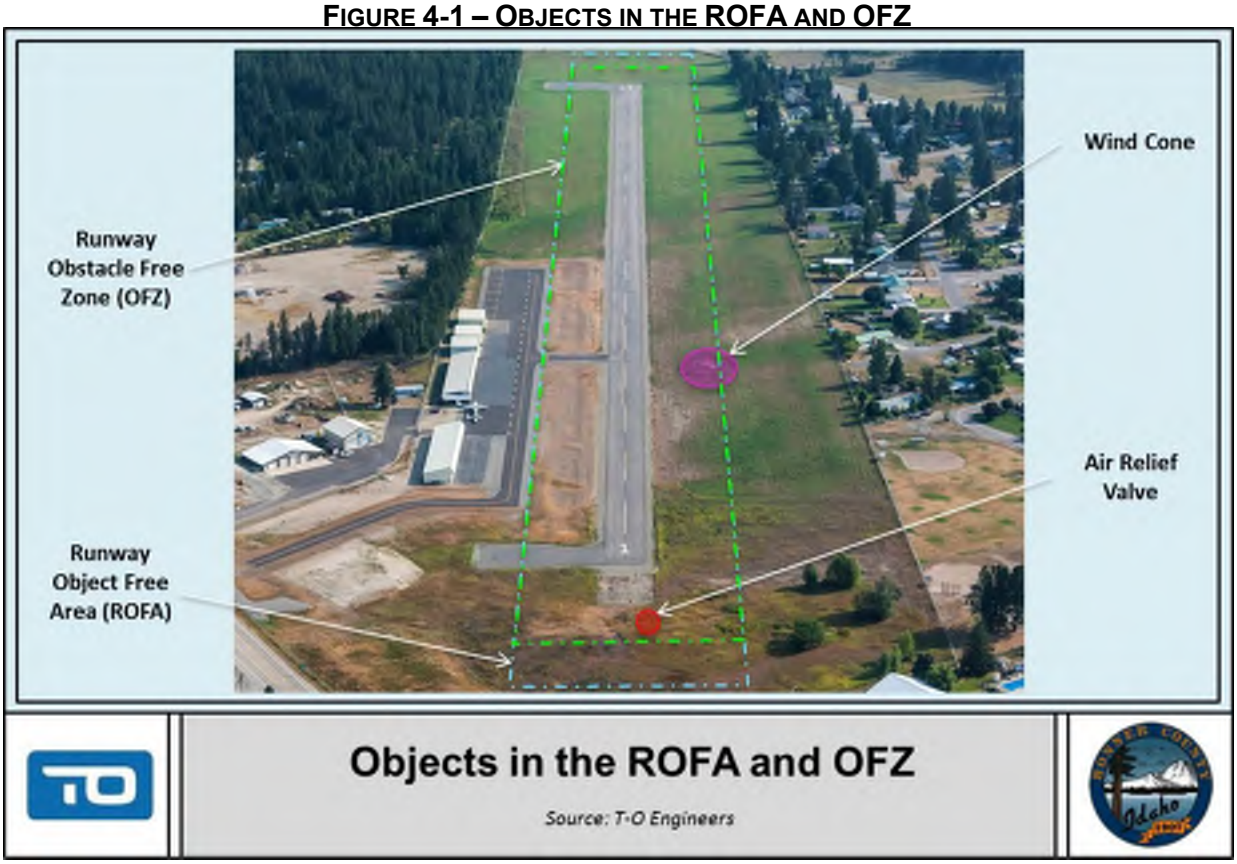
Recommendations: To meet B-I(S) design standards it is recommended to displace the wind cone out of the ROFA and regrade around the air relief valve. An analysis of this recommendation will be provided in Chapter 5, Alternatives Analysis.

Runway Obstacle Free Zone (OFZ)

The required Runway Obstacle Free Zone (OFZ) for airports accommodating small aircraft, with an approach speed of 50 knots or more, extends 200 feet beyond each end of the runway and is 250 feet wide. The OFZ is also impacted by the wind cone and an air relief valve previously mentioned. **Figure 4-1** depicts the location of this wind cone and air relief valve.

Recommendations: It is recommended to displace the wind cone out of the OFZ and regrade around the air relief valve. An analysis of this recommendation will be provided in Chapter 5, Alternatives Analysis.

FIGURE 4-1 – OBJECTS IN THE ROFA AND OFZ



Runway Protection Zone (RPZ)

The Runway Protection Zone for airports accommodating B-I (Small) aircraft has a length of 1,000 feet, an inner width of 250 feet and an outer width of 450 feet. The total area is 8.035 acres.

Priest River Municipal Airport currently does not meet RPZ standards for B-I (Small). The RPZs on both runway ends are penetrated by uses not allowed in the RPZ; namely, Runway 19 by State Highway 57 and Runway 1 by Cemetery Road. Other obstructions in the RPZ's on each end include trees and power lines as well as buildings.

The RPZ beyond Runway 19 end lies over nine parcels, including portion of State Highway 57. The RPZ beyond Runway 1 end lies over nine parcels, including portion of Cemetery Road. **Table 4-4** lists the parcels in the RPZs at Priest River Municipal Airport, as well as their zoning type and whether a residential building is on the parcel. **Figures 4-2 and 4-3** depict the parcels in the RPZs beyond Runway 19 and Runway 1 ends at Priest River Municipal Airport.

Analysis of existing and future RPZs will be conducted in the subsequent chapters of this plan to determine potential mitigation measures and the feasibility of removing obstacles to provide the highest level of safety for airport users as well as people and property on the ground.

Recommendations: Acquisition and control of the entire RPZ does not appear to be realistic, as it is highly unlikely that all the buildings will be displaced. As able the portions of the RPZs not currently under county control should be acquired via fee simple or avigation easement purchase. The disposition of RPZ penetrations will be discussed in Chapter 5, Alternatives Analysis.

TABLE 4-4: PARCELS IN THE RPZS

Parcel	Zoning Type	Type of Building	Residential Building
RPZ beyond Runway 19 end			
1	Commercial	Hangar/Storage	No
2	Commercial	Fuel Station	No
3	Commercial	Shop/Storage	No
4	Commercial	Mobile Home Park	Yes
5	Commercial	Family Health	No
6	Residential	1 Story with Basement	Yes
7	Mobile Home on own land	Mobile Home	Yes
8	Residential	Building	Yes
9	Residential	Mobile Home	Yes
RPZ Beyond Runway 1 end			
1	Residential	1 Story with Basement	Yes
2	Residential (Lot Vacant)	-	No
3	Residential (Lot Vacant)	Shed/Storage	No
4	Residential	1.5 Story with Basement	Yes
5	Non residential	Hangar/Storage	No
6	Mobile Home on own land	Mobile Home	Yes
7	Residential	1 Story with Basement	Yes
8	Rural with Mobile Home	Mobile Home	Yes
9	Residential (Lot Vacant)	-	No

Source: Bonner County GIS, T-O Engineers, Inc.

FIGURE 4-2 – PARCELS IN THE RPZ BEYOND RUNWAY 19 END

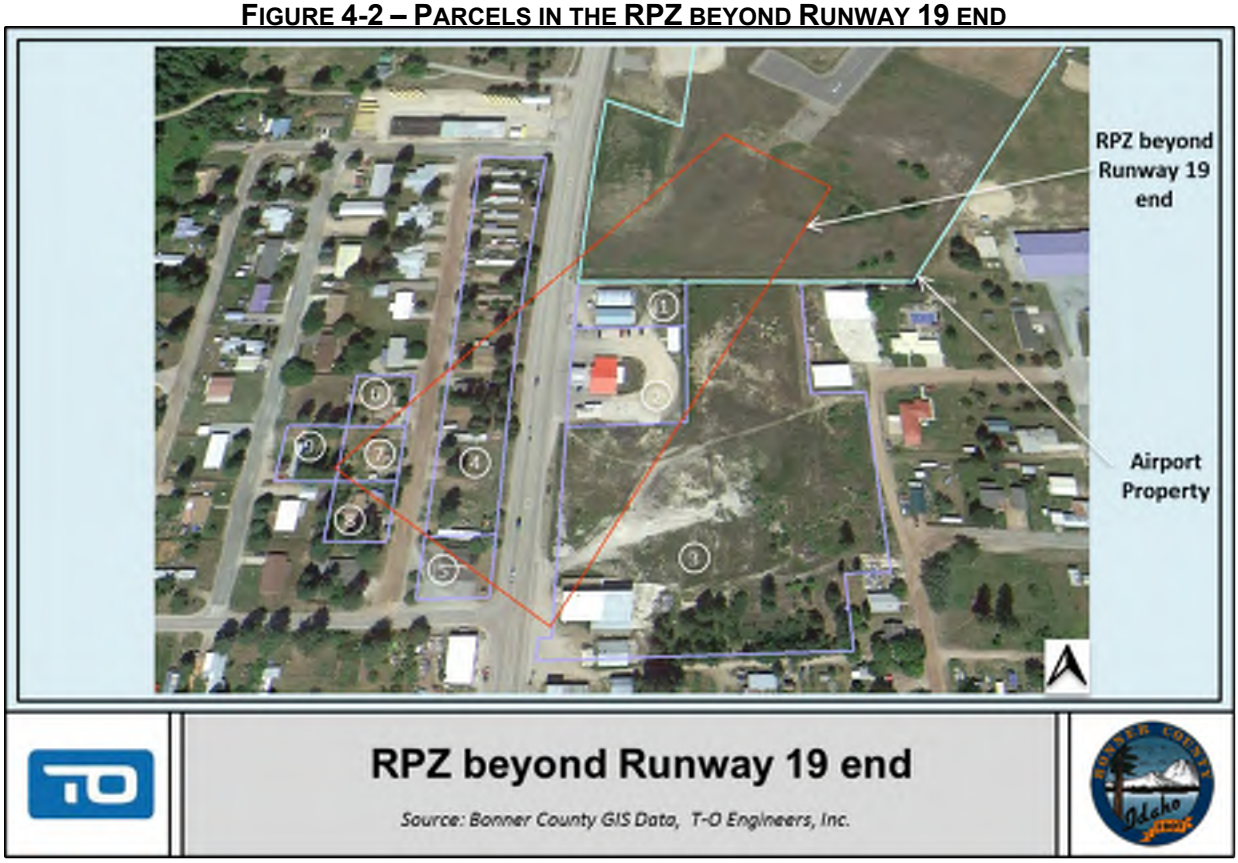
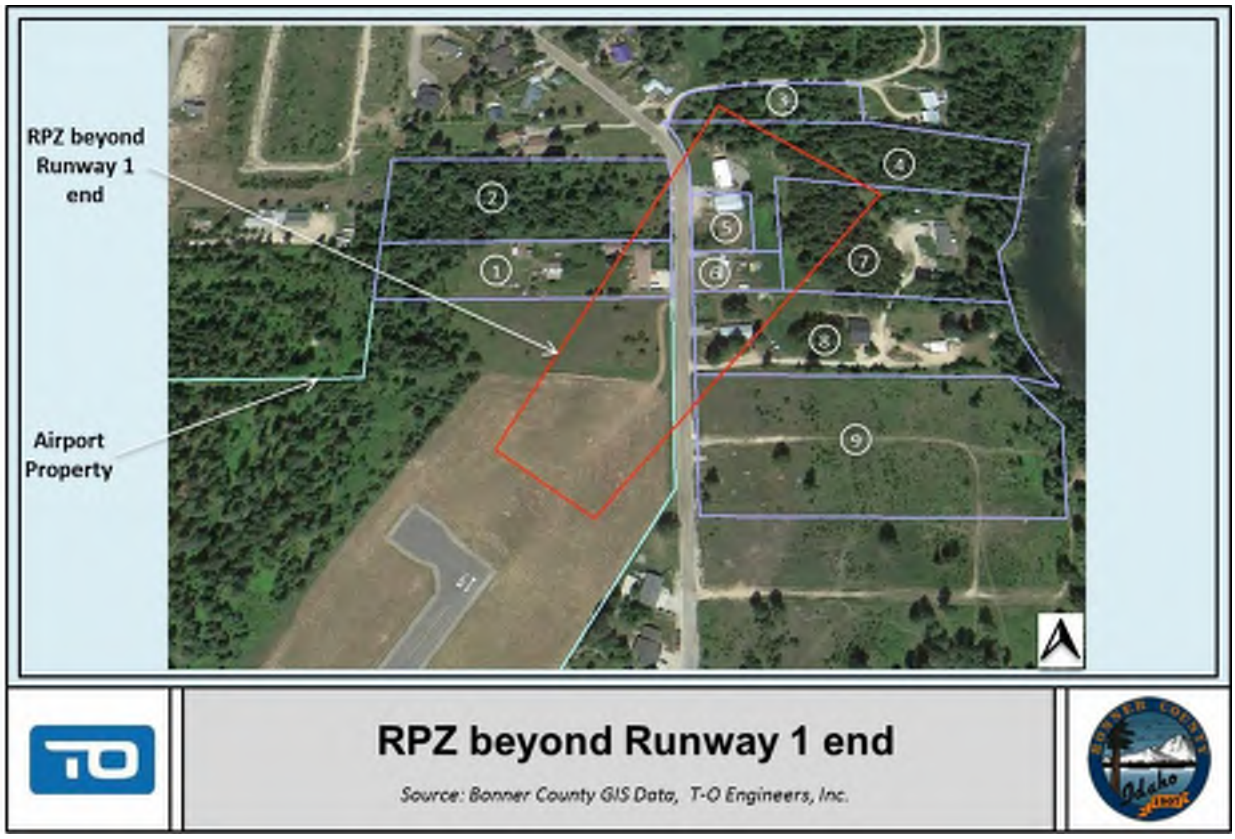


FIGURE 4-3 – PARCELS IN THE RPZ BEYOND RUNWAY 1 END



Runway Separation Standards

The runway separation standards ensure operational safety at the airport. They are based on the AAC, the ADG and Visibility minimum. The runway separation standards include the runway centerline to parallel taxiway centerline separation, the runway centerline to holdline separation and the runway centerline to edge of parking distance.

Runway/Taxiway Separation

The required separation distance between the runway and parallel taxiway centerline is 150 feet for airports accommodating an ARC of B-I (Small). The current runway/taxiway centerline is 150 feet and meets FAA design standards.

Recommendations: The existing Runway/Taxiway Separation meets design standards.

Runway/Holding Point Distance

The required separation distance between the runway and holding point position is 125 feet for airports accommodating a RDC of B-I (Small). The current Runway/Holding Point distance is 125 feet and meets the FAA requirement for a B-I (Small) airport only.

Recommendations: The existing Runway/Holding Point Distance meets B-I (Small) design standards.

Runway/Edge of Aircraft Parking Distance

The required separation distance between the runway centerline and the edge of the aircraft parking is 125 feet for airports accommodating a RDC of B-I (Small). The current Runway/Edge of Aircraft Parking is 224 feet.

Recommendations: The existing Runway/Edge of Aircraft Parking Distance meets FAA Design standards.

4.2.4 THRESHOLD SITING REQUIREMENTS

FAA AC 150/5300-13A states that the threshold should be located at the beginning of the full-strength runway pavement or surface. Displacement of the threshold may be required when an object that obstructs the airspace required for landing airplanes is beyond the airport owner's power to remove, relocate, or lower. Thresholds may also be displaced for environmental considerations, such as noise abatement, or to provide the standard RSA and Runway OFA lengths.

When a hazard to air navigation exists, the amount of displacement of the threshold should be based on the operational requirements of the most demanding aircraft using the facility.

Displacement of a threshold reduces the length of the runway available for landings in a given direction. Depending on the reason for displacement of the threshold, the portion of the runway behind a displaced threshold may be available for takeoffs in either direction or landings from the opposite direction using declared distances.

These standards are not meant to take the place of identifying objects affecting navigable airspace (CFR Part 77) or zoning. The standard shape, dimensions, and slope of the surface used for locating a threshold is dependent upon the type of instrumentation available or planned for that runway. Table 3-2 of AC 150/5300-13A, Airport Design, identifies the runway end/threshold siting requirements.

Currently neither runway end is configured with a displaced threshold. The existing ALP to be revised as part of this master planning process indicates a displaced threshold to Runway 1 end. Analysis of the Threshold Siting Surface will be verified as part of the revised ALP process. Should obstruction data indicate the need for a displaced threshold to clear obstructions, an appropriate displaced threshold will be recommended.

4.2.5 AIRSPACE

Surrounding Airspace Analysis

Airspace can be affected by different factors, such as special use airspaces, obstacle constraints, and other operational constraints. Special use airspaces, also known as special area of operations (SAO), accommodate particular activities that may require limitation for the aircraft not involved in these activities. Special area of operations includes prohibited areas; restricted areas, warning areas, military operation areas (MOAs), alert areas and controlled firing areas (CFAs). As described in section 2.14 Surrounding Airspace, Priest River Municipal Airport is currently in Class G uncontrolled airspace and in close proximity to Class E airspace, as a result of Victor Airways. In addition, the Roosevelt A MOA is located approximately 25 nautical miles (28.7 miles) to the northwest of the airport.

Recommendations: Changes to the surrounding airspace are not anticipated in the future.

CFR PART 77 Airspace

Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace (Part 77), applies to existing and manmade objects. According to FAA Form 5010, the Airport Master Record, Priest River Municipal Airport has obstructions located within the Part 77 approach surfaces to both runway ends. The controlling obstructions listed on the FAA form 5010 are presented in **Table 4-5**. Mitigation measures will be analyses in Chapter 5, Alternatives Analysis.

TABLE 4-5: PART 77 OBSTRUCTION DATA FOR RUNWAY 1/19

Runway End	Type	Obstruction Height Above RW end	Surface Penetration	Obstruction Distance from RW end	Clearance Slope	Recommended Slope	Close In Obstruction
1	Trees	80’	47.6’	1,000’ from runway	10:1	20:1	No
19	Trees	75’	65.5	650' from runway 150’ left of centerline	6:1	20:1	No

Source: FAA Form 5010, T-O Engineers

In addition to these obstacles, on-site survey verification of obstructions was completed as part of this project.

The existing defined Part 77 Airspace (Utility runway – primarily serving aircraft 12,500 pounds or less around the airport – with visual approaches) is not expected to change during the planning period. The extents of the Part 77 Airspace, the Runway Inner Approach Plan and Profile are included in Airport Layout Plan drawing set.

Recommendations: It is recommended that the trees be cut or topped to clear the Part 77 Approach and Transitional Surfaces. Based on the airports location in mountainous terrain, it is not reasonable to clear all airspace surfaces from obstructions, especially in outer portions of the Part 77 surfaces. To the extent reasonable, the County should take a proactive approach to keep the Part 77 airspace surfaces clear via the use of height zoning and require the submittal of FAA Form 7460-1 for proposed development as required by federal airspace protection/notification criteria.

4.2.6 TAXIWAYS

Taxiway and Taxilane Geometry

Airfield taxiways provide the primary connecting route between airside and landside facilities. As an important airfield feature, most taxiway geometric properties are defined by FAA design guidance. Improvements to an airport taxiway system are generally undertaken to increase runway capacity or to improve safety and efficiency. An efficient taxiway system increases the ability of an airport to handle arriving and departing aircraft and expedite aircraft ground movements.

The required distance between a taxiway/taxilane centerline and other objects is based on the required wingtip clearance, which is a function of the wingspan, and thus determined by the ADG, the second component of the ARC. The design of pavement fillet must consider aircraft undercarriage dimensions and is based on the Taxiway Design Group (TDG), a coding system according to the Main Gear Width (MGW) and the Cockpit to Main Gear Distance (CMG). The critical aircraft for the airport is the Cessna 182, which is TDG-1A.

The taxiway system at Priest River Municipal Airport was analyzed to determine potential deficiencies. It consists of a partial parallel ramp edge taxiway with one connector leading to Runway 1/19. The connector taxiway is approximately 100 feet long by 25 feet wide and it provides direct access to the airplane parking areas, and hangars. As Priest River Municipal Airport is only equipped with a partial parallel taxiway, aircraft taking off and landing need to back-taxi on the runway to taxi to and from the apron.

Recommendations: A partial parallel or full-length parallel taxiway(s) is recommended at Priest River Municipal Airport, as it would contribute to an increased level of safety at the airport by reducing back-taxi operations. Taxilanes should also be considered to lead to existing apron and hangars or when developing plans for additional hangars, new aprons, or a new fueling area.

An analysis of these recommendations will be provided in Chapter 5, Alternatives Analysis.

Taxiway Width

The existing taxiway system at Priest River Municipal Airport complies with FAA criteria for the TDG 1A width of 25 feet and provides the necessary airfield capacity. The existing taxiway fillets at the airport are designed based on TDG 1 however design criteria changed after the project was constructed and the existing pavement fillets meet the design criteria at the time of design.

Recommendation: Based on projected operational demand, the existing taxiway width of 25 feet for TDG-1A aircraft is sufficient. It is recommended that future taxiways and future pavement fillets meet design standards TDG-1A.

Taxiway Strength

Current strength of the parallel taxiway and connectors is 12,500 pounds single wheel. These taxiway pavements accommodate the activities of existing general aviation aircraft that use the facility on a regular basis as well as the forecast aircraft activity expected to operate at the airport throughout the planning period. Foreseeable conditions do not indicate the need for additional taxiway pavement strength.

Recommendation: Based on current demand, the existing taxiway strength of 12,500 pounds single wheel loading is sufficient. A nominal overlay of existing pavements will likely be required in the latter stages of the planning period due to deterioration from weathering and oxidation. It is recommended that future taxiways meet strength requirements of 12,500 pounds single wheel loading and/or match runway strength.

4.2.7 SUMMARY OF DESIGN STANDARDS

Table 4-6 presents a comparison of design standard dimensions for existing conditions of ADG B-I (Small) at the airport.

TABLE 4-6: SUMMARY OF DESIGN STANDARDS

	FAA Standard	Existing
Airport Reference Code	B-I (Small)	B-I (Small)
Runway Width	60	**48**
Runway Safety Area Length beyond each runway end (RSA)	240	240
Runway Safety Area Width (RSA)	120	120
Runway Object Free Area (ROFA) length beyond each runway end	240	240
Runway Object Free Area (ROFA) Width*	250	**250***
Runway Object Free Area (OFA) length beyond each runway end	200	200
Runway Obstacle Free Zone Width (OFZ) *	250	**250***
Runway Protection Zone		
Length	1,000	**1,000****
Inner Width	250	**250****
Outer Width	450	**450****
Runway Centerline to:		
Runway Centerline to Taxiway Centerline	150	150
Runway Centerline to Edge of Aircraft Parking	125	224
Holdline	125	125
Taxiway Areas		
Taxiway Width	25	25
Taxiway Safety Area (TSA)	49	49
Taxiway Object Free Area (TOFA)	89	89

*The ROFA and OFZ are impacted by the wind cone and an air relief valve
**Both RPZs penetrated by buildings, power lines, roads and trees
Source: T-O Engineers

4.2.8 NAVIGATIONAL AIDS AND INSTRUMENT APPROACH PROCEDURES

Visual Aids and Lighting

Runway 1/19 is equipped with Non Standard Low Intensity Runway Lighting (LIRL) system with Pilot Controlled Lighting (PCL), but neither runway end is equipped with Runway End Identification Lights (REILs). The runway lighting system is old, does not meet standards and the wiring is not adequate. The runway lights are not backed up with a generator. The partial parallel ramp edge taxiway does not have any lighting, and is equipped with reflectors only.

Recommendation: The existing runway edge lighting system should be modified to meet FAA standard, Medium Intensity Runway Lighting (MIRL). While the FAA specifications allow for a LIRL system, a MIRL is recommended to aid in better visibility for pilots in the mountainous

environment. Further, there is minimal cost between a LIRL and MIRL and the FAA Helena ADO does not support the use installation of LIRL.

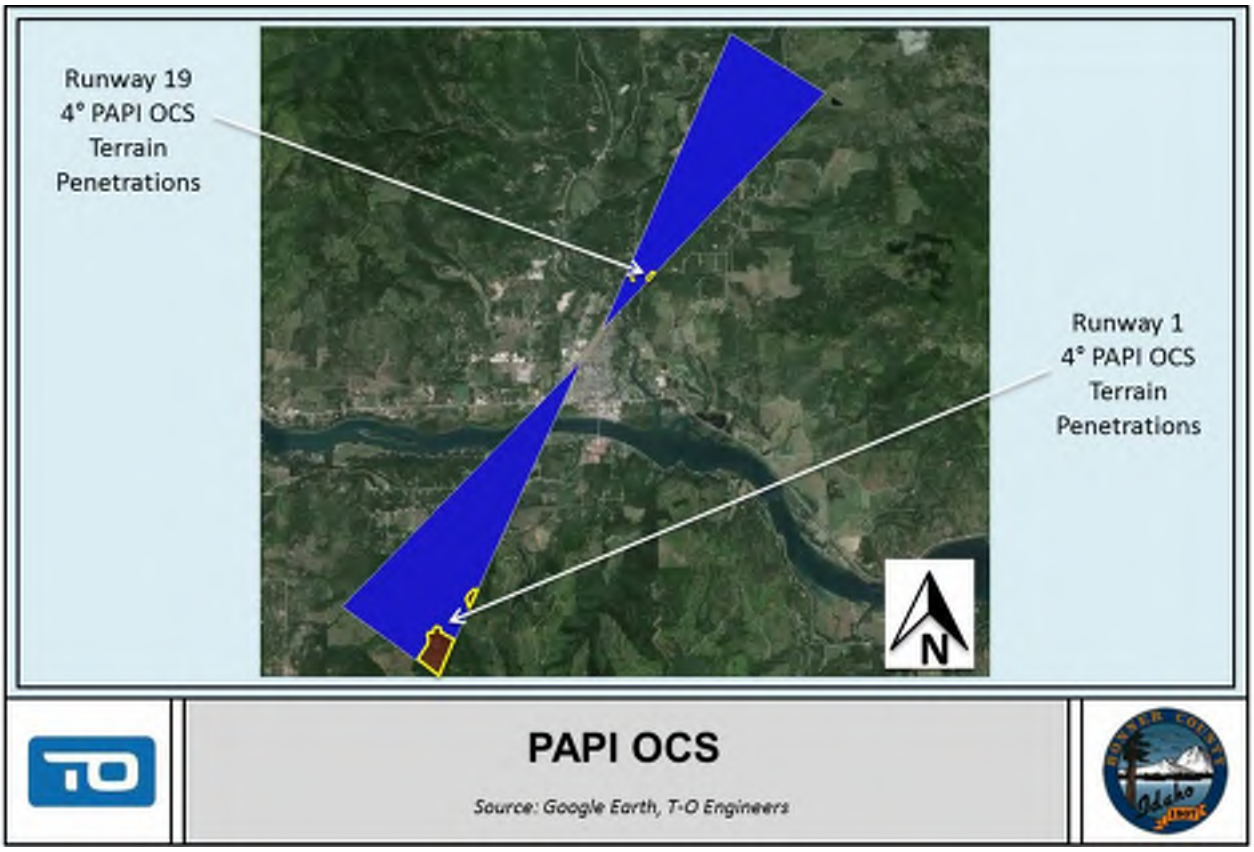
Both Runway 1 and Runway 19 should be considered for installation of REILs, due to the location of Priest River Municipal Airport in an urbanized environment. As the two runways are equally used for the approaches, it is recommended that both the runway ends be equipped with REILs.

Precision Approach Path Indicator (PAPI)

Neither runway end is equipped with Precision Approach Path Indicator (PAPI). An initial feasibility analysis for a PAPI on both runway ends was conducted as part of this study. Based on FAA siting criteria for PAPI and maximum glide path angle of 4 degrees (3 degrees is nominal; however this slope can be increase to 4 degrees for runways serving Category A and B aircraft), there are minor penetrations to the Obstacle Clearance Surface (OCS) due to terrain north and south of the airport.

The installation of a PAPI might still be feasible using techniques like baffling, restricting lateral coverage or using higher Threshold Crossing Heights (TCH). **Figure 4-4** depicts the penetrations to the Runway 1 and 19 PAPI OCS.

FIGURE 4-4: RUNWAY 1 AND 19 PAPI OCS OBSTRUCTIONS



Recommendations: Initial feasibility analysis for PAPIs on both runway ends indicates the installation of the approach path system might be feasible. Mitigation via use of baffling or by restricting lateral coverage may be an option. Further coordination and verification with the FAA is recommended to conduct additional analysis.

Other Visual Aids and Lighting

There is no segmented circle or rotating beacon at Priest River Municipal Airport. In addition, the lighted wind cone is in the OFA. Further, the existing electrical conduit and equipment is in fair condition and inadequate. There is no electrical vault building and the electrical panel is in the pilot's lounge.

Recommendations: It is recommended that the lighted windsock be displaced outside of the OFA and that a segmented circle be installed. Supplemental wind cones on each runway end are also suggested. Further, the installation of a rotating beacon, upgrading the electrical facilities, and constructing an electrical vault building is recommended at Priest River Municipal Airport.

Instrument Approach Procedures

An instrument approach procedure is defined as a series of predetermined maneuvers for guiding an aircraft under instrument flight conditions from the beginning of the initial approach to a landing, or to a point from which a landing may be made visually. Priest River Municipal Airport currently has visual approach capabilities only.

The FAA is continuing to expand development of a global navigational satellite systems using Area Navigation (RNAV) Global Positioning System (GPS) technology for instrument approaches. GPS satellite-based navigational system is able to provide instant and precise aircraft position information for every phase of a flight. Non-precision approaches do not require ground-based facilities on or near the airport for navigation. The GPS receiver uses satellites for navigation allowing remote installation. Therefore, it involves little or no cost to the Airport Sponsor. Further, instrument approaches increase the utility of airports by providing for the capability to operate in inclement weather conditions. This is especially important for Life Flight and business flights.

A summary of basic criteria for the airport to be eligible for straight-in approach development include:

- Official change in status of the airport with the FAA from VFR (visual) to IFR (instrument)
- Recommended paved runway length of at least 3,200 feet (currently 2,983 feet)
- 500 foot wide Primary Surface (currently 250 feet wide)
- 2,000 foot Approach Surface width at the end
- Runway width of 60 feet (currently 48 feet wide)

- Non-precision instrument runway markings (currently visual)
- On-site altimeter
- Obstruction survey (meeting Airports Geographic Information System AGIS requirements)
- Environmental Assessment

The FAA recommends a runway length of at least 3,200 feet. However, runways as short as 2,400 feet can support an instrument approach if certain conditions are met; including the FAA required obstacle clearance within the final approach segment.

Development of non-precision approach capabilities at Priest River Municipal Airport was briefly analyzed by the FAA. It was concluded that potential exists for approach to Runway 1. Due to terrain and obstacles limitations, the approach might be limited to circling only and would have high visibility minimums, limiting its utility.

Current facility constraints, such as the runway width or the requirement to increase the size of the airport's Part 77 Primary Surface from 250 feet to 500 feet wide are limiting factors. In addition, the size of the Approach Surface will need to be increased. As a Utility Visual runway, the current Approach Surface at Priest River Municipal Airport extends for a distance of 5,000 feet at a slope of 20:1 and has an outer width of 1,250 feet. If the airport is equipped with a non-precision instrument approach, the Approach Surface will extend for a distance of 5,000 feet at a slope of 20:1 and have an outer width of 2,000 feet runways.

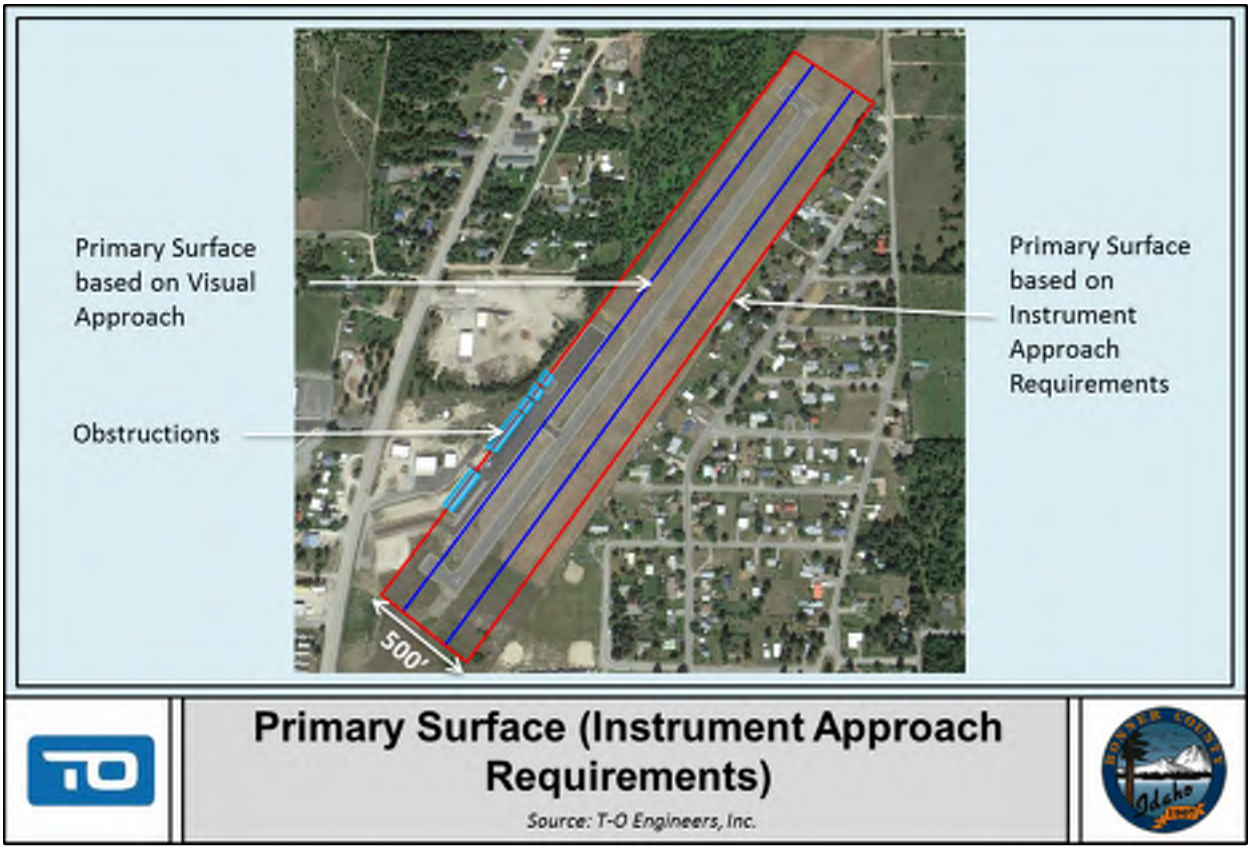
The current constrained environment on and around the airport prove difficult in accommodating these necessary increases; the 500 feet wide Primary Surface is penetrated by existing facilities, such as hangars, on the west side of the airport, as depicted in **Figure 4-5**. Although, in many instances, marking and lighting the structures may suffice. Future Part 77 approach surface to accommodate a potential instrument approach will be analyzed in Chapter 5, Alternative Analysis.

In addition to the airport meeting the above basic criteria, approach procedure development will require additional information to be provided to the FAA, including completion of a formal airport obstruction analysis, environmental impacts and funding availability. A FAA Airport Geographic Information System (AGIS) project, to collect airport and aeronautical data, as well as an instrument approach obstruction analysis will need to be included before any approach can be developed.

It should also be noted that development of new procedures will likely be low priority to the FAA. Development of new procedures for airports like Priest River Municipal Airport is facing high demand. In the light of recent budget cuts, the process to develop new approach procedures is likely to take at least 5 years after the request is submitted to the FAA.

Recommendation: To be eligible for a straight-in approach, the airport needs to meet the basic criteria previously described, including a runway width of 60 feet and larger Primary and Approach Surfaces. In addition, the airport does not have an onsite certified altimeter, necessary to allow instrument approach. Although clearing the Primary and Approach Surface proves difficult, the ability of Priest River Municipal airport to meet/address increased airspace and Part 77 requirements will be discussed in Chapter 5, Alternative Analysis and an alternative will analyze the impacts of a non-precision instrument approach on existing facilities.

FIGURE 4-5: PRIMARY SURFACE BASED ON INSTRUMENT APPROACH REQUIREMENTS



Automated Weather

Priest River Municipal Airport is not equipped with a FAA certified Automated Weather Observation System (AWOS). Certified weather data in the general vicinity is available 24 hours a day from an automated system at Sandpoint Airport and Coeur d'Alene Airport.

On-site weather provides critical real time weather information to pilots enhancing safety. It is particularly important in a mountainous environment where weather and winds can change rapidly. However, AWOS equipment is expensive and the initial costs, approximately $150,000, do not include maintenance requirements. Annual maintenance costs for such equipment average $4,000 to $6,000 and are the responsibility of the airport's sponsor; this amount does not include unforeseeable maintenance such as damage caused by lightning for instance.

Further, an AWOS with wind reporting equipment will require the proper siting and protection of an AWOS "critical area" and the current constrained environment on and around Priest River Municipal Airport may prove difficult in accommodating this area. However, it should be noted that one of the basic criteria for the airport to be eligible for straight-in approach development is the installation of an on-site altimeter.

Recommendations: Although an AWOS is not recommended in the short-term because of the costs for the County to install and maintain this equipment, the ability of the airport to accommodate the AWOS critical area will be discussed in Chapter 5, Alternatives Analysis.

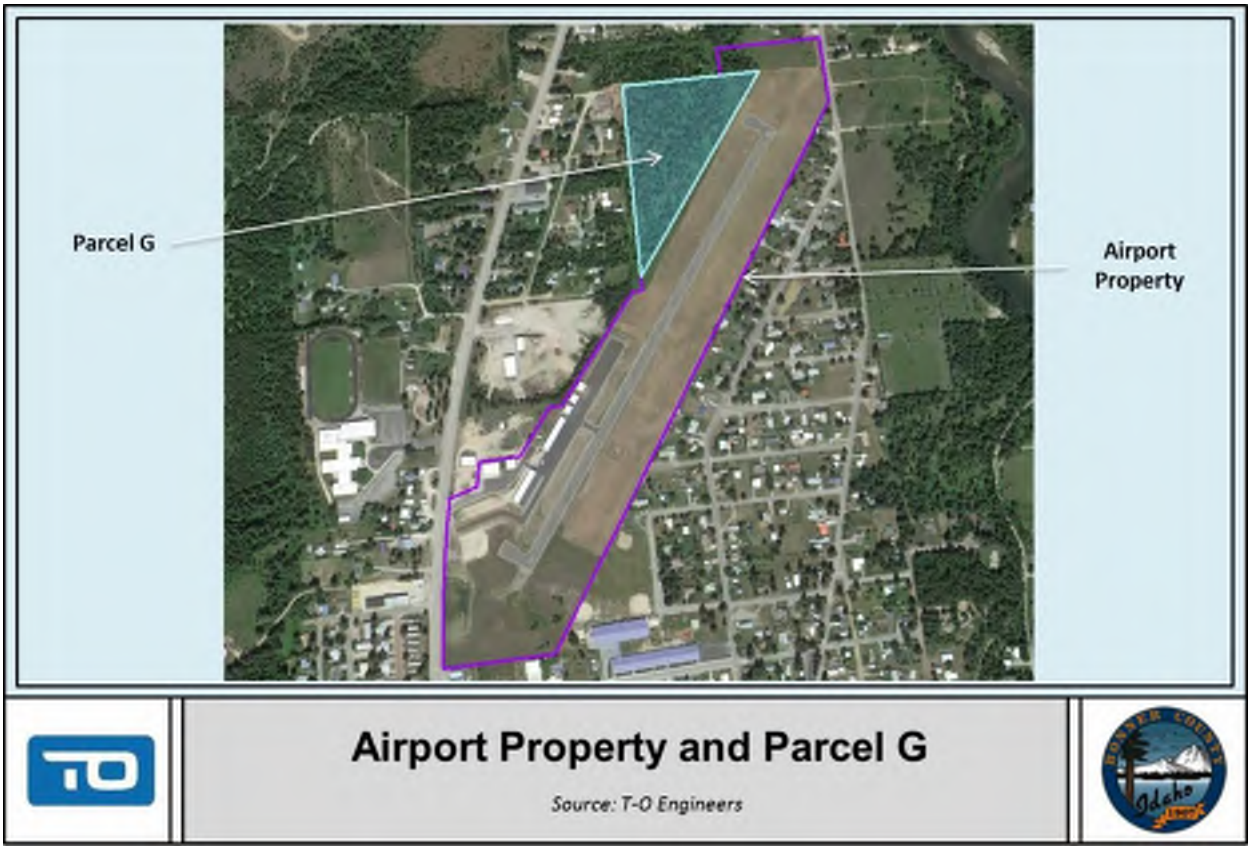
4.3 TERMINAL FACILITY REQUIREMENTS

4.3.1 PARCEL G

Priest River Municipal Airport acquired Parcel G for future development and to limit encroachment of incompatible land uses and development on land adjacent to the airport. This parcel consists of 12.5 acres and is currently unused and completely forested. **Figure 4-6** depicts Priest River Municipal Airport Property and Parcel G. When Parcel G was acquired, and the environmental assessment for land acquisition was developed, Parcel G was expected to be used to develop a taxiway as well as hangar development.

Alternatives for the development of this parcel will be discussed in Chapter 5, Alternatives Analysis and a preferred alternative for this parcel will be depicted on the ALP.

FIGURE 4-6: AIRPORT PROPERTY AND PARCEL G



4.3.2 AIRCRAFT PARKING AND STORAGE

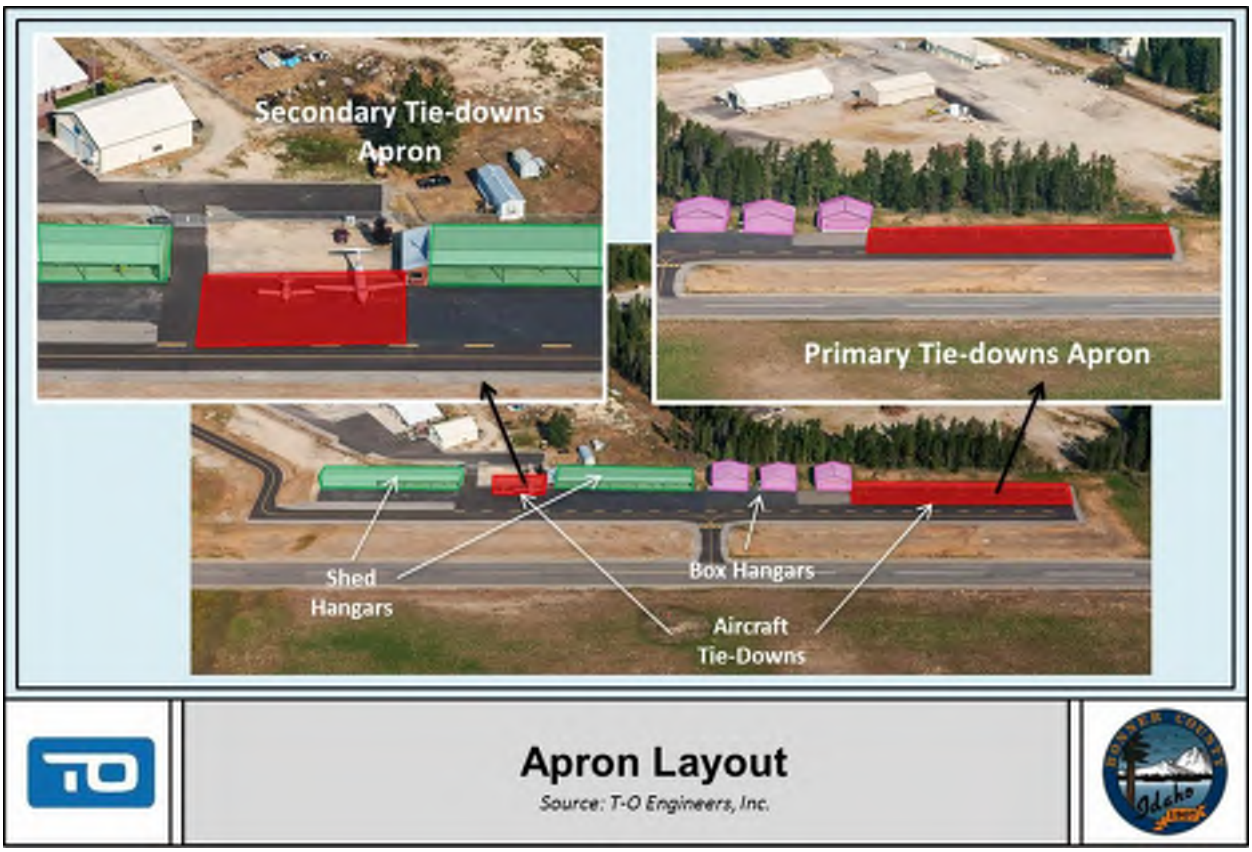
The existing general aviation apron area at Priest River Municipal Airport is located on the west side of the airport, approximately halfway between the two thresholds of Runway 1/19. This area encompasses aprons, box and condo style shed hangars, as well as the pilot's lounge. Currently, the apron is configured to accommodate a total of 9 apron tie-down positions.

The primary apron area is approximately 11,015 square feet and accommodates seven tie-down positions. The secondary apron is 3,650 square feet and accommodates two tie-down positions.

Apron Configuration

The aircraft apron at Priest River Municipal Airport currently has nine tie-down spaces with space available for both based and transient aircraft. Historically, only a small percentage of locally-based aircraft use ramp tie-down areas. The two apron areas are depicted in **Figure 4-7**.

FIGURE 4-7: APRON LAYOUT



Apron Strength

The apron currently has a pavement strength of 12,500 pounds single wheel. The strength of the pavement is sufficient for existing and foreseeable users of the airport. New apron pavement should be constructed to match the runway pavement strength. Locations and configurations of future apron areas will be included in Chapter 5, Alternatives Analysis.

Recommendation: Based on current demand, the existing apron strength of 12,500 pounds single wheel loading is sufficient. A nominal overlay of existing pavements will likely be required in the latter stages of the planning period due to deterioration from weathering and oxidation. It is recommended that future aprons meet strength requirements of 12,500 pounds single wheel loading and/or match runway strength.

Based Aircraft Storage Requirements

It is usually assumed, for planning purposes, that approximately 80 percent of based aircraft are stored in hangars. However, based on historical trends at Priest River Municipal Airport and airports of similar size in similar climates and mountainous area, it was assumed that 100 percent of based aircraft would be stored in hangars (conventional or shed style hangars) through the planning period.

Transient Aircraft Storage Requirements

When determining the amount of apron space required for aircraft tie-downs, a distinction must be made between those aircraft departing from or returning to the airport and those temporarily visiting. A transient operation originates at another airport and requires tie-down space temporarily, at Priest River Municipal Airport. This distinction is defined as transient versus itinerant operations. Transient operations are a subset of itinerant operations and are of interest when planning apron space requirements.

Transient apron areas are commonly located adjacent to FBO facilities where transient operators commonly park their aircraft. It is typically assumed that transient aircraft operations are conducted by larger aircraft including the larger twin and corporate/business aircraft fleet. Further, it is assumed that transient aircraft operators are unfamiliar with the airport, thus it is prudent to provide extra space for the aircraft to operate. This translates into the need to reserve extra tie-down space requirements per aircraft when compared to based aircraft.

The following assumptions were made in deriving the transient aircraft storage requirements:

- Determine number of peak day itinerant operations.
- Transient operations represent approximately 50% of the peak day itinerant operations.
- The number of transient aircraft total 50% of transient operations.
- Space should be provided for 75% of peak day transient aircraft.
- 90% of peak day transient aircraft are single-engine.
- 10% of peak day transient aircraft are multi-engine.

FAA AC 5300/13A Change 1 states that the total amount of apron area required is based on local conditions and will vary from airport to airport. This area will vary based on the design aircraft or the fleet mix. Based on the design aircraft at Priest River Municipal Airport, the Cessna 182, and guidance in the FAA Advisory Circular, the apron area was computed using a wingspan of 36.1 feet, a length of 28.2 feet and a taxilane OFA of 79 feet.

Table 4-7 summarizes the total aircraft apron area requirements. Based on projected transient and based aircraft operations, there is a no foreseeable shortfall of apron area at the end of the 20-year planning period. It should be noted that pavement is expensive to maintain in North Idaho, due to difficult terrain, short construction season, and high construction prices. Bonner County should carefully consider the maintenance costs of additional pavement before construction. It is understood that the need for full build-out of the airport as depicted on the ALP drawing set is not currently justified based on the aviation activity forecasts performed as part of this study. Many of the recommendations are demand driven and should only be considered when and if demand at the airport warrants.

TABLE 4-7: AIRCRAFT APRON REQUIREMENTS

	2014*	2019	2024	2034
Existing Number of Tie-Down Spaces	9	9	9	9
Tie-Down Demand	4	4	5	6
Apron Demand (Square Foot)	5,630	5,630	7,070	8,505
Existing Apron Available (Square Foot)	**14,665**	**14,665**	**14,665**	**14,665**
Apron Deficit (Square Foot)	**0**	**0**	**0**	**0**

*Base Year
Source: TO Engineers Inc.

Recommendations: Based on projected transient and based aircraft operations there is no foreseeable apron shortfall at the end of the 20-year planning period. However, prudent and proactive planning dictates to protect areas for potential improvements. Although no additional apron seems necessary throughout the planning period, a conceptual plan will be developed for Parcel G, recently acquired, to protect areas for potential future development and allow future expansion based on demand. This conceptual plan will be addressed in Chapter 5, Alternatives Analysis and depicted on the ALP.

Hangars

There are currently five hangars at Priest River Municipal Airport, two county owned condo hangars and three box style hangars. These hangars are located along the partial ramp edge parallel taxiway west of Runway 1/19.

Based aircraft numbers, used to develop the FAA approved aviation activity forecasts in Chapter 3, indicate a total of 16 based aircraft and a current hangar utilization rate of 100 percent. As previously mentioned in Section 2.6.3, Hangars, historical waiting list shows that there is demand for new hangars and as of spring 2012, ten interested parties were on a waiting list. A taxilane was built in 2013 to accommodate this demand, but the airport has not received any applications for the construction of new hangars yet. Most of the aircraft owners on the waiting list are interested in leasing hangars already built, rather than building their own hangars.

It should be noted that construction of new hangar is demand driven and should only be considered when and if demand at the airport warrants. Actual demand can and should dictate needs. Current utilization and demand for new hangars indicates negative hangar capacity at the airport.

Table 4-8 presents the projected hangar needs throughout the planning period.

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Table 4-8 presents the projected hangar needs throughout the planning period.

The pilot's lounge attached to the condo hangar was constructed between 1970 and 1975. The pilot's lounge is constructed on wooden posts with skirting. However, the skirting is deteriorating and has holes, which allow animals to enter below the pilot's lounge. The animals have torn up the insulation, causing freeze problems with the water and sewer pipes.

Recommendations: Based on current activity, existing terminal building facilities are sufficient to meet current needs. It is recommended that foundation be installed under the existing building to solve the issues with the posts and skirting. In addition, it is recommended to replace a few windows or doors to improve the insulation and offer more economical heating.

The FAA guidance for determining terminal space requirements indicates that an additional 480 square feet could be considered for the terminal building. Should demand increase and the need arises, an improved terminal building facility should be considered. Recommended improvements could include offices for airport management, restaurant space or other food service facilities as desired. Future space and improvements could be considered at that time should demand warrant.

4.3.5 FIXED BASED OPERATOR (FBO)

There is currently no full-service FBO located on the Airport. Fuel or aircraft repairs are not provided on the airport.

FBO facility requirements are driven primarily by market conditions and the particular needs of the FBO and its customers. Because future FBO facility needs are difficult to quantify, the best planning approach is to identify and reserve an area that could accommodate new or expanded FBO facilities. General areas for expanded operations, maintenance hangar, vehicle parking, and apron should also be reserved. A 3,000 to 5,000 square foot building is generally adequate to meet the airport's basic FBO needs, although the economics involved for the FBO and the airport will largely determine the type of facilities that are developed.

Recommendations: At some point in the future, a private full time FBO is desired at the airport to provide services including fuel management, aircraft hangars and tie-down parking, an possibly aircraft maintenance and rental services. It is anticipated that one FBO on the field will be sufficient throughout the planning period and beyond. Prudent and proactive planning dictates to protect areas for potential improvements and a location for a new FBO hangar will be considered in Chapter 5, Alternatives Analysis and shown on the ALP.

4.3.6 AUTOMOBILE PARKING

A paved automobile parking area next to the pilot's lounge can accommodate approximately 5 vehicles. In addition, another parking area adjacent to the Taxilane B development accommodates 5 additional vehicles. The parking spots are not delineated, painted or marked. **Figure 4-8** identifies the two automobile parking areas.

FIGURE 4-8: AUTOMOBILE PARKING

Further, one courtesy vehicle is stored at the airport and can be used by the public with a nominal fee.

Parking space requirements for general aviation airports vary depending on the specific needs of the individual airport. A forecasting technique developed for general aviation airports calculates automobile parking requirements with the following equation:

GA Automobile Spaces = 2.34 x Peak Hour Operations

Table 4-9 lists the total projected general aviation automobile parking requirements using this equation. Performing this calculation results in a current demand of approximately 17 automobile parking spaces (including 1 courtesy vehicle) at the end of the planning period.

TABLE 4-9: AUTOMOBILE PARKING REQUIREMENTS

	2014*	2019	2024	2034
Peak Day Operations	227	29	31	37
Peak Hour Operations	5	6	6	7
Peak Parking Space Demand	13	14	14	16
Courtesy Vehicles	1	1	1	1
Total	14	15	15	17
Existing Parking	10	10	10	10

*Base Year
Source: T-O Engineers Inc.

Recommendations: Based on current and future activity, it is recommended that additional paved vehicle parking be included. In addition, it is recommended that existing automobile parking spaces be identified and marked. An analysis of the location of additional automobile parking area will be provided in Chapter 5, Alternatives Analysis. It should be noted that this particular project is not eligible for federal funding. Additional details will be provided in Chapter 6, Development Plan and Financial Overview.

4.3.7 FUELING FACILITIES

Currently no fuel is available at the airport. Past users have requested the availability of fuel (100LL) at the airport. In addition, the IASP also recommends that airports of this classification consider providing 100LL.

Recommendations: It is recommended that 100LL be offered at the airport to meet current demand from the existing fleet mix. Supplying this service could attract additional activity and provide an additional revenue source associated with a fuel flowage fee. A 100LL fuel tank could be incorporated into an above ground fuel facility. Service could also be provided sooner via the use of a mobile tank truck.

It should be noted that based on current criteria, fuel tanks are very low on the priority list for FAA funding. It should not be expected that FAA AIP funds will be available for potential future fueling facilities at the airport. Funding for fuel facilities will have to come either from local sources or a fuel vendor.

The County could also consider offering automotive fuel (MOGAS) for future aeronautical activity. There is a national movement by the general aviation community to work with the FAA to allow supplemental certification for current and future GA aircraft to use MOGAS. MOGAS is less expensive than 100LL which may increase general aviation activity by making it more affordable. The County should monitor this trend in aviation and respond appropriately.

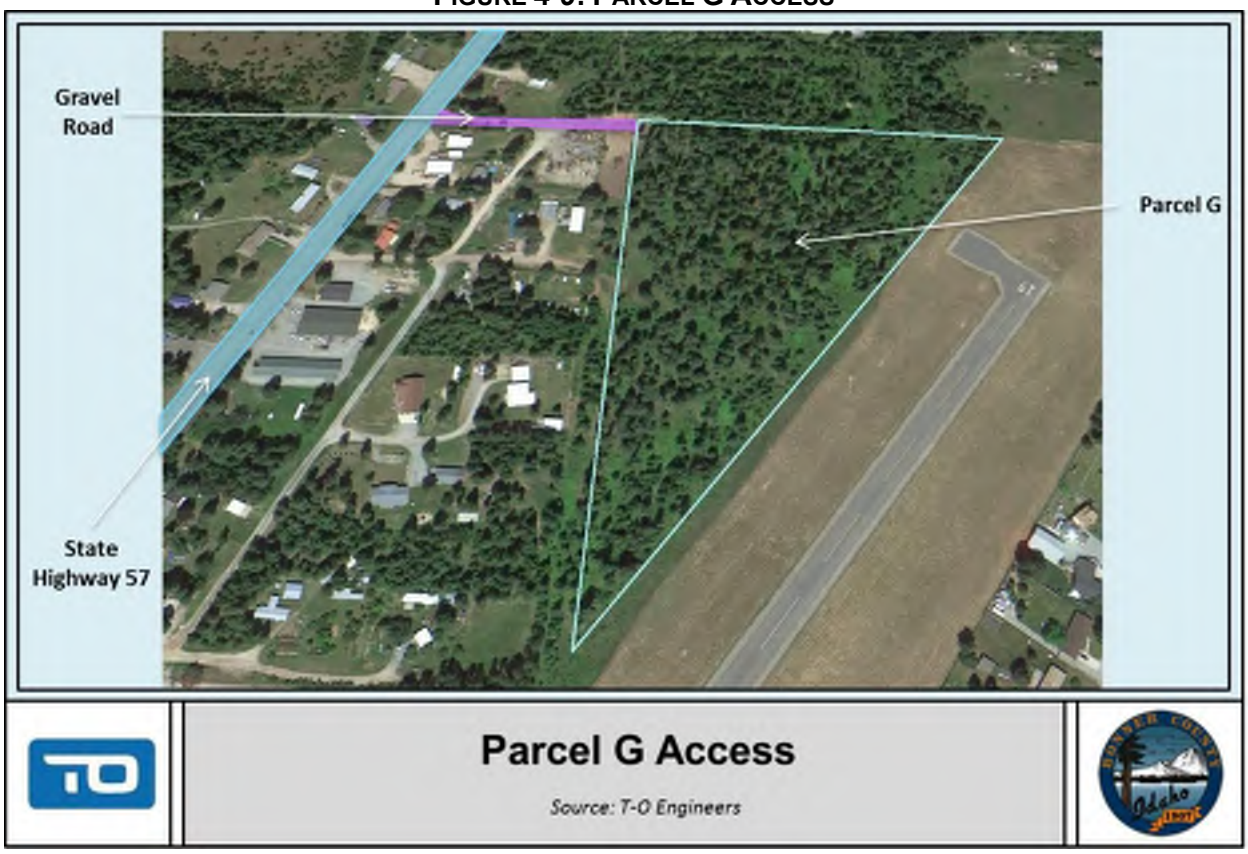
4.4 SUPPORT FACILITY REQUIREMENTS

4.4.1 ACCESS ROAD

Access roadways enable originating and terminating airport users to enter and exit the airport landside facilities. The airport can be accessed from State Highway 57. This access road was paved in 2013 and is commonly known as Airfield Way. Only the northwest portion of Parcel G, recently acquired, is accessible and the remainder of the parcel is completely unused and forested. Access to this parcel is possible from State Highway 57, using a gravel road, as depicted in **Figure 4-9**.

Recommendations: The access road to the main entrance of the airport is adequate and in good condition, as it has been paved in 2013. It is recommended that routine pavement maintenance be conducted as necessary throughout the planning period. In addition, it is recommended that adequate access to Parcel G be provided, as required by future development. Alternatives to develop Parcel G, as necessary, and enhance the access to this parcel will be provided in Chapter 5, Alternatives Analysis and depicted on the ALP. It should be noted that only portions of access roads serving the airport exclusively are AIP eligible. Additional details will be provided in Chapter 6, Development Plan and Financial Overview.

FIGURE 4-9: PARCEL G ACCESS



4.4.2 INFRASTRUCTURE AND UTILITIES

Priest River Municipal Airport has access to most of the typical utilities. Avista supplies electrical power to the airport and properties around its perimeter. Potable water is currently supplied from the City of Priest River water system. Sewer service is being provided to the caretaker building and pilots lounge by Priest River Sewer Service beginning in 2015. There is no Internet access available in the pilot's lounge at the moment; Comcast provides Internet in the adjacent EMS building. Lastly, there is currently no utilities on the parcel recently acquired, Parcel G.

Recommendations: Extending utilities to Parcel G is recommended during development of this parcel. Further, access to existing and additional utilities, including natural gas and Internet, if available, should be considered when planning all future development on and around the airport.

4.4.3 FENCING AND SECURITY

The airport perimeter is completely enclosed with 7 foot chain link fence; access is provided with an automatic gate at the main airport entrance. Parcel G, which has been recently acquired, is not enclosed in the fence.

Recommendations: It is recommended that Parcel G be enclosed in the fence and that any future land purchases also be fenced. A full perimeter wildlife/security fence is beneficial in reducing animal incursions as well as provides increased security. For an additional level of security, flood lighting could also be provided around the aircraft fueling area.

4.4.4 SNOW REMOVAL EQUIPMENT (SRE)

Bonner County and the volunteer airport advisory board provide most maintenance activities for the airport. The County keeps one surplus 1980 Mack Truck with snow plow mounted to the front and sand bin on the rear at the airport.

This equipment is used for both snow removal operations and general airport maintenance activities. The truck is stored outside and is at the end of its useful life; the county reports frequent break downs during winter months while plowing.

A dedicated piece of airport SRE equipment is recommended. This would most likely be a single piece of equipment that could serve both for snow removal and routine airport maintenance.
The snow removal equipment should be housed in covered facility to protect the new equipment from the elements and prolong its useful life. A new building would also provide a space for maintenance. If vehicles or SRE equipment is acquired using AIP funds, the FAA would require the equipment to be stored inside.

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4.6 SUMMARY OF REQUIREMENTS AND RECOMMENDATIONS

In summary, Priest River Municipal Airport has been developed appropriately based on demand and well maintained over the past several years. Modest facility improvements over the course of the planning period are warranted to continue this trend.

It is understood that the need for full build-out of the airport as depicted on the ALP drawing set is speculative to a certain degree and not currently justified based on the aviation activity forecasts performed as part of this study. Nevertheless, recommendations have been developed based on a proactive planning approach. Long-term guidance is presented to the County to assist them in facilitating logical and orderly development over the planning period as opposed as developing what is most convenient and expedient at the time. Many of the recommendations are demand driven and should only be considered when and if demand at the airport warrants.

Although it is not anticipated that the airport will need to meet design standards beyond B-I (Small) over the planning period, Bonner County needs to monitor the traffic as well as the fleet mix using the airport.

Table 4-10 summarizes facility requirements and recommendations. Chapter 5, Alternatives Analysis presents various alternatives to accommodate the requirements and recommendations.

TABLE 4-10: SUMMARY OF FACILITY REQUIREMENTS

Facility	Existing	Recommended
Runway		
Length (usable)	2,983’	At least 2,983’
Width	48’	60'
Strength	12.5 SWG	12.5 SWG
Runway Lighting	LIRL (non-standard)	MIRL
Taxiways		
Type	Partial Parallel Ramp Edge Taxiway	Full Parallel
Width	25'	25'
Strength	Same as RW	Same as RW
Navaids, Visual Aids, and Lighting		
Approach	Visual	Visual
Automated Weather	None	Long-term, As needed
Runway Lights	Non-standards LIRL	MIRL
Taxiway Lights	Reflectors	Reflectors
REILs	None	RWY 1 & RWY 19
Precision Approach Path Indicator (PAPI)*	None	PAPI RWY 1 and 19*
Airfield Signage	None	Yes (Taxiway/Runway holding position signs)
Segmented Circle	No	Yes
Wind Cone	Yes	Yes (supplemental wind cone on each runway end)
Beacon	No	Yes
Aircraft Storage		
Tiedowns	9	At least 9
Apron Strength	12,500 lbs	12,500 lbs
Box Hangars	16	22
Terminal/FBO		
Terminal	556 sq. ft.	Minimum of 556 sq. ft.
FBO	No	Yes (Demand Driven)
Access and Parking		
Automobile	10	17
Snow Removal/Maintenance		
SRE and Maintenance	Yes (inadequate)	New SRE and Storage Building
Fuel		
100LL	No	Yes (24-hour reader)
Jet-A	No	No
MOGAS	No	Yes (24-hour reader)
Airport Property		
Land	70.88 acres	TBD
Additional Requirements		
Purchase land/easements for RPZ		
Enclose Parcel G in existing perimeter fence to improve security.		
New taxilanes to accommodate hangar development and apron development as needed.		
Routine pavement maintenance as necessary.		
Renumber the runway.		
Helicopter Parking Pad.		
Utilities extensions and infrastructure improvements as needed to serve Parcel G and accommodate new development.		
*Analysis indicated PAPI installation might be feasible, but minor obstructions in OCS for both runways.		

Source: T-O Engineers, Inc.

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5.0 ALTERNATIVES ANALYSIS

The Alternative Analysis chapter describes and evaluates the various development alternatives considered for Priest River Municipal Airport. In addition, it presents a preferred development plan that accommodates the identified demand, facility requirements and recommendations based on the Aviation Activity Forecasts and Facility Requirements chapters of this airport master plan.

Multiple options for both airside and landside alternatives were considered by the planning team and the County in arriving at the preferred alternatives. The preferred alternative serves as the basis for the Airport Layout Plan (ALP) drawing set shown in **Chapter 8**

5.1 AIRPORT DEVELOPMENT ASSUMPTIONS

Previous chapters of the Airport Master Plan have analyzed the impact of various development strategies at the airport and the practical application of these strategies led to several development alternatives. In particular, Chapter 3, Aviation Activity Forecasts, outlined future demand for improvements to airport facilities and Chapter 4, Facility Requirements, addressed the impact growth may have on specific airport features such as the runway, taxiway system, aprons and hangar space. This chapter will take the process a step further and outline specific development alternatives as well as the rationale behind the selection of specific alternatives.

The following sections describe specific considerations for development of the selected alternatives.

5.1.1 AIRPORT USERS

Chapter 3, Aviation Activity Forecasts, profiled typical users of the Priest River Municipal Airport today and over the course of the planning horizon. Currently, single-engine piston aircraft are the primary users of the airport, with occasional use by small turbo-prop and multi-engine aircraft. This group will continue to dominate the demographic of the airport during the planning period.

5.1.2 ACTIVITY LEVELS

The level of activity at Priest River Municipal Airport is predicted to slowly increase during the planning period. The growth of both based aircraft and total number of operations reflects national and state trends in aviation activity. Details of projected growth are reflected in Chapter 3, Aviation Activity Forecasts.

5.1.3 FACILITIES CONFIGURATION

The configuration of existing facilities at Priest River Municipal Airport was also a determining factor when analyzing the potential layout of future facilities. The layout of new aprons, taxiways and hangars must be complementary to existing facilities to provide useable and cost effective options to the airport. This Airport Master Plan seeks to make use of existing facilities to the greatest extent possible and enhance them for future development.

5.2 AIRPORT DEVELOPMENT GOALS

Realistic goals for development, which reflect the role of Priest River Municipal Airport in the community, have been identified in this planning effort. These goals were developed with consideration of both the short-term and long-term needs of the airport including interest of airport users, compatibility with the surrounding land use, safety, noise, and financial and economic conditions.

These goals include:

- Preparation of a logical development program for the airport that provides a realistic vision for the future.
- Analysis that provides financially feasible projects that enhance the self-sustaining capability of the airport.
- Adherence to minimum design standards and rules and regulations.
- Preservation of existing private and public investment in the airport and related facilities through land use compatibility.

As mentioned in Chapter 4, Facility Requirements, it is understood that the need for *full* build-out of the airport as depicted on the ALP drawing set is unlikely and not justified based on the aviation activity forecasts performed as part of this study. Nevertheless, recommendations and alternatives have been developed based on a proactive planning approach whereby long-term guidance has been presented to the County to assist them in facilitating logical and orderly development over the planning period, and beyond.

When such a plan does not exist, it is not uncommon to make development decisions based on what is most convenient and expedient at the time. For example, a new tenant may wish to build a hangar at a certain location at the airport. In the short-term, this location may work fine and be expedient. In the long-term, however, this location might have been better suited for other future development. The alternatives and plan presented provide the roadmap and guidance to Bonner County to avoid falling into this trap. Further, it is understood that inclusion of the identified projects on the ALP do not indicate a commitment on the part of the FAA or the State of Idaho to provide funding for any or all of the projects. That being said, projects are *not* eligible if *not* shown on the airport's approved ALP.

As previously stated, many of the recommendations contained in this planning study are demand driven and will only be considered when and if demand at the airport warrants.

5.3 EVALUATION CRITERIA

In order to assess and evaluate the different alternatives, several evaluation criteria were used:

- Operational and Feasible
- Environmental
- Compatibility with future needs
- Cost

Operational and Feasible

The operational and feasible criterion assesses the ability to accommodate current and forecasted demand in a safe and efficient manner, as well as the construction feasibility of each alternative.

Environmental

This criterion assesses the level of environmental impacts and environmental disruptions, including the potential impacts on the surrounding population, as Priest River Municipal Airport is located in an urban and developed environment.

Compatibility with future needs

This criterion assesses the compatibility with future short- and long-term needs.

Cost

This evaluation criterion provides an estimation of the project expenses and assesses the ability to answer the needs costs-effectively.

5.4 AIRPORT FACILITIES REQUIREMENTS

Table 5-1 lists all the facilities recommended at the airport, as previously identified in Chapter 4, Facility Requirements.

TABLE 5-1: SUMMARY OF FACILITY REQUIREMENTS

Facility	Existing	Recommended
Airside Alternatives		
Runway Width*	48’	60'
Runway Lighting*	LIRL	MIRL
Taxiway*	Partial Parallel Ramp Edge Taxiway	Full Parallel
Tiedowns*	9	At least 9
FBO*	No	Yes (Demand Driven)
Fuel Facility*	No	Yes (Avgas, Mogas)
Helicopter Parking Pad	No	Yes
Landside Alternative		
Box Hangars*	16	22
Terminal/Pilot’s lounge*	556 sq. ft.	Minimum of 556 sq. ft.
Access Road and Automobile*	10	17
Other Requirement listed on ALP		
REILs	None	RWY 2 & RWY 20
Segmented Circle*	No	Yes
Wind Cone*	Yes	Yes
Airport Beacon	No	Yes
Airfield Signage	None	Yes (Taxiway/Runway holding position signs)
SRE and Maintenance	Yes (inadequate)	New SRE and Storage Building
Automated Weather*	No	Long-term (as needed)
Renumber the runway	1-19	2-20
Parcel G Perimeter Fence	None	Yes
Purchase land/easements for RPZ		

*Facilities that will be detailed in this chapter of the airport master plan. The other facilities will only be depicted on the ALP.
Source: T-O Engineers, Inc.

The facilities that will be detailed in the following sections of this Airport Master Plan are:

- Airside
  - Runway width and runway lighting
  - Obstructions and RPZ penetrations
  - Taxiway
  - Wind Cone and Automated Weather (AWOS)
- Landside
  - Aircraft storage and hangars
  - Aircraft apron and FBO
  - Road access and automobile parking

The other facilities that do not result in a detailed analysis of alternatives. However, they will be listed and depicted on the ALP as appropriate.

5.5 AIRPORT DESIGN STANDARDS

Priest River Municipal Airport meets most B-I Small design standards. The main concerns include the runway width, penetrations of the RPZs and approach surfaces on both runway ends, as well as penetrations of the ROFA and OFZ by the existing wind cone and an air relief valve.

Table 5-2 summarizes the design standards not already met at Priest River Municipal Airport. Alternatives to address these deficiencies are detailed in Section 5.6, Airside Alternatives.

TABLE 5-2: SUMMARY OF DESIGN STANDARDS

	FAA Standard	Existing
Airport Reference Code	B-I Small	B-I Small
Runway Width	60’	**48’**
Runway Protection Standards		
Runway Object Free Area and Obstacle Free Zone		
Runway Object Free Area (ROFA) Width	250’	**250’***
	250’	**250’***
Approach Surfaces		
20:1 Threshold Sitting Surface		
20:1 Part 77 Approach Surface		
Runway Protection Zone		
Inner Width	250’	**250’****
Outer Width	450’	**450’****
Length	1000’	**1000’****

*The ROFA and OFZ are impacted by the wind cone and an air relief valve
**Both RPZs penetrated by buildings, power lines, roads and trees
Source: Existing ALP and Narrative, T-O Engineers, Inc.

5.6 AIRSIDE ALTERNATIVES

During the planning period encompassed by this Airport Master Plan, no major deficiencies in airside capacity have been identified. Other airside considerations include the widening of the runway (from 48 feet wide to 60 feet wide) and the penetrations of the RPZs and approaches on both runway ends. Airside facility recommendations include meeting runway width design standards and providing options to mitigate for uses not allowed in the RPZs.

5.6.1 RUNWAY WIDTH AND RUNWAY LIGHTING

Two alternatives were developed to widen the runway:

- Alternative 1: Widen Runway 1/19 6 feet on each side (Maintain existing centerline)
- Alternative 2: Widen Runway 1/19 12 feet on one side only (Shift runway centerline)

The following paragraphs summarize these alternatives. The runway lighting system is old, does not meet standards and the wiring is not adequate. Both alternatives include new Medium Intensity Runway Lights (MIRL) as well as new electrical wiring.

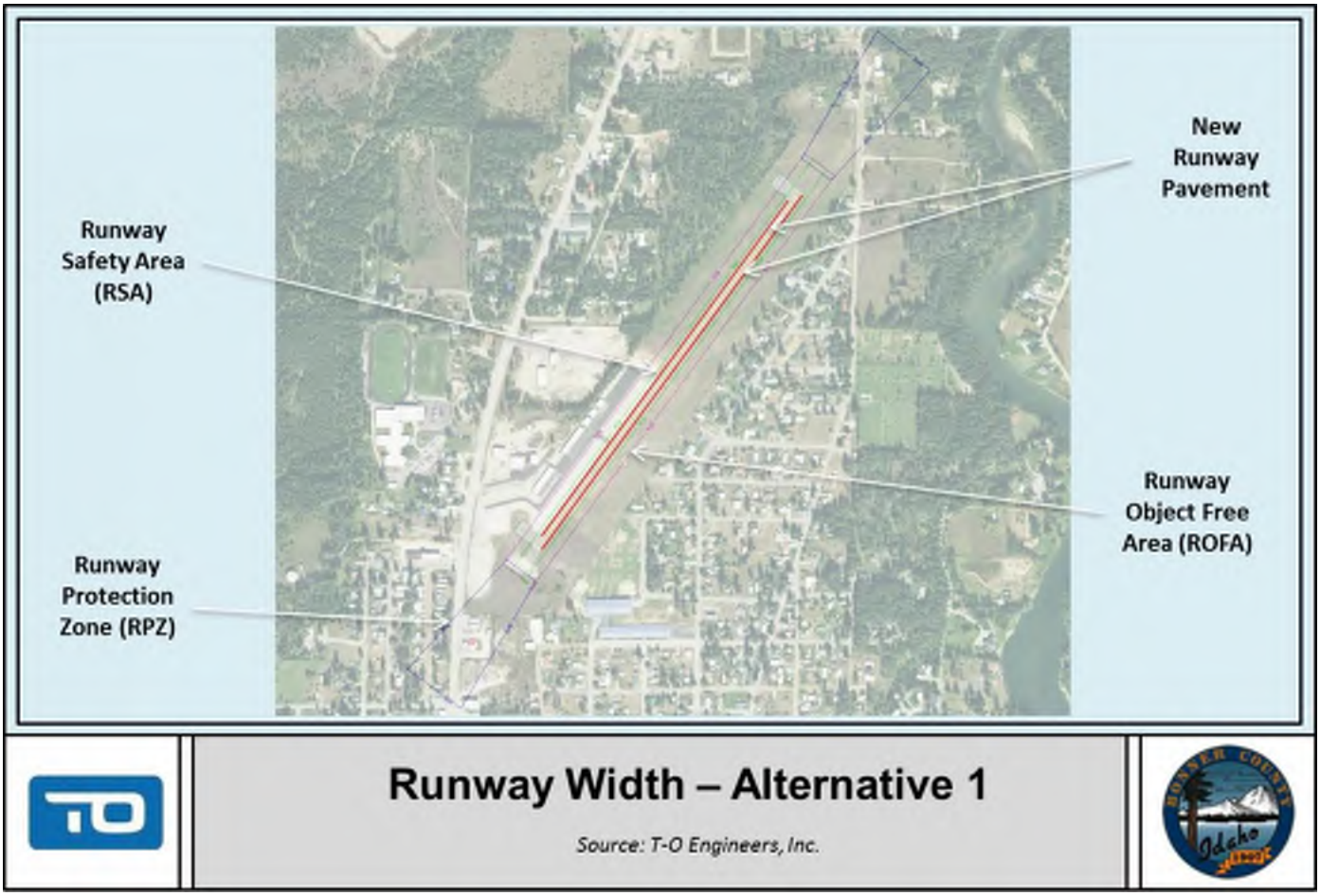
No Action

A "No-action" alternative is not considered desirable by the County or the FAA Helena Airports District Office. A No Action alternative does not provide a safe operating environment meeting current and foreseeable needs. The goal of this planning study is to provide the County with options for necessary improvements and for future development. This alternative does not meet this goal nor does it meet safety standards. Therefore, this alternative was not considered viable.

Alternative 1: Maintain existing centerline

Alternative 1 widens Runway 1/19 by 6 feet on each side to reach a runway width of 60 feet. As the runway is widened symmetrically on each side, the runway centerline is maintained at its existing location, as depicted in **Figure 5-1**.

FIGURE 5-1: MAINTAIN EXISTING CENTERLINE



Minor environmental impacts are expected as a result of the construction and grading operations. No land acquisition is needed as this alternative remains within the existing airport property limits and all construction occurs on previously disturbed land. This alternative does not change the runway protection or separation standards, as the runway centerline is maintained at its current location.

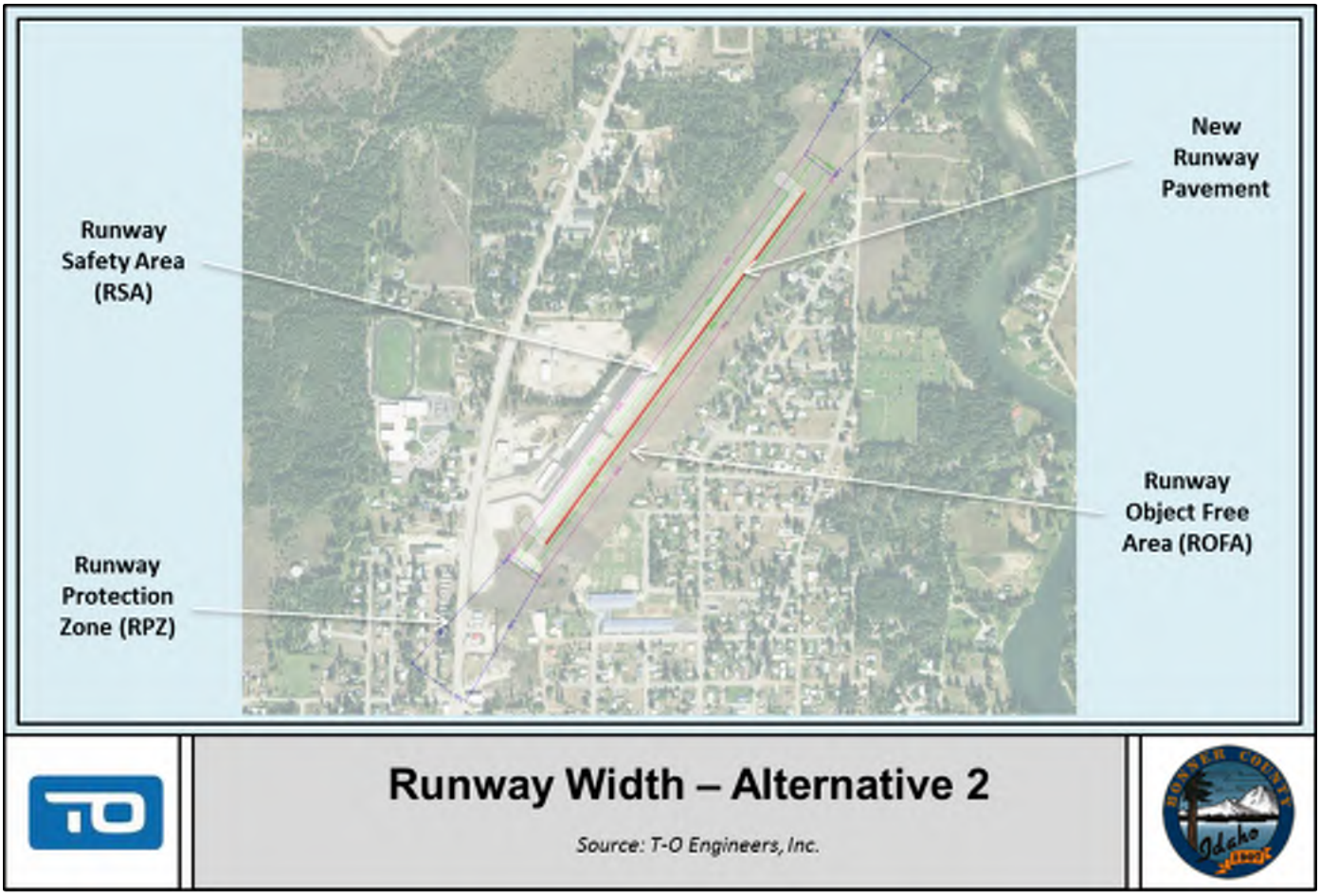
The estimated cost of this project is $1,669,000, including REILs and a PAPI.

Alternative 2: Shift runway centerline

Alternative 2 adds 12 feet of pavement to the east of the runway. Since the runway is not widened symmetrically on each side, this alternative shifts the runway centerline by 6 feet, as depicted in **Figure 5-2**.

This alternative also includes removal of existing pavement on the overall length of the runway.

FIGURE 5-2: SHIFT RUNWAY CENTERLINE



Minor environmental impacts are expected as a result of the construction and grading operations. No land acquisition is needed and this alternative remains within the existing airport property limits. All construction occurs on previously disturbed land.

As the runway centerline shifts by 6 feet, this alternative also shifts the RSA, ROFA, OFZ and RPZ by 6 feet. In addition, the runway to taxiway separation increases from 150 feet (minimum distance required for B-I Small airports) to 156 feet.

The estimated cost of this project is $1,710,000, including REILs and a PAPI on the Runway 1 end.

Alternatives Evaluation

Table 5-3 summarizes the different alternatives in relation to the selected criteria.

TABLE 5-3: RUNWAY ALTERNATIVES SUMMARY

	"No-Action" Alternative	Alternative 1: Maintain existing centerline	Alternative 2: Shift runway centerline
Operational and Feasibility	Does not meet safety standards (B-I Small Standards).	Existing operational capabilities of the runway are increased as Runway 1/19 meets B-I Small standards. Would necessitate closing the runway for an extended period of time.	Existing operational capabilities of the runway are increased as Runway 1/19 meets B-I Small standards. Would necessitate closing the runway for an extended period of time. Moving the centerline affects the grading and all existing asphalt needs to be removed to fix the crown of the runway.
Environmental	No additional environmental impacts.	Minimal environmental impacts are expected from construction and grading operations. All construction will occur on airport property and in already disturbed areas.	
Compatibility with future needs	Does not meet B-I Small standards and is not compatible with future needs.	Compatible with future needs. Runway to taxiway separation meets the minimum standards set in the FAA AC.	Compatible with future needs. Runway to taxiway separation exceeds the minimum set in the FAA AC by 6 feet. This increased separation allows more flexibility for connecting taxiway design.
Costs	No additional costs.	Costs Estimate: $1,669,000	Costs Estimate: $1,710,000.

Source: T-O Engineers, Inc.

Preferred Alternative

The preferred alternative for the runway widening is Alternative 2: Shift the runway centerline approximately 6 feet by adding an additional 12 of pavement to the southeast side of the runway and is shown on the ALP. The additional 12 feet of runway width will bring the runway into compliance with FAA airport design criteria which is critical for future project funding. Additionally, this alternative calls for the installation of REILs on both runway ends and a PAPI on the Runway 1 end. These NAVAIDS will increase the overall utility of the runway and create a safer operating environment. Although this alternative is slightly more expensive (approximately 2.39% more expensive), it offers more flexibility to the airport, especially for connecting taxiway design. Alternative 2 was deemed the most convenient alternative for this airport. In addition, there are no significant differences in the number and nature of obstructions in the RPZs and Approach Surfaces. Mitigation to airspace and runway design criteria are addressed in the subsequent sections of this chapter.

5.6.2 RPZs and Approach Penetrations

The RPZs on both runway ends are penetrated by uses not allowed in the RPZ; namely, Runway 19 by State Highway 57 and Runway 1 by Cemetery Road. Other obstructions located in both the RPZ and approach surfaces on each end include trees and power lines, as well as buildings. The portion of both the 20:1 Threshold Siting Surface (TSS) and the CFR Part 77 20:1 Visual Approach Surface were evaluated for obstruction penetrations in each of the alternatives.

Five alternatives, including a no-action alternative, were developed to mitigate the penetrations in the RPZs and approach surfaces:

- No Action Alternative
- Alternative 1: Land Acquisition and Incompatible Land Uses Removal
- Alternative 2: RPZs Partially Cleared and Declared Distances
- Alternative 3: Declared Distances and Additional Pavement (461')
- Alternative 4: Declared Distances and Additional Pavement (1,060')

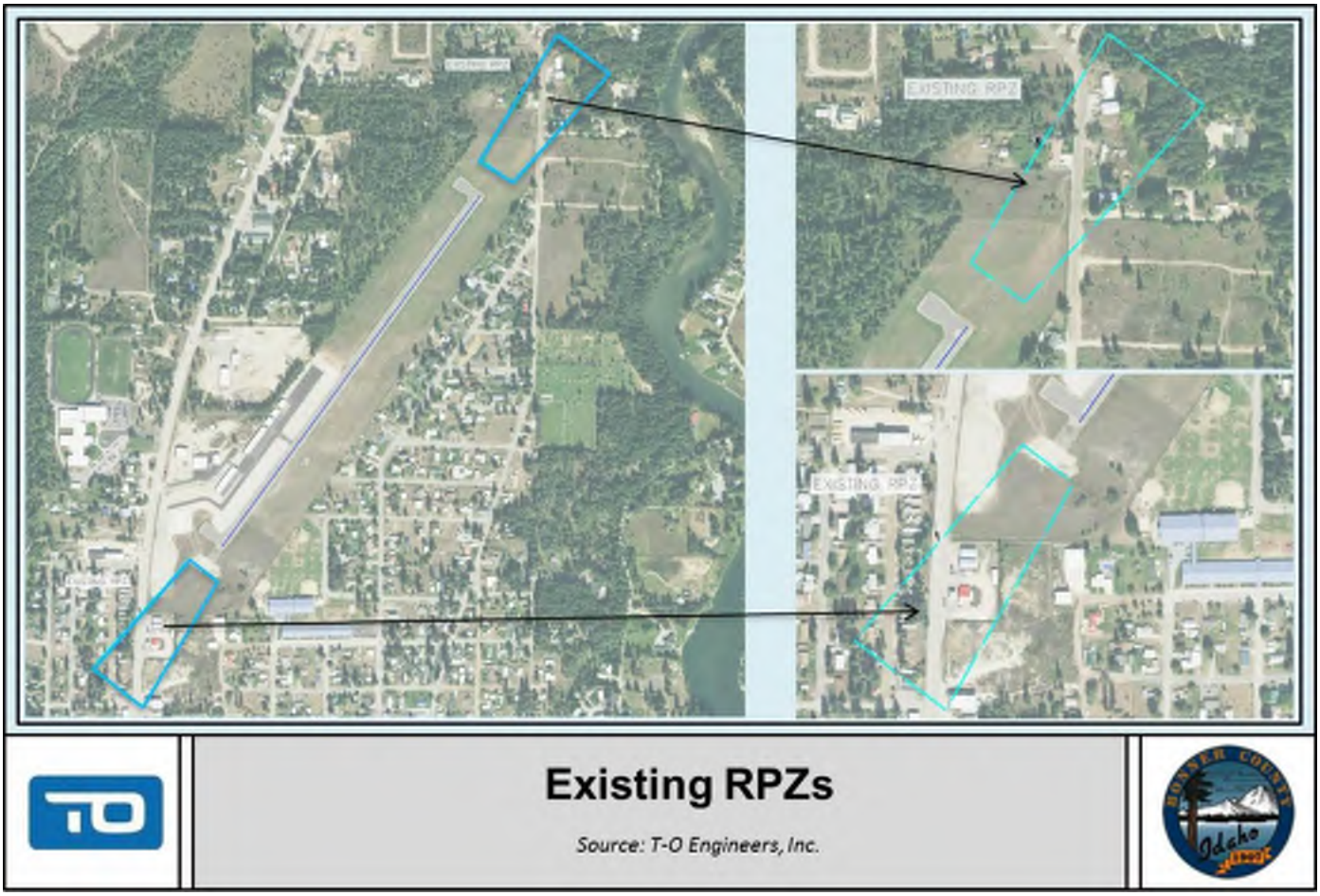
The following paragraphs summarize these alternatives.

No Action
A "No-action" consists of maintaining the existing situation at the airport. This alternative does not clear any obstructions in the RPZ or approaches. **Figure 5-3** depicts the existing situation at the airport.

This alternative is not desirable by the FAA Helena Airports District Office (ADO). A No-Action alternative does not meet safety standards and RPZ design standards. The FAA considers that a no-action alternative does not provide a safe operating environment to meet current and foreseeable needs. This alternative is not considered viable by the FAA Helena ADO.

In addition, the FAA does not consider a "no-action" alternative feasible, even if it includes a plan to clear the structures as land becomes available as part of the variance. If Priest River Municipal Airport wants to acquire the structures in the future as they become available, cleared RPZs will be necessary during the transition, and declared distances will have to be enforced until the RPZs are cleared.

FIGURE 5-3: EXISTING RPZS



Alternative 1: Land Acquisition and Incompatible Land Use Removal

This alternative involves acquiring all properties and clearing the RPZs from incompatible land uses and obstructions. This includes nine properties on each runway end, for a total of 18 properties, including five properties zoned as commercial. In addition, this alternative includes rerouting State Highway 57 and Cemetery Road.

Clearing the existing RPZs is extremely costly. In addition to the initial costs, it could remove jobs and reduce the amount of property taxes collected by the City of Priest River.

Preliminary analysis and costs estimates were based on property value as described on the Bonner County GIS website. When this information was not available, it was assumed $150,000 per private property and $400,000 for commercial uses. Further, purchase prices for a fuel station vary greatly depending on the region, the location of the fuel station, the traffic, and commodities such as convenience store. It was assumed that purchase of the fuel station in the RPZ would cost $1.2 million assuming no environmental remediation was necessary. These costs were supplemented to include fees, relocation assistance, and demolition of the structures, as well as contingency. The total cost of property acquisition was estimated at $4.5 million.

As preliminary options, two alignments were considered for the relocation of State Highway 57: one alignment to the east of the City of Priest River, improving Bodie Canyon Road, and one alignment maintaining State Highway 57 at its current location, but rerouting a portion of it out of the RPZ. Costs estimates to improve Bodie Canyon Road are $5,070,000 (including right-of-way acquisition). However, this option does not provide adequate connectivity to the City of Priest River. The fire station is located on the airport and would not be able to adequately access the town. Other roads would need to be improved to provide appropriate connectivity.

The second option requires relocating 33 residences and 6 businesses. No further analysis was conducted on this option as the environmental impacts (socio-economic and environmental justice impacts) were considered too high for a town of 743 households.

Cost estimates to reroute Cemetery Road around the RPZ are $530,000, this cost includes the relocation of approximately 1,500 feet of unpaved roadway.

Using the Bodie Canyon Road alignment, a preliminary cost estimate for planning purpose indicates that Alternative 1 would cost over $10.1 million.

This alternative is not considered desirable by the County because of the socioeconomic impacts on the community and the City of Priest River.

Alternative 2: RPZ Partially Cleared and Declared Distances

This alternative consists of enforcing declared distances to clear the RPZs on each end of the runway. According to the FAA Advisory Circular AC 150/5300-13A, Change 1, Paragraph 322.a: "*Declared distances represent the maximum distances available and suitable for meeting takeoff, rejected takeoff, and landing distances performance requirements. The declared distances are Take Off Run Available (TORA) and Take Off Distance Available (TODA), which apply to takeoff; Accelerate Stop Distance Available (ASDA), which applies to a rejected takeoff; and Landing Distance Available (LDA), which applies to landing*."

Further, the AC 150/5300-13A, Change 1, Paragraph 322.a (1) states: "*Declared distances may be used to obtain additional RSA and/or ROFA prior to the runway's threshold (the start of the LDA) and/or beyond the stop end of the LDA and ASDA, to mitigate unacceptable incompatible land uses in the RPZ, to meet runway approach and/or departure surface clearance requirements, in accordance with airport design standards, or to mitigate environmental impacts."*

This alternative does not maintain the RPZs entirely on airport property, but it was discussed with the Helena ADO as an option to limit the runway length reduction. This alternative clears the RPZs from building and structures. However, State Highway 57 and Cemetery Road are both in the corners of the RPZs. The RSA, ROFA and OFZ are maintained on airport property.

Table 5-4 lists the declared distances that would be in effect at Priest River Municipal Airport to mitigate obstructions and unacceptable incompatible land uses in the RPZ, and **Figure 5-5** depicts the partially

cleared RPZs. Declared distances are currently not in use at Priest River Municipal Airport and all the distances (TORA, TODA, ASDA, LDA) are equal.

The distances listed in **Table 5-4** assume that the trees are cut or topped. Otherwise, Runway 19 threshold may have to be displaced up to 1,843 feet from the existing runway end and Runway 1 threshold may have to be displaced up to 1,039 feet from the existing runway end.

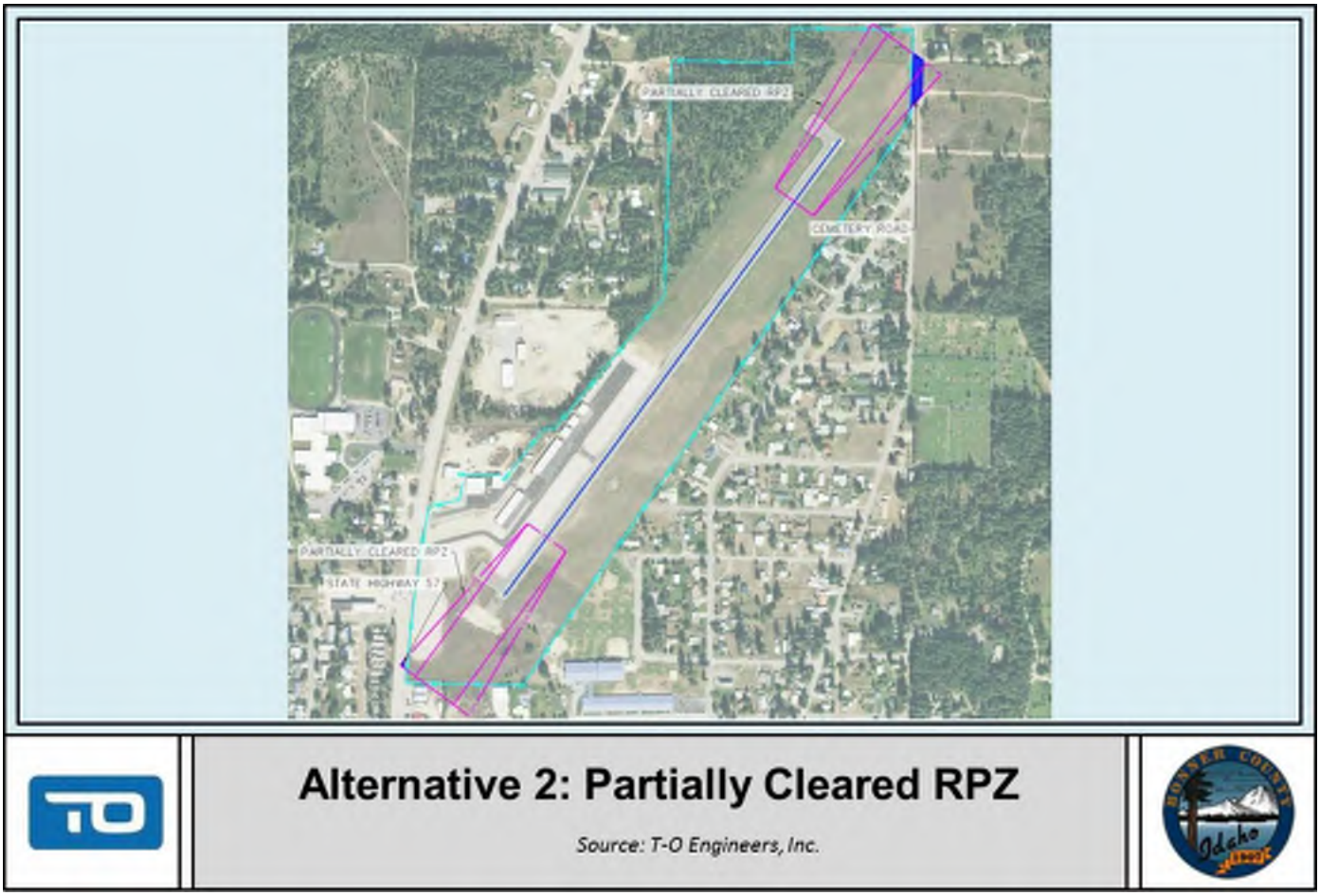
This alternative would considerably reduce the takeoff and landing distances available on both runways. This will decrease the ability of the airport to accept emergency services aircraft, a service critical for the welfare of Priest River and Bonner County residents. This alternative requires remarking and lighting the displaced threshold. The estimated costs of this project are $48,000.

TABLE 5-4: DECLARED DISTANCE

CURRENT DECLARED DISTANCES					
	Pavement Length	**TORA**	**TODA**	**ASDA**	**LDA**
Runway 1	2,983’	2,983’	2,983’	2,983’	2,983’
Runway 19	2,983’	2,983’	2,983’	2,983’	2,983’
FUTURE DECLARED DISTANCES					
	Pavement Length	**TORA**	**TODA**	**ASDA**	**LDA**
Runway 1	2,983’	2,376’	2,983’	2,983’	2,404’
Runway 19	2,983’	2,404’	2,983’	2,983’	2,376’

Source: T-O Engineers Inc.

FIGURE 5-4: PARTIALLY CLEARED RPZ



Alternative 3: Declared Distances and Additional Pavement (832')

Alternative 3 is similar to Alternatives 2 in that it consists of enforcing declared distances at the airport. However, this alternative consists of two steps. The first step includes displacing both runway thresholds and extending the runway pavement on both ends to minimize the takeoff and landing distance reduction due to the declared distances. Given the constrained environment of the airport, this runway pavement extension would remain entirely on existing airport property and maintain the RSA, ROFA and OFZ on airport property. The thresholds would be displaced approximately 538 feet on the approach end of Runway 19 and 578 feet on the approach end of Runway 01. The Runway 19 end would be extended 221 feet and the Runway 1 end would be extended 236 feet, for a total pavement length of 3,440 feet. The RPZs on both ends will be cleared with the exception of State Highway 57 and Cemetery Road. The TORA for Runways 2 and 20 departures will be reduced by 302 feet and 357 feet respectively. Similarly, these reductions apply to the LDA as well.

Phase two of Alternative 3 includes shifting the Runway 20 threshold 120 feet east reducing the impact of declared distances and creating more usable runway length. Shifting the threshold back will relocate the RPZ over the property boundaries of up to twelve parcels near the runway end. These properties will need to be acquired and their developments mitigated prior to shifting the threshold and changing the declared distances. The ultimate design would add an additional 375 feet of pavement beyond step one and would allow the Runway 20 threshold to be shifted 138 feet increasing the declared distances for both runways.

Table 5-5 lists the declared distances that would be in effect during step 1 and step 2, to mitigate the obstructions and unacceptable incompatible land uses in the RPZ. **Figure 5-5** depicts the RPZs. As previously mentioned, these distances assume that the trees are cut or topped. Terrain and trees in Runway 19 approach penetrates the Threshold Siting Surface (TSS). The displaced threshold due to these obstructions is more restrictive than the displaced threshold to clear the RPZ. Even if the RPZ is cleared, Runway 19 LDA has to be limited to 2,750'. Mitigation measures including obstruction lighting will be further discussed in Section 5.6.3 Obstructions and Approach Surface.

This alternative necessitates additional construction to extend the runway that will be limited to on-airport property. The estimated costs of Step 1 are $379,000. Step 2 consists in acquiring land as it becomes available. Preliminary estimated costs are $2,208,803 (based on property value as described on the Bonner County GIS website and considering $400,000 for commercial use properties).

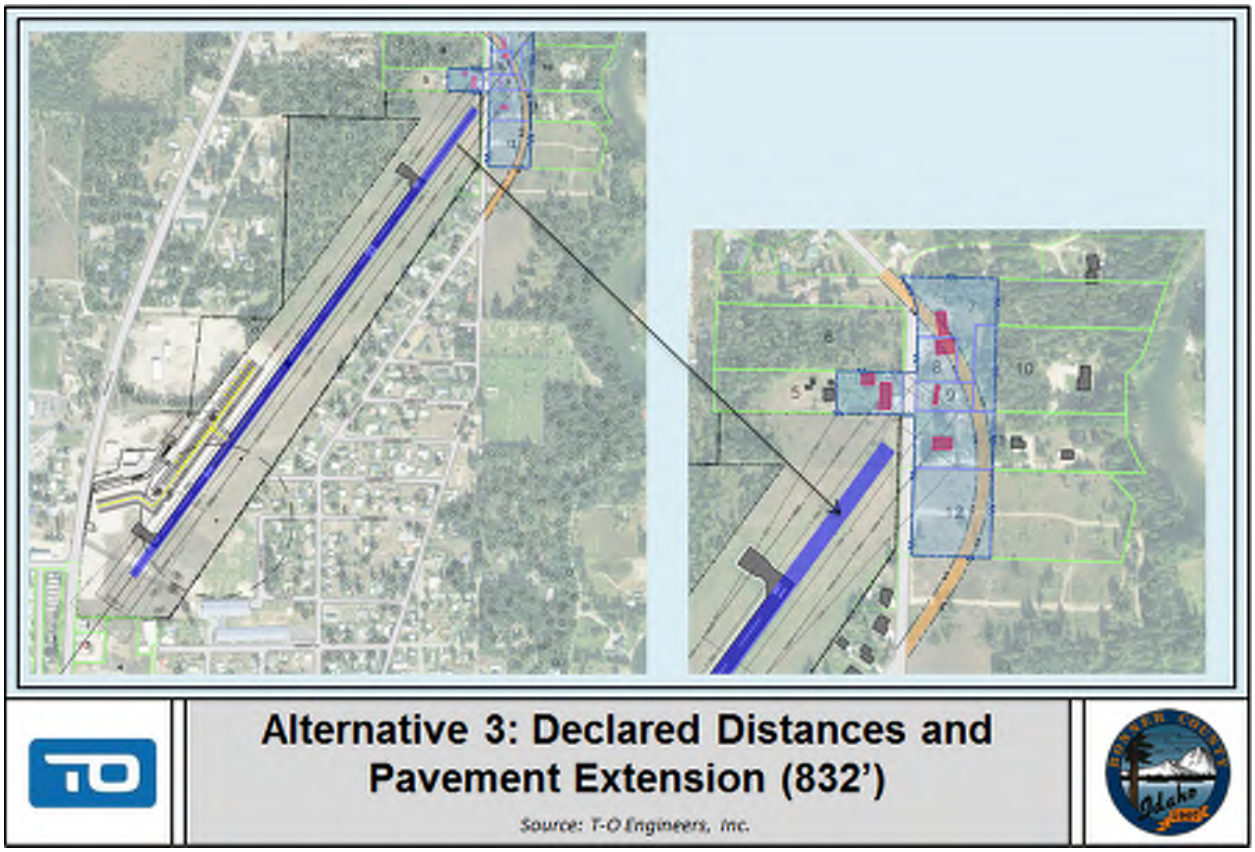
TABLE 5-5: DECLARED DISTANCE

CURRENT DECLARED DISTANCES					
	Pavement Length	**TORA**	**TODA**	**ASDA**	**LDA**
Runway 1	2,983'	2,983'	2,983'	2,983'	2,983'
Runway 19	2,983'	2,983'	2,983'	2,983'	2,983'
FUTURE DECLARED DISTANCES – STEP 1					
	Pavement Length	**TORA**	**TODA**	**ASDA**	**LDA**

Runway 1	3,440’	2,681	3,440’	3,440’	2,626’
Runway 19	3,440’	2,626’	3,440’	3,440’	2,681’
ULTIMATE DECLARED DISTANCES – STEP 2					
	Pavement Length	**TORA**	**TODA**	**ASDA**	**LDA**
Runway 1	3,815’	2,801’	3,797’	3,797’	2,983’
Runway 19	3,815’	2,983’	3,797’	3,797’	2,801’

Source: T-O Engineers Inc.

FIGURE 5-5: EXTENSION AND PARTIALLY CLEARED RPZ



Alternative 4: Declared Distances and Additional Pavement (1,060’)

Alternative 4 consists of implementing declared distances, and adding pavement to minimize the runway length reduction. However, this alternative does not maintain the RSA, ROFA and OFZ on airport property. As the RSA, ROFA and OFZ are not maintained on airport property and are not cleared of incompatible land uses, only the TORA and TODA would be extended. The ASDA and LDA would be similar to the first step of Alternative 3. The Runway 19 end would be extended by 515 feet and Runway 1 would be extended by 545 feet, for a total pavement length of 4,044 feet.

Table 5-6 lists the declared distances that would be in effect to mitigate the obstructions and unacceptable incompatible land uses in the RPZ. **Figure 5-6** depicts the cleared RPZs. As previously mentioned, only the TORA and TODA would be longer than with Alternative 3, the ASDA and LDA

would remain unchanged compared to the first step of Alternative 3. With this alternative, the TORA would be at 2,921', close to the existing TORA.

As previously mentioned, these distances assume that trees are cut or topped. Otherwise, Runway 19 threshold may have to be displaced up to 1,771 feet from the existing runway end and Runway 1 threshold may have to be displaced up to 978 feet from the existing runway end.

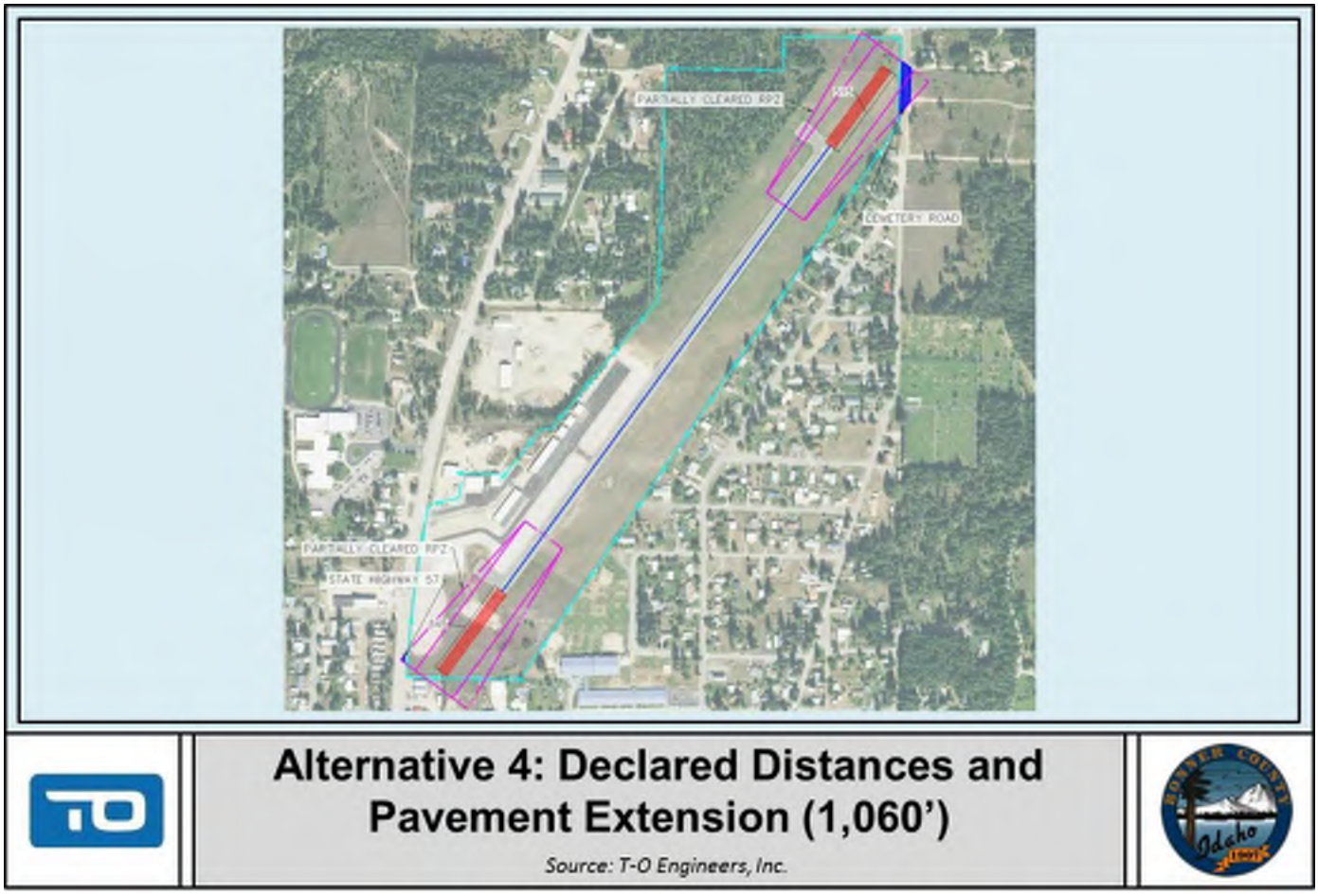
This alternative necessitates additional construction to extend the runway. However, this construction will be limited to on airport property, in already disturbed and developed areas. The estimated costs of this project are $870,000.

TABLE 5-6: DECLARED DISTANCE

CURRENT DECLARED DISTANCES					
	Pavement Length	**TORA**	**TODA**	**ASDA**	**LDA**
Runway 1	2,983'	2,983'	2,983'	2,983'	2,983'
Runway 19	2,983'	2,983'	2,983'	2,983'	2,983'
FUTURE DECLARED DISTANCES					
	Pavement Length	**TORA**	**TODA**	**ASDA**	**LDA**
Runway 1	4,044'	2,921'	4,044'	3,444'	2,629'
Runway 19	4,044'	2,921'	4,044'	3,444'	2,612'

Source: T-O Engineers Inc.

FIGURE 5-6: EXTENSION AND PARTIALLY CLEARED RPZ



Alternatives Evaluation

Table 5-7 summarizes the different alternatives in relation to the selected criteria.

TABLE 5-7: RUNWAY ALTERNATIVES SUMMARY

	"No-Action" Alternative	Alternative 1: Land Acquisition Land and Obstructions Removal	Alternative 2: Partially Cleared RPZ	Alternative 3: Declared Distances and Additional Pavement (832')	Alternative 4: Declared Distances and Additional Pavement (1,060')
Operational and Feasibility	Does not meet safety standards (B-I Small Standards), but maintains operational capability of the runway. Not considered as a viable option by the HLN ADO.	Extremely costly. Requires acquiring multiple residential and private properties, and commercial businesses, as well as relocating State Highway 57 and Cemetery Road. Not considered as a viable option by Bonner County.	Require a permanent reduction of TORA and LDA for both runways. Landing distance available on Runway 19 is reduced to 2,376 feet. Easy to implement and does not necessitate closing the runway. Does not totally clear the RPZ. However, only roads would be in the RPZ with no structures. Road relocation is extremely costly.	Requires a short-term reduction of TORA and LDA for both runways. Necessitates closing the runway for extended periods of time during the runway pavement extension. Could be phased with the runway widening. Roads and structures in the RPZ would ultimately be mitigated Landing distance available for Runway 2 could be similar to existing in the long-term if obstructions can be mitigated.	Requires a permanent reduction of TORA and LDA for both runways. Necessitates closing the runway for extended periods of time during the runway extension. Could be phased with the runway widening. Only roads would be in the RPZ with no structures. Landing distance available on Runway 19 is reduced to only 2,612 feet.
Environmental	No additional environmental impacts.	Multiple environmental impacts including socioeconomics and environmental justice. Several residents and businesses will have to be relocated	Does not create any additional environmental impacts.	Environmental impact is limited as construction is limited to airport property. Runway ends are closer to the airport property boundaryas well as surrounding buildings, and roads, which may increase noise impacts. Properties will be acquired in step 2 to clear the RPZ.	Environmental impact is limited as construction is limited to airport property. Runway ends are closer to the airport property boundary as well as surrounding building and roads, which may increase noiseimpacts.
Compatibility with future needs	Does not meet B-I Small standards and is not compatible with future needs. Not considered feasible by the HLN ADO	Maintain the existing runway length and maintain the existing operational capabilities of the airport. Not acceptable by Bonner County.	Reduce landing distance and takeoff run distance. May lead to weight or fuel reduction for the larger aircraft of the fleet. This alternative may have impacts on the aircraft fleet the airport can accommodate.	Alternative 3 is the alternative that provides the best flexibility to the airport. In the long-term, it is the alternative that ultimatley maintains the current runway length.	In the short-term, Alternative 4 offers the longest runway length. The Ultimate runway configuration may be confusing, with a runway end very close to the property limits.
Costs	No additional costs.	Cost estimates: $10.1 million.	Cost estimates: $48,000.	Cost estimates: $379,000 and $2,208,803 for property acquisition.	Cost estimates: $870,000.

Source: TO Engineers, Inc.

Preferred Alternative

The preferred alternative to mitigate obstructions in the approach surface and incompatible land uses in the RPZs is Alternative 3: Declared Distances and Additional Pavement, shown on the ALP. This alternative was discussed at length with the FAA Helena ADO and County personnel and determined to be the preferred alternative. Alternative 3 involves meeting federal standards while minimizing the loss of utility to the runway. In order to mitigate obstructions to the threshold siting surfaces and to meet federal standards the runway needs to be expanded to a width of 60 feet and both runway ends need to be displaced with the implementation of declared distances. By lengthening the runway pavement and clearing the RPZ and threshold siting surfaces of obstructions and incompatible land uses, the airport is able to regain usable runway length and reduce the impacts of declared distances.

The preferred alternative is a multi-phased approach that starts with extending the runway pavement on both ends and displacing the thresholds. The second phase further extends the pavement edge on the end of Runway 20 and adjusts the threshold accordingly thus gaining as much utility as possible while maintaining a clear RPZ. This phase results in the ultimate buildout of the runway and requires the relocation of a landside roadway; Cemetery Road. In order to accommodate the roadway relocation, several properties near the runway end will need to be procured and their structures mitigated.

The total estimated cost for this preferred alternative is $2,987,803 which includes the cost of design, construction, acquisition of property, and obstruction removal.

5.6.3 OBSTRUCTIONS AND APPROACH SURFACES

There are various airspace surfaces that protect the airport environment and they each serve a unique purpose. Title 14 Code of Federal Regulations Part 77 (Part 77) surfaces provide for initial object identification and depict when an object becomes an obstruction and when it needs to be mitigated or simply reviewed by the FAA. Other surfaces such as those referenced in the United States Standard for Terminal Instrument Procedures (TERPS) can impact/reduce the utility of the airport by amending published flight procedures when they are obstructed.

The most critical surfaces affecting any airport are the Threshold Siting Surfaces (TSS) which are referenced in AC 150/5300-13A. Penetrations to the TSS can require displacement of runway thresholds and the implementation of declared distances which can vastly reduce the usability and viability of the airport. For the purpose of maintaining compliance with FAA grant assurances, airport sponsors are required to actively mitigate penetrations to the Part 77 airspace surfaces.

In the case of Priest River Municipal Airport, there are numerous penetrations to the Part 77 surfaces and the TSS. As a result, the opportunity to seek future implementation of instrument approach procedures is limited. Similarly, the current penetrations to the TSS make the airport non-compliant with federal standards and negatively impact the siting of the runway thresholds.

The RPZ preferred alternative referenced threshold displacement for the purpose of mitigating obstructions within the RPZ; however, displacement of the threshold is required in order to mitigate penetrations to TSS as well.

The approach surfaces on both runway ends are penetrated by a significant number of obstacles. This includes mostly trees, but also the terrain as well as some power poles. To clear the approach surface, the existing threshold of Runway 19 should be displaced by 469 feet and the existing threshold of Runway 1 should be displaced by 100 feet. This assumes the trees are cut or topped. If the trees are not mitigated, Runway 19 threshold may have to be displaced up to 1,843 feet from the existing runway end and Runway 1 threshold may have to be displaced up to 1,039 feet from the existing runway end.

Additional details on the number of obstructions for the existing and ultimate runway configuration as well as mitigation measures are provided in **Appendix X**. As this is a safety issue, it will have a high-priority for FAA funding and should be addressed in the short-term.

No Action

The "No Action" alternative would not meet FAA standards and accommodates an unsafe environment for pilots and airport users. This alternative is not desirable by the County or the FAA. Consequently, the "No Action" alternative is rejected and not considered a viable option for the airport.

Alternative 1: Land Acquisition and Obstruction Removal

This alternative addresses airspace obstructions by the acquisition of land and/or avigation easements from nearby owners whose property contains objects that penetrate critical imaginary surfaces. Once the necessary land and/or easements have been procured, the airspace obstructions can be removed.

The obstructions encompass up to 60 separate parcels under the approaches for both runways. After the easements and properties have been acquired, the obstructions should be mitigated. The mitigation process will be different depending on the object, the surface it penetrates, and the significance of the penetration. The most preferred method of mitigation is removal but in some cases not all objects can be removed or relocated. Other forms of mitigation include obstruction marking, lighting, annotation on published departure procedures, and VGSI mitigation.

Nearly all obstructions off the approach end of Runway 1 can be removed with the exception of the power poles. These will likely require obstruction lighting. In the case of the Runway 19 end, the obstructions on the west side of the can likely be removed, however the penetrations on the east side of the river include both trees and terrain.

Alternatives Evaluation

Table 5-8 summarizes the different alternatives in relation to the selected criteria.

TABLE 5-8: RUNWAY ALTERNATIVES SUMMARY

	"No-Action" Alternative	Alternative 1: Land Acquisition Land and Obstructions Removal
Operational and Feasibility	The "No Action" alternative does not meet the needs of the airport, the County, or the FAA. If no action is taken then the airport will remain out of compliance with federal criteria and may not be eligible for future capital funding This is not considered to be a viable option for the airport	Accomplishment of this alternative will require the acquisition of numerous avigation easements and properties along with the removal and mitigation of obstructions to airspace. The benefits of this alternative are that it allows the airport to regain usable runway length and it is necessary to accommodate other preferred alternatives.
Environmental	This alternative has no environmental impacts.	This alternative is not expected to have any significant environmental impacts and is most likely eligible for a categorical exclusion.
Compatibility with future needs	This alternative is not compatible with future needs.	Alternative 1 is compatible with future needs of the airport and is essential for the operational success of other preferred alternatives in this chapter.
Costs	No cost	$500,000 (%90 eligible for AIP funding)

Source: TO Engineers, Inc.

Preferred Alternative

The preferred alternative for this section is Alternative 1 which involved acquiring avigation easements and properties for up to 60 parcels and then seeking obstruction mitigation through the removal of trees and marking/lighting of more permanent obstacles. The "No Action" alternative is not viable and would restrain the airport from developing and meeting future federal criteria.

5.6.4 FUTURE INSTRUMENT APPROACH PROCEDURES

Weather conditions that include cloud ceilings below 1,000 feet above ground level and 3 statute miles visibility are known as instrument meteorological conditions (IMC). In order for aircraft to land at airports in IMC there must be published instrument approach procedures (IAP) with supporting infrastructure. Types of supporting infrastructure include ground-based NAVAIDs like glide slopes, localizers, distance measuring equipment, and very high frequency

omnidirectional range, as well as approach lighting systems, visual approach slope indicators, upgraded markings, and more.

The use of IAPs typically involved more demanding and restrictive airspace and zones as well as the inclusion and protection of imaginary surfaces defined in the United States Standard for Terminal Instrument Procedures (TERPS). The benefit of IAPs is the added utility they offer airports. In many cases, the use of IAPs becomes necessary for businesses and pilots seeking reliable access to the airport. Better IAPs offer lower visibility minimums and decision altitudes making an airport more accessible but demanding more airspace and land use protections. These procedures typically fall within two categories, non-precision (not vertically guided) and precision (vertically guided).

Priest River Municipal Airport is a visual airport only and is not currently served by any instrument approach procedures. In order to design and publish a procedure for Priest River, several regulatory standards must be met. Firstly, the dimensions of the runway protection zones would increase and would impact more properties and require more mitigation for obstructions and incompatible land uses. Several TERPS surfaces would need to be cleared before adequate approach minimums could be acquired. Finally, a greater level of airport infrastructure would be required to properly facilitate such an approach. Given the current status and demand of the airport, the pursuit of a straight-in instrument approach procedures is not a preferred alternative. That being said, a more feasible alternative would be to pursue a circling approach.

While straight-in procedures allow pilots to fly directly to a runway end on a final approach course offering better minimums, the circling approach still creates a safe path to the airport in IMC. The pilot can plan and fly the approach to a low enough altitude until the airport is in sight at which point the pilot can circle for a visual landing on the active runway. Circling approaches do not have the same regulatory requirements as straight-in approaches making them more affordable and feasible to implement.

There are several types of IAPs that use various ground and orbital based forms of navigation. One particular procedure that is being heavily utilized across the country, particularly at smaller airports, is known as ‘area navigation’ (RNAV). Unlike the ILS, VOR, or NDB, the RNAV uses GPS technology forgoing ground-based radio NAVAIDs. Not having the burden of acquiring and maintaining expensive ground-based equipment means that small airports can now experience similar levels of accessibility without the cost or the hassle.

No Action

The ‘no action’ alternative maintains the status quo at Priest River Municipal Airport and does not provide any accessibility to the airport during inclement weather conditions. Pilots seeking reliable access to the region are more attracted to an airport bearing instrument approach procedures. The airport is surrounded by mountainous terrain where weather conditions can change quickly. Even in cases where weather conditions are considered ‘visual’, there is still the

risk that conditions could deteriorate during flight. A pilot in this situation would be forced to divert to an alternate airport.

Not only does not having an instrument approach procedure limit the airport's utility, it also means that pilots cannot file an IFR flight plan directly to the airport. A pilot wishing to fly IFR with direct support from the air traffic organization would need to file a flight plan to a nearby airport with an IAP and then cancel the flight plan mid-flight and proceed direct.

The no action alternative, although feasible, bears no direct value for the airport.

Alternative 1: Establish RNAV (GPS) Circling Approach

The development of the instrument approach procedure would be accomplished by the Flight Procedures department of the FAA. Since RNAV procedures utilize available satellite technology and the approach is a circling approach as opposed to a straight-in, it can be implemented at the airport without any added expense to Priest River, Bonner County, or the State of Idaho.

This alternative would allow pilots to more comfortably plan flights to the airport during visual, instrument, or marginal weather conditions. Simply increasing the margin of safety and a pilot's confidence in the flight can be a tremendous benefit to an airport. Ultimately, the procedure would result in greater utility for the airport as well as capacity during inclement weather conditions. This would result in more aircraft operations at the airport leading to more business and a positive economic impact.

Alternatives Evaluation

Table 5-9 summarizes the different alternatives in relation to the selected criteria.

TABLE 5-9: IAP ALTERNATIVES SUMMARY

	"No-Action" Alternative	Alternative 1: Establish RNAV (GPS) Circling Approach
Operational and Feasibility	The "No Action" alternative involves not pursuing the development of an instrument approach procedures for Priest River Municipal Airport. This alternative is feasible but does not provide the greatest level of utility for the airport. This is not considered to be a favorable option for the airport	Accomplishment of this alternative will require the establishment of a published instrument approach which will need to be developed by the Flight Procedures branch of the FAA. Since the circling approach is essentially an instrument approach that transitions to a visual landing, there are no requirements for precisions instrument markings, approach lighting systems, or other infrastructural requirements.
Environmental	This alternative has no environmental impacts.	This alternative is not expected to have any significant environmental impacts.
Compatibility with future needs	This alternative is less compatible with future needs.	Alternative 1 is compatible with future needs of the airport and is a cost effective way to make the airport more accessible and usable to pilots and the flying public.
Costs	No cost	No cost

Source: TO Engineers, Inc.

Preferred Alternative

The preferred alternative for this section is alternative 1 which involves publishing a RNAV (GPS) circling approach to the airport allowing pilots to descend low enough through IMC to visually acquire the airport and land. This alternative would allow pilots to add Priest River Municipal Airport to their instrument flight plan and to shoot approaches in instrument conditions but would not require the airport to pursue costly upgrades to its infrastructure in the form of approach lighting or precision/non-precision airfield markings. Having a published instrument approach procedure makes the airport more attractive for commercial applications. Airports become more appealing if they can be reliably used in most weather conditions. The "no action" alternative is viable but not recommended and does not allow the airport to increase its accessibility during instrument conditions.

5.6.5 PARALLEL TAXIWAY

A full-length parallel taxiway would contribute to an increased level of safety at the airport. In addition, a full-length parallel taxiway will be necessary to access future development on Parcel G. The existing parallel taxiway centerline is locating at 150 feet from the existing runway centerline and it meets B-I Small design standards. The preferred runway alternative shifts the runway centerline 6 feet to the east, and the existing and extended parallel taxiway will be located 156 feet from the runway centerline.

One alternative was developed:

- Alternative 1: Full parallel taxiway

Following is a summary of the taxiway alternative.

No Action
A "No-action" alternative consists of maintaining the existing configuration. This alternative does not reduce the need for back-taxi operations. In addition, without a full parallel taxiway, the only access to the newly acquired Parcel G would be provided through back-taxi operations on the runway. The goal of this planning study is to provide the County with options for necessary improvements and future development. This alternative does not meet this goal, as it does not provide a safe access to Parcel G.

Alternative 1: Full Parallel Taxiway
This alternative consists of a full parallel taxiway. The existing taxiway centerline would be maintained at its location and extended to Runway 1/19 thresholds. This full parallel taxiway would extend from the north side of the aircraft apron and would extend for a length determined by whichever RPZ alternative is chosen. A small length of taxiway on the south side of the apron would connect with a small paved run-up area adjacent to the approach end of Runway 1. These taxiway additions are depicted in **Figure 5-7**. In order for the taxiway to reach the full future end of pavement on the south end, the taxiway elevation would need to be raised by 4 to 6 feet in order to meet the runway's grade. This places undue burden on the airport design and is not realistically feasible. The estimated cost of this project is $415,000.

FIGURE 5-7: FULL PARALLEL TAXIWAY

Alternatives Evaluation

Table 5-10 summarizes the different alternatives in relation to the selected criteria.

TABLE 5-10: TAXIWAY ALTERNATIVES SUMMARY

	"No-Action" Alternative	Alternative 1: Full Parallel Taxiway
Operational and Feasibility	Does not reduce the need for back-taxi operations and does not provide safe access to Parcel G (the only access will be by back-taxiing on the runway).	Contributes to an increased level of safety at the airport by reducing the need for back-taxi operations.
Environmental	No additional environmental impacts.	Remains entirely on airport property and does not require land acquisition. Impacts areas in urban environment.
Feasibility	Feasible as it does not necessitate any construction or action.	Feasible without any impact on existing infrastructure.
Compatibility with future needs	Not compatible with future needs.	Compatible with future needs and provides an increased level of safety as it eliminates the need for back-taxi operations and provides a safe access to Parcel G.
Costs	No additional costs.	Costs Estimate: $415,000.

Source: T-O Engineers Inc.

Preferred Alternative

The Preferred Alternative is Alternative 1: Construction of a full-length parallel taxiway. This alternative will provide an increased level of safety and eliminate the need for back-taxi operations. Additional environmental analysis will be required and it is expected a Categorical Exclusion will meet the environmental requirements for this project. Taxiway extensions can usually be categorically excluded if they only have on-airport impacts under paragraph 5-6.4e from FAA Order 1050.1F (construction, repair, or extension an existing airport's taxiway). Additional coordination with the Helena ADO will be necessary before construction.

This preferred alternative is contingent on other alternatives from this chapter including the RPZ preferred alternative. The runway pavement is expected to increase in length by approximately 832 feet with extensions occurring on both ends. A total of roughly 2,763 feet of taxiway pavement would be required to meet the demands of the preferred alternatives in this chapter. The portion of future parallel taxiway on the north side of the apron will be approximately 2,233 feet in length while the southern portion will only be 530 feet long.

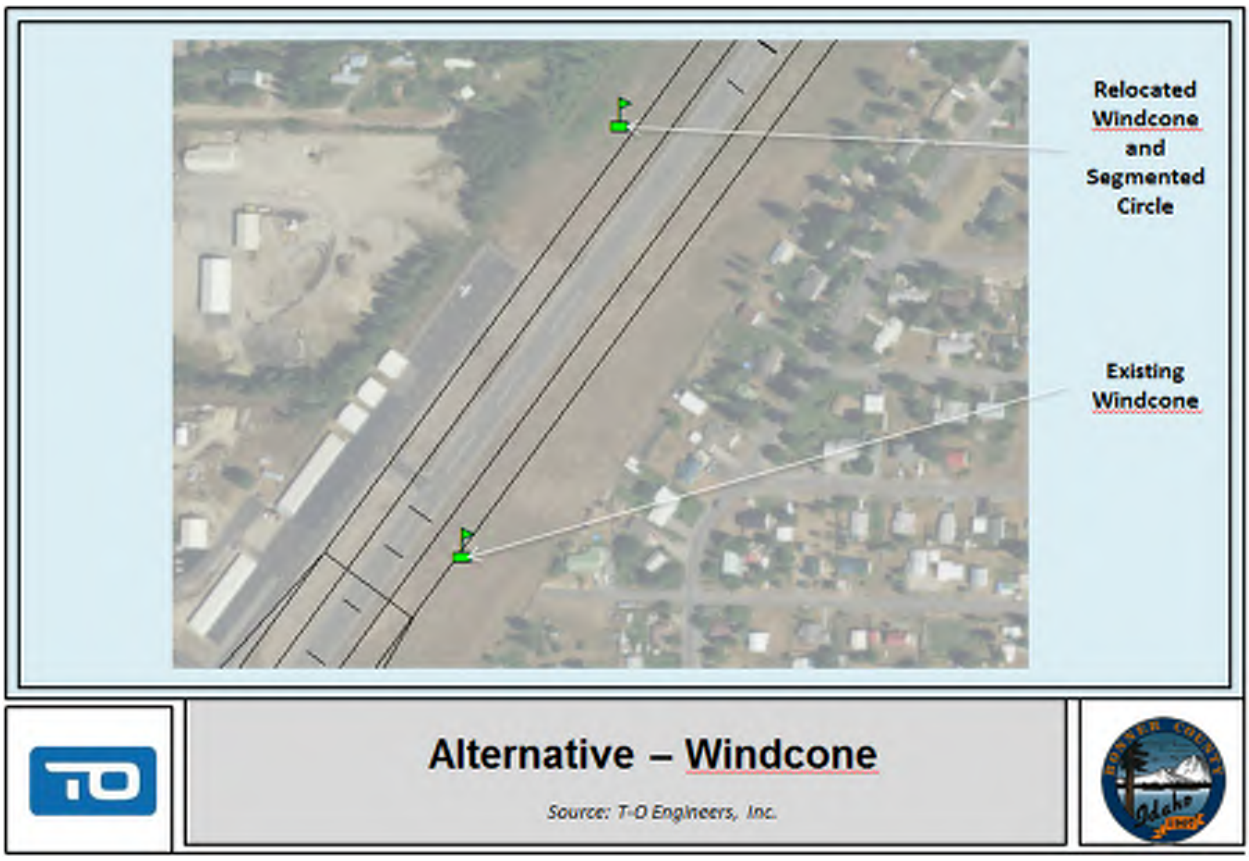
5.6.6 WIND CONE AND SEGMENTED CIRCLE

The ROFA and OFZ for Runway 1/19 at Priest River Municipal Airport do not meet design standards as they are impacted by the existing wind cone as well as an air relief valve. In addition, the airport is not currently equipped with a segmented circle. To meet B-I Small design standards, it is recommended to relocate the wind cone out of the ROFA and regrade around the air relief valve. In addition, the installation of a segmented circle is recommended at the new location of the lighted windcone.

A "No-action" alternative is not acceptable as the existing location of the wind cone does not meet safety standards. Therefore, it must be relocated outside of the runway protection areas. The air relief valve will be addressed when the runway is widened, and change in runway grade at Runway 1 threshold will address this issue.

To relocate the wind cone outside of the ROFA and OFZ, and remain on airport property, the wind cone and segmented circle would need to be relocated mid-field on the north side of the runway, as depicted in **Figure 5-8**. The estimated cost for this project is $30,000.

FIGURE 5-8: WIND CONE RELOCATION



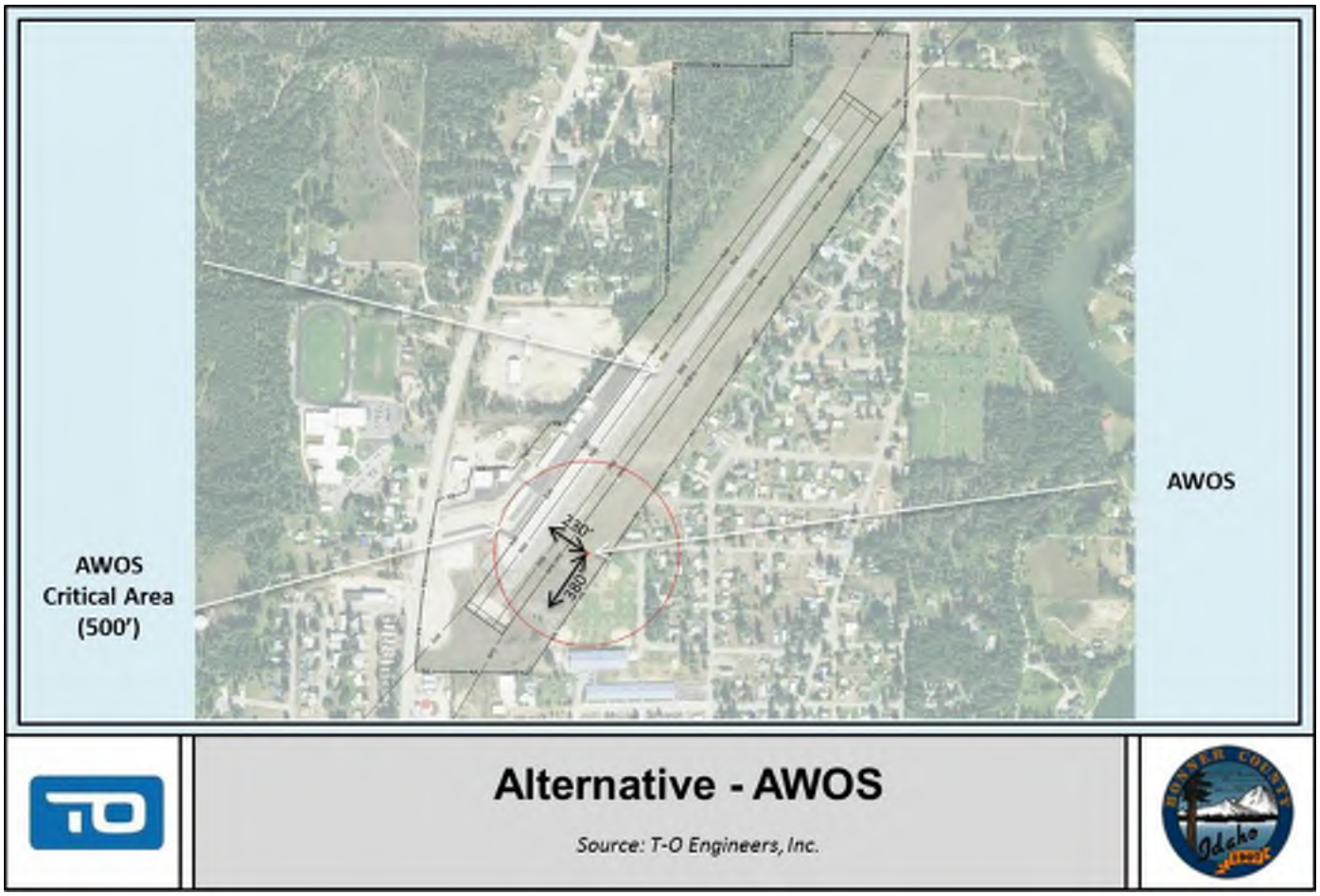
5.6.7 AUTOMATED WEATHER OBSERVING SYSTEM (AWOS)

As mentioned in Chapter 4, Facility Requirements, Automated Weather Observing Systems (AWOS) provide real time weather information to pilots and contribute to enhanced safety. However, Bonner County should keep in mind that AWOS equipment is expensive and the initial costs, approximately $150,000, do not include annual maintenance requirements, which can average $4,000 to $6,000 per year, not including additional unforeseeable maintenance repairs.

In accordance with FAA Order 6560.2B, Siting Criteria for Automated Weather Observing Systems, the AWOS has a 500-foot radius critical area, which needs to be protected to provide accurate wind and weather information.

Proactive planning recommends protecting areas for future development and a proposed AWOS site is depicted on the ALP and in **Figure 5-9**. The proposed location is 380 feet from the threshold of Runway 1 and 230 feet from the runway centerline. This location is out of the preferred sitting area described in the FAA Order 6560.2B, Siting Criteria for Automated Weather Observing Systems: 1,000 to 3,000 feet down runway from the threshold, and between 500 and 1,000 from the runway centerline. However, this location was deemed the most suitable given the constrained environment of the airport. It remains on airport property and minimizes the amount of buildings and obstructions in the critical area. Based on the proposed location, the airport would need to secure an easement to limit new buildings heights in the critical zone, and prevent the construction of additional buildings. If the County wants to pursue the installation of an AWOS it is recommended that additional coordination be conducted with the FAA.

FIGURE 5-9: AWOS



5.7 LANDSIDE ALTERNATIVES

The following section discusses the alternatives considered during the process of determining the preferred landside development alternatives shown on the ALP.

Landside facility development includes aircraft storage facilities, airport access roads, vehicle parking, and commercial development directly related to aeronautical activity. This section summarizes the various landside development alternatives considered and describes the selected alternative in each case.

When analyzing and developing the various landside alternatives, several basic development principles and goals were considered to guide the process:

- Future development will be planned in a manner whereby phased development is possible over the planning period thus providing flexibility to the County to accommodate growth as demand warrants.

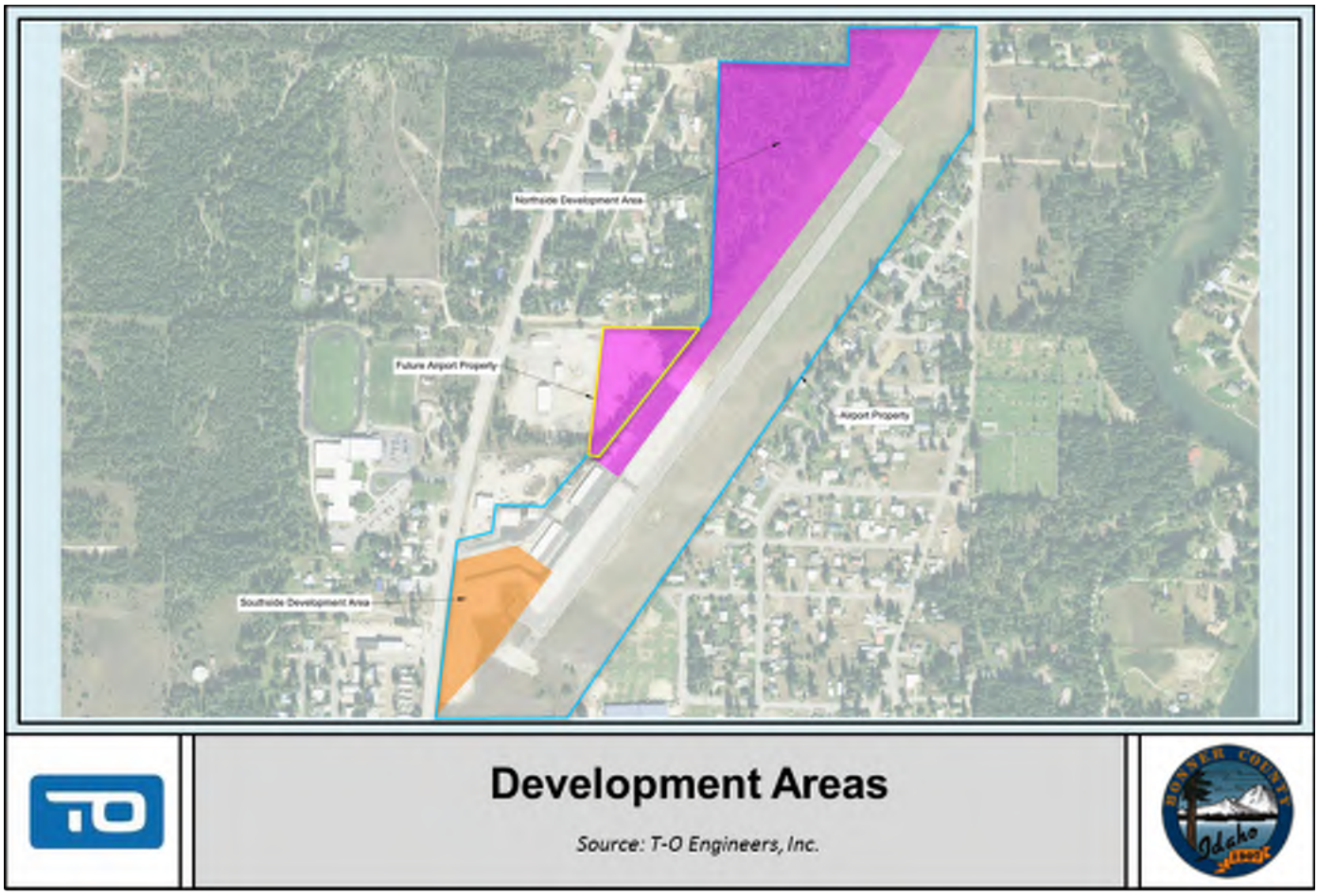
- **The need for *full* build-out of the airport as depicted on the ALP drawing set is not justified based on the aviation activity forecasts performed as part of this study. However, recommendations have been developed based on a proactive planning approach where space should be reserved and facilities will be built as demand warrants.**
- Future development of the airport should be mindful of various aircraft and activity types:
    - Uses such as helicopter traffic should be located in areas that ensure compatibility with other surrounding aviation uses (due to potential of foreign object debris (FOD) in particular).
    - Orderly development of hangar areas ensuring compatibility with FAA design standards based on current and anticipated aircraft use (i.e. aircraft design groups)
- Future development of the airport should be done in a manner that best optimizes access to public infrastructure including:
    - Vehicle/road access
    - Utilities
    - Available land/surrounding uses
- Future development should take into consideration and be mindful of environmental issues at the airport. In addition, future development should minimize potential effect on the environment.

The existing general aviation apron area at Priest River Municipal Airport is divided into two distinct areas and configured to accommodate a total of nine apron tie-down positions, with space available for both based and transient aircraft. Historically, only a small percentage of locally-based aircraft use ramp tie-down areas.

As identified in Chapter 4, Facilities Requirements, there is a no foreseeable shortfall of apron area at the end of the 20-year planning period. However, plans have been developed based on a proactive planning approach where space should be reserved and facilities will be built as demand warrants. Bonner County should keep in mind that pavement is expensive to maintain and that many of the recommendations are demand driven and should only be considered when and if demand at the airport warrants.

Two areas were studied for development opportunities at Priest River Municipal Airport. These areas are described as the Northside Development Area, which includes Parcel G and F, and the Southside Development and are depicted in **Figure 5-10**. Priest River Municipal Airport acquired Parcel G for future development and to limit encroachment of incompatible land uses and development on land adjacent to the airport. In addition, the airport is currently in the process of acquiring Parcel F using County funds only and no federal funds.

FIGURE 5-10: DEVELOPMENT AREAS



No Action

A "No-action" alternative would consist in maintaining landside facilities at their current location and not adding any new capacity. This is not considered as a viable alternative nor is it desirable by the County. The goal of this planning study is to provide the County with options for necessary improvements and for future development. A "No-action" alternative does not meet this goal nor does it meet safety standards. However, the County should keep in mind that pavement is expensive to maintain and that the development depicted on the ALP should only be considered when demand warrants.

5.7.1 SOUTHSIDE DEVELOPMENT AREA

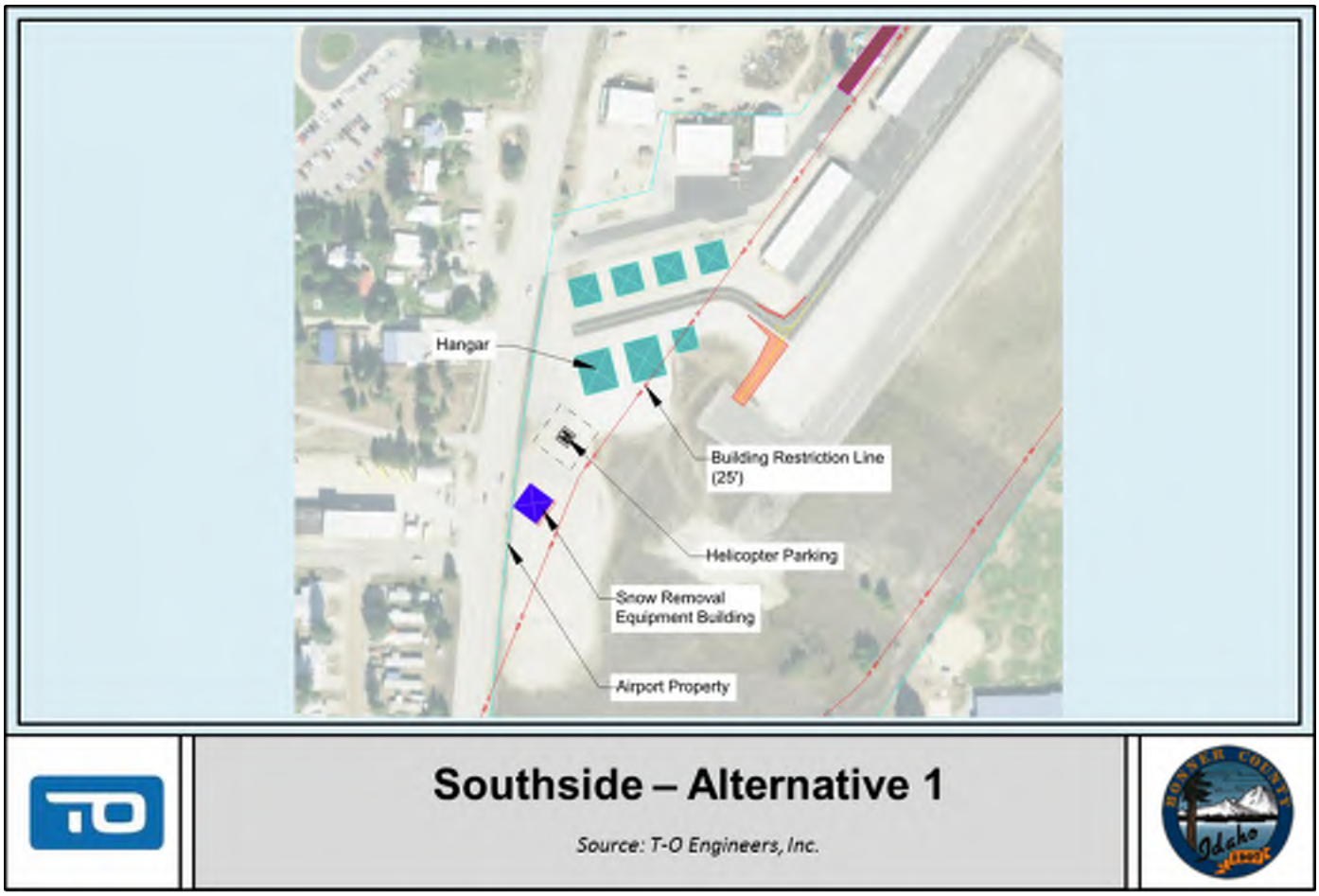
The area described as the Southside Development Area consists of the southern portion of the existing airport property along taxilane B. Two alternatives were developed for this area and are described hereafter. The two alternatives consist of hangars and a building to store snow removal equipment. Following is a summary of each alternative.

Alternative 1

This alternative consists of seven individual box hangars (four 50'*50', two 60'*70' and one 40'*40') as shown on the record of survey drawing established for this area in September 2013. This alternative also includes room for a helicopter parking, which consist of a concrete pad (25'*25') separated from parked aircraft to limit the Foreign Objects Debris (FOD) and adequate for most light turbine helicopter, as well as room for a snow removal equipment building, as depicted in **Figure 5-11**. The taxilane to access this area is already built and these hangars could be built in the short-term to address demand as needed.

This alternative remains entirely on airport property and does not require land acquisition. Most of the hangars are beyond the 25' Building Restriction Line (BRL). However, two of the hangars are within the 25'-BRL and will have to be built lower than 25' to remain clear of the transitional surface. Coordination with the FAA, using the Form 7460-1, will have to be made prior to construction. The estimated costs of this project, including the snow removal building and the helicopter parking pad, are $176,000.

FIGURE 5-11: SOUTHSIDE ALTERNATIVE 1

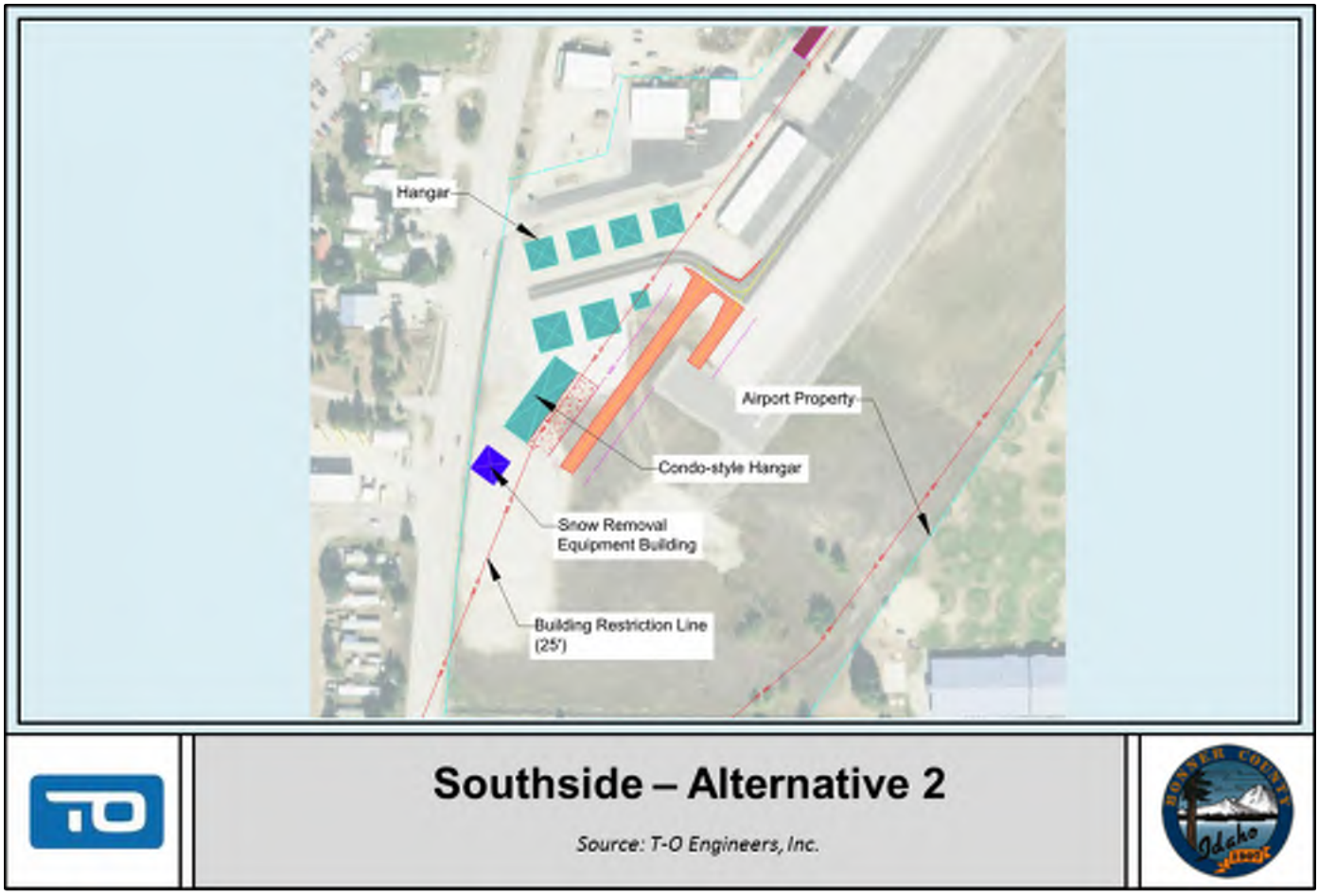


Alternative 2

This alternative consists of seven individual box hangars (four 50'*50', two 60'*60' and one 30'*30') as well as a condo-style hangar (150'*50') similar to the existing condo hangar at Priest River Municipal Airport. Hangar size for Alternative 2 slightly differs from the record of survey drawing established for this area in September 2013. This alternative also includes room for a snow removal equipment building, as depicted in **Figure 5-12**. One of the taxilanes to access this area is already built, while the other will have to be built. The seven individual box hangars could be built in the short-term to address demand as needed, while the condo-style hangar could be built in the short to mid-term.

This alternative remains entirely on airport property and does not require land acquisition. Most of the hangars are beyond the 25' Building Restriction Line (BRL). However, two of the individual box hangars are within the 25'-BRL and will have to be built lower than 25' to remain clear of the transitional surface. Coordination with the FAA, using the Form 7460-1, will have to be made prior to construction. The estimated costs of this project, including the snow removal building, are $271,000.

FIGURE 5-12: SOUTHSIDE ALTERNATIVE 2



Alternatives Evaluation

Table 5-11 summarizes the different alternatives in relation to the selected criteria.

TABLE 5-11: SOUTHSIDE ALTERNATIVES SUMMARY

	Alternative 1	Alternative 2
Operational and Feasibility	Provide capacity to store existing and future based aircraft. Maintain an acceptable level of safety and designed to Aircraft Design Group I. Hangars as shown on the record of survey drawing established for this area in September 2013. Technically feasible and could be developed in the short to mid-term when demand warrants. A FAA form 7460-1 will have to be filled prior to any construction. Maximum height of two hangars is limited by the transitional surface.	Provide capacity to store existing and future based aircraft. Maintain an acceptable level of safety and designed to Aircraft Design Group I. Hangars shown are slightly different from the record of survey drawing established for this area in September 2013. Technically feasible and could be developed in the short to mid-term when demand warrants. A FAA form 7460-1 will have to be filled prior to any construction. Maximum height of two hangars is limited by the transitional surface.
Environmental	Impacts areas that have been previously disturbed in an urban and developed environment. Requires small amount of earthwork to build the hangars. No major environmental impacts are foreseeable. Both alternatives impacts similar areas. Environmental coordination (Categorical Exclusion) will be necessary prior to construction and prior to any hangar development.	
Compatibility with future needs	Provide aircraft hangars space, easily built in the short-term.	
Costs	Costs Estimate: $176,000.	Costs Estimate: $271,000.

Source: TO Engineers Inc.

Preferred Alternative

The Preferred Alternative is a modified version of Alternative 1, as depicted in Section 5.7.3, Preferred Alternative. The revised Alternative 1 removes the smaller hangar and relocates the helicopter parking pad in this area. The preferred alternative also relocates the SRE building, it is the less expensive than Alternative 2, and provides appropriate box hangar space in the short-term. In addition, it provides a convenient parking area for helicopters that could be developed in the short-term.

The Preferred Alternative will consist of consists of six individual box hangars (four 50'*50' and two 60'*70'). The four smaller hangars are to be located along the north edge of Taxilane B while the two slightly larger hangars will be located across the taxilane on the south side. A proposed helicopter landing pad is located on the souths side of Taxilane B adjacent to the aircraft hangar. As previously mentioned, the SRE facility is relocated to the west of the existing aircraft apron behind the large aircraft hangars. Hangars in this area will provide additional covered aircraft parking near the approach end of Runway 2 with direct access to the future full length taxiway.

5.7.2 NORTHSIDE DEVELOPMENT AREA

The area described as the Northside Development Area consists of Parcels G and F.

Three alternatives were developed for this area and are described hereafter. The three alternatives consist of hangars and aircraft parking aprons. In addition, the three alternatives include development space for a FBO, a fuel island as well as a business development with airside access. The three alternatives include a helicopter parking area, which allows parking one helicopter separated from parked aircraft to limit the FOD. Several helicopter parking areas were planned to provide options to the County. However, the preferred alternative, described in Section 5.7.3, includes one helicopter parking pad only.

Parcel G requires a new access road and utility corridor, while Parcel F requires the extension of the existing road and utilities. Further, access road to Parcel F requires the demolition/relocation of the caretaker building located in the immediate vicinity of the existing pilot's lounge.

Space for a Business/Commercial development with airside access was reserved on Parcel G. This area can be used by industries or manufacturers compatible with airport operations that require an apron and taxilane access. FAA AIP participation is not expected for this development.

The development of parcel F could occur in the short to mid-term, while the development of parcel G could occur in the long-term. This area could be easily phased in several stages to answer demand if and when needs warrant.

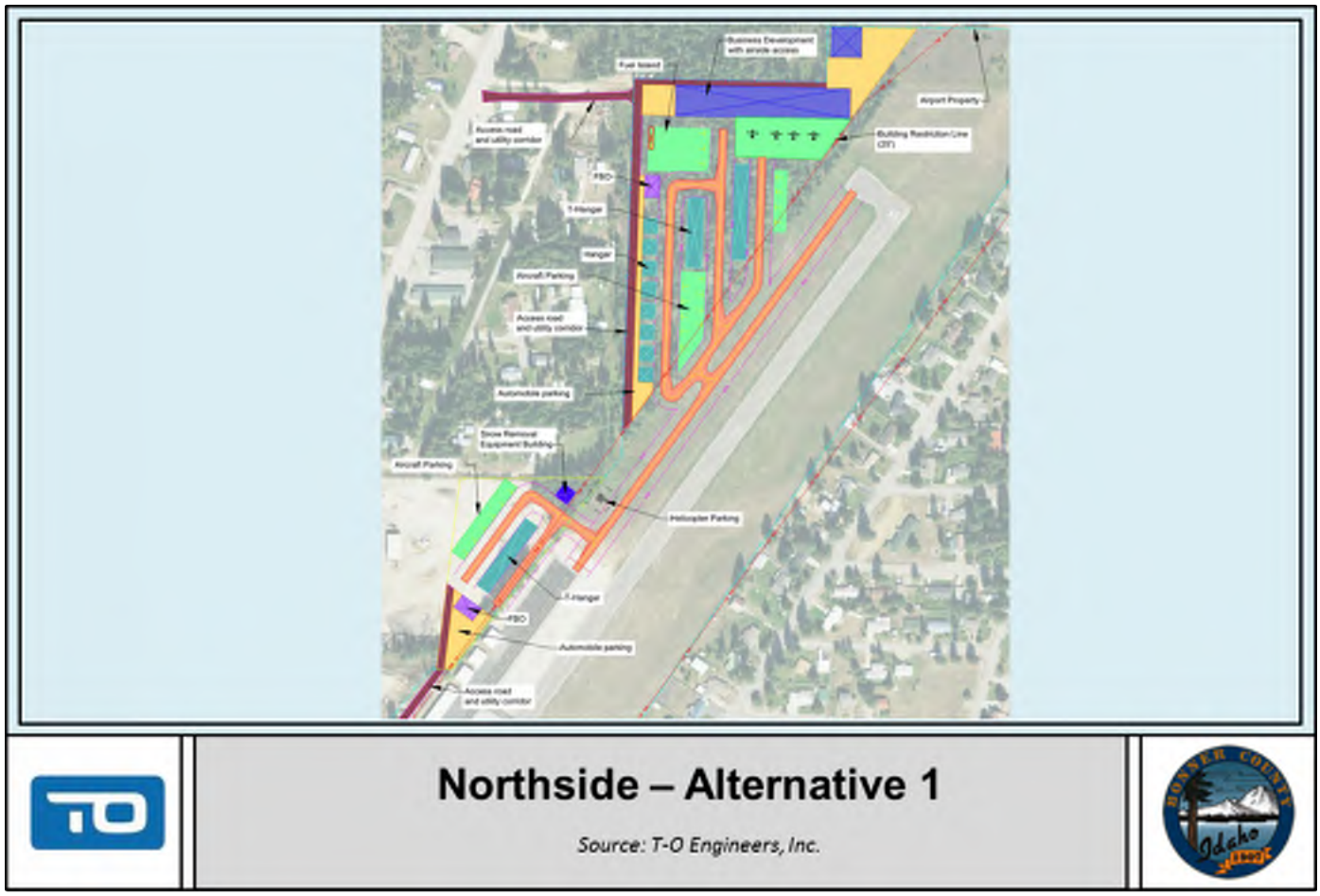
Following is a summary of each alternative.

Alternative 1

This alternative consists of one T-Hangar accommodating 12 aircraft and an apron to accommodate six small piston aircraft (designed for the Cessna 182) on Parcel F, as well as eight individual box hangars (50'x50'), two T-hangars (respectively 10 and 14 aircraft) and a new apron accommodating 16 small piston aircraft on Parcel G, as depicted in **Figure 5-13**.

The estimated costs of this alternative are $2,810,000.

FIGURE 5-13: NORTHSIDE DEVELOPMENT – ALTERNATIVE 1

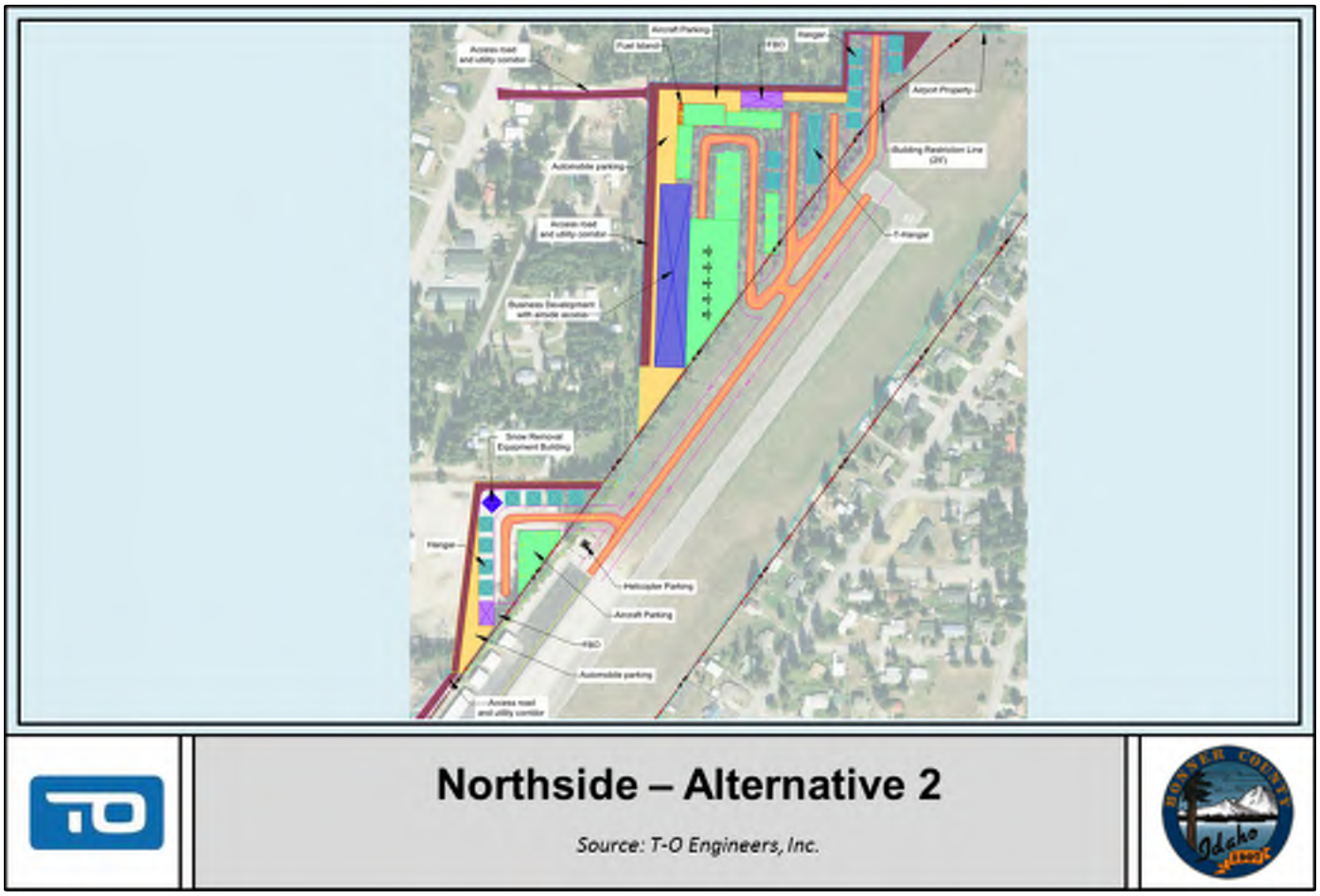


Alternative 2

This alternative consists of eight individual box hangars (50'x50') and an apron to accommodate five small piston aircraft (designed for the Cessna 182) on Parcel F, as well as eight individual box hangars (50'x50'), one T-hangar for 10 aircraft and a new apron accommodating 16 small piston aircraft on Parcel G, as depicted in **Figure 5-14**.

The estimated costs of this project are $2,716,000.

FIGURE 5-14: NORTHSIDE DEVELOPMENT – ALTERNATIVE 2

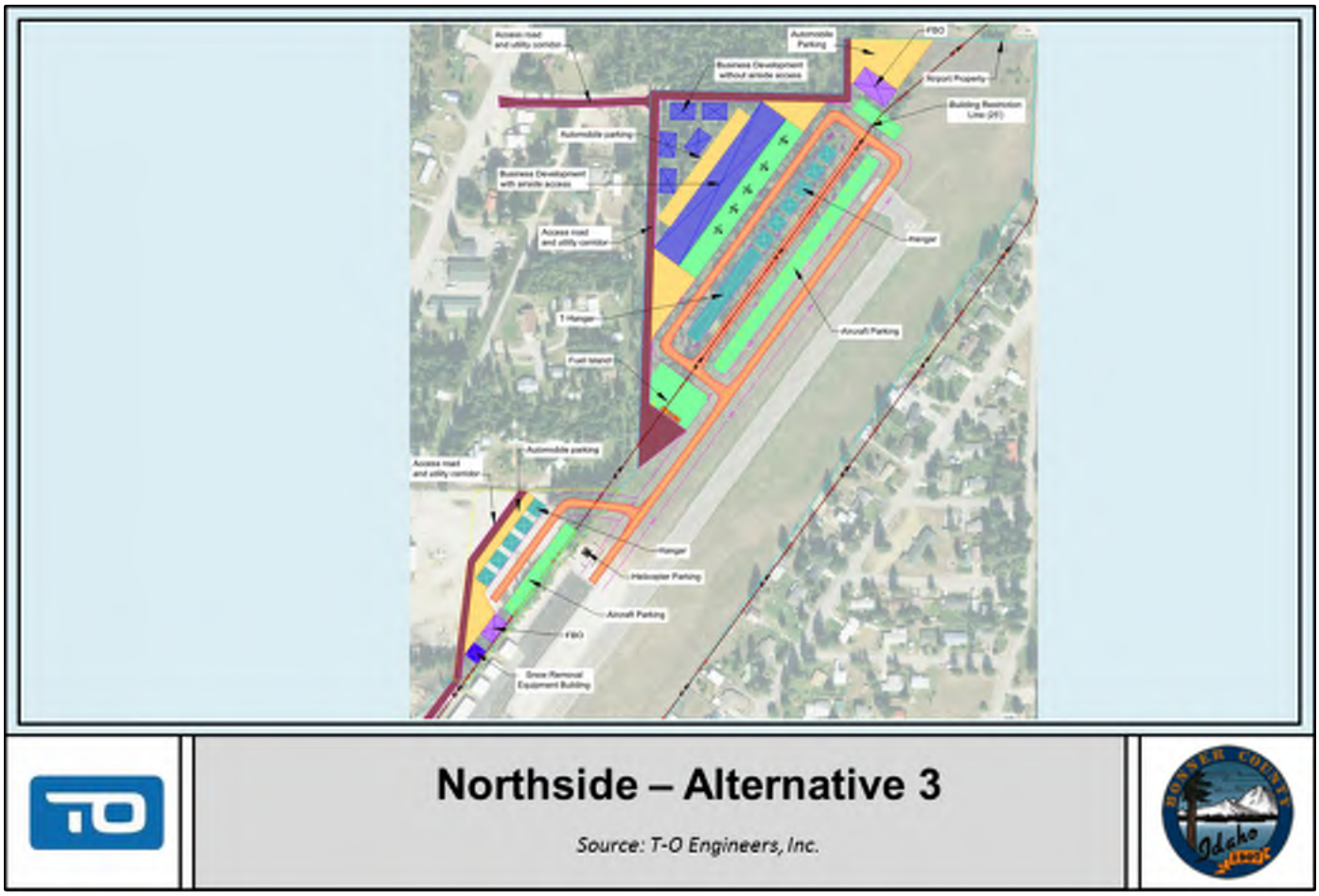


Alternative 3

This alternative consists of five individual box hangars (50'x50') and an apron to accommodate seven small piston aircraft (designed for the Cessna 182) on Parcel F, as well as eight individual box hangars (50'x50'), one T-hangar for 16 aircraft and a new apron accommodating 23 small piston aircraft on Parcel G, as depicted in **Figure 5-15**.

The estimated costs of this project are $2,922,000.

FIGURE 5-15: NORTHSIDE DEVELOPMENT – ALTERNATIVE 3



Alternatives Evaluation

Table 5-12 summarizes the different alternatives in relation to the selected criteria.

TABLE 5-12: NORTHSIDE ALTERNATIVES SUMMARY

	Alternative 1	Alternative 2	Alternative 3
Operational and Feasibility	Provide enough capacity to store existing and future based aircraft. Maintain an acceptable level of safety and designed to Aircraft Design Group I. The three alternatives provide a different number of hangars and apron space, but all provide enough space to meet existing and future demand at the airport. Technically feasible and could be phased appropriately to answer current and future demand. A FAA form 7460-1 will have to be filled prior to any construction.		
Environmental	Similar impacts on areas that have no previous airport development. Earthwork and environmental coordination will be required. No major environmental impacts are foreseeable. The three alternatives impacts similar areas. Environmental coordination will be necessary prior to construction and prior to any hangar development. An Environmental Assessment has been completed for the land acquisition and aeronautical development of Parcel G, including tree removal, grading and paving and construction of hangars, buildings and taxiway, in March 2011. It is anticipated that a similar process will be required prior to development on Parcel F.		
Compatibility with future needs	Provide aircraft apron areas and aircraft hangars.		
Costs	Costs Estimate: $2,810,000.	Costs Estimate: $2,716,000.	Costs Estimate: $2,922,000.

Source: TO Engineers Inc.

Preferred Alternative

After discussion during a public meeting held at Priest River, the Preferred Alternative is a modified version of Alternative 1, as depicted in Section 5.7.3, Preferred Alternative. The costs of the three alternatives are of the same order of magnitude. However, Alternative 1 offers more flexibility to the airport. The Airport Board, members of the public and consultants felt it was important to maintain the business development/commercial activity as far as possible of the existing residential uses. Main revisions include the addition of additional automobile parking and a different location for the SRE building and the helicopter parking pad.

The Preferred Alternative is featured on the final ALP and includes 19 tiedown locations facilitating additional aircraft parking along with seven box hangars and two additional T-hangars. Also, in Parcel G, there are two locations near the north end of the proposed apron that are expected to facilitate non-aviation businesses requiring airside access. There is a total of 94,600 square feet of apron area to be located in Parcel G at full buildout. Other developments on the north side include a proposed FBO facility to be located on the north side of the box hangars, and a fuel facility.

5.7.3 PREFERRED ALTERNATIVE

The preferred alternative combines a revised version of the Southside Alternative 1 and a revised version of the Northside Alternative 1. It is depicted in **Figure 5-16** and on the ALP. Main revisions include the addition of additional automobile parking, and a different location for the SRE building and helicopter parking pad.

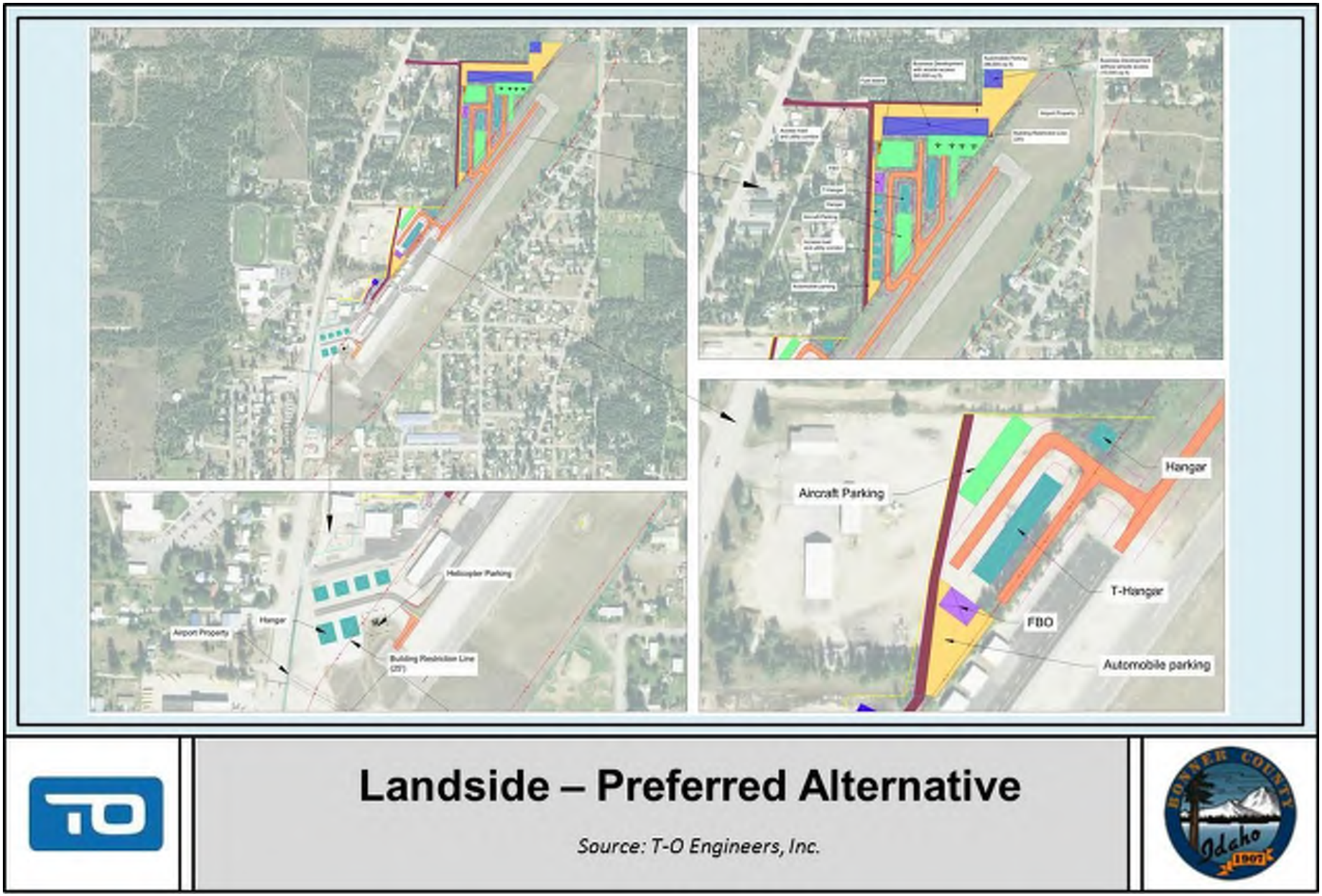
This alternative could be phased appropriately, and such phasing will be addressed in Chapter 6, Development Plan/Financial Overview. Bonner County should keep in mind that such a development is not fully justified at the moment based on existing and foreseeable traffic at the airport. In addition, pavement is expensive to maintain and should be only built as necessary, when demand warrants

This Alternative includes space for a commercial or business facility with on-airport access. However, this alternative is flexible and would allow easy expansion of the taxilane and apron to add additional hangars, if no commercial development occurs on airport property. As previously mentioned, FAA AIP funds are only available to fund infrastructures that are exclusively used by the airport. If a business wants to operate on Parcel G, improvements to utilities such as water, sewer and electrical as well as paving will have to be funded by the business or by using local or private funds. In addition, AIP funding is only available for one access road. Therefore, local funds will have to be used to provide an access road to Parcels F and G.

The Preferred Alternative for landside development, including all three locations along the airfield includes 14 box hangars, 3 T-hangars, 20+ tiedown spaces, 2 fuel facilities, 2 FBO facilities, 1 helipad, 5 apron areas with supporting taxilanes, 1 SRE facility, and 3 vehicle parking areas. As mentioned previously, full buildout of these facilities is not expected and development should be pursued at a rate matching the increase of demand for services and facilities at the airport. The Preferred Alternative provides ample options and opportunities for the airport to pursue over the 20-year planning horizon.

The total cost estimate in 2015 dollars for this alternative is approximately $2,810,000. It is expected an Environmental Assessment will be necessary to acquire and develop Parcel F. An Environmental Assessment has been completed for the land acquisition and aeronautical development of Parcel G, including tree removal, grading and paving and construction of hangar buildings and taxiway, in March 2011. As environmental assessments are assumed to be valid for a period of three years, coordination with the Helena ADO will be necessary to reevaluate the adequacy and validity of the environmental assessment before actual construction.

FIGURE 5-16: PREFERRED ALTERNATIVE



Landside – Preferred Alternative

Source: T-O Engineers, Inc.

5.7.4 ACCESS ROAD AND AUTOMOBILE PARKING

Parcels F and G currently do not have any access roads. In addition, Parcel G is not currently served by any existing utilities. Access roads and automobile parking were developed based on the Preferred Alternative and are depicted in **Figure 5-17**. In addition, utilities extension should be planned and a utilities corridor should be installed along the road.

Parking areas were developed in the immediate vicinity of the apron and future FBO to provide convenient automobile parking to the airport's users.

No Action

The "No-action" alternative consists of doing nothing and not providing access or utilities to parcel F and G. This is not considered as a viable alternative nor is it desirable by the County. The goal of this planning study is to provide the County with options for necessary improvements and for future development. The "No-action" alternative does not meet this goal.

Alternative 1

This alternative includes construction of up to three vehicle parking areas with the largest located on the north side of Parcel G which is intended to support future non-aviation commercial development. The other two parking areas are located south of the box hangars in Parcel G and near the existing apron. A proposed access roadway joins Highway 57 and runs east/west to serve the future parking areas and non-aviation development areas with a leg breaking to the south serving the 7 box hangers and FBO facility located in Parcel G. A second roadway is a proposed extension of an existing access road leading to the future SRE facility and future apron expansion area west of the existing apron.

Alternative 1 was developed for the automobile parking, road and utilities extension. It was based on the preferred airside and landside alternatives, as depicted in **Figure 5-17**.

FIGURE 5-17: ACCESS ROAD, UTILITY CORRIDOR AND AUTOMOBILE PARKING

Alternatives Evaluation

Table 5-13 summarizes the different alternatives in relation to the selected criteria.

Alternatives Evaluation

TABLE 5-13: ALTERNATIVES SUMMARY

	"No-Action" Alternative	Alternative 1
Operational	Does not allow for access and utilities to Parcel F and G. Feasible but not recommended as it does not allow for additional airport development.	Meets operational demand at the airport and will provide an access road and utility corridor to Parcels F and G. Technically feasible and could be phased appropriately to answer current and future demand.
Environmental	A "No-Action" Alternative has no additional environmental impacts.	Impacts areas that have no previous airport development. Earthwork and environmental coordination will be required, but no major environmental impacts are foreseeable. Environmental coordination will be necessary prior to construction and development. An Environmental Assessment has been completed for the land acquisition and aeronautical development of Parcel G, including tree removal, grading and paving and construction of hangar buildings and taxiway, in March 2011. It is anticipated that a similar process will be required prior to development on Parcel F.
Compatibility with future needs	Constraints the airport layout and does not allow development on Parcel F or G.	Compatible with future needs and provides access to Parcel F and G.
Costs	No additional costs.	Costs Estimate: $515,000.

Source: TO Engineers Inc.

Preferred Alternative

Alternative 1 is the preferred Road Relocation Alternative. It should be noted that FAA AIP funding will not be available for these access roads, as AIP funds can only be used for one access road. If a business wants to operate on Parcel G, access road paving may be totally or partially funded by the business.

5.8 SUMMARY OF CONCLUSIONS

Following is a summary of conclusions. It is understood that the need for *full* build-out of the airport as depicted on the ALP drawing set is unlikely and not justified based on the aviation activity forecasts performed as part of this study. However, the various alternatives and recommendations have been developed based on a proactive planning approach whereby long-term guidance has been presented to the County to assist them in facilitating logical and orderly development over the planning period.

5.8.1 AIRSIDE ALTERNATIVES

B-I Small Standards

To meet B-I Small design standards, Runway 1/19 needs to be widened, the wind cone needs to be relocated out of the ROFA and the obstructions in the RPZs need to be addressed.

Addressing the RPZs will begin with displacing the runway thresholds on Runway ends 1-19 578 feet and 538 feet respectively. Displacing the runway thresholds and implementing declared distances is necessary to mitigate obstructions to the RPZs.

In order to return usable runway length to the airport, pavement extensions on both runway ends are going to be constructed in two phases. The first phase involves lengthening the 1 end by 236 feet and 19 by 221 feet. The second phase will further lengthen the pavement on the end of Runway 19 by an additional 375 feet. During the second phase, the threshold for Runway 19 will be relocated 138 feet closer to the runway end assuming that the threshold siting surfaces are clear of airspace obstructions and all properties within the RPZ have been acquired by the airport and cleared of developments and incompatible land uses.

Runway 1/19 centerline will be shifted 6 feet to the east in response to the runway being widened by 12 feet. This alternative includes removal of existing pavement on the overall length of the runway, new pavement as well as new Medium Intensity Runway Lights (MIRL), Runway End Identifier Lights (REIL) on both ends, Precision Approach Path Indicators (PAPI) on the Runway 1 end, and electrical wiring. This alternative also includes grading of the RSA after the runway ends to meet RSA slope design criteria wich will also mitigate the relief valve currently obstructing the RSA.

Obstructions and Approach Surfaces

In order to facilitate the RPZ preferred alternative and for the airport to become compliant with federal criteria, it is necessary that the current obstructions to airspace, particularly those obstructing TSS, are sufficiently mitigated.

Mitigation of existing obstacles can be accomplished by first acquiring avigation easement and properties where the obstructions are located. This allows the airport to have access to the obstacles and the legal precedence to mitigate them. In most cases the obstacles are trees or tree clusters and they will be removed. In other cases, methods of mitigation such as obstruction marking or lighting may be adequate.

In order for the airport to maximize its utility, become compliant with federal criteria, and pursue full implementation of the other preferred alternatives in this chapter, the mitigation of obstructions to critical airspace is essential.

Instrument Approach Procedure

Instrument approach procedures make airports more reliable and accessible to the flying public. As a result, they can greatly increase an airport's capacity yielding economic benefits for the communities served by the airport.

An opportunity exists for Priest River Municipal Airport to seek development of a published instrument approach procedures, specifically a RNAV (GPS) circling approach, without having to pursue costly and infeasible upgrades to the airport infrastructure and surrounding lands. The implementation of this procedure would greatly benefit the airport.

Parallel Taxiway

The construction of a nearly full parallel taxiway at Priest River Municipal Airport will improve the overall level of safety at the airport and limit the need for back-taxi operations. In addition, this taxiway will provide access to Parcel G. Construction should be phased as needed to provide access to Parcel G, when demand warrants. In order for a taxiway to reach the full future end of pavement on the south end, the taxiway would need to be raised by 4 to 6 feet in order to meet the runway's grade. This places undue burden on the airport design and is not realistically feasible. Phasing will be addressed in Chapter 6, Development plan/Financial Overview.

Other Airside Facilities

The existing wind cone is in the B-I Small standards protection areas. The existing wind cone needs to be relocated outside the ROFA and OFZ and a segmented circle must be constructed around the new location. A proposed location was analyzed, approximately 60 feet east of the existing position. This relocation does not require any land acquisition as the wind cone will remain on airport property.

A proposed location for an AWOS was analyzed and depicted on the ALP. The AWOS has a 500-feet radius critical area. The proposed location is 380 feet from the threshold of Runway 1 and 230 feet from the runway centerline. This location is out of the preferred siting area described in the FAA Order 6560.2B, Siting Criteria for Automated Weather Observing Systems: Based on the proposed location, the airport would need to secure an easement to limit new building height. If the County wants to pursue the installation of an AWOS at Priest River Municipal Airport it is recommended that additional coordination be conducted with the FAA.

5.8.2 LANDSIDE ALTERNATIVES

Alternatives for landside development at Priest River Municipal Airport focus on a variety of hangars, taxilanes, and apron layouts. These development alternatives focus on two areas: the Southside, and the Northside. The Southside consists of on-airport development alternative, and the Northside consists of development on Parcels G and F. Parcel G has already been acquired, while the airport is currently in the process of acquiring Parcel F. The preferred alternatives for these two areas are summarized below.

Southside Development Area

This alternative is planned along an existing taxilane. Therefore, it allows for hangar construction in the short-term without any major investment by the airport. Hangar construction can be phased appropriately when demand warrants. However, this alternative does not provide aircraft apron space. This area is preferred in the short-term over other areas around the airport because of its convenience to build new hangars without any additional cost to the airport. The existing Taxilane 'B' will be connected to the future parallel taxiway and provide easy access to the runway. The Southside Development Area is projected to accommodate up to six box hangars and a helipad.

Northside Development Area

The Northside Development area is composed of Parcel G and Parcel F. Both areas provide siting for hangars, aprons,tie-downs, vehicle parking, fuel facilities, and FBOs. Parcel G has already been acquired alternative and the airport is in the process of acquiring Parcel F. No other land acquisition will be necessary. Parcel G provides for the ultimate development at Priest River Municipal Airport, while Parcel F could be phased in the mid-term. This development area will be built only if and when demand warrants. This alternative offers the airport significant flexibility in terms of opening development opportunities for both aviation and non-aviation uses. Although air traffic demand may not warrant full buildout over the next 20 years, having this alternative in place will allow the airport to be dynamic when addressing future airport demands.

5.8.3 LIST OF ACTIONS

Following is summary of different projects and actions recommended at Priest River Municipal Airport based on the Alternative Analysis.

- **Airside Facilities**
  - Widen Runway 1/19 by 12 feet on one side (shift runway centerline by 6 feet).
  - Regrade the RSA around the air relief valve
  - Relocate existing windcone outside of the ROFA and OFZ
  - Install segmented circle
  - Construct parallel taxiway
  - Install REILs on Runways 1 and 19
  - Install PAPI on Runway 1
  - Install airfield signage, including runway direction signs, to avoid back-taxi in the wrong direction, holding position and direction signs to better identify the apron
  - Install AWOS if necessary and desired by the County
  - Renumber runway to Runway 2/20
  - Seek the publication of a RNAV (GPS) circling approach

- **Mitigate Obstructions to Critical Airspace**
  - Procure Avigation Easements on properties containing obstacles
  - Acquire select properties as needed containing obstacles
  - Remove, light, and mitigate obstructions to airspace

- **Apron and Hangars**
  - Provide lease space for small box hangars, T-Hangars, and tie-down spaces
  - Develop Parcel F
  - Develop Parcel G
  - Construct Taxilanes to access new development sites

- **Terminal Building/Pilot's lounge and Fixed Base Operator (FBO)**
  - Reserve space in Parcel F and G for a future FBO

- **Fueling Facilities**
  - Install Fuel Facilities

- **Airport Property**
  - Install security fence around Parcel G

- **Automobile Access**
  - Construct new access road to Parcel G and F as well as automobile parking

- **Business/Commercial Park**

- Reserve space on airport property, on Parcel G for Business/Commercial activities

5.9 ENVIRONMENTAL CONSIDERATIONS AND PERMITTING PRIOR TO DEVELOPMENT

A detailed overview on the environmental setting and potential environmental consequences at Priest River Municipal Airport is provided in **Appendix A**, Environmental Overview for the Priest River Municipal Airport.

More detailed environmental analysis will be required before proceeding with actual construction. This should include coordination with agencies such as FAA, United States Army Corps of Engineers, U.S. Fish and Wildlife Service, State and local health agencies, State Historical Preservation Office and others as deemed necessary.

A detailed environment analysis will be required for most of the projects and may also be required if projects impact farmlands. In addition, before any hangar construction, the form 7460-1, Notice of Proposed Construction or Alteration, must be submitted to the FAA and an environmental clearance for development must be obtained.

It is anticipated that an Environmental Assessment will be necessary for the runway widening, new runway lights and obstacles mitigation. A significant amount of trees will have to be cut or topped, and this will have to be addressed in the Environmental Assessment.

Further, an Environmental Assessment has been completed for the land acquisition and aeronautical development of Parcel G, including tree removal, grading and paving and construction of hangar buildings and taxiway, in March 2011. A Finding of No Significant Impact (FONSI) has been emitted by the FAA on March 28, 2011. Environmental Assessments are assumed to be valid for a period of three years. Coordination with the Helena ADO will be necessary to reevaluate the adequacy and validity of the environmental assessment before actual construction.

In addition, an Environmental Assessment for the land acquisition and development of Parcel F will also be required.

A determination on necessary action will be completed at the appropriate time to best facilitate the proposed project(s). With the exception of the wind cone relocation and runway shift, the majority of new development at the airport is expected to be demand driven and will only be considered when, and if, demand at the airport warrants.

5.9.1 CLEAN WATER ACT PERMITTING

Construction activities that disturb one acre or more of land (including clearing, grading, and excavating) require coverage by a National Pollutant Discharge Elimination System (NPDES) storm water permit. Future projects at Priest River Municipal Airport that impact more than 1 acre of land, will require a NPDES permit. In addition, a Storm Water Pollution Prevention Plan (SWPPP) will be required to describe the site controls.

5.9.2 LOCAL BUILDING PERMIT

A building permit has to be obtained, prior to any construction, throughout the City of Priest River.

6.0 DEVELOPMENT PLAN/FINANCIAL OVERVIEW

A goal of this Airport Master Plan was to review the requirements and alternatives necessary for the Priest River Municipal Airport to meet their identified current and future demand. With this analysis complete, the financial commitment needed to implement the recommendations over the next 20 years can be estimated. This chapter:

- Outlines the Priest River Municipal Airport development plan (or capital improvement program)
- Discusses the potential sources of funding for implementing the projects outlined in the development plan
- Presents an evaluation of the airport's current financial operating environment
- And recommends enhancements to increase airport revenue

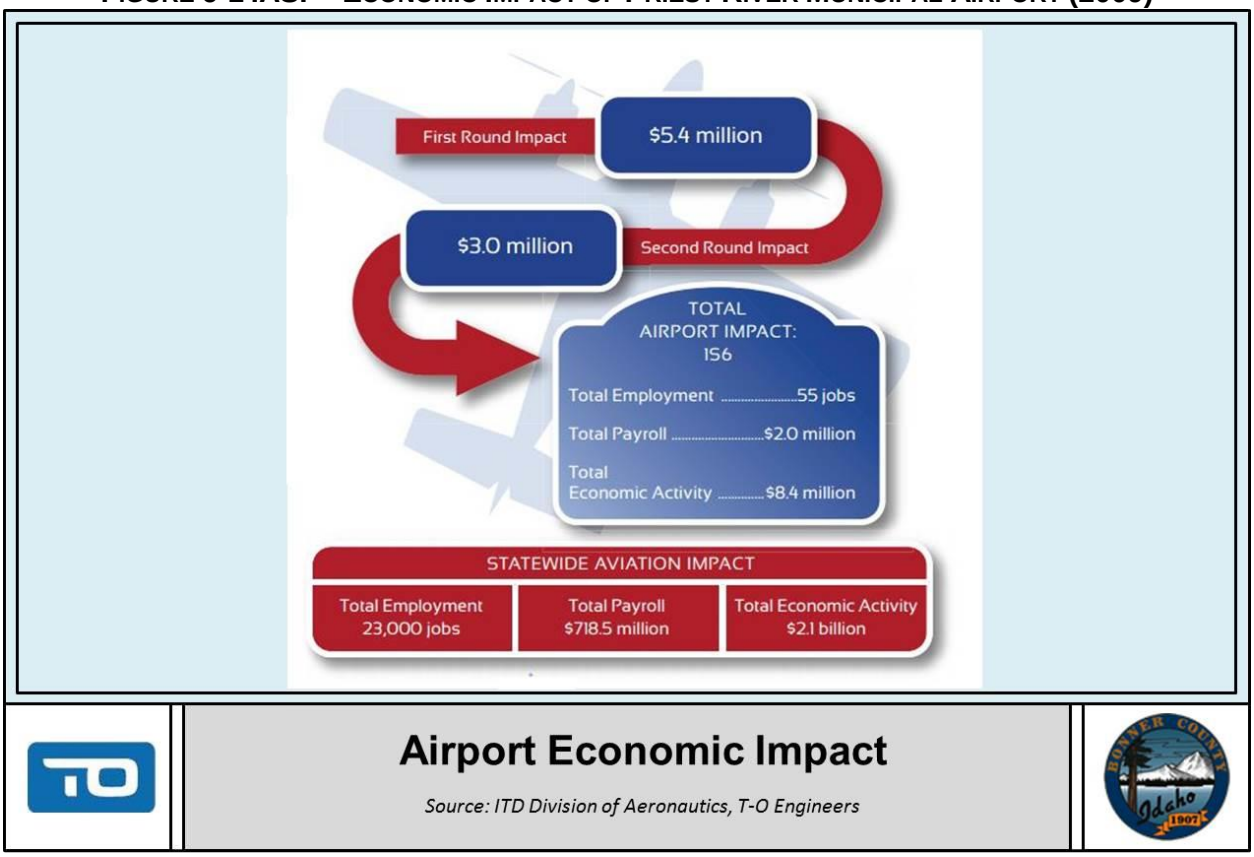
The Idaho Airport System Plan (IASP), initiated by ITD Division of Aeronautics, in 2009, evaluates the economic impact of Priest River Municipal Airport. The direct economic benefits related to on-airport business tenants and the indirect benefits associated with visitor related expenditures were determined for each study airport. The multiplier effect of these benefits was then calculated to determine the total airport related impact. The total economic activity is the sum of all direct (on-airport) and indirect (off-airport), and multiplier impacts.

As presented in **Figure 6-1**, the overall economic impact of Priest River Municipal Airport was estimated at $8.4 million in 2009 and the airport also directly and indirectly provided the community with 55 jobs. When the IASP was completed in 2009, two area businesses depended on the airport: Northland Aviation and Aerocet Floats. However, Northland Aviation was dissolved in 2009 and no longer operates a business in Priest River. Additional detailed information relative to this analysis can be found in the IASP technical report available from ITD Division of Aeronautics. The individual airport summary for Priest River Municipal Airport created as output from the system plan is included in **Appendix F** for reference.

The airport supports the operations of recreational aviation users as well as some of the business activity in the area. Other intangible benefits of the airport and its activities such as medical evacuation and shipments, Life Flight activity, and police and military operations should not be overlooked as to their importance to the economy and overall well-being of the community.

When considering the financial implications of implementing this master plan and the possible increases or new fees needed to support development, it is important to discuss the inherent value of the airport to the community and the airport's economic contribution. The airport's economic value should be articulated to airport users, county decision-makers, and the general public to help understand why such fees and investment are justified and necessary.

FIGURE 6-1 IASP - ECONOMIC IMPACT OF PRIEST RIVER MUNICIPAL AIRPORT (2009)



6.1 DEVELOPMENT PLAN AND COST ESTIMATES

A list of capital improvement projects has been assembled based on the preferred development alternatives established in Chapter 5 of this airport master plan. This project list has been coordinated with the Airport Layout Plan (ALP) drawing set and the development plan used to create the airport's Capital Improvements Program (CIP). The airport's CIP should be routinely updated by airport management and submitted to the FAA through ITD Division of Aeronautics. In addition to identifying improvement projects, this CIP also presents a reasonable order of implementation along with estimated total costs and anticipated funding sources of the projects.

The plan was developed utilizing a phased approach rather than assigning projects to a specific year. Due to the fluid nature of FAA funding, ITD and HLN-ADO cannot accurately determine where each of the projects identified in the "phases" will eventually fit into the Federal CIP. Proposed projects from this development plan are generally prioritized by project and timeframe.

When formulating the following development plan, only FAA, State and Local funding sources were considered. At this time, no private or other revenue sources have been identified to assist with any airport development. Also, all FAA cost shares are based on the current 90 percent

Federal participation, 2.5 percent state participation is also assumed for eligible projects, with local funding making up the difference. Cost estimates were prepared using 2015 dollars.

It is important to note that inclusion of a project in a CIP provides no guarantee a project will be funded in that timeframe or year. Additionally all or some component of a project, shown on the ALP, may not be eligible for federal grant participation. The detailed funding plan for an individual project is typically defined during the predesign or formulation phase of the project.

Projects are organized by phases with Phase I (Short Term) in the 0-5 year timeframe; Phase II (Mid Term) in the 6-10 year timeframe; and Phase III (Long Term) in the 11-20 year timeframe. Project descriptions which relate to development based on demand are by nature general as projects will need to be planned in greater detail as specific project goals and need become more defined.

It should also be noted that the projects below are shown as individual projects however due to the high cost of completing small projects, multiple projects should be combined into larger projects to reduce the overall cost.

6.1.1 SHORT TERM DEVELOPMENT - PHASE 1 (0-5 YEARS)

TABLE 6-1: SHORT-TERM DEVELOPMENT PROJECTS AND COST ESTIMATES- PHASE I

Project		Funding Source			Total Project Costs
ID	Description	Federal (90%)	State (2.5%)	Local	
1-1	Obstruction Removal Phase 1	$360,000	$10,000	$30,000	$400,000
1-2	Obstruction Removal Phase 2	$360,000	$10,000	$30,000	$400,000
1-3	Conduct Environmental Assessment	$315,000	$8,750	$26,250	$350,000
1-4	Runway Shift Phase 1	$1,629,000	$45,250	$135,750	$1,810,000
1-5	Install Miscellaneous NAVAIDs	$141,300	$3,925	$11,775	$157,000
	SHORT-TERM TOTAL	$2,805,300	$77,925	$233,775	$3,117,000

Source: T-O Engineers Inc.
Note: All estimates are in 2015 dollars

1-1 Obstruction Removal Phase 1

This project includes acquiring avigation easements and/or land containing obstacles that are penetrating critical airspace surfaces. Phase 1 only focuses on the fee simple acquisition of property and the acquisition of avigation easements.

1-2 Obstruction Removal Phase 2

This project includes the removal or mitigation of existing obstacles and obstructions to airspace. Phase 2 focuses on removing or otherwise mitigating the obstructions to airspace that exists on the properties expected to be acquired or have avigation easements.

1-3 Conduct Environmental Assessment

This project includes an Environmental Assessment, which will be necessary before widening the runway, installing new lights and mitigating for obstacles. This project also includes environmental assessment prior to development of Parcels F and G, as well as land acquisition of parcels located in the RPZ.

1-4 Runway Shift Phase 1

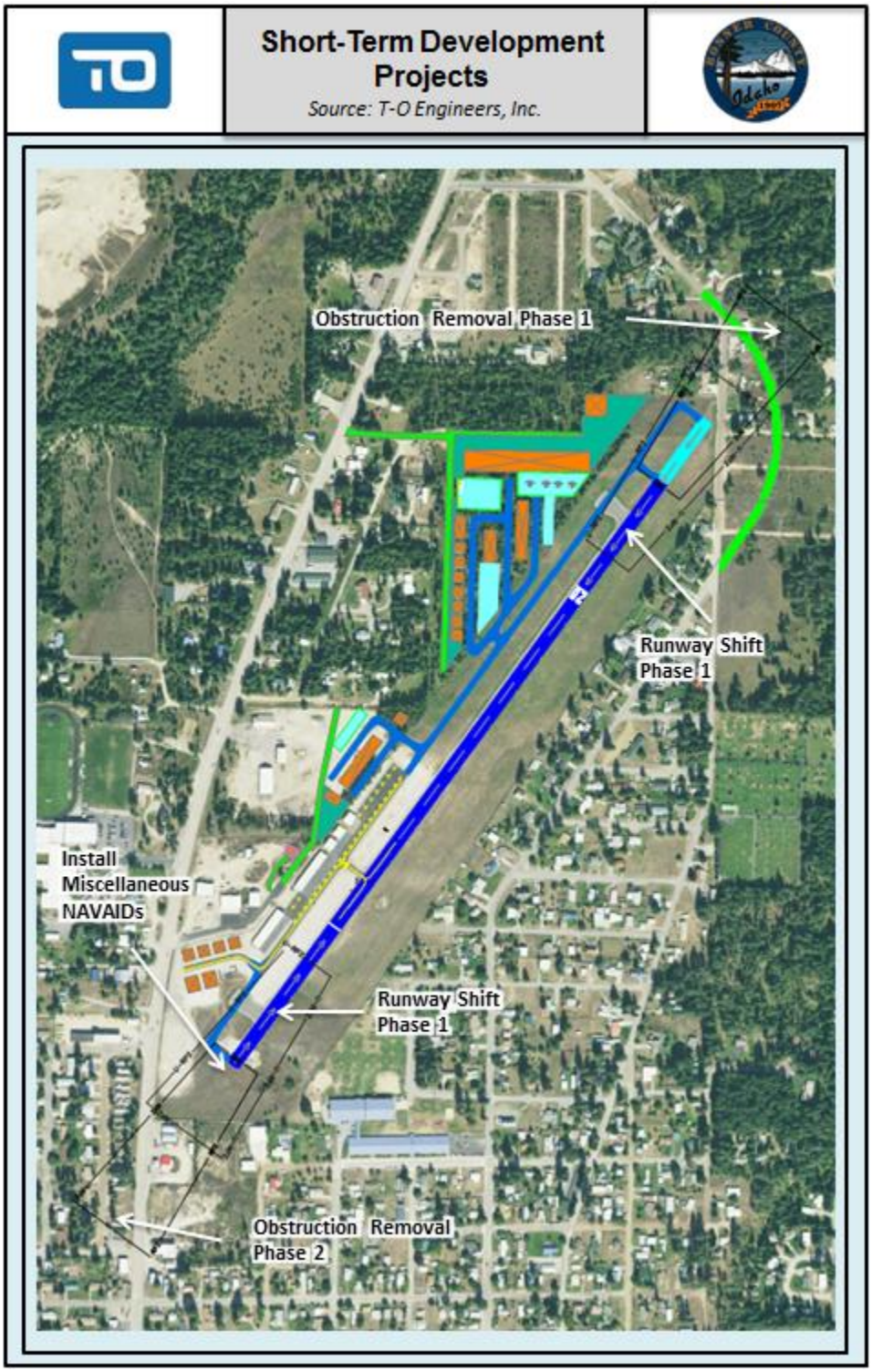
This project includes the widening of Runway 1/19 an additional 12 feet to meet B-I Small design standards, the renumbering of Runway 1/19 to 2/20, the installation of new Medium Intensity Runway Lights, as well as RSA grading. This project will also include the first phase of clearing the RPZs by shifting the runway threshold siting on both ends and adding pavement to recover some usable length for landing and departure. The runway widening will involve raising the south end of the runway by at least 4 feet which addresses the relief valve that is currently non-compliant with the FAA's ROFA requirements.

1-5 Install Miscellaneous NAVAIDs

This project includes the relocation of the existing wind cone and installation of a new segmented circle. This project is necessary to meet B-I Small standards, as the existing wind cone is in the ROFA and OFZ. The estimated costs include the costs to extend the electrical wire and electrical conduit. The project also includes the installation of airport signs to identify the aircraft parking area as well as holding point signs to minimize pilot's confusion when back-taxiing and lining up on the runway. This project also includes the installation of Runway End Identifier Lights (REILs), a Precision Approach Path Indicator (PAPI),as well as supplemental wind cones on each runway end. Finally, the project includes the installation of an airport beacon.

Figure 6-2 depicts Short Term Development projects in a graphical format.

FIGURE 6-2: SHORT-TERM DEVELOPMENT PROJECTS



Source: T-O Engineers, Inc.

6.1.2 MID-TERM DEVELOPMENT - PHASE 2 (5-10 YEARS)

TABLE 6-2: MID-TERM DEVELOPMENT PROJECTS AND COST ESTIMATES- PHASE II

Project		Funding Source			Total Project Costs
ID	Description	Federal (90%)	State (2.5%)	Local	
2-1	Acquire Snow Removal Equipment	$234,000	$6,500	$19,500	$260,000
2-2	Pavement Maintenance	$124,200	$3,450	$10,350	$138,000
2-3	Conduct Environmental Assessment for Development	$225,000	$6,250	$18,750	$250,000
2-4	Construct Access Road	$169,200	$4,700	$14,100	$188,000
2-5	Construct Taxilane and Apron	$213,300	$5,925	$17,775	$237,000
2-6	Install Perimeter Security Fence	$175,500	$4,875	$14,625	$195,000
2-7	Acquire Land for RPZ	$675,000	$18,750	$56,250	$750,000
2-8	Construct Helipad	$120,600	$3,350	$10,050	$134,000
2-9	Runway Shift Phase 2	$540,000	$15,000	$45,000	$600,000
	MID-TERM TOTAL	$2,476,800	$68,800	$206,400	$2,752,000

Source: T-O Engineers Inc.
Note: All estimates are in 2015 dollars

2-1 Acquire Snow Removal Equipment (SRE)

This project will consist of acquiring Snow Removal Equipment (SRE) to replace the existing one in fair condition. It will also consist of constructing a new storage building to store and protect the new SRE equipment.

2-2 Pavement Maintenance

This project includes pavement maintenance as necessary for various pavements of the airport. The seasonal harsh weather conditions lead to faster pavement deterioration. A routine of crack seal and seal coats treatments is recommended every three to five years to extend pavement life at the airport.

2-3 Conduct Environmental Assessment for Development

The project includes an Environmental Assessment, which will be necessary before developing on Parcel F.

2-4 Construct Access Road

This project includes the construction of an access road to Parcel F as well as automobile parking. This project also includes the creation of a new utility corridor along the road and the removal of the caretaker building.

2-5 Construct Taxilane and Apron

This project includes the construction of taxilane and apron in the Parcel F area. This project will provide additional aircraft parking and hangar spots as well as space for a FBO and vehicle parking.

2-6 Install Security Fence

This project includes the installation of a security fence around Parcel G to improve security at the airport.

2-7 Acquire Land for RPZ

Acquire seven parcels off the end of Runway 20 prior to Phase 2 of the Runway Shift project. Purpose of the land acquisition is to mitigate obstructions and incompatible land uses in the RPZs.

2-8 Construct Helipad

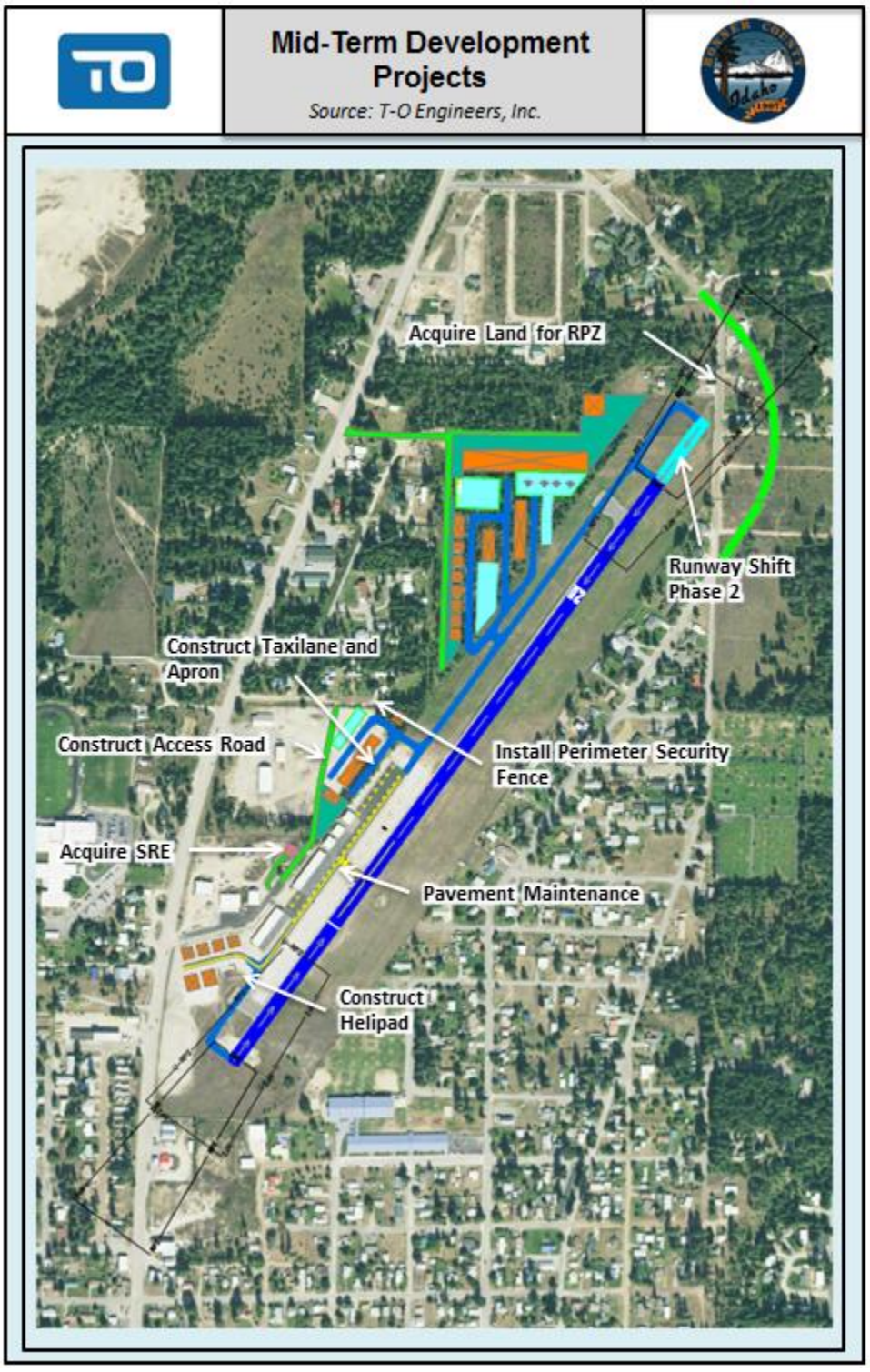
This project includes the installation of a helicopter parking pad to minimize the Foreign Object Damage (FOD).

2-9 Runway Shift Phase 2

In the second phase of the runway shift project, the end of Runway 20 will be shifted to the northeast and the pavement will be extended in the same direction. This will recapture usable runway length and utility for the airport. Since the RPZ will be shifted further away from the airport, several properties will need to be acquired and their structures removed. Cemetery Road will also need to be relocated outside of the RPZ.

Figure 6-3 depicts Mid Term Development projects in a graphical format.

FIGURE 6-3: MID-TERM DEVELOPMENT PROJECTS



Source: T-O Engineers, Inc.

6.1.3 LONG TERM DEVELOPMENT - PHASE 3 (11-20 YEARS)

TABLE 6-3: LONG-TERM DEVELOPMENT PROJECTS AND COST ESTIMATES - PHASE III

Project		Funding Source			Total Project Costs
ID	Description	Federal (90%)	State (2.5%)	Local	
3-1	Construct Parallel Taxiway	$401,400	$11,150	$33,450	$446,000
3-2	Construct Access Road	$384,300	$10,675	$32,025	$427,000
3-3	Construct Taxilane and Apron	$1,206,000	$33,500	$100,500	$1,340,000
3-4	Runway Rehabilitation	$353,700	$9,825	$29,475	$393,000
3-5	Apron Pavement Maintenance	$134,100	$3,725	$11,175	$149,000
3-6	Airport Master Plan Update	$153,000	$4,250	$12,750	$170,000
	LONG-TERM TOTAL	$2,632,500	$73,125	$219,375	$2,925,000

Source: T-O Engineers Inc.
Notes: All estimates are in 2015 dollars

3-1 Construct Parallel Taxiway

This project includes the construction of a full length parallel taxiway as well as environmental work to retain an categorical exclusion for the project.

3-2 Construct Access Road

This project includes the construction of an access road to Parcel G as well as automobile parking. This project also includes the creation of a new utility corridor along the road.

3-3 Construct Taxilane and Apron

This project includes the construction of taxilanes and aprons in the Parcel G area. This project will provide additional aircraft parking and hangar spots as well as space for a FBO and vehicle parking.

3-4 Runway Rehabilitation

This project includes an overlay of the entire Runway 1-19.

3-5 Apron Pavement Maintenance

This project includes pavement maintenance on the apron.

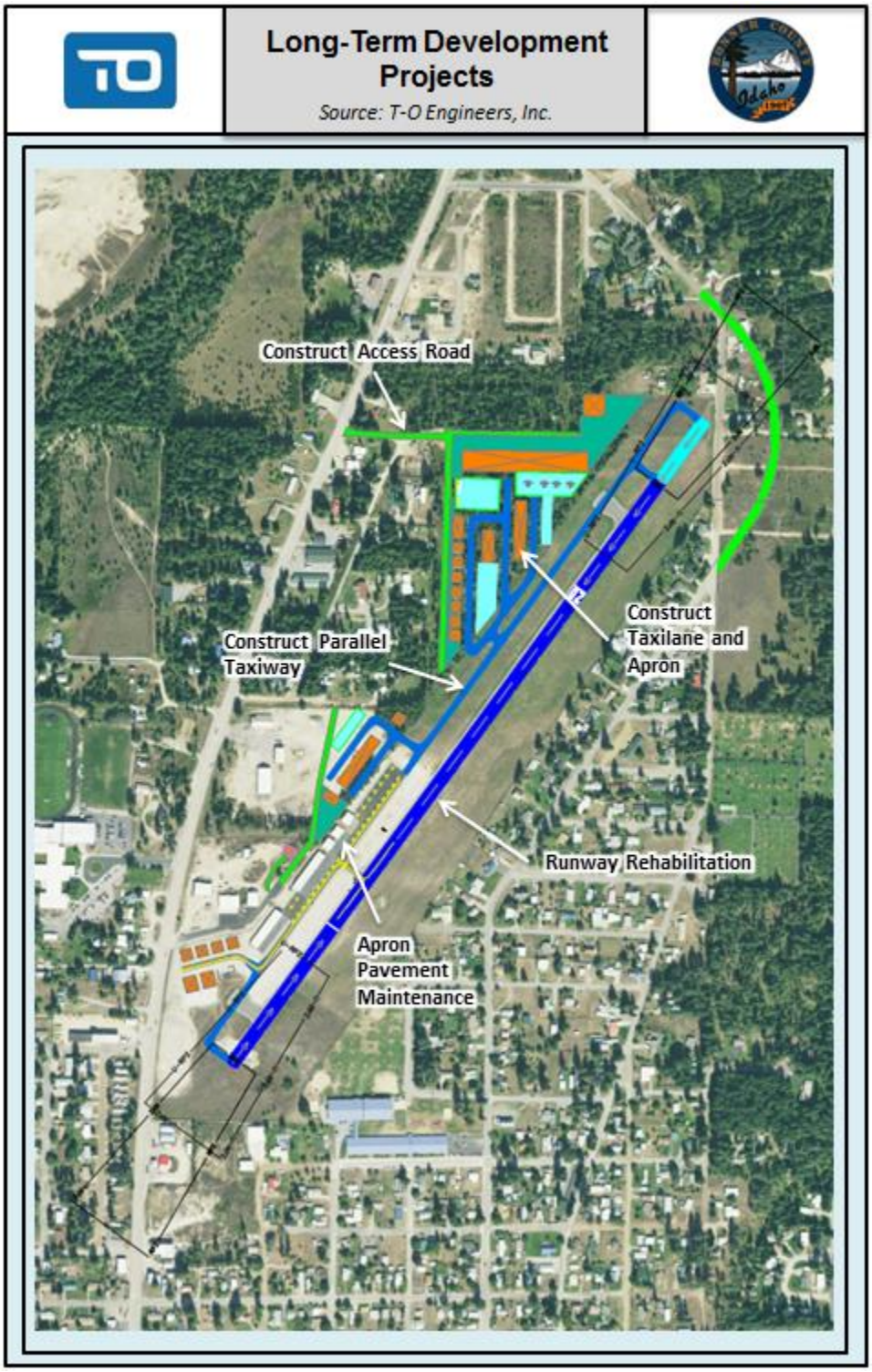
3-6 Airport Master Plan Update

This project includes the Update of the airport master plan and airport layout plan.

Figure 6-4 depicts Long Term Development projects in a graphical format.

It should be noted that development on Parcel F and G will be demand driven.

FIGURE 6-4: LONG-TERM DEVELOPMENT AREA



Source: T-O Engineers, Inc.

6.1.4 COST ESTIMATE SUMMARY

Table 6-4 summarizes the total costs to implement the proposed development plan. The proposed 20 year development plan depicts the need for an average of approximately $439,700 of funding per year.

It is important to reiterate that the development plan (and the Master Plan Update process in general) is a 20 year plan created using present day information and variables relevant at the time of its drafting. The funding and CIP process is very fluid in nature and changes frequently. To be successful, Bonner County must work very closely with FAA and ITD to schedule the projects presented in this ALP Update into the Federal CIP when appropriate and revise the plan as circumstances at the airport warrant.

TABLE 6-4: 20 YEAR DEVELOPMENT PLAN SUMMARY FOR PRIEST RIVER MUNICIPAL AIRPORT

Phases	Cost Estimate and Funding Source			
	Federal	State	Local	Total Project Costs
Phase I (1-5 Years)	$2,805,300	$77,925	$233,775	$3,117,000
Phase II (6-10 Years)	$2,476,800	$68,800	$206,400	$2,752,000
Phase III (11-20 Years)	$2,632,500	$73,125	$219,375	$2,925,000
TOTAL 20 YEAR	$7,914,600	$219,850	$659,550	$8,794,000

Source: T-O Engineers
Note: All estimates are in 2016 dollars.

Future Alternative (Phase 1) is an alternate that should only be considered if the property north of the airport cannot be acquired. The current Take Off Run Available (TORA) is 2,983-feet (published as 2,950-feet) and this length shall be retained to provide the same utility as exists today. As previously discussed, ITD Aeronautics recommends a minimum runway length of 3,090-feet for a Local Recreational role.

6.2 CAPITAL IMPROVEMENT FUNDING

This section describes the funding sources available to Bonner County to fund the proposed projects included in the development plan. As previously noted, the FAA's AIP is expected to be the primary source of funding for all of the eligible projects. FAA, State of Idaho, local, and other funding sources will be described in greater detail below.

6.2.1 FAA FUNDING

The current FAA funding program, known as the Airport Improvement Program (AIP), was initially established by the Airport and Airway Improvement Act of 1982. Since 1982, the AIP program has been authorized and appropriated on a continuous basis. Funding for this program

is located in a dedicated Trust Fund with revenues generated from a tax on airline tickets, freight waybills, international departure fees, a tax on general aviation fuel, and a tax on aviation jet fuel. This is a user fee-based program.

Current FAA legislation funds eligible airports and eligible projects up to a maximum of 90% of total project costs for general aviation airports. Priest River Municipal Airport is an eligible airport and has received FAA funds for previous projects. Recent project funding has been at the 90% level. The remaining 10% of capital construction costs are required to come from State and local sources. FAA participation has been as high as 95% in the previous authorization act. AIP is presently authorized through September 2017 and the Fiscal Year 2016 funding has been appropriated. It is anticipated that new appropriating legislation will pass during 2017.

The current AIP legislation funds the following programs: Non-Primary Entitlement (NPE) program, State Apportionment funds, and Discretionary funds. Since its inception in 2001, the NPE program has provided small General Aviation airports, like Priest River Municipal Airport, on average, $150,000 a year in the form of an entitlement for eligible projects. This program has given these airports the opportunity to enhance their facilities via maintenance and small capital improvement projects. The recommended development plan assumes the continuation of the NPE program throughout the planning period.

In the event that the U.S. Congress changes the FAA NPE program, to the extent that this development plan is rendered ineffective, the airport sponsor should take immediate action to revise the development plan in order to satisfy the funding requirements resulting from the most current legislation in effect. Airports have the ability to carry over their NPE funds for three years so that they can be accumulated to accomplish a single larger project. This is often done in combination with State apportionment funds for large projects.

FAA State Apportionment (ST) funding is formulated for each of the 50 states. ST funding is a discretionary fund available to all eligible Non-Primary airports in Idaho. State Apportionment funding is typically reserved for large scale, high priority projects. It is anticipated that ST funding will be necessary to complete some or most of the projects included in the proposed development plan. As noted above, ST funds are often combined with NPE funds to accomplish larger projects. ITD provides FAA with input as to the use of ST funds at eligible airports in Idaho, but FAA determines which airports receive ST project funding.

FAA Discretionary (DI) funding is typically reserved for high cost, high priority projects at primary airports and large General Aviation Reliever airports. Such projects and airports compete for Discretionary funds on a national and regional basis. It is anticipated DI funding may be necessary to complete the runway project. As noted above, DI funds are often combined with ST and NPE funds to accomplish larger projects.

6.2.2 IDAHO TRANSPORTATION DEPARTMENT (ITD) FUNDING

State project funding is available from ITD Division of Aeronautics. It is common for local communities to utilize the funding from the Idaho Airport Aid Program (IAAP) for local match requirements of FAA AIP funded projects as well as airport improvement projects not eligible for FAA funding. IAAP funding comes from taxes applied to AvGas and Jet fuel sold in the state and is determined annually through appropriations from the State Legislature. In addition, ITD implements a pavement maintenance program to assist airports with pavement maintenance needs as warranted by the airport's specific PCI values. Priest River Municipal Airport is eligible to participate and has received such assistance in the past.

ITD also has two additional funding programs to assist Idaho airports. The first program, the Maintenance and Safety Supplies Program provides funding to airports for maintenance as safety-related supplies such as airport edge lights, tie-down chains, and replacement windsocks. The second funding program, the Small Projects Program, provides grant funding for emergency or unscheduled improvements of less than $2,000.

6.2.3 LOCAL FUNDING

Local funds are those derived from income resulting from the operation of the airport itself, or contributions by the sponsoring agency (or agencies) of the airport from general or other funds. Local funds are typically used for FAA AIP grant local match requirements and to fund airport operations; including administration, maintenance, or other projects not eligible for FAA or State funding support. FAA Grant Assurance #25 requires revenue generated by the airport be expended to for the capital or operating costs of the airport.

Idaho Airport Debt Amendment

In November 2010, Idaho voters approved a new constitutional amendment **The Idaho Airport Debt Amendment,** also known as House Joint Resolution 5 (HJR 5). The Idaho Constitution now allows local governments that operate airports to issue revenue bonds and special facility bonds in order to improve facilities, equipment and acquisitions such as real property so long as those debts are paid back exclusively through airport revenues instead of using taxpayer money.

Due to the current limited airport revenue, it is unlikely that Bonner County would issue such bonds in the near-term. However, it is recommended that the County monitor developments and opportunities to use this funding mechanism for future airport improvements.

6.2.4 PRIVATE FUNDING

Private funding sources are typically financial contributions to the airport or airport sponsor by an individual(s) or business entity. Typically such donors make extensive use of the airport and are contributing to the maintenance, expansion, and operation of the facility to further enhance their use of the facility. Considering the many expensive needs of airports and the limited amount of public funding available to meet these needs, the use of private funds to offset airport costs is a concept that continues to receive attention.

Improvements such as water, sewer and electrical extension and paving necessary to construct hangars and other privately owned facilities on the airport should be fully funded by the lessee. If the airport funds any of these improvements then an additional fee should added to the lease fee to include an amortized recovery of these expenses over a reasonable period of time.

6.2.5 OTHER FUNDING

It is highly encouraged that Bonner County researches other potential funding sources to aid future development of the airport. Due to FAA and State eligibility limitations for certain types of development, communities and airports must look internally or to other sources of funding for utilities and infrastructure development such as hangars and terminal buildings. Additional sources of funding are available from federal and state agencies other than the FAA and ITD. However, it must be cautioned that federal funds from one source cannot be used as a match for federal funds from another source.

The airport, as an important part of planned economic growth, can sometimes be leveraged by agencies such as the Idaho Economic Development Association (EDA), farm loan boards, or the U.S. Department of Agriculture. In addition, if extensive aerial firefighting activity is taking place at an airport, supplemental funding from the U.S. Bureau of Land Management (BLM) and the U.S. Forest Service may be available to airport sponsors to support the needed facilities at the airport. A few of these programs that can be considered by Bonner County are described in more detail in the following paragraphs.

Idaho Gem Grants

Rural communities with a population of less than 10,000 are eligible to receive Idaho Gem Grants (IGG). These grants are provided by the Idaho Department of Commerce to assist in rural economic development efforts. In recent years, Idaho Gem Grants have been used by several rural airports in Idaho for a hangar feasibility study, a business development study, and infrastructure improvements (septic and water).

Bonner County should investigate the availability of this funding source for future development that may not be funded by the FAA. In addition, these funds can be used for matching grants to

economic development projects. This type of grant could help the airport with development necessary to accommodate business and commercial activity on the airport.

USDA Rural Development Grants

The U.S. Department of Agriculture (USDA) Rural Development offers grants, loans, and technical assistance for rural communities throughout the U.S. The USDA defines "Rural" as an area with a population of fewer than 50,000 and not adjacent to a city or town with 50,000 or more people. Through the Rural Business Opportunity Grant (RBOG) program, Priest River Municipal Airport may be able to obtain grant funding for planning projects that promote economic development, such as hangar feasibility studies or airport economic development plans. Guaranteed Community Facility Grants and Loans are also available from the USDA to improve public service facilities including airports in rural areas. This type of funding can be used for hangar development and land acquisition.

6.3 PRIEST RIVER MUNICIPAL AIRPORT FINANCIAL OVERVIEW

6.3.1 AIRPORT GRANT HISTORY

Receipt of airport improvement grants is an important piece of the financial puzzle at the airport. Such grants are the backbone for important capital improvement/development and maintenance projects. Bonner County and Priest River Municipal Airport have an established history of receiving grants from the FAA AIP fund and ITD Aeronautics IAAP for such projects.

According to the FAA & ITD, since 1978, Bonner County has received over $1.2 million from FAA AIP, and over $92,000 from ITD for capital improvement projects. Over the same period, the County has used airport revenue to invest substantially into the airport for such things as local financial match for grants and standard operations and maintenance expenses. FAA and ITD grant histories, as provided by the FAA and ITD, are included in **Appendix D**. Continued use of such grant funds will be critical to the airport's long term viability.

6.3.2 CURRENT FISCAL POLICY

To gain a perspective of the future financial outlook of the airport, it is important to provide a brief summary of current fiscal policy.

Revenues and Expenses

Airport revenues are typically generated through user fees for airport facilities and services. Airport operating revenues are collected at Priest River Municipal Airport from hangar rent, ground rent, and other revenues. Airport revenues are offset by airport expenses, which at

Priest River Municipal Airport include utilities, maintenance, and grant match. Priest River Municipal Airport also includes the local capital costs associated with airport improvements. Airport direct revenues come primarily from hangar rent and ground lease fees. These fees are steady and can be indexed for inflation.

Table 6-5 summarizes the revenues and expenses at the airport between 2012 and 2015. Following are traditional rates and charges which the County should consider and implement as appropriate for their particular set of circumstances.

TABLE 6-5: BONNER COUNTY AIRPORT OPERATING INCOME AND EXPENSES

Description	2012	2013	2014	2015 (Until August 2015)
Income				
Lease Payments	$5,690.39	$5,694.03	$20,244.26	$10,822.57
Expenses				
Fuel Expense	$0.00	$0.00	$0.00	$115.15
Office/Accounting/Utilities	$2,910.91	$2,540.69	$2,734.37	$2,280.89
Maintenance/Improvements	$1,879.59	$4,711.91	$2,429.15	$2,568.35
Administration	$0.00	$105.00	$209.51	$245.00
Airport Improvements/Capital Construction	$0.00	$6,407.83	$279.00	$5,475.00
Other Expenses	$59.00	$1,586.30	$0.00	$200.00
Total Expenses	**$4,849.50**	**$15,351.73**	**$5,652.03**	**$10,884.39**

Source: Bonner County Records, T-O Engineers

Fee Structure

User fees at the Priest River Municipal Airport are established by County Commissioners. The existing user fees include hangar lease fees.

6.4 POTENTIAL REVENUE ENHANCEMENT

It is the responsibility of an airport sponsor under Grant Assurance #24 Fee and Rental Structure to maintain a fee and rental structure for the facilities and services at the airport which will make the airport as self-sustaining as possible under the circumstances existing at the airport, taking into account such factors as the volume of traffic and economy of collection. Further discussion of the Grant Assurances can be found in Chapter 7, FAA Compliance Overview and Land Use Compatibility Review and Recommendations. FAA Order 5190.6b states that fair market value fees are required for non-aeronautical use of the airport. e.g., lease of land. Fair market pricing of airport facilities can be determined by reference to negotiated fees charged for similar uses of the airport or by appraisal of comparable properties.

However, in view of the various restrictions on use of property on an airport (i.e., limits on the use of airport property, height restrictions, etc.), it may be ideal for the airport to develop an Airport Business Plan. A business plan is a dynamic document created to assist an airport with current and future business decisions. A business plan provides airport-specific information, analysis, and recommendations for improved airport operation. Goals of a business plan often include:

- To operate as a financially self-supporting airport.
- To attract and retain a base of personal and business/corporate aircraft
- To promote the airport for use by transient and business/corporate aircraft operations
- To implement the airport's capital improvement plan.
- Support the region's economic development goals.

At a minimum, the airport should continually evaluate the regional market value for similar services and fees at competing airports annually. This evaluation should compare the airport's cost of providing services with the compensation it receives for providing these services with the goal of maintaining the profit margin necessary to continue to provide for these services and identifying the resources required to conduct the daily business of the airport. To this end, this section briefly explores the revenue enhancement options available to Bonner County.

6.4.1 RATES AND CHARGES

Priest River Municipal Airport has a low aircraft operations activities and 16 based aircraft. This changes the manner in which traditional airport rates and charges analysis is approached as many traditional airport revenue sources would likely bring in very little income and be cost inefficient to collect. Following are traditional rates and charges which the County should consider and implement as appropriate for their particular set of circumstances.

Landing Fees - Since the airport is essentially a B-I small airport, there are few if any aircraft with a Maximum Gross Takeoff Weight (MTOW) in excess of 12,500 lbs. Many airports charge landing fees to aircraft over 7,000 lbs. MTOW. FAA recognized the difficulty of collecting landing fees in this type of environment and normally does not expect that a GA airport of this size would implement an aircraft landing fee.

Tie-Down Fees - The airport has one based aircraft tie-down.

Fuel Flowage Fee - The airport currently does not provide fuel. If the airport were to provide fuel, a fuel flowage fee could be implemented. However, it is likely that this could be a very small source of revenue. It is not determined what effect providing fuel and implementing a fuel flowage fee would have on the amount of transient aircraft that visit the airport.

Hangar Land Lease Fee - FAA expects that a CPI be applied to these types of leases at least every five years. These fees should be reviewed and discussed with the hangar owners to assure that they receive a value and that they place an appropriate monetary value on their use and benefit from using airport property.

New Hangar Land Leases - FAA Order 5190.6b states that if the airport owner or operator and a person who owns an aircraft agree that a hangar is to be constructed at the airport for the aircraft at the aircraft owner's expense, the airport owner or operator will grant to the aircraft owner for the hangar a long term lease that is subject to such terms and conditions on the hangar as the airport owner or operator may impose. Bonner County should include CPI/rate adjustment at least every five years within the agreement.

Hangar Owners Maintenance Fee- This fee would work similar to a homeowners fee to collect from hangar owners fees for the maintenance and improvement to the aprons and taxiways that are either exclusively or predominantly beneficial to them.

Concession Fees - If there were car rentals, goods sold, or privately owned vehicles parked at the airport for extended periods of time, a fee could be analyzed to see if it was appropriate and if it could be economically collected.

Summary - In conducting its day-to-day business, Priest River Municipal Airport leases hangars and land for private hangars (which in turn generates personal property tax). Hangar lease fees are the primary source of revenue for Priest River Municipal Airport. The first step is to review the current rates and charges that the airport has established. These include hangar rental rates, and ground lease rates.

It is strongly recommended that Bonner County regularly monitor changing financial needs at the airport and consider adjustments to all fees on an annual basis or as airport activity and needs dictate. It is common for various state aviation agencies and other airports to conduct regular Rates and Charges studies to provide guidance on appropriate fees. It is recommended that the County utilize such resources as available to assist them in evaluating their fees. Hangar rental rates should be adjusted annually per the Consumer Price Index.

Operating Licenses

Bonner County could consider charging an annual fee for certain types of businesses to operate at the airport. Airports often charge a fee for the following types of on airport businesses and activities:

- Fixed base operators
- Agriculture operations
- Aerial ambulance operations
- Firefighting operations

- Skydiving operations

Annual fees could range from $100 to $500.

Commercial Use Fees

Priest River Municipal Airport has the ability to provide products, property and services to several businesses. Fees associated with these businesses present a potential revenue source. Current low activity levels at the airport and the lack of many services does not warrant charging such a fee at this time.

In the future, the County should examine the cost of providing services to airport businesses, the income generated by current sales and their existing profit margin as a source of revenue.

- A percentage of gross sales of services offered by FBO's, flight schools, aircraft power-plant and avionics shops, and other similar types of aviation businesses
- Rental car fees (if ever needed or made available at the airport)
- Retail sales (aeronautical charts, clothing, aviation accessories)
- Vending machines

6.4.2 EXPENSES

The airport, as part of a public entity, is eligible to purchase supplies and equipment on state and federal contracts in most cases. The Federal Surplus Equipment Program has many avenues for procurement of used government equipment, mostly military, ranging from computers to fire fighting vehicles and heavy equipment. The savings can be substantial, especially on big-ticket items such as airport vehicles and other large equipment.

A review of yearly maintenance costs should be performed to see if there are any tasks that can be done at lower cost by having those contracted or vice versa, current contracted work to be done by the County instead. Examples may include pavement maintenance such as crack sealing or airfield painting.

6.4.3 REVENUE ENHANCEMENT SUMMARY

In summary, it is often difficult for airports and communities like Bonner County to generate significant airport related revenues to become self-sufficient. It is recommended that the County continue to monitor changing financial demands at the airport and consider adjustments to existing fees and new fees as airport activity and needs dictate.

6.5 SUMMARY

This chapter presents a development plan for recommended airport improvements including project descriptions and estimated costs. Some projects are needed to correct deficiencies in existing facilities ability to solve existing users; while other projects are driven by anticipated demand. Revenue sources for financing of projects are also reviewed. The FAA/AIP grant program has been and will remain this primary source for funding eligible facility improvements. The applicability of this source to all desired airport improvements must be closely monitored. Some components of aircraft hangar development such as access roads, utilities and the hangars are not AIP eligible and will require a private funding source or some form of a private/public partnership to finance.

It should be a priority of Bonner County to continue maintaining and operating the airport as self-sufficiently as possible. Doing so will serve to protect current investment and continue the airports valuable role as an economic contributor to the community and region. To do so will require monitoring of rates and charges in comparison to services provided and the aviation industry as a whole as well as seeking opportunities to enhance revenues consistent with management practices at peer airports. Suggestions are presented in the chapter for consideration.

7.0 FAA COMPLIANCE OVERVIEW AND LAND USE COMPATIBILITY REVIEW AND RECOMMENDATIONS

This chapter provides a general overview of FAA and state airport compliance considerations as they pertain to sponsor obligations and Priest River Municipal Airport. For the purposes of this planning study, a detailed review of existing compatible land use policy, which is a high priority compliance issue, was conducted and recommendations to improve existing policies were made. Review and analysis of other common sponsor compliance related issues was limited to providing a general understanding and recommendations on methods and tools to ensure compliance with sponsor obligations.

7.1 AIRPORT COMPLIANCE - EXPECTATIONS OF THE FAA AND IDAHO AERONAUTICS

Priest River Municipal Airport receives both federal and state airport improvement funds; thus as the airport's sponsor, Bonner County is bound by various sponsor obligations. These obligations are described in detail in federal and state grant assurances and state statute and administrative code; they express the commitment made by the airport sponsor to fulfil the intent of the grantor (FAA and state of Idaho) required as a result of accepting federal and/or state funding for airport improvements.

Failure to comply with the grant assurances may result in the request for full repayment of monies to the grantor and/or forfeiture of future funding. The purpose of the grant assurances and other requirements are to protect the significant investment made by the FAA, state, county, and ultimately the taxpayer, to develop and maintain the airport leaving it accessible to the general flying public. Currently there are 39 FAA and 23 state grant assurances. A copy of both FAA and State grant assurances is included in **Appendix E.**

7.1.1 FAA COMPLIANCE PROGRAM AND FAA GRANT ASSURANCES

Policies, procedures, interpretation, administration, and oversight of federal sponsor obligations is generally carried out by the FAA via its Airport Compliance Program. Currently, FAA Order 5190.6B, Airport Compliance Manual, sets forth policies, federal obligations and procedures for the Airport Compliance Program.

Order 5190.6B, states that the FAA Airport Compliance Program is, "*…designed to monitor and enforce obligations agreed to by airport sponsors in exchange for valuable benefits and rights granted by the United States in return for substantial direct grants of funds and for conveyances of federal property for airport purposes. The Airport Compliance Program is designed to protect the public interest in civil aviation. Grants and property conveyances are made in exchange for binding*

commitments (federal obligations) designed to ensure that the public interest in civil aviation will be served. The FAA bears the important responsibility of seeing that these commitments are met. This Order addresses the types of these commitments, how they apply to airports, and what FAA personnel are required to do to enforce them."

It should be noted that Order 5190.6B is not regulatory and is not controlling with regard to airport sponsor conduct; rather, it establishes the policies and procedures for FAA personnel to follow in carrying out the FAA's responsibilities for ensuring airport compliance.

To better understand the intent of the sponsor obligations and the FAA Compliance Program, it is important to understand the FAA's goals for a national airport system of which the Priest River Municipal Airport is a part. The national airport system is known as the FAA National Plan of Integrated Airport Systems (NPIAS). The guiding principles of the NPIAS have been in place since 1946 and, for the most part, have remained unchanged since.

According to the FAA, cooperation between the FAA, state and local agencies should result in an airport system with the following attributes:

- Airports should be safe and efficient, located at optimum sites, and be developed and maintained to appropriate standards.
- Airports should be operated efficiently both for aeronautical users and the government, relying primarily on user fees and placing minimal burden on the general revenues of the local, state, and federal governments.
- Airports should be flexible and expandable, able to meet increased demand and accommodate new aircraft types.
- Airports should be permanent, with assurance that they will remain open for aeronautical use over the long term.
- Airports should be compatible with surrounding communities, maintaining a balance between the needs of aviation and the requirements of residents in neighboring areas.
- Airports should be developed in concert with improvements to the air traffic control system.
- The airport system should support national objectives for defense, emergency readiness, and postal delivery.
- The airport system should be extensive, providing as many people as possible with convenient access to air transportation, typically not more than 20 miles of travel to the nearest NPIAS airport.
- The airport system should help air transportation contribute to a productive national economy and international competitiveness.

While sponsor obligations are contractually based and Order 5190.6B is a primary tool providing guidance to FAA personnel in carrying out the FAA Compliance Program, the program does not attempt to control or direct the operation of airports. As the airport sponsor, Bonner County is responsible for the direct control and operation of the airport. Familiarity and proper implementation of the sponsor obligations, the FAA grant assurances in particular, is key to the

future compliance success. Order 5190.6B and communication with the FAA Northwest Mountain Region Compliance Office are excellent resources for Bonner County to help maintain compliance.

As previously mentioned, there are currently 39 FAA grant assurance associated with receipt of federal Airport Improvement Program (AIP) funding. The assurances are classified by type in **Table 7-1**. While sponsors should understand and comply with all grant assurances, there are several assurances that are common "stumbling blocks" or recurring issues for airport sponsors throughout the country. These are highlighted in the table and discussed in more detail below. Following is brief description of such assurances. All 39 grant assurances in their entirety can be found in **Appendix E**.

TABLE 7-1: THE FAA'S AIRPORT SPONSOR GRANT ASSURANCES

Project Planning/Design & Contracting	General Airport	Land Use	Day-to Day Airport Management
2- Sponsor Responsibility 3- Sponsor Fund Availability 7- Local Interest Consideration 8- User Consultation 9- Public Hearings 10-Air & Water Quality Standards 13- Project Accounting/ Reporting 14- Minimum Wage Rates 15- Veteran Preference 16- Plan Conformity 18- Planning Projects 30- Civil Rights 33- Foreign Market Restrictions 34- Following FAA Policy 35- Property Acquisition & Relocation 37- DBE Program	1-Federal Requirements 4- Good Title 5-Preserving Rights 29- Up to Date Airport Layout Plan 31- Disposal of Land	6- Consistent with Local Plans 20-Hazard Removal & Mitigation 21- Compatible Land Use	22- Economic Nondiscrimination 23- Exclusive Rights Prohibition 26- Reporting Requirements 38- Hangar Construction
	Airport Operations	**Leases & Financial**	**Other**
	11- Pavement Maintenance 19-Operation and Maintenance	24- Fee and Rental Structure 25- Airport Revenue	12-Air Carrier Terminal Development 27-Use by Government Aircraft 28-Land for Federal Facilities 36- Access by Intercity Buses 39- Air Carrier Access
	Project Construction		
	17-Construction Approval 32-Contracting Engineering Services		

Note: Highlighted assurances represent common airport stumbling blocks.
Source: FAA Order 5190.6B

The airport sponsor should have a clear understanding of and comply with all assurances. The following sections describe the selected assurances highlighted in **Table 7-1** in more detail.

Duration

The terms, conditions and assurance of a grant agreement with the FAA remain in effect for the useful life of a development project, which is typically 20 years from the receipt of the last grant. Terms, conditions and assurances associated with land purchased with federal funds do not expire.

Project Planning/Design and Contracting

Sponsor Fund Availability (Assurance #3)

Once a grant is given to an airport sponsor, the receiving sponsor commits to providing the funding to cover their portion of the project. Currently this amount is typically 10% of the total eligible project cost, although it may be lower depending on the particular project components or makeup; the State of Idaho typically provided 4 to 5% of the total eligible project cost, but lack of budget reduced this participation to 2.5% in the recent years. Once the project has been completed, the receiving airport also commits to having adequate funds to maintain and operate the airport in the appropriate manner to protect the investment in accordance with the terms of the assurances attached to and made a part of the grant agreement.

Accounting System, Audit, and Record Keeping (Assurance #13)

All project accounts and records must be made available at any time. Records should include documentation of cost, how monies were actually spent, funds paid by other sources and any other financial record associated with the project at hand. Any books, records, documents, or papers that pertain to the project should be available at all times for an audit or examination.

General Airport

Good Title (Assurance #4)

The airport owner must have a Good Title to affected property when considering projects associated with land, building or equipment. Good Title meaning the sponsor can show complete ownership of the property without any legal questions, or show it will soon be acquired.

Preserving Rights and Powers (Assurance #5)

No actions are allowed which might take away any rights or powers which are necessary for the sponsor to perform or fulfill any condition set forth by the assurance included as part of the grant agreement. If there is an action that might hinder any of those rights or powers it should be discontinued. An example of an action which could hamper the rights and powers of the airport is a Through-the-Fence (TTF) activity. TTF activities allow access to airport facilities from off-airport users. In many instances, the airport sponsor cannot control the activities of those operating off the airport resulting in less sponsor control. Further, TTF many times do not pay the same rates and charges as on-airport users resulting in an unfair competitive advantage.

Airport Layout Plan (ALP) (Assurance #29)

The airport should keep an up-to-date ALP. An ALP should include current and future airport boundaries, facilities/structures, the location of any non-aviation areas, and improvements. No changes should be made at the airport to hinder the safety of operations; also no changes should be made to the airport that is not in conformity with the ALP. Any changes of this nature could adversely affect the safety, utility, or efficiency of the airport. If any adverse changes are made to the airport without authorization, the changes must be altered back to their original condition or the

airport will have to bear all cost associated with moving or altering the change to an acceptable design or location. Additionally, no federal participation will occur for improvement projects not shown on an approved ALP.

Disposal of Land (Assurance #31)

Land purchased with the financial participation of an FAA Grant cannot be sold or disposed of by the airport sponsor at their sole discretion. Disposal of such lands are subject to FAA approval and a definitive process established by the FAA. If airport land is no longer considered necessary for airport purposes, and the sale is authorized by the FAA, the land must be sold at fair market value. Proceeds from the sale of the land must either be repaid to the FAA or reinvested into another eligible airport improvement or noise compatibility project. Land disposal requirements typically arise when a community is building a new airport, the land on which the airport was located is sold, and the proceeds used to offset costs of the new airport. In general, land purchased with FAA funds is rarely sold by a sponsor.

Airport Operations

Pavement Preventative Maintenance (Assurance #11)

Since January 1995, the FAA has mandated that it will only give a grant for airport pavement replacement or reconstruction projects if an effective airport pavement maintenance-management program is in place. The program should identify the maintenance of all pavements funded with federal financial assistance. The Idaho Transportation Department Aeronautic Division (ITD Aero) has had an active statewide pavement maintenance program since the 1980s. ITD Aero provides airports with a report of their pavement conditions every three years to assist airports in making decisions regarding pavement maintenance and ensure compliance with the federal mandate. The report provides a pavement condition index (PCI) rating (0 to 100) for various section of aprons, runways, taxiways, and a score for overall airport. In the IASP, Idaho recommends that runways in the state be maintained at a PCI of 81 or greater.

Operations and Maintenance (Assurance #19)

All federally funded airport facilities must operate at all time in a safe and serviceable manner. The airport sponsor should not allow for any activities which inhibit or prevent this. The airport sponsor must always promptly mark and light any hazards on the airport, and promptly issue Notices to Airmen (NOTAMs) to advice of any conditions which could affect safe aeronautical use. Exceptions to this assurance include when temporary weather conditions make it unreasonable to maintain the airport. Further, this assurance does not require the airport sponsor to repair conditions which have happened because of a situation beyond the control of the sponsor.

Land Use

Local Plans (Assurance #6)

All projects must be consistent with City and County comprehensive plans, transportation plans, zoning ordinances, development code, and hazard mitigation plans. The airport sponsor and planners should all familiarize themselves with local planning documents before a project is considered and ensure that all projects follow local plans and ordinances.

In addition to understanding local plans, airport sponsors should be proactive in order to prevent noncompliance with this assurance. Airport sponsor should assist in the development of local plans that incorporate the airport and consider its unique aviation related needs. Sponsor efforts should include the development of goals, policies, and implementation strategies to protect the airport as part of local plans and ordinances.

Airspace (Assurance #20)

Title 14 Code of Federal Regulations (CFR) Part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace (Part 77), provides the basis for airspace protection requirements at public-use airports at the federal level by identifying and defining critical airspace surfaces. Airspace requirements are determined by the weight of the aircraft that predominantly operate at an airport and the type of instrument approach, existing or planned.

FAA Grant Assurance #20 states, "*Hazard Removal and Mitigation. Airport sponsors will take appropriate action to assure that such terminal airspace as is required to protect instrument and visual operations to the airport will be adequately cleared and protected…*" Communities protect the Part 77 airspace surfaces by defining them in the ALP and further identifying them in ordinance or code and requiring that no object penetrates these airspace surfaces as a result of development.

Communities also protect airspace by encouraging those land uses that are likely to be compatible with the airport operations and prohibiting those uses that are likely to be incompatible with the airport operations. Per Part 77, proponents proposing development at certain height above the ground or within a certain proximity to the airport are required to submit FAA Form 7460-1 to the FAA for FAA determination that such development will not adversely impact airspace or the safety of aircraft operators. For on airport development, Form 7460-1 must either be submitted by the airport sponsor or the sponsor must assure that the leaseholder submits the form appropriately. This form and associated instructions can be found in **Appendix G**.

Compatible Land Use (Assurance #21)

Land uses around an airport should be planned and implemented in such a manner which ensures surrounding development and activities are compatible with the airport. To ensure compatibility, the sponsor will take appropriate action, to the extent reasonable, including the adoption of zoning

laws. Incompatible land uses around airports represents one of the greatest threats to the future viability of airports today. Further discussion of compatible land use is included later in the chapter.

Day to Day Airport Management

Economic Non-Discrimination (Assurance #22)

Any reasonable aeronautical activity offering service to the public should be permitted to operate at the airport as long as the activity complies with airport established standards for that activity. Any contract or agreement made with the airport will have provisions making certain the person, firm or corporation will not be discriminatory when it comes to services rendered as well as rates or prices charged to customers. Provisions include:

- All FBOs on the airport should be subject to the same rate fees, rentals and other charges
- All persons, firms or corporations operating aircraft can work on their own aircraft with their own employees
- If the airport sponsor at any time exercises the rights and privileges of this assurance they will be under all of the same conditions as any other airport user would be
- The sponsor can establish fair conditions which need to be met by all airport users to make the airport safer and more efficient

The sponsor can prohibit any type, kind or class of aeronautical activity if it is for the safety of the airport. An example of an activity which may be considered for prohibition is sky diving. It is important to point out that the FAA will review such prohibitions and will make the final determination as to whether or not a particular activity type is deemed unsafe at the airport based on current operational dynamics.

Exclusive Rights (Assurance #23)

Exclusive Rights at an airport is a subject which can be complicated and is usually specific to individual airport situations. The assurance states the sponsor "*will permit no exclusive right for the use of the airport by any person providing, or intending to provide, aeronautical services to the public…*" There are exceptions to this rule. If the airport sponsor can prove that bringing in similar business would be unreasonably costly, impractical or result in a safety concern, the sponsor may consider granting an exclusive right. To deny a business opportunity because of safety, the sponsor must demonstrate how that particular business will compromise safety at the airport. Exclusive rights are very often found in airport relationships with fixed base operations (FBO) but exclusive rights can also be established with any other business at the airport which could assist in the operation of an aircraft at the airport. If an unapproved exclusive rights agreement exists, it must be dissolved before a future federal grant is awarded to the airport.

If a sponsor is contemplating denial of a business use at the airport, it is strongly encouraged that they contact their FAA Airport District Office (ADO) in order to ensure that they have all necessary information and that denial of access is not going to be seen as unjust discrimination. For more in

depth information on exclusive rights reference Advisory Circular 150/5190-6, Exclusive Rights at Federally Obligated Airports.

Leases and Financial

Fee and Rental Structure (Assurance #24)

Simply put, the fee and rental structure at the airport must be implemented with the goal of generating enough revenue from airport related fees and rents to become self-sufficient in funding day to day operational needs. The airport sponsor should be constantly monitoring its fee and rental structure to ensure reasonable fees are being charged to meet this goal. Common fees and rents charged by airports include fuel flowage fees, tie-down fees, landing fees and hangar rent.

Airport Revenue (Assurance #25)

Revenue generated by airport activities must be used to support the continued operation and maintenance of the airport. Use of airport revenue to support or subsidize other non-aviation activities or functions of the sponsor is not allowed and is considered revenue diversion. Revenue diversion is a significant compliance issue subject to cause scrutiny by the FAA.

7.1.2 OTHER FAA COMPLIANCE REQUIREMENTS

Other Federal Contracting and Procurement Documents

Whenever an airport sponsor accepts an AIP grant from the FAA, the sponsor agrees to adhere to various federal contracting and procurement requirements. Advisory circulars are required for use in AIP funded projects. Included in each grant request is a federal funding checklist that identifies the requirements an airport should consider before accepting the grant.

The following items are noted in the checklist:

- ALPs should be up to date
- Exhibit A Property Map may need to be updated after the acquisition of additional property
- Land Inventory may need to be updated if land has been recently acquired with federal assistance
- Airports must hold good title to the airport landing area
- Appropriate signage and markings must be in place
- RPZ and approach surface deficiencies must be identified and steps to address deficiencies must be noted
- RSAs must meet FAA standards if planning a runway project
- DBE program goals must be met on projects more than $250,000
- Procedures should be in place to handle bid protests

- Open AIP grant projects need to be identified
- Project closeout form must be submitted within 90 days of work completion
- A "Certification of Economic Justification" must be included for routine pavement maintenance projects
- A "Revenue Generating Facility Eligibility Evaluation" must be completed for hangar construction or fueling facilities
- A "Reimbursable Agreement" and "Non-Fed Coordination" must be completed for navigational aid projects
- A "Relocation Plan" must be completed if a project requires residences or businesses to be relocated.

Special Conditions

In addition to the standard grant assurances discussed above, the state or the FAA may require "Special Conditions" to individual grants which supplement or expand the standard grant assurances. Special Conditions are unique to an individual airport and can be project or administrative in nature. Airport sponsors need to be aware of such conditions that may be applied to their airport.

Multijurisdictional Challenges

In some instances, airports are jointly owned and operated by more than one airport sponsor. In other instances, airports may be located within multiple jurisdictions. While the official airport sponsor is ultimately responsible for adherence with the grant assurance, the actions, or inactions, of surrounding jurisdictions can and do impact the airport sponsor's ability in meeting its sponsor obligations.

This is particularly true with land use compatibility issues around airports. As a result, it is important in either circumstance that all jurisdictions affected by the airport understand the operational needs and complexities of having and airport within its jurisdiction. Mutual agreements addressing airport operational or land use protection needs, or other cooperative measures, are recommended by all jurisdictions to both protect the functionality of the airport as well as the safety and well-being of airport user and neighbors.

7.1.3 IDAHO DIVISION OF AERONAUTICS GRANT ASSURANCES

Like the FAA, ITD Aero has sponsor obligations associated with receipt of Idaho Airport Aid Program (IAAP) funds. Currently, there are 23 state grant assurances. In addition to the grant assurances, the state also has requirements in state statute and administrative code imposed by receipt of IAAP funding. Unlike the FAA, ITD Aero does not actively maintain an official Compliance Program. Currently, oversight and enforcement of the state's airport grant assurances and other requirements is carried out by the Administrator of ITD Aero and staff.

The state grant assurances and requirements are briefly summarized in **Table 7-2** and described in detail in **Appendix E**. Readers will note the similar intent to the FAA requirements.

Table 7-2: ITD Idaho Airport Aid Program Grant Assurances

Project Related	General Airport Operations
2- Timely Completion	1- Comply with Non-Discrimination Regulations
3- Completion According to Plans	7- Remain Open
4- Follow Construction Bidding Procedures	8- No Exclusive Use
5- Property Appraisals for Acquisitions	16- Develop Airport According to ITD Standards
6- Proof of Funding	17- No Activities that Interfere with Operations
9- Costs Eligibility	18- Allow All Safe Aeronautical Activities
10- Commencement Date Report	19- Allow People to Service Own Aircraft
11- Progress Reports	20- Airport Generated Revenue Should be Used for Airport Purposes
12- Approval for Changes	21- Approved Master Plan or Airport/Heliport Layout Plan
13- Completion Report/Inspection Request	22- Proof of Ownership or Lease of All Land
14- Allocation Agreement in Effect Throughout Useful Life of the Project, Not to Exceed 20 Years	23- Compatible Land Use and Height Zoning
15- Allocation Agreement	

Source: ITD Division of Aeronautics

The above information only provides a brief summary of the grant assurances. As the airport sponsor, Bonner County is encouraged to read all grant assurances and become familiar with the requirements of the sponsor obligations using the available resources as provided by the FAA and ITD Aero. Compliance with grant assurances, or lack thereof, is frequently a legal consideration the resolution of which requires expert legal advice preferably from legal counsel familiar with FAA policy and compliance.

7.2 COMPLIANCE AND PRIEST RIVER MUNICIPAL AIRPORT

A cursory review of existing and potential compliance issues was conducted as part of this planning effort. This review was completed based on recent guidance from the FAA Northwest Mountain Region. As stated in the introduction, the main focal point of the work effort associated with the compliance review was on land use compatibility around the airport.

Given the existing urbanized area around the airport, land use compatibility presents significant challenges at Priest River Municipal Airport and detailed analysis and recommendations relating to compatible land use are included in the next sections of this chapter.

No other significant existing or potential issues were discovered during the review. There are no existing or proposed Through-the-Fence activities and all obstacles/obstructions in the airspace are accounted for. As the airport does not currently provide fuel, the County does not currently charge a fuel flowage fee.

7.2.1 INCOMPATIBLE LAND USES AND THE ABSENCE OF APPROPRIATE ZONING CONTROLS

Appropriate zoning controls are lacking around the airport. Bonner County should be proactive in developing compatible land use planning around the Airport and continued, active development and implementation of compatible land use is necessary. Recommendation for the steps the County and the City of Priest River should consider ensuring long term land use compatibility at the airport can be found in 7.6, Recommended Improvements to Existing Land Use Regulations in City of Priest River and Bonner County.

7.2.2 EXISTING "THROUGH-THE-FENCE" ACCESS FOR AIRCRAFT BASED OFF AIRPORT PROPERTY

Bonner County does not permit any "Through-the-Fence" access or activity. Airport and County policy should continue to discourage such activity in the future.

7.2.3 REVENUE DIVERSION (INCLUDING IMPROPER USE OF AIRPORT PROPERTY)

No indications of revenue diversion were identified at the airport. Bonner County should continue to analyze all existing uses of airport property to ensure that all tenants are appropriately contributing to the airport's revenue stream.

7.2.4 ON-AIRPORT RESIDENTIAL USE

The only on-airport residential use consists of a building for the Airport Caretaker. On-Airport Residential Use, except for the Airport Caretaker if needed, should continue to be discouraged in the future.

7.2.5 NON-AERONAUTICAL LOCAL EVENTS CLOSING THE AIRPORT OR A RUNWAY

Priest River Municipal Airport does not host or support any non-aeronautical events that would close the runway or airport. Such events should continue to be discouraged.

7.2.6 TREES OR STRUCTURES

There are several obstructions in the immediate vicinity of the airport located within the defined airport safety areas or Part 77 imaginary surfaces. These obstructions include roads and trees, but also hangars and buildings. These are highlighted and have been discussed previously in this report. It is recommended these obstacles be either removed or lighted. Further, improvements to the current airspace zoning ordinance are recommended to prevent future hazards.

7.2.7 GENERAL RECOMMENDATIONS

Following are some recommended strategies and tools Bonner County should consider to assist in effectively maintaining and operating the airport and ensuring compliance with the sponsor obligations.

- Have a designated point of contact such as an appointed airport manager or County representative available to conduct airport business and respond to emergencies when needed.
- Develop a reoccurring educational program to educate County Commissioners, the Airport Board, legal counsel, potential FBO, Tenants, and the general public about the sponsor obligations and the grant assurances. It is particularly important to target the County Commissioners and the Airport Board as members of these bodies can and do change often. Educating new members about sponsor obligations is critical to ensure informed decisions while maintaining compliance with grant assurances.
- Use airport facilities for aeronautical purposes only, unless otherwise specified by the airport and approved by the FAA.
- Perform services in a non-discriminatory manner regardless of race, creed, color, national origin, or sex.
- Actively promote compatible land use around the airport.
- Consider the development of Minimum Standards and Rules and Regulations documents. These documents help ensure all airport users and tenants are conducting operations and activities with the same understanding and knowledge of what is acceptable at the airport. If an issue of concern arises, having these documents at hand can assist in addressing problems promptly and on a consistent basis. See Advisory Circular (AC) 150/5190-7, Minimum Standards for Commercial Aeronautical Activities.
- Maintain a current and up-to-date aircraft roster of all based aircraft, this should include but not be limited to; aircraft tail number, aircraft type, aircraft model, and aircraft owner's name
- No exclusive rights should be extended to any business on the airport which is performing aeronautical activities. See AC 150/5190-6, Exclusive Rights at Federally Obligated Airports.
- Develop a routine self-inspection program including the completion of a safety inspection checklist. See AC 150/5200-18C, Airport Safety Self Inspection.
- The County should have an emergency procedure plan in place and all County employees and lessees responsible for the maintenance and operation of the airport should be familiar with the plan in the event of an emergency.
- Bonner County should annually compare the Airport's fees and rental structure with those offered at other airports in the region and evaluate market value for similar services and fees.
- The County should continually monitor the financial demands of the Airport and consider adjustments to existing fees and the addition of new fees as airport activity and needs dictate. Possible new revenue sources to consider include overnight parking fees, commercial user fees, fuel flowage fees if fuel becomes available as well as special events that could generate income.

7.3 LAND USE COMPATIBILITYPLANNING AROUND THE PRIEST RIVER MUNICIPAL AIRPORT

Airports typically represent an important asset to many communities. They provide the community access to essential services such as life flight, agricultural and firefighting activity to name a few. Many airports also serve as a vital local, regional, state and national point of connectivity. As a result, the airport also represents an important economic engine by directly providing local jobs as well as other indirect economic impacts to a community.

According to the ITD Aero Individual Airport Summary, completed in 2009, the estimated total airport impact is 55 jobs, a total payroll of $2.0 million and a total economic activity of $8.4 million. Per this summary, two area businesses depend on the airport: Northland Aviation and Aerocet Floats. However, Northland Aviation was dissolved in 2009 and no longer operates a business in Priest River. The airport's manager and users of the airport also advise that Quest Kodiak occasionally uses the airport.

Airports are unique in that their operations can have far reaching impacts. While located in one jurisdiction, aircraft operations can and do impact nearby communities. Effective compatible land use planning by communities adjacent to an airport is important because such measures not only protect the airport but they also protect the surrounding communities from the impacts of typical airport operations.

As many communities in Idaho continue to grow, it is important that proactive efforts are undertaken by each community to protect the airport, and its citizens, from future incompatible growth. Further, ineffective airport land use planning degrades the daily business and functionality of the airport, restricts its growth potential, and introduces significant obstacles to economic development in the community. These limitations can be mitigated by the implementation of effective compatible land use planning

7.3.1 COMPONENTS OF EFFECTIVE AIRPORT COMPATIBLE LAND USE PLANNING

Effective compatible land use planning protects the airport and community from height, safety and noise concerns. In many instances, a community's willingness to take a proactive approach in addressing compatible land use planning prevents the need to be reactive and also prevents more severe conflicts down the road. Effective, comprehensive land use compatibility plans take such considerations into account and incorporate both height restrictive and basic land use restrictions via zoning. Coupled with other proactive measures, such as voluntary noise abatement programs and selective fee-simple land acquisition, proactive planning around the airport will protect both the airport and the surrounding community.

It is important to point out there is a very distinct difference between height restriction zoning and basic land use zoning. As its name implies, height restriction zoning generally conforms to CFR

Part 77 with the intent of protecting the airspace around an airport from objects or structures which may pose hazards to aircraft operators. On the other hand, the intent of land use zoning should be to prevent incompatible land uses from being allowed near an airport where the impacts of airport operations, such as noise and/or aircraft accidents, can have a potentially negative impact on that land use or the impact of the incompatible land use can have a potentially negative impact on the airport.

7.3.2 IMPORTANT AIRPORT LAND USE PLANNING CONSIDERATIONS AND CHALLENGES

When considering land use planning around the Priest River Municipal Airport, understanding the following challenges and considerations will be helpful:

Encroachment of Incompatible Development

One of the greatest threats to the viability of airports today is the encroachment of incompatible land use. Encroaching incompatible land use poses a significant threat to the state and national airport system as well as the communities they serve. More recently, FAA and ITD Aero have been working with Idaho's airports to strengthen airport land use compatibility policies and practices to reverse this trend.

Priest River Municipal Airport Is located in a heavily urbanized and developed area, and surrounded by residential uses. Effective compatible land use planning and zoning are necessary to prevent future and additional incompatible land uses in the immediate vicinity of the airport.

Safety and Quality of Life

Proactive planning around the airports ensures the safety of both aircraft operators and airport neighbors from potential aircraft accidents. It also protects the quality of life of airport neighbors by ensuring they are not impacted by the noise, dust and fumes associated with airport operations.

Jurisdiction

As mentioned in 7.1.2, one major challenge airport owners face when promoting compatible land use is lack of jurisdiction. Airport operations and associated potential impacts (i.e. safety, noise, dust, fumes) can and do extend beyond the physical boundary of the airport property. Though the airport owner is liable for adherence to the FAA and ITD Aero grant assurances, in many instances surrounding jurisdictions have control of land in the vicinity of the airport, not the owner, thus the owner has no say in land use policies and decisions. Surrounding jurisdictions are not required to actively plan for airport compatibility.

This is particularly true around the Priest River Municipal Airport. While county owned and operated, the airport is surrounded by the City of Priest River.

It should be noted that neither the FAA nor ITD Aero have jurisdiction over local land use nor do they have any enforcement authority to stop incompatible encroachment. As such, local communities are heavily relied upon and responsible for undertaking such efforts. Future continued coordination with the City of Priest River regarding compatible land use planning around the airport will be critical to the protection of the airport and surrounding communities.

Sponsor Obligations and Grant Assurances

As previously discussed, grant assurances include specific requirements that the County protect the airport's airspace and prevent incompatible land uses around the airport through zoning. Failure to do so may result in the FAA and ITD Aero no longer funding the airport if they do not believe the County has taken reasonable steps to protect the airports from incompatible development. The duration of these grant assurances is a period of 20 years from when the County received the last grant with the exception of grant assurances associated with land acquisitions. The grant assurances associated with land acquisitions exist into perpetuity or until the land is sold (at fair market value) and the grant monies are paid back to the FAA.

Protection of local, state and federal investment

Priest River Municipal Airport has received substantial financial investment from the FAA and ITD Aero for many years. The County itself has invested significant funding into the airport to both operate and maintain it. Proactive planning around the airport, including effective land use zoning, will help ensure the airport is protected and can operate for the long term thus protecting the substantial federal, state, and local investment.

As the FAA and ITD Aero consider future investments at the airport, a major consideration is the community's willingness to protect the investment. This begins with effective compatible land use planning.

Economic Benefit

Priest River Municipal Airport provides an important economic benefit to the County and its citizens. As previously mentioned, per the ITD Aero Individual Airport Summary, completed in 2009, the estimated total airport impact is 55 jobs, a total payroll of $2.0 million and a total economic activity of $8.4 million. Users such as businesses and corporations use the airport and contribute to the local economy. Priest River Municipal Airport needs to be protected so it can continue to provide access to the community and economic benefits for many years to come.

7.3.3 FAA AND ITD AERO LAND USE RELATED GRANT ASSURANCES AND REQUIREMENTS

As previously highlighted in Section 7.1.1, the FAA and ITD Aero grant assurances, Idaho Code, and state Administrative Code include specific requirements applicable to airspace protection and compatible land use. Following is a brief summary of FAA and state requirements as well as

considerations associated with FAA and state requirements for airspace and compatible land use planning.

FAA

In recent years, the FAA has become more active in working with airport sponsors in encouraging compatible land use planning around airports as a condition of their grant assurances. As reiterated from Section 7.1.1, there are three critical grant assurances sponsors need to be aware of related to land use planning:

- Local Plans (Assurance #6)
- Airspace (Assurance #20)
- Compatible Land Use (Assurance #21)

ITD Aeronautics

Current ITD Aero grant assurances related to airspace and compatible land use planning include:

- The Sponsor cannot allow any activity or action on the airport that would interfere with its use for airport purposes.

- The Sponsor should have compatible land use and height zoning for the airport to prevent incompatible land uses and the creation or establishment of structures or objects of natural growth which would constitute hazards or obstructions to aircraft operating to, from, on, or in the vicinity of the subject airport.

Idaho Administrative Code, IDAPA Code 39, Title 4, Chapter 2 - Rules Governing Marking of Hazards to Air Flight (IDAPA 39.04.02), and Chapter, Title 4, Chapter 4, Rules Governing the Idaho Air Program (IDAPA 39.04.04), include the following state requirements related to airspace protection in Idaho:

IDAPA 39.04.02

Establishes the requirements for marking of hazards to air flight through the airspace of and over the state of Idaho in order to protect and ensure the general public safety, and the safety of persons operating, using or traveling in aircraft.

IDAPA 39.04.04

The sponsor should have the airport zoned to prevent the creation or establishment of structures or objects of natural growth which would constitute hazards or obstructions to aircraft operating to, from, or in the vicinity of the subject airport.

IDAHO STATE LAND USE LEGISLATION

Idaho Senate Bill 1265 effective July 1, 2014 amended Idaho Code Title 21, Chapter 5, Airport Zoning Act, and Title 67, Chapter 65, Local Land Use Planning. Aimed at requiring more proactive land use compatibility planning around the state's airports by city and county entities through the local comprehensive planning process. The legislation resulted9/ in closer collaboration between local zoning authorities, local airport authorities and ITD Aero in the interest of flight and community safety. The main provisions of the new legislation are as follows:

- Repeals ITD Aero' authority in Title 21, Chapter 5, Sections 21-503 through 21-508, and part of Section 21-502 503, to adopt, administer, and enforce land use planning and zoning zone for airports and requires the political subdivision having zoning ordinance authority (i.e. counties and cities) to complete planning and zoning around airports in accordance with Title 67, Chapter 65. As written, this legislation maintains the requirement for ITD Aero to continue to protect the State's airspace and regulate aviation hazards as identified in the remainder of Title 21.

- Identifies; in 67-6502; public airports as essential community facilities that provide safe transportation alternatives and contribute to the economy of the state.

- Requires; in 67-6508; that planning and zoning commissions consider as part of their comprehensive plan, with the assistance of ITD Aero (if requested by the local agency) and the local airport manager (or person in charge of the airport), the current and future needs and community impacts of the airport. **Political subdivisions must now include a separate section "q" in their comprehensive plans specifically addressing Public Airport Facilities within their jurisdiction or if impacted by an airport outside their jurisdiction.**

- Requires; in 67-6509, 67-6512, 67-6515A, and 67-6516; that planning and zoning commissions (and their governing boards) notify the local airport manager (or person in charge) when recommending, adopting, amending, repealing their comprehensive plan. In addition, the notification requirement pertaining to the local airport manager (or person in charge of the airport) applies to other land use actions that require public notice (i.e. Special Use Permits, Conditional Use Permits, Transfer of Development Rights, Variances, etc.) when encroaching on the airport or which may create an aviation hazard.

It is important to note that the inclusion of airport related goals and strategies related to compatible land use planning in the comprehensive plan creates the necessary legal mechanism for the airport sponsor to consider and implement zoning around airports as part of the local planning and zoning process under current state law.

7.3.4 CONTINUAL PLANNING PROCESS

Land use planning needs in a community can and do change. The County should create a formal process for policy development that identifies the airport land use planning process as a critical component of its community and comprehensive planning process. To assist in developing effective airport land use policy, it is also important to establish the identification of stakeholders who may be impacted by the airport ***or*** have an impact on the airport. Such stakeholders could include airport tenants/users, surrounding jurisdictions, in particular the City of Priest River, and adjacent neighbors and businesses. Proactive coordination with these stakeholders can greatly improve compatible land use efforts in the future.

7.4 EXISTING LAND USE REGULATIONS IN BONNER COUNTY

The role of the local comprehensive planning process and the recommendations included in a community's comprehensive plan is vital to the implementation of zoning ordinances. Following is a summary of both City of Priest River and Bonner County Comprehensive Plan and Zoning Ordinances as they relate to the airport.

7.4.1 BONNER COUNTY COMPREHENSIVE PLAN

Priest River Municipal Airport is located in Bonner County and is owned and operated by the County. Airports are part of the Transportation Component of the Plan. The chapter airports summarizes various aspects of the public-use airports located in Bonner County including the Sandpoint and Priest River Municipal Airports. Information such as facilities, activity levels, economics, and future are analyzed in this section.

Comprehensive plan updates suggested including additional text that supports utilizing proactive land use techniques and integrating the airport master plan with Bonner County's Comprehensive Plan bringing it in compliance with newly revised FAA guidance.

Effective land use planning for airports comes from proactive planning and zoning by the local jurisdictions, namely the local cities and counties. The city of Priest River and Bonner County should continue to update and modify the County Comprehensive plan as necessary to provide adequate protection for the publics investment in Priest River Municipal Airport. Bonner County has recently updated the Comprehensive Plan to help bring it in compliance with new Idaho State laws pertaining to airport planning, airspace protection, and zoning.

7.4.2 AIRPORT ZONING ORDINANCE

Title 12, Chapter 5 – Overlay Districts, Subchapter 5.2 of the current Bonner County Revised Code includes an Airport Overlay District (AOD). As written, the current AOD, as published on the codifiers website, seems to be specifically applicable to "the Bonner County Airport" with no specific reference to the Priest River Municipal Airport. That being said, the code seems to apply generally to all public use airports in Bonner County. Section 12-522, Airport Zone Height

Limitations states that, "*Except as otherwise provided in this chapter, no structure or tree shall be erected, altered, allowed to grow or be maintained in any zone created by this chapter to a height in excess of the applicable height limit herein established for such zone.*"

7.4.3 SURROUNDING JURISDICTION COMPREHENSIVE PLANS

Priest River Municipal Airport is located within the City limits of Priest River. Bonner County does not have jurisdiction to regulate the land use within the City of Priest River. As a critical community within Bonner County, understanding the City's development goals that relate to Priest River Municipal Airport is important.

A review of the Priest River comprehensive plan was conducted. The current plan was adopted in 2013 and does not mention the Priest River Municipal Airport. The City of Priest River Planning and Zoning Administrator did advise that efforts are underway to update the comprehensive plan and include Priest River Municipal Airport.

Similar to the County's comprehensive plan, the City's plan should seek to continually meet the new state law for addressing public airport facilities in a comprehensive plan. Continual adaptation of detail about the airport is necessary to ensure effective future land use planning around the airport.

7.4.4 SURROUNDING JURISDICTIONS AIRPORT HAZARD ZONING ORDINANCE

In the city's current zoning ordinance, Ordinance 279, Zoning Ordinance, the airport is mentioned in Section IV, General Provisions, and Section V, Supplemental Regulations. Subsection 4.1.5 states that, "*…development close to the airport shall be restricted with airport approach areas as required by the State Department of Transportation, Division of Aeronautics and Public Transportation and Federal Aviation Administration.*" Subsection 5.7.6 establishes height limitations on various structures that, "*…will constitute and hazard to the safe landing and take-off of aircraft at an established airport.*"

7.5 AIRPORT NOISE

Noise contours, which represent levels of noise exposure, have been prepared at Priest River Municipal Airport. The noise metric used for this study is the Day Night Average Sound Level (DNL). This metric is used to quantify noise levels at many airports in the United States and represents the 365-day average, in decibels, day-night average sound level. It should be noted that the DNL is an average noise level; this metric does not take into account the peak noise level that can occasionally be experienced at any locations. In addition, some people can be more sensitive to noise and the level of annoyance can depend on the time of the day, the time of the year, but also the activities of the people.

Areas below DNL 65 decibels are considered to be compatible with all land uses. In addition, residential or school uses can be allowed within the DNL 65 to 75 decibels range, if measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dB and 30 dB are achieved.

Additional information on the process and methodologies used to prepare these noise contours are included in **Appendix H**.

Noise Contours were prepared for Priest River Municipal Airport for the base year (Year 2014) and the long-term forecast (Year 2034). **Figures 7.1 and 7.2** depict the DNL 60 to DNL 85 (with 5 DNL increments) noise contours for the base year and the long-term forecast (Year 2034).

The area encompassed by the long-term noise contour is slightly larger than that of the base year. The total area of the 65 DNL noise contour is 101.6 acres in 2014 and is expected to be 119.2 acres in 2034. As depicted in **Figures 7.1 and 7.2**, significant portions of the DNL 65 extend beyond the airport property limits and Priest River Municipal Airport does no control significant portions of this noise contour. Having entire control of the DNL 65 mitigates for incompatible land uses and enhances noise control.

At busier and larger airports, the FAA funds FAR Part 150 Airport Noise study to guide and control aviation noise compatibility on and around airports. Mitigation measures to prevent non-compatible uses are then established. In addition, for existing uses, mitigation measures can include assistance to improve isolation, or even acquisition and relocation.

Several buildings, including residential buildings, barns, sheds and maintenance buildings are in the DNL 65 noise contour. Priest River Municipal Airport is a General Aviation Airport only and these maps are for informational purposes only. This study is not part of a FAR Part 150 and the aim is only to provide information to the airport and the County, not to make any determination. It is recommended that the pilots using the airport be mindful of the residents and communities in the vicinity of the airport, especially at night and avoid as much as possible flying over residential buildings.

FIGURE 7-1: 2014 NOISE CONTOURS

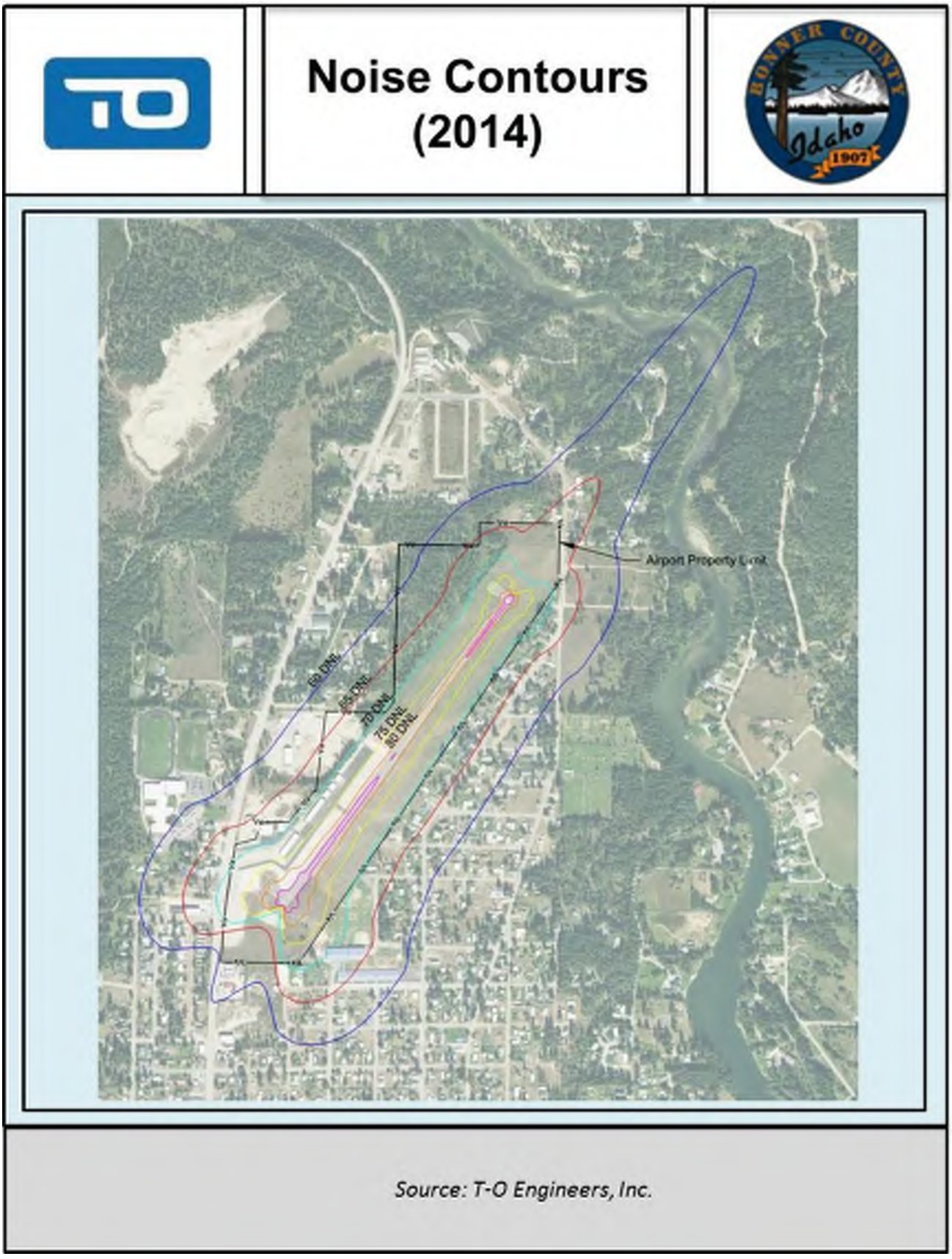
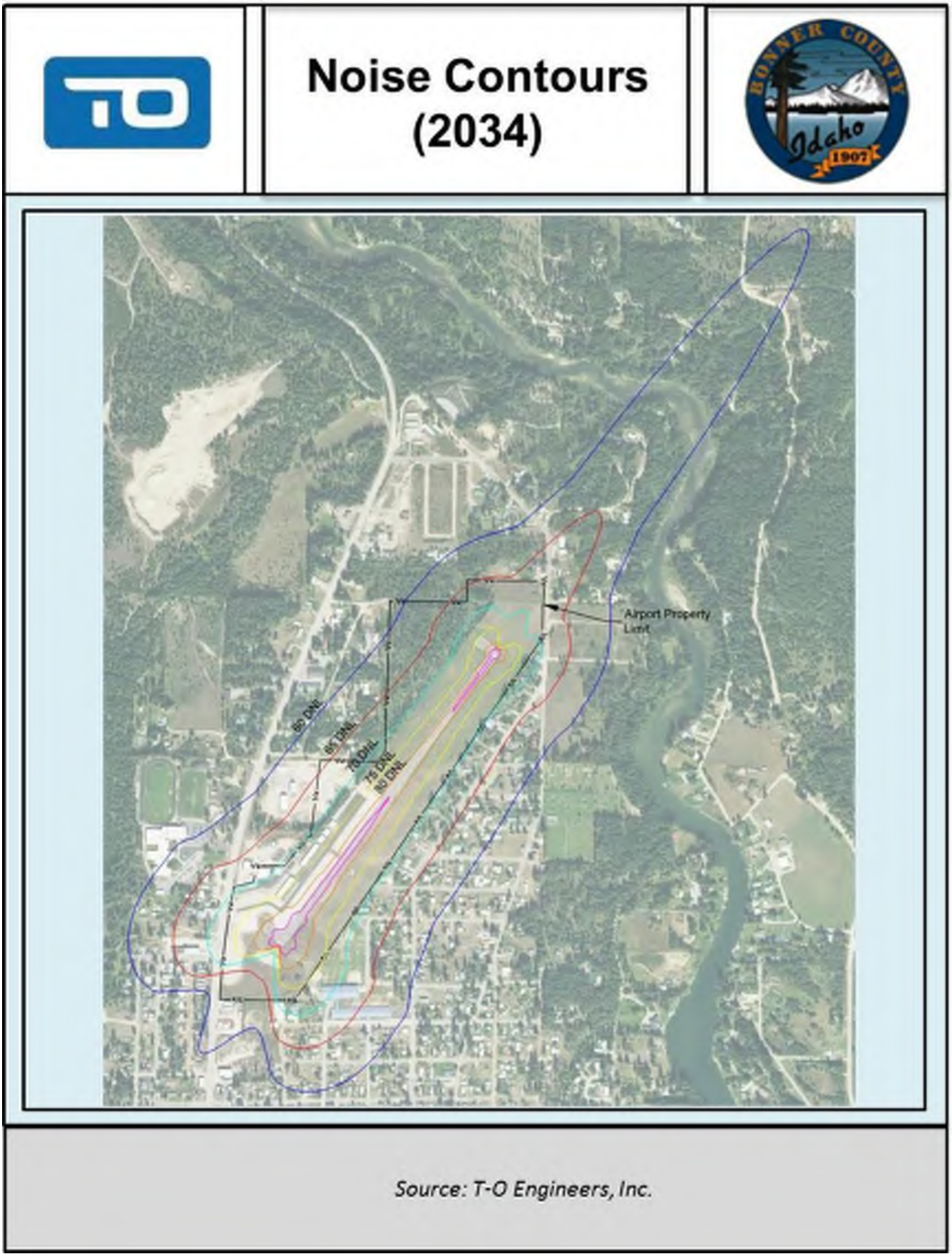


FIGURE 7-2: 2034 NOISE CONTOURS



7.6 RECOMMENDED IMPROVEMENTS TO EXISTING LAND USE REGULATIONS IN CITY OF PRIEST RIVER AND BONNER COUNTY

Based on the analysis completed as part of this master planning process, following are several recommend actions to improve land use compatibility planning around Priest River Municipal Airport:

- Adhere to appropriate state and FAA requirements and guidance regarding airspace protection and prohibit future land uses which are incompatible to airport operations.

- Continually revise, as necessary, the County's zoning ordinance to be more detailed regarding land use compatibility around the airport. This includes specific ordinance language that identifies and projects the federally defined Part 77 airspace surfaces and recommended land uses via the establishment of land use compatibility zones around the airport.

  Figure 7-3 depicts an example Off-Airport Land Use Map. The map includes a recommended airport influence area, traffic pattern area, and critical zones. A Land Use Compatibility Table with recommended land uses within each zone is also included for inclusion with the map **(Table 7-3)**. A model zoning ordinance and fair disclosure statement language is included in **Appendix G** of this report.

- Recognize the airport impacts to the community and the community impacts upon the airport and commit to an effective and cooperative airport land use planning effort designed to protect and preserve airport operations, economic prosperity, and quality of life in addition to safety provisions for both the community and its airport.

  Coordinate to ensure multi-jurisdictional cooperation between the County and surrounding jurisdictions, especially the City of Priest River, as it relates to the airport and land use planning. This includes coordination with the City of Priest River to improve its comprehensive plan and zoning ordinance language related to land use planning around the airport and to meet the new state law as it relates to the comprehensive plan. Priest River Municipal Airport is located within the city limits of Priest River and due to the airport's proximity and potential impacts to this city, it is important it recognizes the airport in its comprehensive planning process, especially as Bonner County does not have authority to regulate the land use within this city.

  Mechanisms to achieve this goal could include establishing a Memorandum of Agreement, or other similar intergovernmental agreement, with the City to adopt similar land use zoning as recommended herein ensuring the consistency and effectiveness of compatible land use around the Priest River Municipal Airport.

- Create a formal process for policy development that identifies the airport land use planning process as a critical and continual component of its community and comprehensive planning process.

- Update the Airport Master Plan. It is critical that the County monitors and updates the Airport Master Plan as the airport's Master Plan identifies the specific needs of the airport and provides a foundation around which policy can and should be developed. On average, it is recommended that the airport master plan be updated every 7-10 years or as changing circumstances at the airport warrant.

A primary source for guidance to assist you with the implementation of the compatible land use planning recommendations in this document is the ITD Aero staff and its Idaho Airport Land Use Guidelines.

FIGURE 7-3: OFF AIRPORT LAND USE PLAN

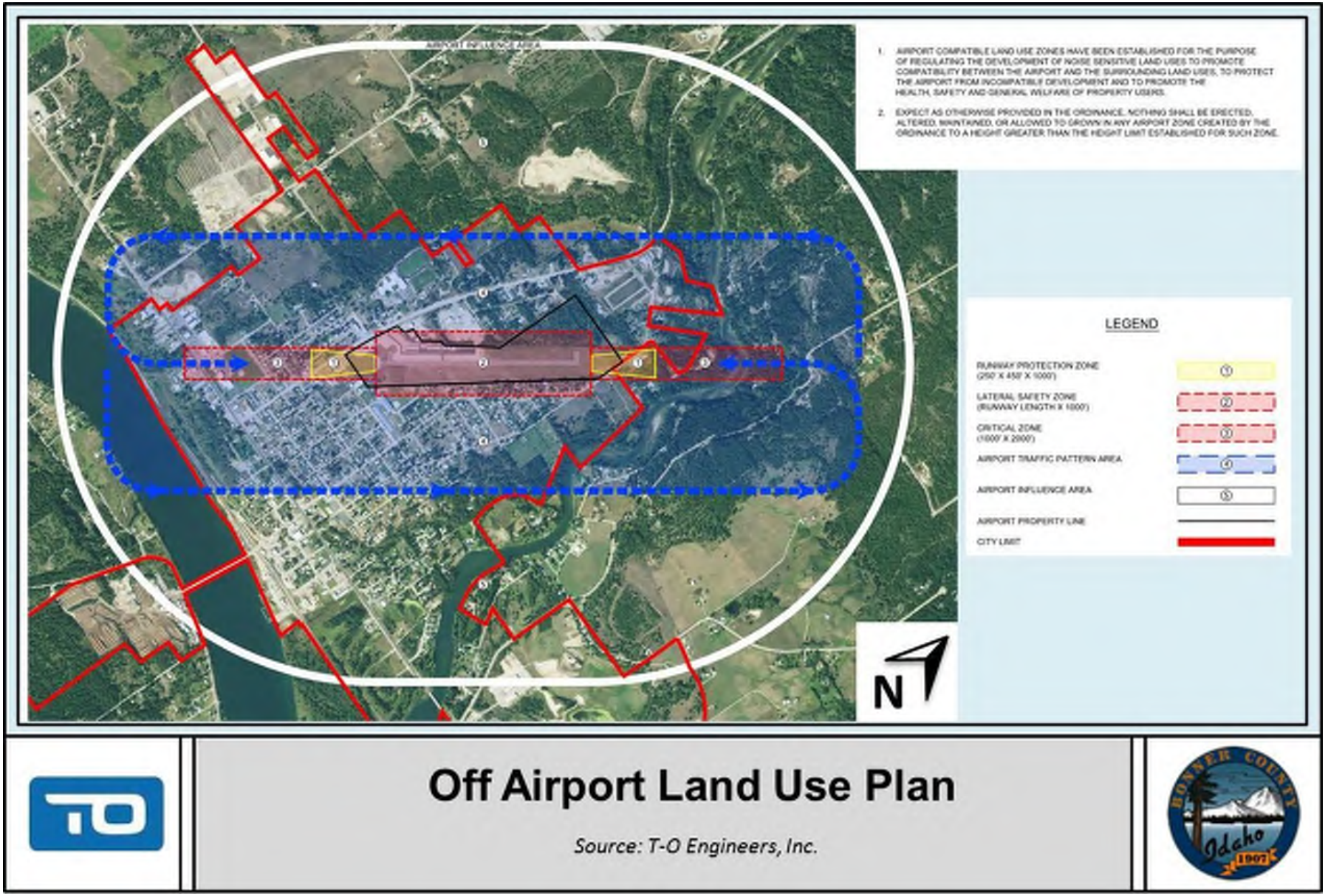


TABLE 7-3: LAND USE COMPATIBILITY TABLE

Land Use	1 Runway Protection Zone	2 Lateral Safety Zone	3 Inner Critical Zone	4 Outer Critical Zone	5 Traffic Pattern Area	6 Airport Influence Area	7 Buffer Zone
Residential							
Single-family, nursing homes, multi-family, apartments, condominiums, mobile home parks							
Transient lodging (i.e. hotels and motels)							
Public							
Schools, libraries, churches							
Parking and cemeteries							
Commercial/Industrial							
Offices, retail trades, light industrial, general manufacturing, utilities, extractive industry							
Airport revenue-producing enterprises							
Agricultural and Recreational							
Cropland							
Livestock breeding, zoos, golf courses, riding stables, water recreation							
Outdoor spectator sports, parks, playgrounds							
Amphitheaters							
Open space							
Bird and Wildlife Attractants							
Sanitary Landfills							
Water treatment plants, water impoundments							
Wetlands Mitigation							

	Prohibited		Allowed with conditions		Allowed

Conditions typically include:

- Require Fair disclosure Statement as a condition of development
- Limit residential density to low-density and avoid high-density development
- Limit commercial uses to low-density and avoid high intensity commercial uses such as large retail box stores
- Locate development as far as possible from extended centerline, if no reasonable alternative exists
- Be mindful of bird and wildlife attractant and consider proximity of the airport as well as potential negative impact before development. Refer to FAA AC 150/5200-33B and 150/5200-34A, as amended, for guidance

Source: T-O Engineers, Inc.

7.7 COMPLIANCE AND COMPATIBLE LAND USE RESOURCES AND REFERENCES

FAA Order 5190.6B, FAA Airport Compliance Manual
http://www.faa.gov/airports/resources/publications/orders/compliance_5190_6/

FAA Advisory Circular (AC) 150/5190-6, Exclusive Rights at Federally Obligated Airports
http://www.faa.gov/airports/resources/advisory_circulars/index.cfm/go/document.information/documentNumber/150_5190-6

FAA AC 150/5190-7, Minimum Standards for Commercial Aeronautical Activities
http://www.faa.gov/airports/resources/advisory_circulars/index.cfm/go/document.information/documentNumber/150_5190-7

FAA AC 150/5200-18C, Airport Safety Self-Inspection
http://www.faa.gov/airports/resources/advisory_circulars/index.cfm/go/document.information/documentNumber/150_5200-18C

State of Idaho, Idaho Division of Aeronautics, Idaho Airport System Plan, Land Use Compatibility Guidelines
http://itd.idaho.gov/aero/Publications/publications.htm

FAA Noise Compatibility Tool Kit
http://www.faa.gov/about/office_org/headquarters_offices/apl/noise_emissions/planning_toolkit/

FAA Land Use Compatibility
http://www.faa.gov/airports/environmental/land_use/

Federal Aviation Regulation (FAR) Part 77
http://www.access.gpo.gov/nara/cfr/waisidx_07/14cfr77_07.html

FAA - Helena Airports District Office
http://www.faa.gov/airports/northwest_mountain/about_airports/contact_information/
(406) 449-5271

Idaho Transportation Department – Division of Aeronautics
http://itd.idaho.gov/aero/
(208) 334-8775

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8.0 AIRPORT LAYOUT PLAN (ALP) DESCRIPTION

This Airport Master Plan for Priest River Municipal Airport includes the preparation of a series of drawings depicting the existing airport and the proposed changes to the airport over the next twenty years. This drawing set is commonly referred to as the Airport Layout Plan (ALP). A description of each drawing and its contents is included below.

8.1 AIRPORT LAYOUT PLAN (ALP)

The ALP presents airport features, including the wind rose, topographic data, elevations, runway details, taxiway details, aprons, Runway Protection Zones (RPZ) details, approach details, visual approach aids, airport data table, runway data table, roads, building restriction lines (BRL) buildings, etc. This plan also identifies future development plans for the terminal area including hangars, taxilanes, access road and auto parking areas.

8.2 AIRPORT AIRSPACE PLAN

The Airspace Plan shows all areas under the imaginary surfaces as defined in 14 CFR Part 77, “Safe, efficient use, and preservation of the navigable airspace” and includes 50 foot contours on sloping surfaces.

8.3 INNER APPROACH PLAN

The Inner Approach depicts plan and profile of the RPZ and Runway approach for each runway. In addition, obstructions within the RPZ and approach are identified and recommended actions are indicated.

8.4 TERMINAL AREA PLAN

The Terminal Area Plan presents airport features specific to the terminal area including hangars, taxilanes, access roads and auto parking areas.

8.5 AIRPORT LAND USE PLAN

The On-Airport Land Use Drawing depicts the existing and recommended uses of land located within the ultimate airport property and in the vicinity of the airport.

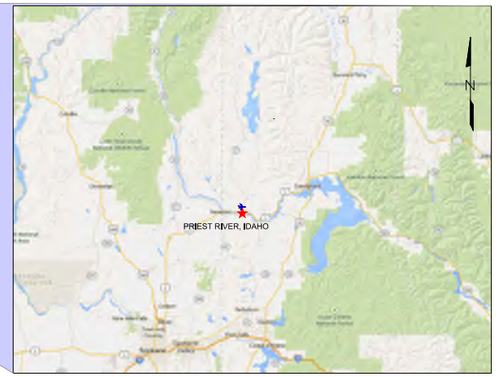
8.6 AIRPORT PROPERTY MAP

The Airport Property Map is a drawing depicting current and future airport boundaries compiled from deed research, available mapping surveys, and field verification as required. A data table and/or notes show an inventory of all parcels by number, including grantor, grantee, type of interest, acreage, book and page, date of recording.

PRIEST RIVER MUNICIPAL AIRPORT

PRIEST RIVER, IDAHO

AIRPORT LAYOUT PLAN



LOCATION MAP (GOOGLE MAP)

VICINITY MAP (USGS)

FAA - AIP PROJECT No. 3-16-0058-0005

MARCH 2017

AIRPORT CONSULTANT

T-O ENGINEERS
2471 S. TITANIUM PLACE
MERIDIAN, ID 83642-6703

AIRPORT SPONSER

BONNER COUNTY
PRIEST RIVER, ID 83856

APPROVALS	
MANAGER, HELENA AIRPORTS DISTRICT OFFICE FEDERAL AVIATION ADMINISTRATION	APPROVAL LETTER DATED
SIGNATURE AUTHORITY BONNER COUNTY	DATE

SHEET INDEX

NUMBER	TITLE
SHEET 1	COVER SHEET
SHEET 2	AIRPORT LAYOUT PLAN
SHEET 3	AIRPORT AIRSPACE PLAN (SHEET 1 OF 2)
SHEET 4	AIRPORT AIRSPACE PLAN (SHEET 2 OF 2)
SHEET 5	INNER APPROACH PLAN - RWY 2
SHEET 6	INNER APPROACH PLAN - RWY 20
SHEET 7	TERMINAL AREA PLAN
SHEET 8	AIRPORT LAND USE PLAN
SHEET 9	AIRPORT PROPERTY MAP

THE PREPARATION OF THIS DOCUMENT MAY HAVE BEEN SUPPORTED, IN PART, THROUGH THE AIRPORT IMPROVEMENT PROGRAM FINANCIAL ASSISTANCE FROM THE FEDERAL AVIATION ADMINISTRATION (PROJECT NUMBER 3-16-0058-0005) AS PROVIDED UNDER TITLE 49, UNITED STATES CODE, SECTION 47104. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THIS REPORT BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED THEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS.

FOR FAA APPROVAL LETTER

REVISIONS

NO.	ITEM	DATE

E-FILE NAME	
DESIGNED	
DRAWN	MJV
CHECKED	NSC
APPROVED	NSC

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PRIEST RIVER, IDAHO
AIRPORT LAYOUT PLAN SET
COVER SHEET

DATE: MARCH 2017
PROJECT: 140040

SHEET 1 OF 9

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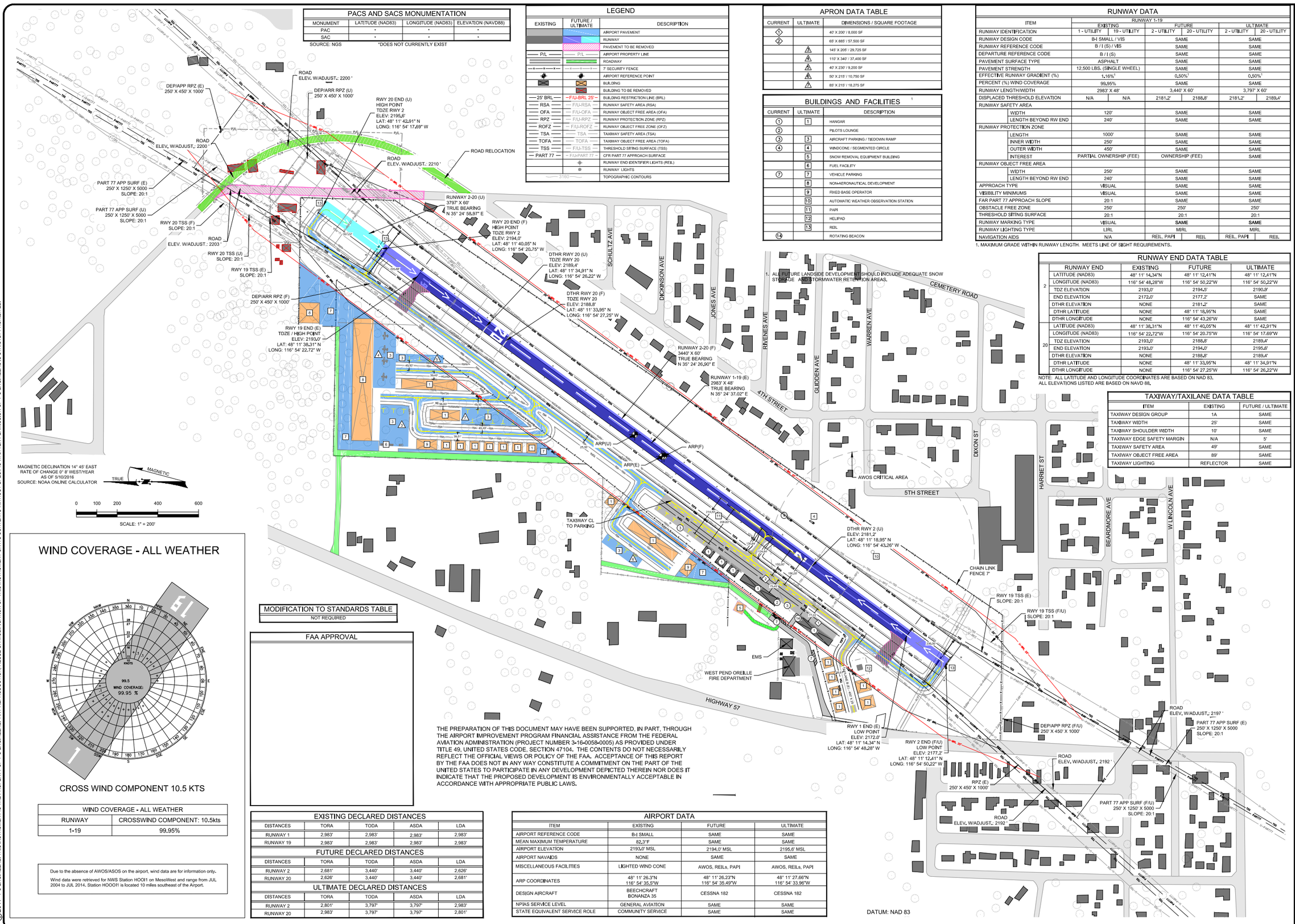

PACS AND SACS MONUMENTATION

MONUMENT	LATITUDE (NAD83)	LONGITUDE (NAD83)	ELEVATION (NAVD88)
PAC	-	-	-
SAC	-	-	-

SOURCE: NGS *DOES NOT CURRENTLY EXIST

LEGEND

EXISTING	FUTURE / ULTIMATE	DESCRIPTION
		AIRPORT PAVEMENT
		RUNWAY
		PAVEMENT TO BE REMOVED
P/L	P/L	AIRPORT PROPERTY LINE
		ROADWAY
		7' SECURITY FENCE
		AIRPORT REFERENCE POINT
		BUILDING
		BUILDING TO BE REMOVED
25' BRL	F/U-BRL 25'	BUILDING RESTRICTION LINE (BRL)
RSA	F/U-RSA	RUNWAY SAFETY AREA (RSA)
OFA	F/U-OFA	RUNWAY OBJECT FREE AREA (OFA)
RPZ	F/U-RPZ	RUNWAY PROTECTION ZONE (RPZ)
ROFZ	F/U-ROFZ	RUNWAY OBJECT FREE ZONE (OFZ)
TSA	TSA	TAXIWAY SAFETY AREA (TSA)
TOFA	TOFA	TAXIWAY OBJECT FREE AREA (TOFA)
TSS	F/U-TSS	THRESHOLD SITING SURFACE (TSS)
PART 77	F/U-PART 77	CFR PART 77 APPROACH SURFACE
		RUNWAY END IDENTIFIER LIGHTS (REIL)
		RUNWAY LIGHTS
3160		TOPOGRAPHIC CONTOURS

APRON DATA TABLE

CURRENT	ULTIMATE	DIMENSIONS / SQUARE FOOTAGE
1		40' X 200' / 8,000 SF
2		65' X 885' / 57,500 SF
	A	145' X 205' / 29,725 SF
	A	110' X 340' / 37,400 SF
	A	40' X 230' / 9,200 SF
	B	50' X 215' / 10,750 SF
	A	85' X 215' / 18,275 SF

BUILDINGS AND FACILITIES [1]

CURRENT	ULTIMATE	DESCRIPTION
1	1	HANGAR
2		PILOTS LOUNGE
3	3	AIRCRAFT PARKING / TIEDOWN RAMP
4	4	WINDCONE / SEGMENTED CIRCLE
	5	SNOW REMOVAL EQUIPMENT BUILDING
	6	FUEL FACILITY
7	7	VEHICLE PARKING
	8	NON-AERONAUTICAL DEVELOPMENT
	9	FIXED BASE OPERATOR
	10	AUTOMATIC WEATHER OBSERVATION STATION
	11	PAPI
	12	HELIPAD
	13	REIL
14		ROTATING BEACON

RUNWAY DATA

ITEM	RUNWAY 1-19					
	EXISTING		FUTURE		ULTIMATE	
	1 - UTILITY	19 - UTILITY	2 - UTILITY	20 - UTILITY	2 - UTILITY	20 - UTILITY
RUNWAY IDENTIFICATION			SAME		SAME	
RUNWAY DESIGN CODE	B-I SMALL / VIS		SAME		SAME	
RUNWAY REFERENCE CODE	B / I (S) / VIS		SAME		SAME	
DEPARTURE REFERENCE CODE	B / I (S)		SAME		SAME	
PAVEMENT SURFACE TYPE	ASPHALT		SAME		SAME	
PAVEMENT STRENGTH	12,500 LBS. (SINGLE WHEEL)		SAME		SAME	
EFFECTIVE RUNWAY GRADIENT (%)	1,16%[1]		0,50%[1]		0,50%[1]	
PERCENT (%) WIND COVERAGE	99,95%		SAME		SAME	
RUNWAY LENGTH/WIDTH	2983' X 48'		3,440' X 60'		3,797' X 60'	
DISPLACED THRESHOLD ELEVATION	N/A	N/A	2181,2'	2188,8'	2181,2'	2189,4'
RUNWAY SAFETY AREA						
WIDTH	120'		SAME		SAME	
LENGTH BEYOND RW END	240'		SAME		SAME	
RUNWAY PROTECTION ZONE						
LENGTH	1000'		SAME		SAME	
INNER WIDTH	250'		SAME		SAME	
OUTER WIDTH	450'		SAME		SAME	
INTEREST	PARTIAL OWNERSHIP (FEE)		OWNERSHIP (FEE)		SAME	
RUNWAY OBJECT FREE AREA						
WIDTH	250'		SAME		SAME	
LENGTH BEYOND RW END	240'		SAME		SAME	
APPROACH TYPE	VISUAL		SAME		SAME	
VISIBILITY MINIMUMS	VISUAL		SAME		SAME	
FAR PART 77 APPROACH SLOPE	20:1		SAME		SAME	
OBSTACLE FREE ZONE	250'		250'		250'	
THRESHOLD SITING SURFACE	20:1		20:1		20:1	
RUNWAY MARKING TYPE	VISUAL		SAME		SAME	
RUNWAY LIGHTING TYPE	LIRL		MIRL		MIRL	
NAVIGATION AIDS	N/A		REIL, PAPI	REIL	REIL, PAPI	REIL

1. MAXIMUM GRADE WITHIN RUNWAY LENGTH. MEETS LINE OF SIGHT REQUIREMENTS.

RUNWAY END DATA TABLE

	RUNWAY END	EXISTING	FUTURE	ULTIMATE
2	LATITUDE (NAD83)	48° 11' 14,34"N	48° 11' 12,41"N	48° 11' 12,41"N
	LONGITUDE (NAD83)	116° 54' 48,28"W	116° 54' 50,22"W	116° 54' 50,22"W
	TDZ ELEVATION	2193,0'	2194,5'	2190,9'
	END ELEVATION	2172,0'	2177,2'	SAME
	DTHR ELEVATION	NONE	2181,2'	SAME
	DTHR LATITUDE	NONE	48° 11' 18,95"N	SAME
	DTHR LONGITUDE	NONE	116° 54' 43,26"W	SAME
20	LATITUDE (NAD83)	48° 11' 38,31"N	48° 11' 40,05"N	48° 11' 42,91"N
	LONGITUDE (NAD83)	116° 54' 22,72"W	116° 54' 20,75"W	116° 54' 17,69"W
	TDZ ELEVATION	2193,0'	2188,8'	2189,4'
	END ELEVATION	2193,0'	2194,0'	2195,6'
	DTHR ELEVATION	NONE	2188,8'	2189,4'
	DTHR LATITUDE	NONE	48° 11' 33,95"N	48° 11' 34,91"N
	DTHR LONGITUDE	NONE	116° 54' 27,25"W	116° 54' 26,22"W

NOTE: ALL LATITUDE AND LONGITUDE COORDINATES ARE BASED ON NAD 83.
ALL ELEVATIONS LISTED ARE BASED ON NAVD 88.

TAXIWAY/TAXILANE DATA TABLE

ITEM	EXISTING	FUTURE / ULTIMATE
TAXIWAY DESIGN GROUP	1A	SAME
TAXIWAY WIDTH	25'	SAME
TAXIWAY SHOULDER WIDTH	10'	SAME
TAXIWAY EDGE SAFETY MARGIN	N/A	5'
TAXIWAY SAFETY AREA	49'	SAME
TAXIWAY OBJECT FREE AREA	89'	SAME
TAXIWAY LIGHTING	REFLECTOR	SAME

1. ALL FUTURE LANDSIDE DEVELOPMENT SHOULD INCLUDE ADEQUATE SNOW STORAGE AREAS, STORMWATER RETENTION AREAS.

MAGNETIC DECLINATION 14° 45' EAST
RATE OF CHANGE 0° 8' WEST/YEAR
AS OF 5/10/2016
SOURCE: NOAA ONLINE CALCULATOR

TRUE MAGNETIC

0 100 200 400 600

SCALE: 1" = 200'

WIND COVERAGE - ALL WEATHER

CROSS WIND COMPONENT 10.5 KTS

WIND COVERAGE - ALL WEATHER	
RUNWAY	CROSSWIND COMPONENT: 10.5kts
1-19	99.95%

Due to the absence of AWOS/ASOS on the airport, wind data are for information only.

Wind data were retrieved for NWS Station HOOI1 on MesoWest and range from JUL 2004 to JUL 2014. Station HOOI1 is located 10 miles southeast of the Airport.

MODIFICATION TO STANDARDS TABLE

NOT REQUIRED

FAA APPROVAL

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EXISTING DECLARED DISTANCES

DISTANCES	TORA	TODA	ASDA	LDA
RUNWAY 1	2,983'	2,983'	2,983'	2,983'
RUNWAY 19	2,983'	2,983'	2,983'	2,983'

FUTURE DECLARED DISTANCES

DISTANCES	TORA	TODA	ASDA	LDA
RUNWAY 2	2,681'	3,440'	3,440'	2,626'
RUNWAY 20	2,626'	3,440'	3,440'	2,681'

ULTIMATE DECLARED DISTANCES

DISTANCES	TORA	TODA	ASDA	LDA
RUNWAY 2	2,801'	3,797'	3,797'	2,983'
RUNWAY 20	2,983'	3,797'	3,797'	2,801'

AIRPORT DATA

ITEM	EXISTING	FUTURE	ULTIMATE
AIRPORT REFERENCE CODE	B-I SMALL	SAME	SAME
MEAN MAXIMUM TEMPERATURE	82,3°F	SAME	SAME
AIRPORT ELEVATION	2193,0' MSL	2194,0' MSL	2195,6' MSL
AIRPORT NAVAIDS	NONE	SAME	SAME
MISCELLANEOUS FACILITIES	LIGHTED WIND CONE	AWOS, REILs, PAPI	AWOS, REILs, PAPI
ARP COORDINATES	48° 11' 26,3"N 116° 54' 35,5"W	48° 11' 26,23"N 116° 54' 35,49"W	48° 11' 27,66"N 116° 54' 33,96"W
DESIGN AIRCRAFT	BEECHCRAFT BONANZA 35	CESSNA 182	CESSNA 182
NPIAS SERVICE LEVEL	GENERAL AVIATION	SAME	SAME
STATE EQUIVALENT SERVICE ROLE	COMMUNITY SERVICE	SAME	SAME

REVISIONS

NO.	ITEM	DATE

E-FILE NAME | DESIGNED | DRAWN: STR | CHECKED: MJV | APPROVED: MSC

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OFFICES ALSO IN:

PRIEST RIVER MUNICIPAL AIRPORT
PRIEST RIVER, IDAHO
AIRPORT LAYOUT PLAN SET
AIRPORT LAYOUT PLAN

DATE: MARCH 2017
PROJECT: 140040

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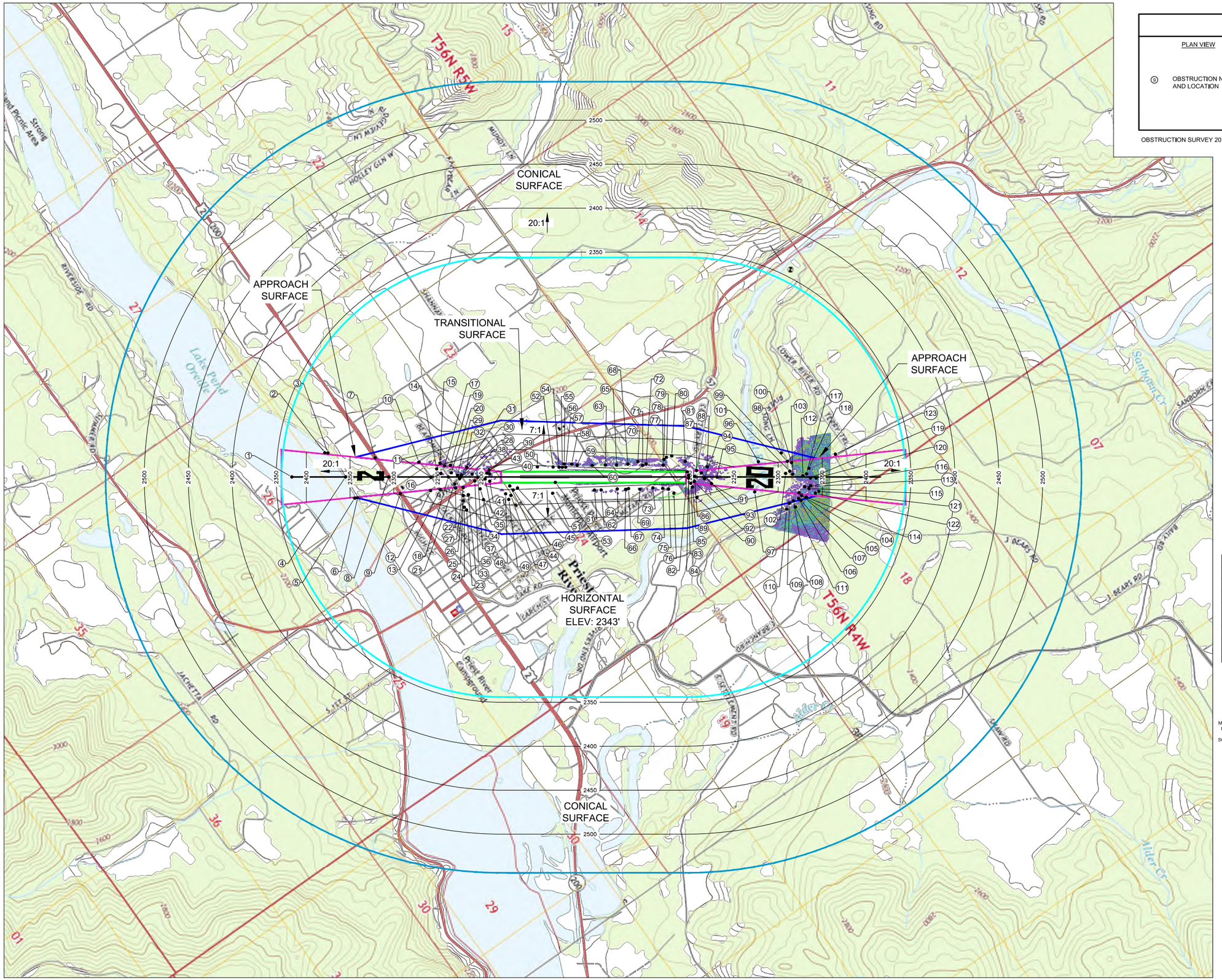

TERRAIN OBSTRUCTION TABLE			
RANGE	MIN. PENETRATION	MAX. PENETRATION	COLOR
1	0	20	
2	20	40	
3	40	60	
4	60	80	
5	80	100	
6	100	120	
7	120	140	

MAGNETIC DECLINATION 14° 45' EAST
RATE OF CHANGE 0° 8' WEST/YEAR
AS OF 5/10/2016
SOURCE: NOAA ONLINE CALCULATOR

TRUE
MAGNETIC

0 1000 2000 4000 6000

NOTES

1. SEE INNER PORTION OF THE APPROACH SURFACE DRAWING FOR CLOSE-IN OBSTRUCTIONS. ALL CLOSE IN OBSTRUCTIONS WILL BE REMOVED.

2. THRESHOLD SITING SURFACES FOR RUNWAY 2 AND RUNWAY 20 MEET CRITERIA FOR TYPE 2 RUNWAYS PER TABLE 3-2 IN CHAPTER 3 OF AC 150/5300-13A, AIRPORT DESIGN. PENETRATIONS OF TSS FOR RUNWAY 20 APPROACH WILL BE MITIGATED.

3. REFER TO DECLARED DISTANCE TABLE ON SHEET 2 FOR ADDITIONAL INFORMATION.

REVISIONS

NO.	ITEM	DATE

E-FILE NAME
DESIGNED
DRAWN STR
CHECKED MJV
APPROVED NSC

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PRIEST RIVER MUNICIPAL AIRPORT
PRIEST RIVER, IDAHO
AIRPORT AIRSPACE DRAWING
SHEET 1 OF 2

DATE: MARCH 2017
PROJECT: 140040

SHEET 3 OF 9

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PART 77 OBSTRUCTIONS

No.	DESCRIPTION	DATE OF OBSTRUCTION SURVEY	GROUND SURFACE ELEVATION	OBJECT ELEVATION		PENETRATION	SURFACE PENETRATED	PROPOSED ACTION
				AGL	MSL			
1	PEND OREILLE RIVER	2015	2061.0	10.0	2071.00	NONE	NONE	NONE
2	PEND OREILLE RIVER	2015	2061.0	10.0	2071.00	NONE	NONE	NONE
3	RAILROAD	2015	2078.7	23.0	2101.69	NONE	NONE	NONE
4	RAILROAD	2015	2078.7	23.0	2101.69	NONE	NONE	NONE
5	PEND OREILLE RIVER	2015	2120.3	10.0	2130.27	NONE	NONE	NONE
6	RAILROAD	2015	2124.1	23.0	2147.14	NONE	NONE	NONE
7	US ROUTE 2	2015	2165.0	17.0	2182.02	NONE	NONE	NONE
8	US ROUTE 2	2015	2167.0	17.0	2184.04	NONE	NONE	NONE
9	US ROUTE 2	2015	2168.5	17.0	2185.45	NONE	NONE	NONE
10	ROAD	2015	2170.1	15.0	2185.06	NONE	NONE	NONE
11	ROAD	2015	2175.9	15.0	2190.87	NONE	NONE	NONE
12	ROAD	2015	2177.5	15.0	2192.47	NONE	NONE	NONE
13	ROAD	2015	2178.6	15.0	2193.60	NONE	NONE	NONE
14	TREE	2015	2173.9	111.1	2284.96	33.9	APPROACH	REMOVE
15	TREE	2015	2172.0	112.6	2284.52	29.1	TRANSITIONAL	REMOVE
16	TREE	2015	2175.3	113.3	2288.65	42.4	APPROACH	REMOVE
17	TREE	2015	2172.3	130.8	2303.05	60.9	APPROACH	REMOVE
18	ROAD	2015	2176.3	15.0	2191.28	NONE	NONE	NONE
19	ROAD	2015	2172.5	15.0	2187.50	NONE	NONE	NONE
20	TREE	2015	2175.1	77.4	2252.55	18.2	APPROACH	REMOVE
21	TREE	2015	2178.9	69.8	2248.67	18.3	APPROACH	REMOVE
22	ROAD	2015	2179.6	15.0	2194.61	NONE	NONE	NONE
23	TREE	2015	2183.1	123.0	2306.00	10.8	TRANSITIONAL	REMOVE
24	TREE	2015	2183.4	121.1	2304.56	16.5	TRANSITIONAL	REMOVE
25	TREE	2015	2183.4	102.8	2286.14	18.7	TRANSITIONAL	REMOVE
26	TREE	2015	2182.3	101.8	2284.13	34.0	TRANSITIONAL	REMOVE
27	ROAD	2015	2179.2	15.0	2194.22	NONE	NONE	NONE
28	TREE	2015	2178.2	98.1	2276.26	51.4	APPROACH	REMOVE
29	TREE	2015	2176.5	110.1	2286.61	59.4	APPROACH	REMOVE
30	ROAD	2015	2177.5	15.0	2192.54	NONE	NONE	NONE
31	TREE	2015	2176.9	103.3	2280.22	57.3	APPROACH	REMOVE
32	TREE	2015	2175.5	116.8	2292.30	73.0	TRANSITIONAL	REMOVE
33	TREE	2015	2181.0	133.1	2314.06	70.6	TRANSITIONAL	REMOVE
34	TREE	2015	2184.1	75.1	2259.17	11.7	TRANSITIONAL	REMOVE
35	POWER POLE	2015	2178.5	43.2	2221.67	6.9	TRANSITIONAL	OBSTRUCTION LIGHT
36	POWER POLE	2015	2177.7	35.9	2213.58	6.1	APPROACH	OBSTRUCTION LIGHT
37	ROAD	2015	2179.6	0.0	2179.61	NONE	NONE	NONE
38	TREE	2015	2176.6	90.2	2266.76	56.2	APPROACH	REMOVE
39	POWER POLE	2015	2174.7	41.0	2215.65	22.2	APPROACH	OBSTRUCTION LIGHT
40	POWER POLE	2015	2174.6	31.6	2206.14	15.5	APPROACH	OBSTRUCTION LIGHT
41	BUILDING	2015	2176.4	16.8	2193.26	2.9	APPROACH	OBSTRUCTION LIGHT
42	BUILDING	2015	2176.2	25.3	2201.54	5.9	APPROACH	OBSTRUCTION LIGHT
43	ROAD	2015	2177.6	15.0	2192.63	0.1	TRANSITIONAL	NONE
44	TREE	2015	2171.9	30.5	2202.38	14.8	TRANSITIONAL	REMOVE
45	TREE	2015	2171.9	40.9	2212.77	16.1	TRANSITIONAL	REMOVE
46	TREE	2015	2173.0	48.8	2221.80	47.4	TRANSITIONAL	REMOVE
47	TREE	2015	2175.2	84.1	2259.31	40.9	TRANSITIONAL	REMOVE
48	TREE	2015	2175.7	68.1	2243.86	30.3	TRANSITIONAL	REMOVE
49	TREE	2015	2176.8	63.8	2240.60	8.7	TRANSITIONAL	REMOVE
50	HANGAR	2015	2178.6	20.1	2198.70	2.5	TRANSITIONAL	OBSTRUCTION LIGHT
51	TREE	2015	2179.0	62.4	2241.49	25.2	TRANSITIONAL	REMOVE
52	HANGAR	2015	2183.0	27.2	2210.22	13.4	TRANSITIONAL	OBSTRUCTION LIGHT
53	WINDCONE	2015	2180.7	22.0	2202.63	20.4	PRIMARY	RELOCATE
54	HANGAR	2015	2184.6	19.1	2203.70	6.2	TRANSITIONAL	OBSTRUCTION LIGHT
55	HANGAR	2015	2184.6	16.4	2200.97	3.2	TRANSITIONAL	OBSTRUCTION LIGHT
56	TREE	2015	2185.9	73.0	2258.91	50.9	TRANSITIONAL	REMOVE
57	HANGAR	2015	2184.7	19.2	2203.95	6.0	TRANSITIONAL	OBSTRUCTION LIGHT
58	TREE	2015	2186.1	77.3	2263.45	54.8	TRANSITIONAL	REMOVE
59	TREE	2015	2185.0	56.4	2241.40	35.5	TRANSITIONAL	REMOVE
60	TREE	2015	2189.1	67.1	2256.25	49.3	TRANSITIONAL	REMOVE
61	TREE	2015	2185.0	69.6	2254.61	44.1	TRANSITIONAL	REMOVE
62	TREE	2015	2185.8	85.6	2271.41	59.9	TRANSITIONAL	REMOVE

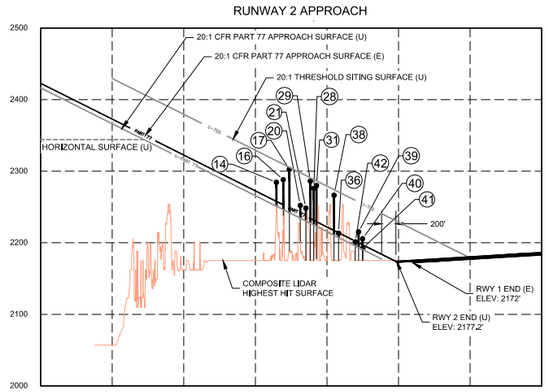
PART 77 OBSTRUCTIONS

No.	DESCRIPTION	DATE OF OBSTRUCTION SURVEY	GROUND SURFACE ELEVATION	OBJECT ELEVATION		PENETRATION	SURFACE PENETRATED	PROPOSED ACTION
				AGL	MSL			
63	TREE	2015	2191.3	98.6	2289.86	80.5	TRANSITIONAL	REMOVE
64	TREE	2015	2188.4	63.9	2252.28	42.6	TRANSITIONAL	REMOVE
65	TREE	2015	2197.6	87.1	2284.67	73.9	TRANSITIONAL	REMOVE
66	TREE	2015	2189.9	88.4	2278.28	66.7	TRANSITIONAL	REMOVE
67	HOUSE	2015	2190.5	21.2	2211.70	1.9	TRANSITIONAL	OBSTRUCTION LIGHT
68	TREE	2015	2193.7	72.9	2266.54	51.7	TRANSITIONAL	REMOVE
69	TREE	2015	2191.6	83.8	2275.41	62.3	TRANSITIONAL	REMOVE
70	TREE	2015	2193.0	102.5	2295.42	71.2	TRANSITIONAL	REMOVE
71	TREE	2015	2192.9	91.6	2284.53	72.0	TRANSITIONAL	REMOVE
72	TREE	2015	2193.4	105.2	2298.57	80.8	TRANSITIONAL	REMOVE
73	TREE	2015	2191.7	72.7	2264.37	54.3	TRANSITIONAL	REMOVE
74	TREE	2015	2191.7	85.3	2276.96	64.6	TRANSITIONAL	REMOVE
75	TREE	2015	2191.6	91.5	2283.15	67.3	TRANSITIONAL	REMOVE
76	TREE	2015	2189.0	80.6	2269.60	40.1	TRANSITIONAL	REMOVE
77	TREE	2015	2194.6	94.2	2288.79	65.6	TRANSITIONAL	REMOVE
78	TREE	2015	2195.2	97.8	2293.03	58.8	TRANSITIONAL	REMOVE
79	TREE	2015	2195.7	102.8	2298.44	57.1	TRANSITIONAL	REMOVE
80	TREE	2015	2196.1	99.2	2295.34	49.1	TRANSITIONAL	REMOVE
81	TREE	2015	2194.7	94.8	2289.51	59.8	TRANSITIONAL	REMOVE
82	TREE	2015	2191.8	87.7	2279.47	82.2	APPROACH	REMOVE
83	TREE	2015	2189.3	52.2	2241.54	42.9	APPROACH	REMOVE
84	POWERPOLE	2015	2188.1	27.9	2216.01	17.2	APPROACH	REMOVE
85	ROAD PR	2015	2184.4	15.0	2199.41	NONE	NONE	NONE
86	ROAD PR	2015	2184.3	15.0	2199.30	NONE	NONE	NONE
87	ROAD PR	2015	2185.3	15.0	2200.33	NONE	NONE	NONE
88	ROAD	2015	2177.2	15.0	2192.16	NONE	NONE	NONE
89	TREE	2015	2180.1	83.6	2263.75	48.5	TRANSITIONAL	REMOVE
90	TREE	2015	2152.4	136.9	2289.25	36.3	TRANSITIONAL	REMOVE
91	TREE	2015	2170.8	83.6	2254.40	29.8	APPROACH	REMOVE
92	TREE	2015	2181.5	78.8	2260.26	55.1	APPROACH	REMOVE
93	TREE	2015	2178.8	115.5	2294.25	81.0	APPROACH	REMOVE
94	TREE	2015	2176.0	80.9	2256.88	40.2	APPROACH	REMOVE
95	TREE	2015	2178.5	88.3	2266.73	35.7	APPROACH	REMOVE
96	PRIEST RIVER	2015	2120.6	10.0	2130.59	NONE	NONE	NONE
97	PRIEST RIVER	2015	2099.5	10.0	2109.46	NONE	NONE	NONE
98	TREE	2015	2247.2	92.5	2339.70	5.5	TRANSITIONAL	REMOVE
99	ROAD	2015	2201.0	15.0	2215.96	NONE	NONE	NONE
100	TREE	2015	2368.8	3.7	2372.47	57.3	TRANSITIONAL	REMOVE
101	ROAD	2015	2200.0	15.0	2215.02	NONE	NONE	NONE
102	TREE	2015	2314.6	1.7	2316.21	7.7	APPROACH	OBSTRUCTION LIGHT
103	TREE	2015	2351.9	2.5	2354.47	38.0	APPROACH	OBSTRUCTION LIGHT
104	ROAD	2015	2324.0	0.0	2324.02	NONE	NONE	NONE
105	TREE	2015	2351.2	66.3	2417.49	93.9	APPROACH	OBSTRUCTION LIGHT
106	TREE	2015	2375.3	33.1	2408.41	70.6	HORIZONTAL	REMOVE
107	TREE	2015	2375.3	81.6	2456.94	112.9	TRANSITIONAL	REMOVE
108	TREE	2015	2372.1	16.5	2388.62	44.6	TRANSITIONAL	REMOVE
109	TREE	2015	2420.4	0.0	2420.39	76.4	HORIZONTAL	REMOVE
110	TREE	2015	2366.7	30.6	2397.30	53.3	HORIZONTAL	REMOVE
111	TREE	2015	2375.3	88.9	2464.22	120.2	HORIZONTAL	REMOVE
112	TREE	2015	2367.3	65.2	2432.43	104.4	APPROACH	OBSTRUCTION LIGHT
113	TREE	2015	2358.6	35.5	2394.09	64.1	APPROACH	OBSTRUCTION LIGHT
114	TREE	2015	2375.3	84.7	2460.03	120.1	TRANSITIONAL	REMOVE
115	TREE	2015	2371.0	44.2	2415.21	80.3	APPROACH	OBSTRUCTION LIGHT
116	TREE	2015	2369.3	47.5	2416.74	79.9	APPROACH	OBSTRUCTION LIGHT
117	TREE	2015	2368.7	68.0	2436.70	104.6	APPROACH	OBSTRUCTION LIGHT
118	TREE	2015	2368.8	82.5	2451.28	116.4	APPROACH	OBSTRUCTION LIGHT
119	ROAD	2015	2353.4	15.0	2368.39	31.8	APPROACH	NONE
120	TREE	2015	2369.1	80.3	2449.31	106.3	APPROACH	OBSTRUCTION LIGHT
121	TREE	2015	2369.5	87.7	2457.14	113.1	APPROACH	OBSTRUCTION LIGHT
122	TREE	2015	2371.5	92.8	2464.34	120.3	APPROACH	OBSTRUCTION LIGHT
123	ROAD	2015	2362.5	15.0	2377.46	33.5	HORIZONTAL	NONE

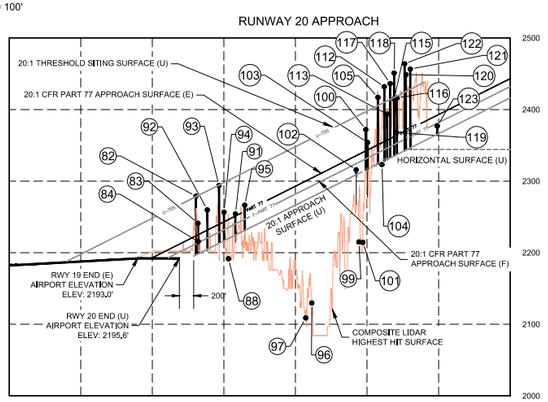
AIRPORT APPROACH PROFILES

HORIZ SCALE: 1" = 1000'
VERT. SCALE: 1" = 100'

RUNWAY 2 APPROACH



RUNWAY 20 APPROACH



REVISIONS			
NO.	ITEM	DATE	

E-FILE NAME:
DESIGNED: MSC
DRAWN: MJV
CHECKED: MSC
APPROVED: MSC

T-O ENGINEERS
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PRIEST RIVER MUNICIPAL AIRPORT
PRIEST RIVER, IDAHO
AIRPORT AIRSPACE DRAWING
SHEET 2 OF 2

DATE: MARCH 2017
PROJECT: 140040

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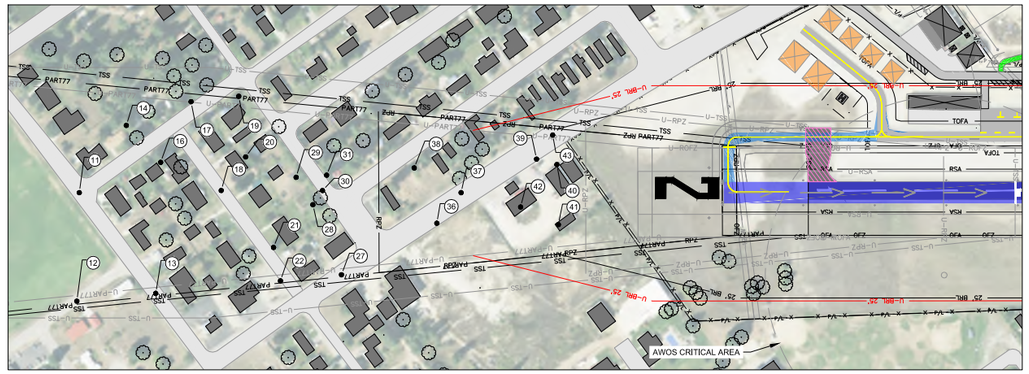
RUNWAY 2 INNER APPROACH PLAN



MAGNETIC DECLINATION 14° 45' EAST
RATE OF CHANGE 0° 8' WEST/YEAR
AS OF 5/10/2016
SOURCE: NOAA ONLINE CALCULATOR

0 100 200 400 600

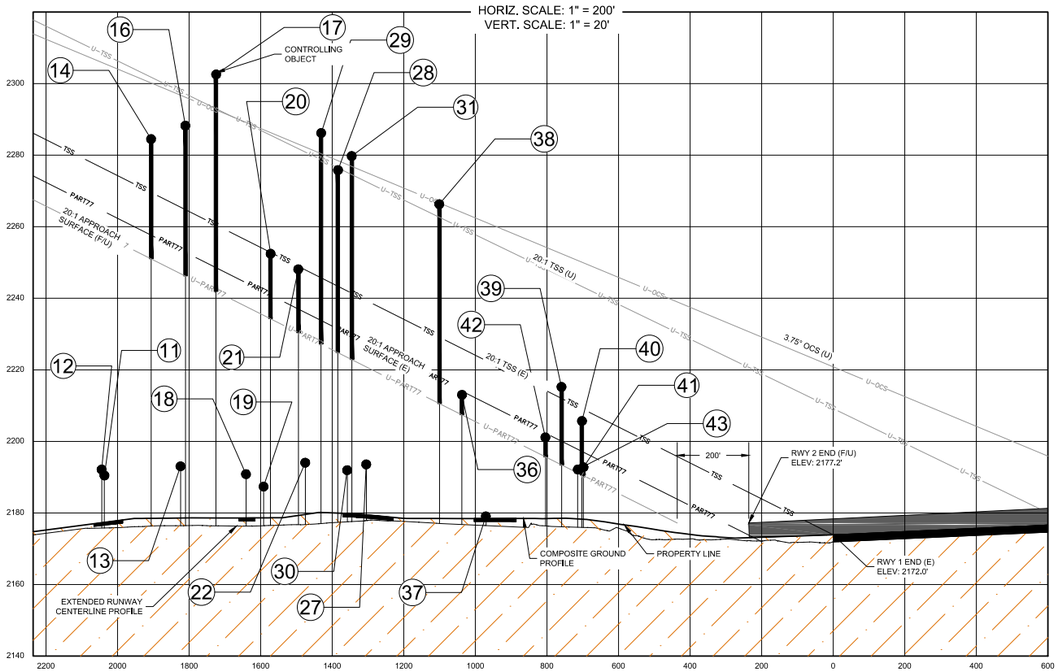
LEGEND

PLAN VIEW	PROFILE VIEW
9 OBSTRUCTION NUMBER AND LOCATION	9 OBSTRUCTION NUMBER
OBSTRUCTION LOCATION	OBSTRUCTING PART OF THE OBJECT
	NON-OBSTRUCTING PART OF THE OBJECT

LEGEND

EXISTING	FUTURE / ULTIMATE	DESCRIPTION
		AIRPORT PAVEMENT
		RUNWAY
		PAVEMENT TO BE REMOVED
P/L	P/L	AIRPORT PROPERTY LINE
		ROADWAY
x x x	x x x	7' SECURITY FENCE
		AIRPORT REFERENCE POINT
		BUILDING
		BUILDING TO BE REMOVED
25' BRL	F/U-BRL 25'	BUILDING RESTRICTION LINE (BRL)
RSA	F/U-RSA	RUNWAY SAFETY AREA (RSA)
OFA	F/U-OFA	RUNWAY OBJECT FREE AREA (OFA)
RPZ	F/U-RPZ	RUNWAY PROTECTION ZONE (RPZ)
ROFZ	F/U-ROFZ	RUNWAY OBJECT FREE ZONE (OFZ)
TSA	TSA	TAXIWAY SAFETY AREA (TSA)
TOFA	TOFA	TAXIWAY OBJECT FREE AREA (TOFA)
TSS	F/U-TSS	THRESHOLD SITING SURFACE (TSS)
PART 77	F/U-PART 77	CFR PART 77 APPROACH SURFACE
		RUNWAY END IDENTIFIER LIGHTS (REIL)
		RUNWAY LIGHTS
5160		TOPOGRAPHIC CONTOURS

RUNWAY 2 INNER APPROACH PROFILE

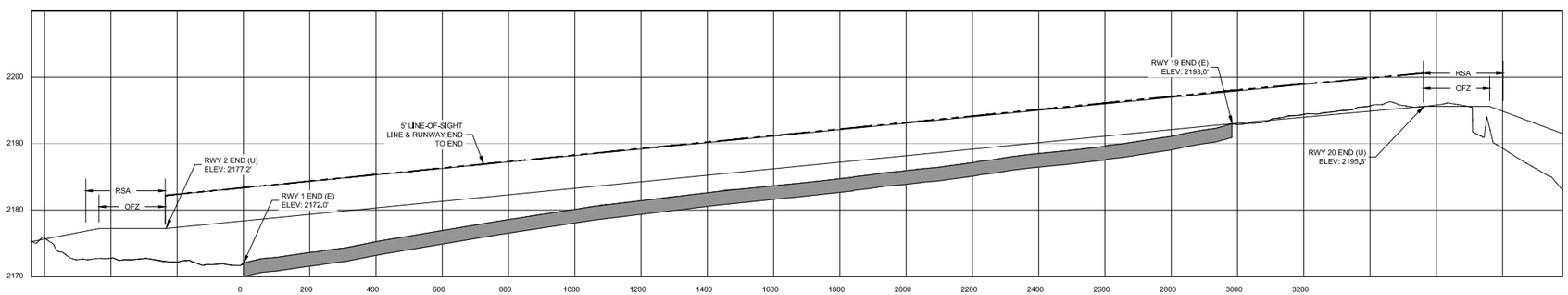


PART 77 OBSTRUCTIONS

No.	DESCRIPTION	DATE OF OBSTRUCTION SURVEY	GROUND SURFACE ELEVATION	OBJECT ELEVATION AGL	OBJECT ELEVATION MSL	PENETRATION	SURFACE PENETRATED	PROPOSED ACTION
11	ROAD	2015	2175.9	15.0	2190.9	NONE	NONE	NONE
12	ROAD	2015	2177.5	15.0	2192.5	NONE	NONE	NONE
13	ROAD	2015	2178.6	15.0	2193.6	NONE	NONE	NONE
14	TREE	2015	2173.9	111.1	2285.0	33.9	APPROACH	REMOVE
16	TREE	2015	2175.3	113.3	2288.7	42.4	APPROACH	REMOVE
17	TREE	2015	2172.3	130.8	2303.1	60.9	APPROACH	REMOVE
18	ROAD	2015	2176.3	15.0	2191.3	NONE	NONE	NONE
19	ROAD	2015	2172.5	15.0	2187.5	NONE	NONE	NONE
20	TREE	2015	2175.1	77.4	2252.6	18.2	APPROACH	REMOVE
21	TREE	2015	2178.9	69.8	2248.7	18.3	APPROACH	REMOVE
22	ROAD	2015	2179.6	15.0	2194.6	NONE	NONE	NONE
27	ROAD	2015	2179.2	15.0	2194.2	NONE	NONE	NONE
28	TREE	2015	2178.2	98.1	2276.3	51.4	APPROACH	REMOVE
29	TREE	2015	2176.5	110.1	2286.6	59.4	APPROACH	REMOVE
30	ROAD	2015	2177.5	15.0	2192.5	NONE	NONE	NONE
31	TREE	2015	2176.9	103.3	2280.2	57.3	APPROACH	REMOVE
36	POWER POLE	2015	2177.7	35.9	2213.6	6.1	APPROACH	OBSTRUCTION LIGHT
37	ROAD	2015	2179.6	0.0	2179.6	NONE	NONE	NONE
38	TREE	2015	2176.6	90.2	2266.8	56.2	APPROACH	REMOVE
39	POWER POLE	2015	2174.7	41.0	2215.7	22.2	APPROACH	OBSTRUCTION LIGHT
40	POWER POLE	2015	2174.6	31.6	2206.1	15.5	APPROACH	OBSTRUCTION LIGHT
41	BUILDING	2015	2176.4	16.8	2193.3	2.9	APPROACH	OBSTRUCTION LIGHT
42	BUILDING	2015	2176.2	25.3	2201.5	5.9	APPROACH	OBSTRUCTION LIGHT
43	ROAD	2015	2177.6	15.0	2192.6	0.1	TRANSITIONAL	NONE

RUNWAY 2-20 CENTERLINE PROFILE

HORIZ. SCALE: 1" = 200'
VERT. SCALE: 1" = 10'



E-FILE NAME

REVISIONS NO.	DATE	DESIGNED	DRAWN	CHECKED	APPROVED
			MJV	NSC	NSC

T-O ENGINEERS
CONSULTING ENGINEERS, SURVEYORS & PLANNERS
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PRIEST RIVER MUNICIPAL AIRPORT
PRIEST RIVER, IDAHO
AIRPORT LAYOUT PLAN SET
INNER APPROACH PLAN - RWY 2

DATE: MARCH 2017
PROJECT: 140040

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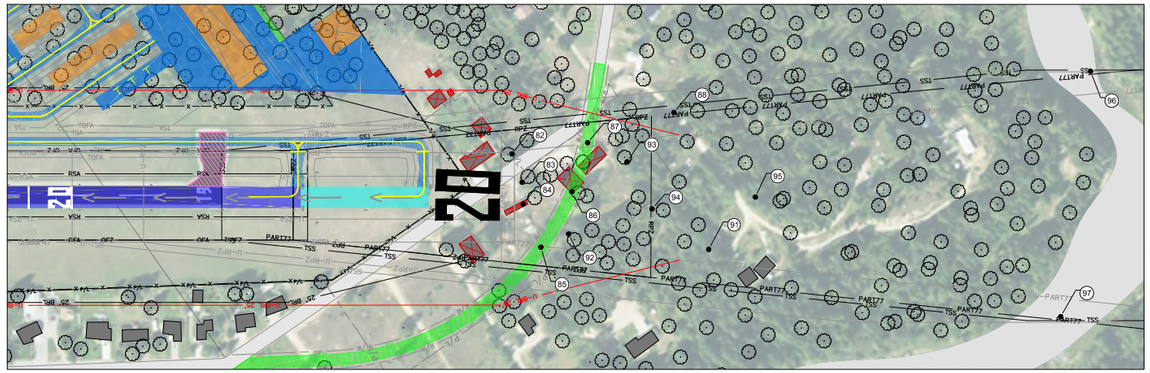
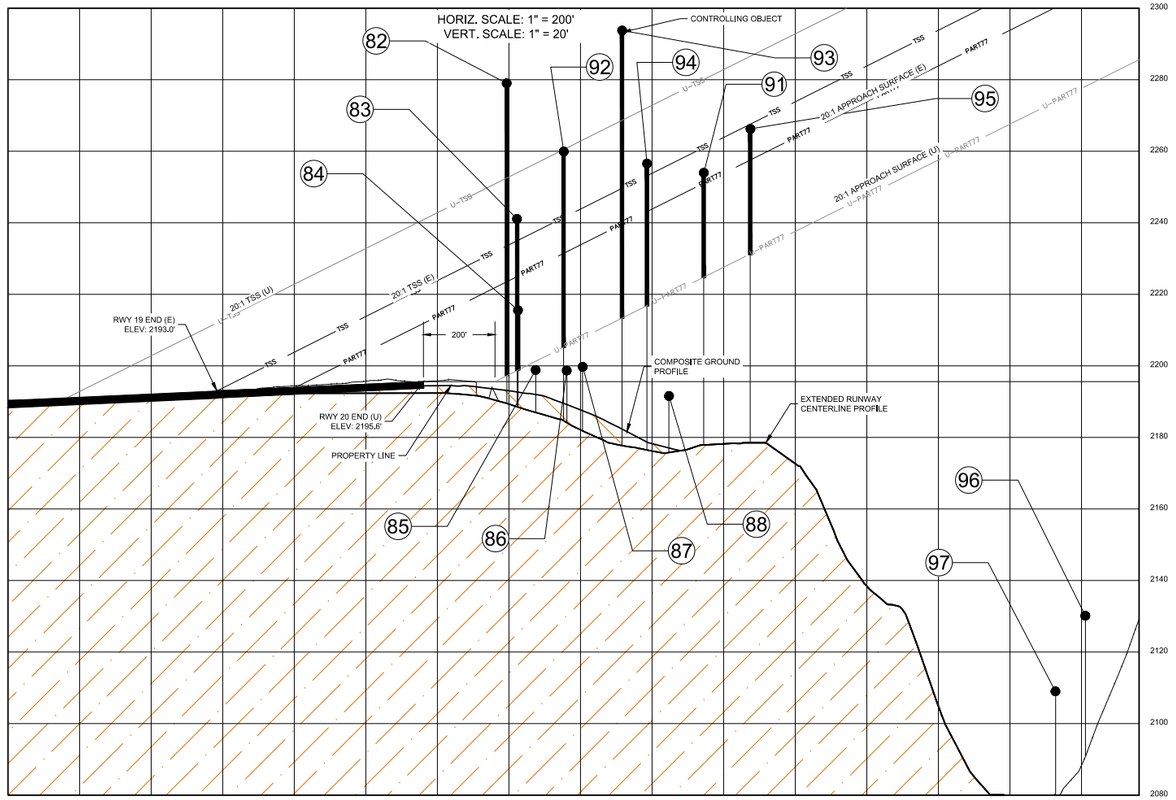
RUNWAY 20 INNER APPROACH PLAN



RUNWAY 20 INNER APPROACH PROFILE



MAGNETIC DECLINATION 14° 45' EAST
RATE OF CHANGE 0° 8' WEST/YEAR
AS OF 5/10/2016
SOURCE: NOAA ONLINE CALCULATOR

LEGEND	
PLAN VIEW	PROFILE VIEW
9 OBSTRUCTION NUMBER AND LOCATION	9 OBSTRUCTION NUMBER
OBSTRUCTION LOCATION	OBSTRUCTING PART OF THE OBJECT
	NON-OBSTRUCTING PART OF THE OBJECT

PART 77 OBSTRUCTIONS

No.	DESCRIPTION	DATE OF OBSTRUCTION SURVEY	GROUND SURFACE ELEVATION	OBJECT ELEVATION AGL	OBJECT ELEVATION MSL	PENETRATION	SURFACE PENETRATED	PROPOSED ACTION
82	TREE	2015	2191.8	87.7	2279.5	82.2	APPROACH	REMOVE
83	TREE	2015	2189.3	52.2	2241.5	42.9	APPROACH	REMOVE
84	POWERPOLE	2015	2188.1	27.9	2216.0	17.2	APPROACH	REMOVE
85	ROAD PR	2015	2184.4	15	2199.4	NONE	NONE	NONE
86	ROAD PR	2015	2184.3	15	2199.3	NONE	NONE	NONE
87	ROAD PR	2015	2185.3	15	2200.3	NONE	NONE	NONE
88	ROAD	2015	2177.2	15	2192.2	NONE	NONE	NONE
91	TREE	2015	2170.8	83.6	2254.4	29.8	APPROACH	REMOVE
92	TREE	2015	2181.5	78.8	2260.3	55.1	APPROACH	REMOVE
93	TREE	2015	2178.8	115.5	2294.3	81.0	APPROACH	REMOVE
94	TREE	2015	2176.0	80.9	2256.9	40.2	APPROACH	REMOVE
95	TREE	2015	2178.5	88.3	2266.7	35.7	APPROACH	REMOVE
96	PRIEST RIVER	2015	2120.6	10	2130.6	NONE	NONE	NONE
97	PRIEST RIVER	2015	2099.5	10	2109.5	NONE	NONE	NONE

LEGEND		
EXISTING	FUTURE / ULTIMATE	DESCRIPTION
		AIRPORT PAVEMENT
		RUNWAY
		PAVEMENT TO BE REMOVED
P/L	P/L	AIRPORT PROPERTY LINE
		ROADWAY
x x	x x	7' SECURITY FENCE
		AIRPORT REFERENCE POINT
		BUILDING
		BUILDING TO BE REMOVED
25' BRL	F/U-BRL 25'	BUILDING RESTRICTION LINE (BRL)
RSA	F/U-RSA	RUNWAY SAFETY AREA (RSA)
OFA	F/U-OFA	RUNWAY OBJECT FREE AREA (OFA)
RPZ	F/U-RPZ	RUNWAY PROTECTION ZONE (RPZ)
ROFZ	F/U-ROFZ	RUNWAY OBJECT FREE ZONE (OFZ)
TSA	TSA	TAXIWAY SAFETY AREA (TSA)
TOFA	TOFA	TAXIWAY OBJECT FREE AREA (TOFA)
TSS	F/U-TSS	THRESHOLD SITING SURFACE (TSS)
PART 77	F/U-PART 77	CFR PART 77 APPROACH SURFACE
		RUNWAY END IDENTIFIER LIGHTS (REIL)
		RUNWAY LIGHTS
3160		TOPOGRAPHIC CONTOURS

REVISIONS

NO.	DATE

E-FILE NAME	
DESIGNED	
DRAWN	MJV
CHECKED	NSC
APPROVED	NSC

T-O ENGINEERS
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SPOKANE, WA

PRIEST RIVER MUNICIPAL AIRPORT
PRIEST RIVER, IDAHO
AIRPORT LAYOUT PLAN SET
INNER APPROACH PLAN - RWY 20

DATE: MARCH 2017
PROJECT: 140040

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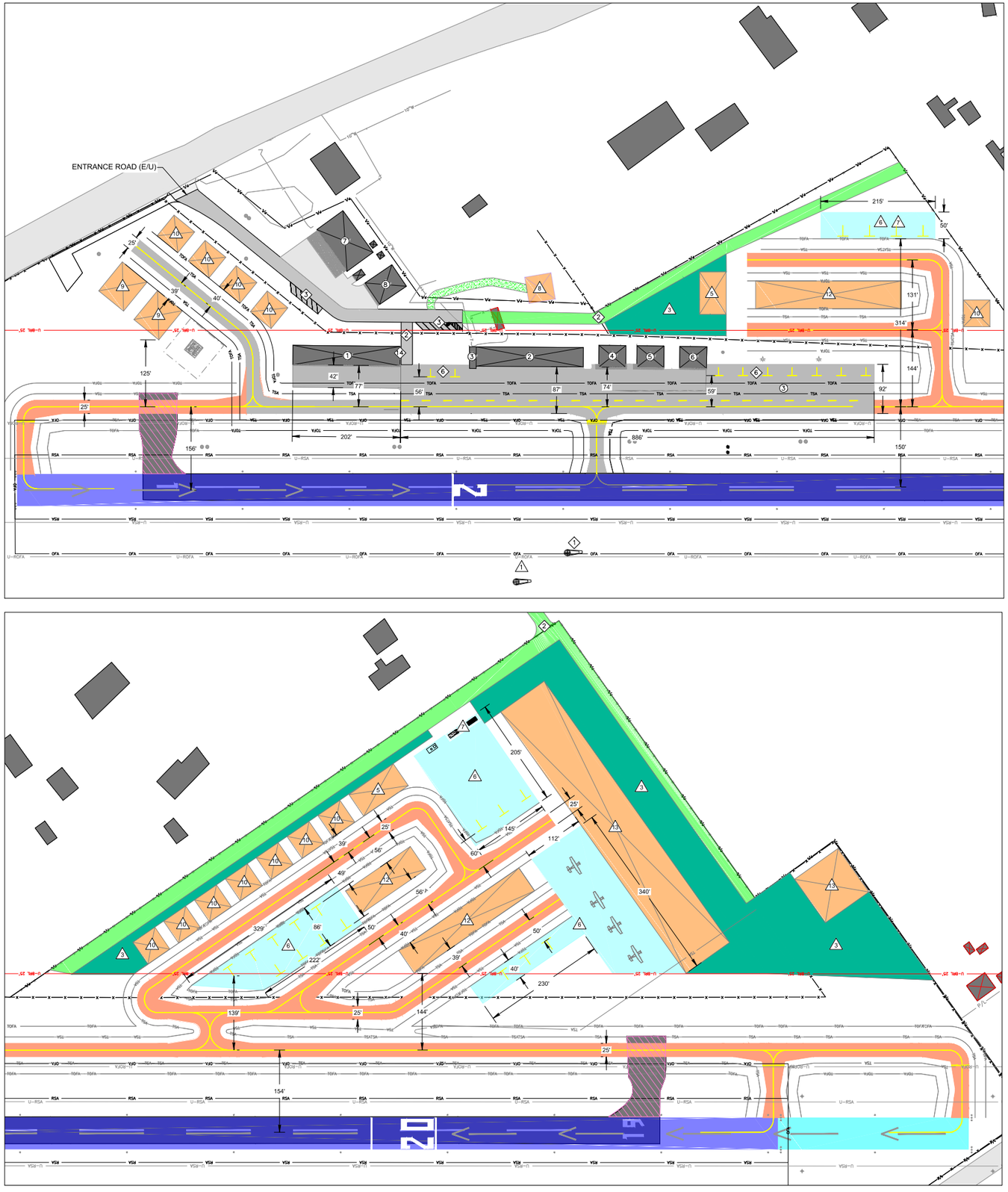

MAGNETIC DECLINATION 14° 45' EAST
RATE OF CHANGE 0° 8' WEST/YEAR
AS OF 5/10/2016
SOURCE: NOAA ONLINE CALCULATOR

TRUE
MAGNETIC

0 50 100 200 300

SCALE: 1" = 100'

LEGEND

EXISTING	ULTIMATE	DESCRIPTION
		TAXIWAY/TAXILANE
		APRON
		VEHICLE PARKING
		RUNWAY
		AIRPORT PAVEMENT TO BE REMOVED
	P/L	AIRPORT PROPERTY LINE
		ROADWAY
x x x	x x x	7' SECURITY FENCE
		AIRPORT REFERENCE POINT
		BUILDING
		BUILDING TO BE REMOVED
25' BRL	25' BRL	BUILDING RESTRICTION LINE (BRL)
RSA	U-RSA	RUNWAY SAFETY AREA (RSA)
OFA	U-OFA	RUNWAY OBJECT FREE AREA (OFA)
RPZ	U-RPZ	RUNWAY PROTECTION ZONE (RPZ)
OFZ	U-ROFZ	RUNWAY OBJECT FREE ZONE (OFZ)
TSA	TSA	TAXIWAY SAFETY AREA (TSA)
TOFA	TOFA	TAXIWAY OBJECT FREE AREA (TOFA)
		RUNWAY END IDENTIFIER LIGHTS (REIL)
		RUNWAY LIGHTS
		AUTOMATED WEATHER STATION
3160		TOPOGRAPHIC CONTOURS
		STORM DRAINAGE
		TELECOMMUNICATION
		WATER LINE

EXISTING AND FUTURE FACILITIES

EXISTING	FUTURE	DESCRIPTION
1	1	WIND CONE
2	2	AUTOMATIC ACCESS GATE
3	3	AUTOMOBILE PARKING
4	4	MANUAL ACCESS GATE
	5	FBO
6	6	TIEDOWN RAMP
	7	FUEL FACILITY
	8	SNOW REMOVAL EQUIPMENT BUILDING
	9	HANGAR 60' x 70'
	10	HANGAR 50' x 50'
	11	HANGAR 60' x 70'
	12	T-HANGARS
	13	NON-AERONAUTICAL DEVELOPMENT
14		ROTATING BEACON

EXISTING BUILDINGS

EXISTING	DESCRIPTION	OWNER	TOP ELEVATION	OBSTRUCTION	OBSTRUCTION LIGHT / MARKING	RECOMMENDED ACTION
1	HANGAR	BONNER COUNTY	2,198.7'	YES	NO	OBST. LIGHT
2	HANGAR	BONNER COUNTY	2,210.2'	YES	NO	OBST. LIGHT
3	PILOT'S LOUNGE	BONNER COUNTY	2,210.2'	YES	NO	OBST. LIGHT
4	HANGAR	MENDIVE HANGAR	2,203.7'	YES	NO	OBST. LIGHT
5	HANGAR	BENDICKSON HANGAR	2,201.0'	YES	NO	OBST. LIGHT
6	HANGAR	CANNAM HANGAR	2,204.0'	YES	NO	OBST. LIGHT
7	WEST PEND OREILLE FIRE DEPT.	BONNER COUNTY	2,204.0'	NO	NO	NONE
8	EMERGENCY MEDICAL SERVICES	BONNER COUNTY	2,204.0'	NO	NO	NONE

FAA APPROVAL

REVISIONS

NO.	ITEM	DATE

E-FILE NAME:
DESIGNED:
DRAWN: MJV
CHECKED: NSC
APPROVED: NSC

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PRIEST RIVER MUNICIPAL AIRPORT
PRIEST RIVER, IDAHO
AIRPORT LAYOUT PLAN SET
TERMINAL AREA PLAN

DATE: MARCH 2017
PROJECT: 140040

SHEET 7 OF 9

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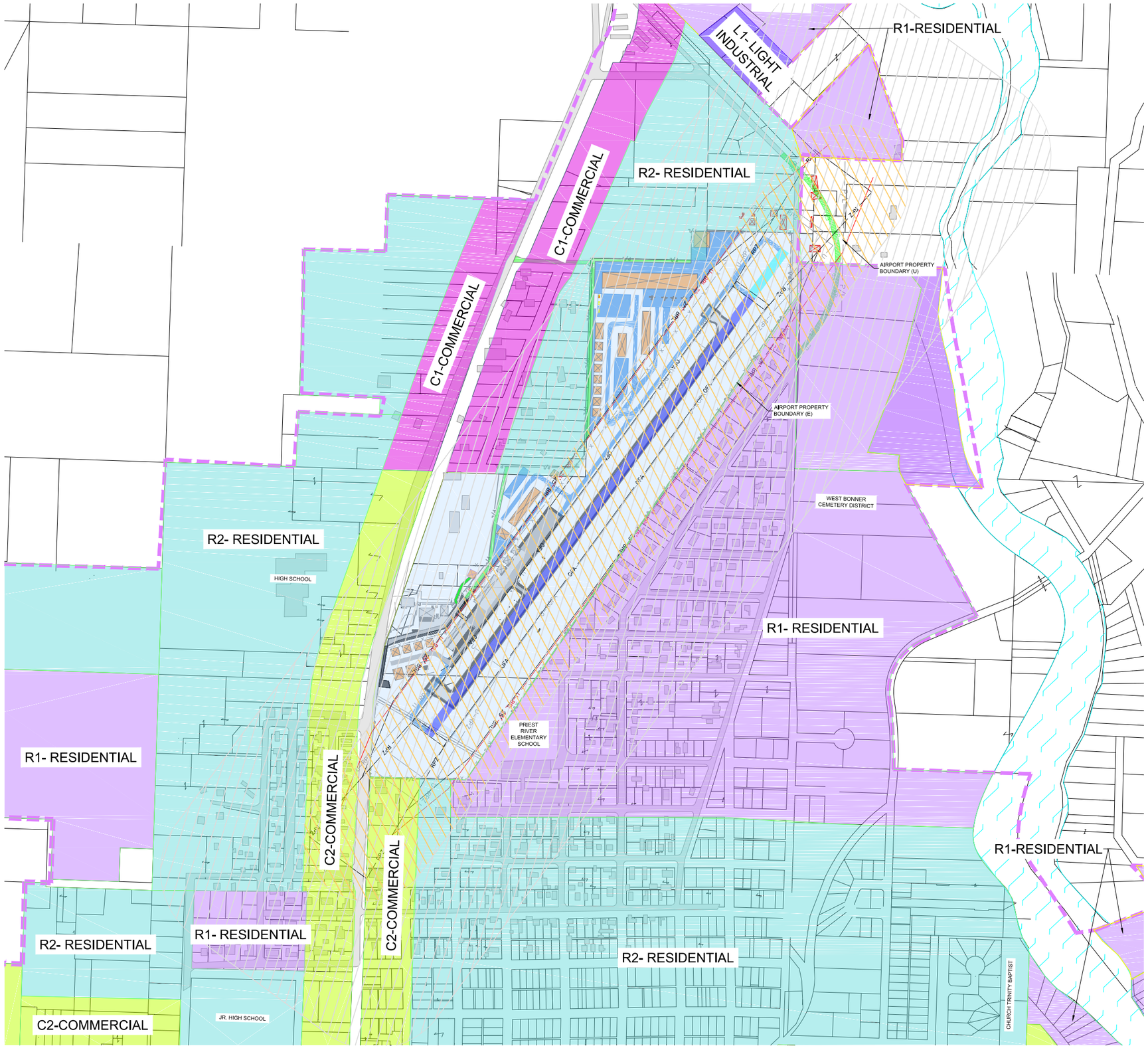

MAGNETIC DECLINATION 14° 45' EAST
RATE OF CHANGE 0° 8' WEST/YEAR
AS OF 5/10/2016
SOURCE: NOAA ONLINE CALCULATOR

TRUE
MAGNETIC

0 250 500 1000 1500

LEGEND		
EXISTING	FUTURE / ULTIMATE	DESCRIPTION
		AIRPORT PAVEMENT
		RUNWAY
		PAVEMENT TO BE REMOVED
P/L	P/L	AIRPORT PROPERTY LINE
		ROADWAY
X	X	7' SECURITY FENCE
		BUILDING
		BUILDING TO BE REMOVED
25' BRL	F/U-BRL 25'	BUILDING RESTRICTION LINE (BRL)
OFA	F/U-OFA	RUNWAY OBJECT FREE AREA (OFA)
RPZ	F/U-RPZ	RUNWAY PROTECTION ZONE (RPZ)
		NAVIGATIONAL AID INSTALLATION

LAND USE LEGEND

- R-1 RESIDENTIAL
- R-2 RESIDENTIAL
- R-3 RESIDENTIAL
- C-1 COMMERCIAL*
- C-2 COMMERCIAL*
- L-1 LIGHT INDUSTRIAL*
- MUNICIPAL
- AIRPORT OVERLAY
- RUNWAY PROTECTION ZONE (RPZ)
- ANNEXATION AGREEMENT ZONE
- HISTORICAL DISTRICT OVERLAY**
- FOREST PRODUCTS / MANUFACTURING ZONE
- ORDINANCE 515 SETTLEMENT ANNEXATION
- CITY LIMITS *APPROXIMATE*

NOTES

1. NO CROP OR WILDLIFE ATTRACTANTS ARE LOCATED ON OR NEAR THE AIRPORT.
2. THE AIRPORT IS CURRENTLY ZONED VIA CITY OF PRIEST RIVER ZONING ORDINANCE 279 AND BONNER COUNTY ZONING REGULATION, 12-521. FAR PART 77 AIRSPACE IS PROTECTED.

REVISIONS

NO.	ITEM	DATE

E-FILE NAME	
DESIGNED	
DRAWN	MJV
CHECKED	NSC
APPROVED	NSC

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PRIEST RIVER MUNICIPAL AIRPORT
PRIEST RIVER, ID
AIRPORT LAYOUT PLAN SET
AIRPORT LAND USE MAP

DATE: MARCH 2017
PROJECT: 140040

SHEET 8 OF 9

11/4/2020 Autodesk Trust Final Priest River ALP Set+140040ADBOILER.dwg, 4/6/2017 3:28:5 PM, Vallerie, Maxime, DWG To PDF.pc3

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BONNER COUNTY AIRPORT PROPERTY - PRIEST RIVER, IDAHO									
	PARCEL	BOOK & PAGE	INSTRUMENT NO.	DATE RECORDED	ACREAGE	PROPERTY INTEREST	PRIOR OWNER	PURPOSE OF ACQUISITION	PROJECT #
A		PG. 236	222416	12-14-1979	54,41	FEE SIMPLE/CLAUSE	CITY OF PRIEST RIVER, IDAHO	AERONAUTICAL	
B		BK 190 PG. 142	225688	3-7-1980	2,80	FEE SIMPLE	JOHN P. & VICKI CONNOLLY	APPROACH	
C			800769	10-26-2010	1,29	FEE SIMPLE	CITY OF PRIEST RIVER, IDAHO	AERONAUTICAL	3-16-0058-002
D			829666	5-25-2012	0,19	FEE SIMPLE	CITY OF PRIEST RIVER ROAD ROW	AERONAUTICAL	
F			884437	1-13-2016	3,60	FEE SIMPLE	STATE OF IDAHO	DEVELOPMENT	
G			813065	7-26-2011	12,63	FEE SIMPLE	CITY OF PRIEST RIVER, IDAHO	DEVELOPMENT	3-16-0058-003

Existing Easements			
Parcel "A"			
1	City of Priest River	168733	Water Line Easement
2	Pacific Power & Light Co.	294206	Underground Electric
3	Pacific Power & Light Co.	441738	Underground Electric
Parcel "B"			
4	Pacific Power & Light Co.	169299	Utility Easement
Parcel "C"			
5	City of Priest River	168733	Water Line Easement

MAGNETIC DECLINATION 14° 45' EAST
RATE OF CHANGE 0° 8' WEST/YEAR
AS OF 5/10/2016
SOURCE: NOAA ONLINE CALCULATOR

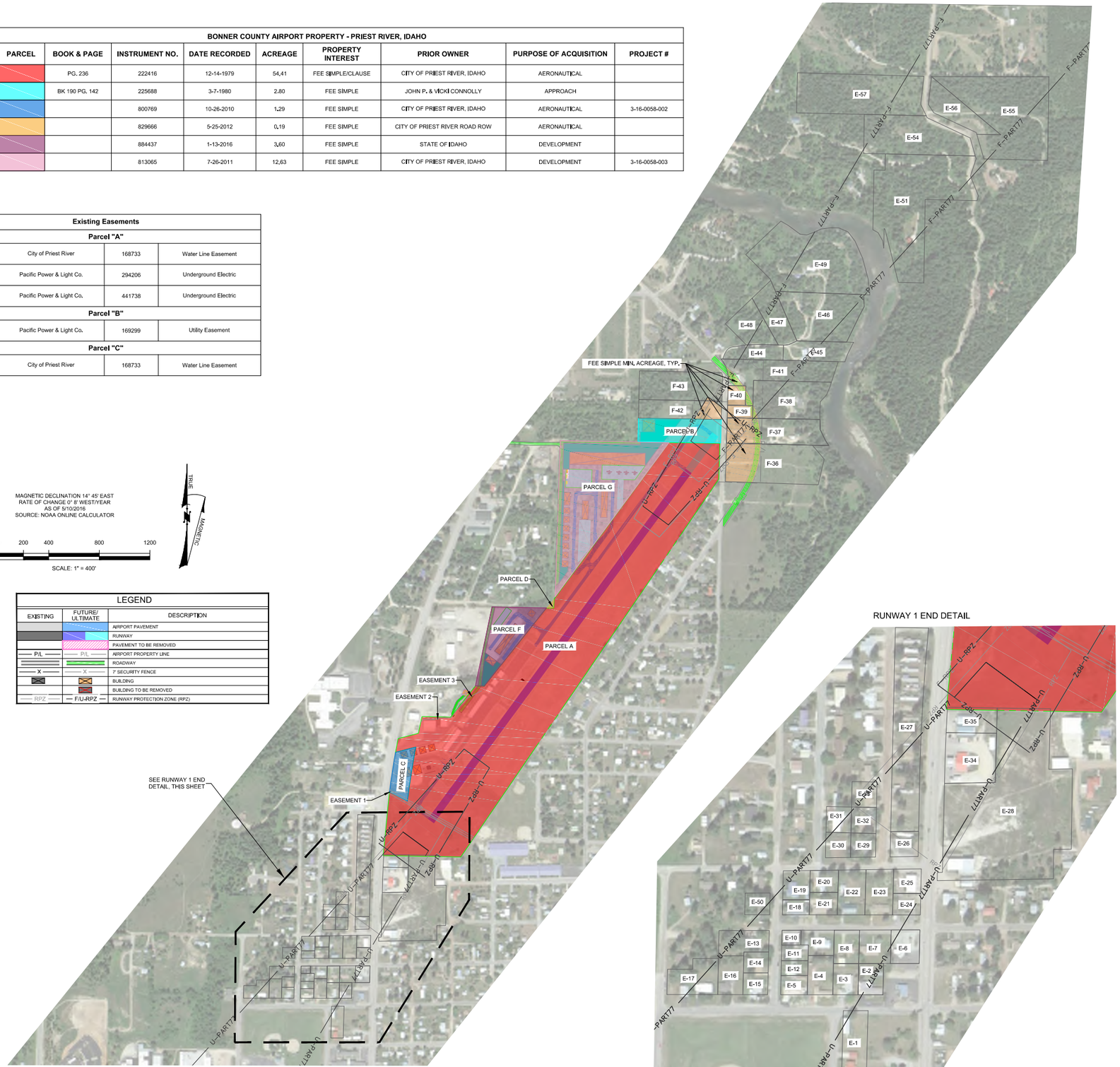
0 200 400 800 1200

SCALE: 1" = 400'

TRUE

MAGNETIC

LEGEND		
EXISTING	FUTURE/ ULTIMATE	DESCRIPTION
		AIRPORT PAVEMENT
		RUNWAY
		PAVEMENT TO BE REMOVED
P/L	P/L	AIRPORT PROPERTY LINE
		ROADWAY
X	X	7' SECURITY FENCE
		BUILDING
		BUILDING TO BE REMOVED
RPZ	F/U-RPZ	RUNWAY PROTECTION ZONE (RPZ)



RUNWAY 1 END DETAIL

FUTURE PROPERTY ACQUISITION (FEE SIMPLE)				
PARCEL	PROPERTY OWNER	ACREAGE	MINIMUM ACREAGE	PURPOSE OF ACQUISITION
F-36	LITTLE, LARRY & JANICE	5,00	1,77	APPROACH
F-37	BROWER, DAN A	3,20	1,20	APPROACH
F-38	GAMMA, GLEN L & SUSAN J	4,10	0,06	APPROACH
F-39	PAINTON, JAMIE L & MISTY D	0,45	0,45	APPROACH
F-40	NACCARATO, GEORGE & JENNIFER L	0,50	0,50	APPROACH
F-41	KREAGER, BRYCE & CRYSTAL	4,72	0,27	APPROACH
F-42	CHRISMAN, EDWARD C & LEILANI A	2,20	0,53	APPROACH
F-43	PRINCE FAMILY LLC	3,33	0,02	APPROACH

FUTURE PROPERTY ACQUISITION (AVIGATION EASEMENT)			
PARCEL	PROPERTY OWNER	ACREAGE	PURPOSE OF ACQUISITION
E-1	CRUNK, JAMES F JR & DOROTHY M	0,57	AVIGATION
E-2	LEEPER, ELMER E & BETTY L	0,29	AVIGATION
E-3	LAWLER, ROBERT & CHERI	0,29	AVIGATION
E-4	MILLER, DAVID C & RHODA H	0,37	AVIGATION
E-5	VELTRI, JOAN L	0,18	AVIGATION
E-6	LOW TRUST	0,34	AVIGATION
E-7	FOLLMER, JOE W & SHIRLEY	0,37	AVIGATION
E-8	CARR, CHARLES D & JODIE M	0,29	AVIGATION
E-9	ANDERSON, RHONDA D	0,28	AVIGATION
E-10	FULTON, RUSSELL H & TRACY	0,10	AVIGATION
E-11	SCRIBNER, JACOB M	0,15	AVIGATION
E-12	ARNOLD, JOHN E	0,14	AVIGATION
E-13	HEMPHILL, LISA R	0,43	AVIGATION
E-14	HEUVEL, KATHLEEN A	0,20	AVIGATION
E-15	HEADRICK, QUENTIN G	0,20	AVIGATION
E-16	CRUNK TRUST	0,36	AVIGATION
E-17	RANDOLPH, C DUANE & JUDITH J	0,56	AVIGATION
E-18	WHEELER, THOMAS	0,15	AVIGATION
E-19	WRIGHT, ROCKY L & THERESA L	0,24	AVIGATION
E-20	SMITH, CHARLES D & CAROLYN L	0,18	AVIGATION
E-21	BRUMLEY, BENJAMIN D	0,24	AVIGATION
E-22	DEMENT, ROBERT W & CARA A	0,40	AVIGATION
E-23	WAH, JENNIFER, MARCUS & DIANE	0,40	AVIGATION
E-24	LOW, MIKE	0,21	AVIGATION
E-25	RUSHO, GEOFFREY S & LINDA	0,25	AVIGATION
E-26	SKINNER, ERIC E & JULINA L CPWRS 60%	0,25	AVIGATION
E-27	TORGERSON, LLOYD H & SHARON	2,22	AVIGATION
E-28	HOWARD-LONG INVESTMENTS LLC	6,14	AVIGATION
E-29	BOONE, CHRISTIAN A & MELINDA S	0,22	AVIGATION
E-30	MC MAHON, MICHAEL J & ANN M CPA	0,23	AVIGATION
E-31	PERRY, LAUREN A & MARTHA A CPWRS	0,23	AVIGATION
E-32	HOEPFER, DUANE	0,23	AVIGATION
E-33	THORNTON, ROBIN & PAULA K	0,23	AVIGATION
E-34	EMERY NORTHWEST LLC	0,92	AVIGATION
E-35	MARCHIANDO TRUST	0,46	AVIGATION
E-44	PETERSON, PAMELA M	1,15	AVIGATION
E-45	PETERSON, THOMAS E & PAMELA M	1,49	AVIGATION
E-46	WILLIG, GLEN & RUTH	5,27	AVIGATION
E-47	PLASCENCIA, ELPIDIO & DEBORAH	1,93	AVIGATION
E-48	PLASCENCIA, DEBORAH	1,93	AVIGATION
E-49	REINER, CHRIS & SHIRLEY	9,00	AVIGATION
E-50	HIRST, SHANE	0,20	AVIGATION
E-51	PETERSEN, BARNEY O	10,80	AVIGATION
E-54	RASMUSSEN LIVING TRUST, ERVIN H,	6,14	AVIGATION
E-55	LA RITCHIE, ORIN D & CORYNNE	8,69	AVIGATION
E-56	BONNER COUNTY	3,60	AVIGATION
E-57	RAS LAND LLC	7,31	AVIGATION

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E-FILE NAME
DESIGNED
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CHECKED — NSC
APPROVED — NSC

REVISIONS

NO.	ITEM	DATE

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LEWISTON, IDAHO
SPOKANE, WASHINGTON

PRIEST RIVER MUNICIPAL AIRPORT
PRIEST RIVER, ID
AIRPORT LAYOUT PLAN SET
AIRPORT PROPERTY MAP

DATE: MARCH 2017
PROJECT: 140040

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APPENDIX A – GLOSSARY

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APPENDIX A: GLOSSARY OF AVIATION TERMS

Abandoned runway: A runway permanently closed to all aircraft operations, which may be marked in accordance with current FAA standards for marking and lighting of deceptive, closed and hazardous areas on airports.

Access taxiway: A taxiway that provides access to a particular location or area.

Active aircraft: Aircraft registered with the FAA and reported or estimated to have been flown at least one hour during the preceding year.

Active runway: The runway at an airport that is being used for landing, taxiing or takeoff operations.

Actual runway length: The length of a full-width usable runway from end to end of full strength pavement where those runways are paved.

Advisory Circular (AC): A series of external FAA publications consisting of all non-regulatory material of a policy, guidance and informational nature.

AGL: Above Ground Level

Aircraft: A device that is used or intended to be used for flight in the air (FAR Part 1).

Aircraft approach category: A grouping of aircraft based on 1.3 times their stall speed in their landing configuration at their maximum certificated landing weight. The categories are as follows:

Category A: Speed less than 91 knots.
Category B: Speed 91 knots or more but less than 121 knots.
Category C: Speed 121 knots or more but less than 141 knots.
Category D: Speed 141 knots or more but less than 166 knots.
Category E: Speed 166 knots or more.

Aircraft mix: The type of aircraft which are to be accommodated at the airport.

Aircraft operations: The airborne movement (landing or take-off) of aircraft in controlled or uncontrolled airport terminal areas and about given en route fixes or at other points where counts can be made. There are two types of operations - local and itinerant.

Local operations are performed by aircraft which: Operate in the local traffic pattern or within sight of the airport (if: training). Are known to be departing for or arriving from flight in local

practice area within a 20-mile radius of the airport. Execute simulated instrument approaches or low passes at the airport.

Itinerant operations are all aircraft operations other than local operations.

Aircraft tiedowns: Positions on the ground surface that are available for securing aircraft.

Airplane Design Group (ADG): A grouping of planes based on their wingspan. The groups are as follows:

Group I: Up to but not including 49 feet.
Group II: 49 feet up to but not including 79 feet.
Group III: 79 feet up to but not including 118 feet.
Group IV: 118 feet up to but not including 171 feet.
Group V: 171 feet up to but not including 214 feet.
Group VI:214 feet up to but not including 262 feet.

Airport: An area of land or water that is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any.

Airport beacon: A visual navigation aid displaying alternating white and green Rashes to indicate a lighted airport or white flashes only for an unlighted airport.

Airport elevation: The highest point of an airport's usable runways measured in feet above mean sea level.

Airport imaginary surfaces: Imaginary surfaces established at an airport for obstruction determination purposes and consisting of primary, approach/departure, horizontal, vertical, conical, and transitional surfaces.

Airport Improvement Program (AIP): The Airport Improvement Program of the Airport and Airways Improvement Act of 1982 as amended by the Airport and Airway Safety and Capacity Expansion Act of 1987. Under this program, the FAA provides funding assistance for the planning, design and development of airports and airport facilities.

Airport Layout Plan (ALP): A graphic presentation, to scale, of existing and proposed airport facilities, their location on the airport, and the pertinent clearance and dimensional information required to show conformance with applicable standards. To be eligible for AIP funding assistance, an airport must have an FAA approved airport layout plan.

Airport Master Plan: Presents the planner's conception of the ultimate development of a specific airport. It presents the research and logic from which the plan was evolved and displays the plan in a graphic and written report.

Airport Reference Code (ARC): The ARC combines two separate factors of aircraft design (aircraft approach category and wingspan) into one code. The first designator, represented by letters A through E, is the "aircraft approach category" and relates to an aircraft's speed as it approaches an airport for landing. The second designator, represented by Roman numerals I through VI, is the airplane "design group", and relates to an aircraft's wingspan.

Airport Reference Point (ARP): The latitude and longitude of the approximate center of the airport.

Airport sponsor: A public agency or tax-supported organization such as an airport authority, that is authorized to own and operate the airport, to obtain property interests, to obtain funds, and to be legally, financially, and otherwise able to meet all applicable requirements of current laws and regulations.

Airspace: Space in the air above the surface of the earth or a particular portion of such space, usually defined by the boundaries of an area on the surface projected upward.

Approach and runway protection zone layout: A graphic presentation to scale of the imaginary surfaces defined in FAR Part 77.

Approach area: The defined area the dimensions of which are measured horizontally beyond the threshold over which the landing and takeoff operations are made.

Approach slope ratio: The ration of horizontal to vertical distance indicating the degree of inclination of the approach surface.

Approach surface: An imaginary surface longitudinally centered on the extended centerline of the runway, beginning at the end of the primary surface and rising outward and upward to a specified height above the established airport elevation.

Apron: A defined area, on a land airport, intended to accommodate aircraft for purposes of loading or unloading passengers or cargo, refueling, parking, or maintenance.

Automated Weather Observation System (AWOS):
This equipment automatically gathers weather data from various locations on an airport and transmits the information directly to pilots by means of computer generated voice messages over a discrete frequency.

Avigation easement: A land use easement permitting the unlimited operation of aircraft in the airspace above the land area involved.

Based aircraft: The total number of active general aviation aircraft which use or may be expected to use an airport as a "home base."

Building area: An area on an airport to be used, considered, or intended to be used, for airport buildings or other airport facilities or rights-of-way, together with all airport buildings and facilities located thereon.

Building restriction line (BRL): A line shown on the airport layout plan beyond which airport buildings must not be positioned in order to limit their proximity to aircraft movement areas.

Commercial service: Commercial service airports are public use airports which receive scheduled passenger service aircraft, and which annually enplane 2,500 or more passengers.

Conical surface: A surface extending from the periphery of the horizontal surface outward and upward at a slope of 20 to 1 for the horizontal distances and the elevations above the airport elevation as prescribed by FAR Part 77.

Controlled airspace: Airspace in which some or all aircraft may be subject to air traffic control to promote safe and expeditious flow of air traffic.

Crosswind: A wind blowing across the line of flight of an aircraft.

Crosswind component: A wind component that is at a right angle to the longitudinal axis of the runway or the flight path of the aircraft.

Crosswind runway: A runway additional to the primary runway to provide for wind coverage not adequately provided by the primary runway.

Downwind leg: A flight path in the traffic pattern parallel to the landing runway in the direction opposite to landing. It extends to the intersection of the base leg.

Executive aircraft operator: A corporation, company, or individual which operates owned or leased aircraft, flown by pilot(s) whose primary duties involve pilotage of aircraft, as a means of transportation or personnel or cargo in the conduct of company business.

Exit taxiway: A taxiway used as an exit from a runway to the apron or other aircraft operating area.

FAR Part 77: Contains obstruction requirements at or near airports.

Federal Aviation Administration (FAA): Created by the act that established the Department of Transportation. Assumed all of the responsibilities of the former Federal Aviation Agency.

Fixed base operator (FBO): An individual or company located at an airport, and providing commercial general aviation services.

Flight plan: Specified information relating to the intended flight of an aircraft, which is filed orally or in writing with air traffic control.

Fuel flowage fees: Fees levied by the airport operator per gallon of aviation gasoline and jet fuel sold at the airport.

General aviation: That portion of civil aviation which encompasses all facets of aviation except air carriers holding a certificate of convenience and necessity from the Civil Aeronautics Board, and large aircraft commercial operators.

General aviation airports: Those airports with fewer than 2,500 annual enplaned passengers and those used exclusively by private and business aircraft not providing common-carrier passenger service.

General aviation itinerant operations: Takeoffs and landings of civil aircraft (exclusive of air carrier) operating on other than local fights.

Hangar: A building used to store one or more aircraft, and/or conduct aircraft maintenance.

Horizontal surface: A specified portion of a horizontal plane located 150 feet above the established airport elevation which establishes the height above which an object is determined to be an obstruction to air navigation.

IFR airport: An airport with an authorized instrument approach procedure.

IFR conditions: Weather conditions below the minimum for flight under visual fight rules.

ILS Category I: An ILS which provides acceptable guidance information from the coverage limits of the ILS to the point at which the localizer course line intersects the glide path at a height of 100 feet above the horizontal plane containing the runway threshold. A Category I ILS supports landing minima as low as 200 ft. HAT and 1800 ft. RVR.

Instrument approach: An approach to an airport, with intent to land, by an aircraft flying in accordance with an IFR flight plan, when the visibility is less than 3 miles and/or when the ceiling is at or below the minimum initial altitude.

Instrument approach runway: A runway served by an electronic aid providing at least directional guidance adequate for a straight-in approach.

Instrument Flight Rules (IFR): Rules governing the procedures for conducting instrument flight. Pilots are required to follow these rules when operating in controlled airspace with a visibility of less than three miles and/or a ceiling lower than 1,000 feet.

Instrument Landing System (ILS): A system which provides in the aircraft, the lateral, longitudinal, and vertical guidance necessary for a landing.

Itinerant operations: All aircraft arrivals and departures other than local operations.

Jet noise: The noise generated externally to a jet engine in the turbulent jet exhaust.

Landing gear: That part of an aircraft which is required for landing. Gear may be configured as Single Wheel Gear (SWG), Dual Wheel Gear (DWG), or Dual Tandem Wheel Gear (DTWG).

Landing roll: The distance from the point of touchdown to the point where the aircraft can be brought to a stop, or exit the runway.

Landside operations: Those parts of the airport designed to serve passengers including the terminal buildings, vehicular circular drive, and parking facilities.

Land use plan: Shows on-airport land uses as developed by the airport sponsor under the master plan effort and off-airport land uses as developed by surrounding communities.

Large aircraft: Aircraft of more than 12,500 pounds maximum certificated takeoff weight.

Ldn: A quantity indicating a day-night noise exposure level calculated using the Ldn noise-forecasting methodology. This quantity can be used to predict community response to projected levels of aircraft activity.

Local traffic: Aircraft operating in the local traffic pattern or within sight of the tower, or aircraft known to be departing for or arriving from flight in local practice areas, or aircraft executing simulated instrument approaches at the airport.

Location map: Shown on the airport layout plan drawing, it depicts the airport, cities, railroads, major highways, and roads within 20 to 50 miles of the airport.

Marking: On airports, a pattern of contrasting colors placed on the pavement, turf, or other usable surface by paint or other means to provide specific information to aircraft pilots and sometimes to operators of ground vehicles, on the movement areas.

Minimums: Minimum altitude a pilot can descend to when conducting an instrument approach. Also refers to the minimum visibility a pilot must have to initiate an instrument approach.

MIRL: Medium Intensity Runway Lighting.

Multi-engine aircraft: Reciprocating, turbo-prop or jet powered fixed wing aircraft having more than one engine.

Municipally operated airport: An airport owned by a city and run as a department of the city, with policy direction by the city council and, in some cases, by a separate airport commission or advisory board.

National Plan of Integrated Airport Systems (NPIAS): A plan prepared by the FAA which identifies, for the Congress and the public, the composition of a national system of airports together with the airport development necessary to anticipate and meet the present and future needs of civil aeronautics, to meet requirements in support of the national defense, and to meet the special needs of the postal service. The plan includes both new facilities and qualitative improvements to existing airports to increase their capacity, safety, technological capability, etc.

NAVAID: Any facility used as, available for use as, or designed for use as an aid to air navigation, including landing areas, lights, any apparatus or equipment for disseminating weather information, for signaling, for radio direction-finding, or for radio or other electronic communication, and any other structure or mechanism having similar purpose and controlling flight in the air or the landing or takeoff of aircraft.

Navigable airspace: Airspace at and above the minimum flight altitudes prescribed in the FARs, including airspace needed for safe takeoff and landing.

Non-precision instrument runway: A runway having an existing instrument approach procedure utilizing air navigation facilities with only horizontal guidance for which straight-in non-precision instrument approach procedure has been approved.

Non-precision approach procedure: A standard instrument approach procedure in which no electronic glide slope is provided.

Non-precision instrument approach aid: An electronic aid designed to provide an approach path for aligning an aircraft on its final approach to a runway. It lacks the high accuracy of the precision approach equipment and does not provide descent guidance. The VHF Omnirange (VOR) and the non-directional beacon (NDB) are two examples of non-precision instrument equipment.

Notice to Airmen (NOTAM): A notice containing information (not known sufficiently in advance to publicize by other means) concerning the establishment, condition, or change in any component (facility, service, or procedure) of, or hazard in the National Airspace System, the timely knowledge of which is essential to personnel concerned with flight operations.

Obstruction: An object which penetrates an imaginary surface described in the FAA's Federal Aviation Regulation (FAR) Part 77.

Parking apron: An apron intended to accommodate parked aircraft.

Pavement structure: The combination of runway base and subbase courses and surface course which transmits the traffic load to the subgrade.

Pavement subgrade: The upper part of the soil, natural or constructed, which supports the loads transmitted by the runway pavement structure.

Pavement surface course: The top course of a pavement, usually Portland cement concrete or bituminous concrete, which supports the traffic load.

Precision approach: A standard instrument approach using a precision approach procedure. See precision approach procedure.

Precision Approach Path Indicator (PAPI): A system of lights on an airport that provides visual descent guidance to the pilot of an aircraft approaching a runway.

Precision approach procedure: A standard instrument approach procedure in which an electronic glide slope is provided, such as ILS and PAR.

Primary Surface: A rectangular surface longitudinally centered about a runway. Its width is a variable dimension and it usually extends 200 feet beyond each end of the runway. The elevation of any point on this surface coincided with the elevation of its nearest point on the runway centerline or extended runway centerline.

Public airport: An airport for public use, publicly owned and under control of a public agency.

Ramp: A defined area, on a land airport, intended to accommodate aircraft for purposes of loading or unloading passengers or cargo, refueling, parking, or maintenance.

Rotating lighted beacon: An airport aid allowing pilots the ability to locate an airport while flying under VFR conditions at night.

Runway: A defined rectangular area on a land airport prepared for the landing and takeoff run of aircraft along its length.

Runway bearing: The magnetic or true bearing of the runway centerline as measured from magnetic or true north.

Runway configuration: Layout or design of a runway or runways, where operations on the particular runway or runways being used at a given time are mutually dependent. A large airport can have two or more runway configurations operating simultaneously.

Runway direction number: A whole number to the nearest tenth of the magnetic bearing of the runway and measured in degrees clockwise from magnetic north.

Runway end identification lights (REIL): An airport lighting facility in the terminal area navigation system consisting of one flashing white high intensity light installed at each approach end corner of a runway and directed toward the approach zone, which enables the pilot to identify the threshold of a usable runway.

Runway environment: The runway threshold or approach lighting aids or other markings identifiable with the runway.

Runway gradient (effective): The average gradient consisting of the difference in elevation of the two ends of the runway divided by the runway length may be used provided that no intervening point on the runway profile lies more than 5 feet above or below a straight line joining the two ends of the runway. In excess of 5 feet, the runway profile will be segmented and aircraft data will be applied for each segment separately.

Runway lights: Lights having a prescribed angle of emission used to define the lateral limits of a runway. Runway light intensity may be controllable or preset, and are uniformly spaced at intervals of approximately 200 feet.

Runway markings: (1) Basic marking-markings on runways used for operations under visual flight rules, consisting of centerline marking and runway direction numbers, and if required, letters. (2) Instrument marking-markings on runways served by nonvisual navigation aids and intended for landings under instrument weather conditions, consisting of basic marking plus threshold marking. (3) All-weather marking- markings on runways served by nonvisual precision approach aids and on runways having special operational requirements, consisting of instrument markings plus landing zone marking and side strips.

Runway orientation: The magnetic bearing of the centerline of the runway.

Runway protection zone (formerly called the "clear zone"): A runway protection zone is a trapezoidal area at ground level, under the control of the airport authorities, for the purpose of protecting the safety of approaches and keeping the area clear of the congregation of people. The runway protection zone begins at the end of each primary surface and is centered upon the extended runway centerline.

Runway safety area: A runway safety area is a rectangular area, centered on the runway centerline, which includes the runway (and stopway, if present) and the runway shoulders. The portion abutting the edge of the runway shoulders, runway ends, and stopways is cleared, drained, graded, and usually turfed. Under normal conditions, the runway safety area is capable of supporting snow removal, firefighting, and rescue equipment and accommodating the occasional passage of aircraft without causing major damage to the aircraft.

Runway strength: The assumed ability of a runway to support aircraft of a designated gross weight for each of single-wheel, dual-wheel, and dual-tandem-wheel gear types.

Segmented circle: A system of visual indicators designed to provide traffic pattern information at an airport without an operating control tower.

Shoulder: As pertaining to airports, an area adjacent to the edge of a paved surface so prepared to provide a transition between the pavement and the adjacent surface for aircraft running off the pavement, for drainage and sometimes for blast protection.

Single runway: An airport having one runway.

Small aircraft: Aircraft of 12,500 pounds or less maximum certificated takeoff weight.

Straight-in approach (IFR): An instrument approach wherein final approach is commenced without first having executed a procedure turn (not necessarily completed with a straight-in landing).

Straight-in approach (VFR): Entry into the traffic pattern by interception of the extended runway centerline without executing any other portion of the traffic pattern.

Taxiway: A defined path, usually paved, over which aircraft can taxi from one part of an airport to another.

Taxiway safety area: A cleared, drained and graded area, symmetrically located about the extended taxiway centerline and adjacent to the end of the taxiway safety area.

Terminal area: The area used or intended to be used for such facilities as terminal and cargo buildings, gates, hangars, shops and other service buildings; automobile parking, airport motels and restaurants, and garages and vehicle service facilities used in connection with the airport; and entrance and service roads used by the public within the boundaries of the airport.

T-hangar: An aircraft hangar in which aircraft are parked alternately tail to tail, each in the T-shaped space left by the other row of aircraft or aircraft compartments.

Threshold: The designated beginning of the runway that is available and suitable for the landing of airplanes.

Threshold crossing height (TCH): The height of the straight-line extension of the visual or electronic glide slope above the runway threshold.

Threshold lights: Lighting arranged symmetrically about the extended centerline of the runway identifying the runway threshold. They emit a fixed green light.

Total operations: All arrivals and departures performed by military, general aviation and air carrier aircraft.

Touchdown: (1) The point at which an aircraft first makes contact with the landing surface. (2) In a precision radar approach, the point on the landing surface toward which the controller issues guidance instructions.

Touchdown zone: The area of a runway near the approach end where airplanes normally align.

Traffic pattern: The traffic flow that is prescribed for aircraft landing at, taxiing on, and taking off from an airport. The usual components of a traffic pattern are upwind leg, crosswind leg, downwind leg, base leg, and final approach.

Transient: Operations or other activity performed by aircraft not based at the airport.

Transitional surface: A surface which extends outward and upward from the sides of the primary and approach surfaces normal to the runway centerline which identifies the height limitations on an object before it becomes an obstruction to air navigation.

Turning radius: The radius of the arc described by an aircraft in making a self-powered turn, usually given as a minimum.

UNICOM: Frequencies authorized for aeronautical advisory services to private aircraft. Only one such station is authorized at any landing area. The frequency 123.0 MHz is used at airports served by airport traffic control towers, and 122.8 MHz is used for other landing areas. Services available are advisory in nature, primarily concerning the airport services and airport utilization.

Utility airport (or runway): An airport (or runway) which accommodates small aircraft excluding turbojet powered aircraft.

VFR airport: An airport without an authorized or planned instrument approach procedure.

VHF Omnidirectional Range (VOR): A radio transmitter facility in the navigation system radiating a VHF radio wave modulated by two signals, the relative phases of which are compared, resolved and displayed by a compatible airborne receiver to give the pilot a direct indicating of bearing relative to the facility.

Vicinity map: Shown on the airport layout plan drawing, it depicts the relationship of the airport to the city or cities, nearby airports, roads, railroads, and built-up areas.

Visual approach: An approach wherein an aircraft on an IFR flight plan, operating in VFR conditions under the control of a radar facility and having an air traffic control authorization, may deviate from the prescribed instrument approach procedure and proceed to the airport of destination, served by an operational control tower, by visual reference to the surface.

Visual approach aid: Any device, light, or marker used to provide visual alignment and/or descent guidance on final approach to a runway. Also see REIL, VASI.

Visual Flight Rules (VFR): Rules that govern the procedures for conducting flight under visual conditions (FAR Part 91).

Visual runway: A runway intended solely for the operation of aircraft using visual approach procedures, with no straight-in instrument approach procedure and no instrument designation indicated on an FAA-approved airport layout plan, a military service approved military airport layout plan, or by a planning document submitted to the FAA by competent authority (FAR Part 77).

VORTAC: Very High Frequency Omni Range Facility (VOR co-located with a Tactical Air Navigation (TACAN) facility.

Wind cone: A free-rotating fabric truncated cone which when subjected to air movement indicates wind direction and wind force.

Windrose: A diagram for a given location showing relative frequency and velocity of wind from all compass directions.

Zulu time (Z): Time at the prime meridian in Greenwich, England.

APPENDIX B – ENVIRONMENTAL

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Environmental Overview for Priest River Municipal Airport

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January 26, 2015

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Table of Contents

List of Figures

List of Tables

Acronyms and Abbreviations

ACRES	Assessment, Cleanup and Redevelopment Exchange System
AIRS	Aerometric Information Retrieval System
CGP	Construction General Permit
CO	Carbon Monoxide
CAA	Clean Air Act
CERCLIS	Comprehensive Environmental Response, Compensation, and Liability Information System
CWA	Clean Water Act
EA	Environmental Assessment
EDDA	Environmental Due Diligence Audit
EDR	Environmental Data Resources, Inc
ERNS	Emergency Response Notification System
ESA	Endangered Species Act
FAA	Federal Aviation Administration
FEMA	Federal Emergency Management Agency
FFIS	Federal Facilities Information System
FURS	Federal Underground Injection Control
IDEQ	Idaho Department of Environmental Quality
IDFG	Idaho Department of Fish and Game
IFWIS	Idaho Fish and Wildlife Information Systems
IPaC	Information, Planning, and Conservation
ITD	Idaho Transportation Department
NAAQS	National Ambient Air Quality Standards
NO_2	Nitrogen Dioxide
NOI	Notice of Intent
NPL	National Priorities List
NPDES	National Pollutant Discharge Elimination System
NRCS	Natural Resources Conservation Services
NWI	National Wetland Inventory
O_3	Ozone
PADS	PCB Activity Data System
Pb	Lead

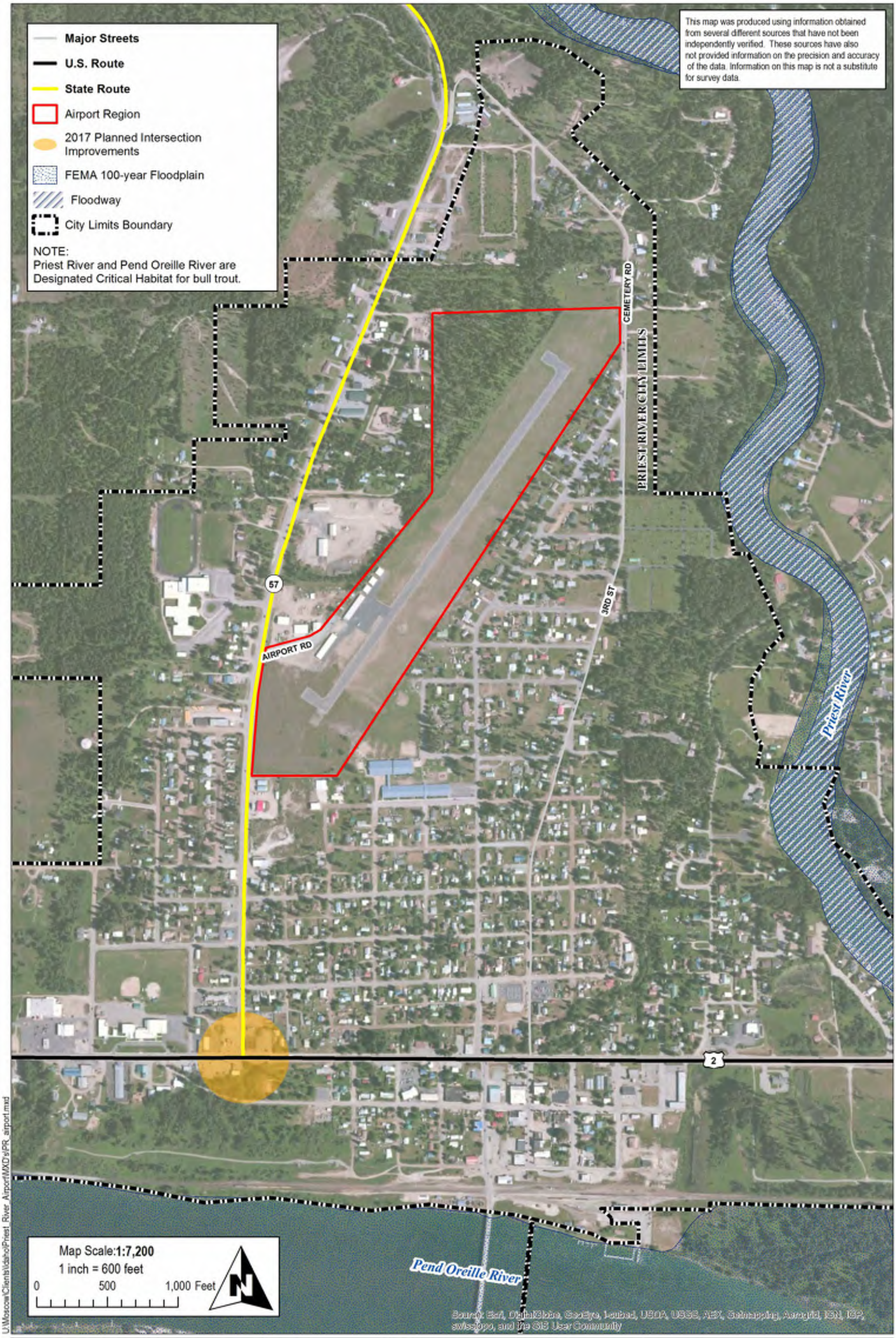
PCS	Permit Compliance System
PM	Particulate Matter
RCRA	Resource Conservation and Recovery Act
RDC	Runway Design Code
SH-57	State Highway 57
SO_2	Sulfur Dioxide
STATE	State Environmental Laws and Statutes
SWPPP	Storm Water Pollution Prevention Plan
TerraGraphics	TerraGraphics Environmental Engineering, Inc.
USEPA	U.S. Environmental Protection Agency
USFWS	U.S. Fish and Wildlife Services

Section 1.0 Introduction

This Environmental Overview document describes the environmental setting of Priest River Municipal Airport and the environmental resources that may be affected by future development at the site. Information described in this document will be used to identify environmental requirements that may need to be met for future development. Environmental impact categories outlined in Federal Aviation Administration (FAA) Order 1050.1E, Change 1 *Environmental Impacts: Policies and Procedures* (FAA 2006) are discussed for this site, using *The Environmental Desk Reference for Airport Actions* (FAA 2007) for further guidance, in addition to other pertinent environmental information specific to the location of the Priest River Municipal Airport.

1.1 Site Description and History

Priest River Municipal Airport is located within Priest River city limits, north of United States Route 2 (US-2) and the Pend Oreille River (Figure 1). The city of Priest River is located in the Northern Idaho panhandle, approximately 6 miles east of the Washington State-Idaho border. Priest River Municipal Airport has been operating and serving the regional communities for 83 years (est. 1931).



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TerraGraphics Environmental Engineering, Inc. www.TerraGraphics.com	Print Date: October 30, 2014 Project Number: 14038-01	Requestor: D. Pfiefer Project Manager: T. Harju Cartographer: B. Bailey	Project Name: Priest River Municipal Airport Environmental Overview	Figure 1 **Location Map**

Section 2.0 Air Quality

Clean Air Act (CAA) compliance and analysis requirements with regard to air quality are determined by the area's current air quality conditions and attainment status. In compliance with the CAA, the U.S. Environmental Protection Agency (USEPA) established the National Ambient Air Quality Standards (NAAQS; 42 U.S.C. 7401 et seq; 40 CFR Part 50) for six air quality criteria pollutants: carbon monoxide (CO); lead (Pb); nitrogen dioxide (NO_2); ozone (O_3); sulfur dioxide (SO_2); and particulate matter (PM), which consists of both PM_{10} (PM less than or equal to 10 microns in diameter) and $PM_{2.5}$ (PM less than or equal to 2.5 microns in diameter). For each of the six pollutants, the NAAQS include a maximum concentration above which adverse effects on human health may occur. The State of Idaho has adopted these federal air quality standards (IDAPA 58.01.01.575-587) and has a network of air monitoring locations to evaluate select air pollutants (IDEQ 2013). The Idaho Department of Environmental Quality (IDEQ) compiles and reports air quality monitoring data from these sites annually. The nearest air quality monitoring stations are located approximately 18 miles away in Sandpoint, Idaho (AQS Identification Codes: 160170003 and 160170005). The Sandpoint area is currently in non-attainment for PM_{10} (IDEQ 2013), but the non-attainment area does not include the city of Priest River.

As per recent air quality guidance from the FAA, an emissions inventory must be completed if the implementation of future actions may result in a reasonable foreseeable emissions increase (FAA 2014). Section 4.1.1 and figure 4-3 in the *Aviation Emissions and Air Quality Handbook* describe the air quality assessment process and should be referred to during planning future actions (FAA 2014).

In addition to the Idaho air quality monitoring network, the Airborne Contaminants and Fugitive Dust requirements of the CAA apply to construction activities; therefore, dust control measures designed for each specific future action should be established prior to development and enforced during construction.

Section 3.0 Climate Change

The FAA Order 1050.1E, Change 1, Guidance Memo #3 (FAA 2012) states that climate change should be included as an impact category in FAA environmental documents, including both Environmental Assessments and Environmental Impact Statements. There are currently no significance thresholds or federal standards for greenhouse gases that apply to aviation. Depending on future Priest River Municipal Airport development plans, potential incremental changes in greenhouse gases will need to be discussed in either qualitative or quantitative terms.

Section 4.0 Coastal Resources

The Priest River Municipal Airport is located in Idaho and does not border a coastline. This impact category is not applicable.

Section 5.0 Compatible Land Use

The Priest River Municipal Airport and land immediately to the south of it is currently zoned as 'R-2 Residential High Density '. Land northeast of the airport is zoned 'R-1 Residential'. Areas to the east are zoned 'C-1 Commercial' and 'C-2 Commercial'. Land use is also regulated as described in City Ordinance 279 section 4.1.5 "The location, building height and lighting of residential and commercial development shall be restricted within airport approach areas as required by the State Department of Transportation, Division of Aeronautics and Public Transportation and Federal Aviation Administration". City planners are currently developing a new zoning map that would rezone Priest River Municipal Airport to a separate distinct zone to better meet compliance with Idaho Statue 21, Chapter 5, Airport Zoning Act, and Idaho State Senate Bill 1265 (SB-1265).

Section 6.0 Construction Impacts

Future construction activities must comply with FAA Advisory Circular 150/5370-10A, *Standards for Specifying Construction of Airports*. If future development impacts more than one acre of land, a Notice of Intent (NOI) must be filed by the Construction Contractor under the National Pollutant Discharge Elimination System (NPDES) Construction General Permit (CGP) guidelines. In addition, all construction activity will be required to follow state and local requirements.

Section 7.0 Department of Transportation – Section 4f Compliance

Section 4(f) of the Department of Transportation Act (section 303 (c) of 49 U.S.C.) indicates that if a project requires the use of a publicly owned park, recreation area, wildlife or waterfowl refuge, or historic site of national, state, or local significance, the project will not be approved unless:

- It has a *de minimis* impact exception, or
- There is no prudent and feasible alternative, or
- The project includes all possible planning to minimize harm.

There are no parks, recreation areas, refuges, or historic sites in the immediate vicinity of the Priest River Municipal Airport. The nearest park is 4H Park located approximately 0.35 miles south of the airport property in the city of Priest River, and Evergreen Cemetery 0.12 miles to the east of the airport property. The closest recreation access point is West Bonner Park, approximately 0.7 miles to the south of the airport property, which provides recreational access to Pend Oreille River. The Priest River High School Historical site (currently part of the Junior High) is located approximately 0.35 miles south of the airport property. Future actions may require a cultural resources survey.

To aid in coordinating potential FAA-authorized development plans with local transportation networks and projects, state and county jurisdictions were contacted to identify known road construction plans that may take place between 2014 and 2019.

During the upcoming five years, the city of Priest River has no road construction plans in the vicinity of the airport. In 2017, Idaho Transportation Department (ITD) is scheduled to improve the intersection at US-2 and State Highway 57 (SH-57), which is approximately 0.3 miles south of the airport (Figure 1). These improvements may include a turnbay on westbound US-2 to northbound SH-57.

Section 8.0 Farmlands

Airport actions that seek to permanently convert important farmlands must be coordinated with the Farmland Protection Policy Act of 1984 via the local NRCS field office (FAA 2007). Soils at the Priest River Municipal Airport and parcels immediately adjacent to it are identified by the USDA Natural Resources Conservation Services (NRCS) as prime farmland. Soil in the vicinity of the airport is listed as Map Unit 2: Bonner gravelly silt loam, 0-4% slopes, based on the NRCS Web Soil Survey (NRCS 2014). Currently no areas in the direct vicinity are under agricultural production, due to urban development.

Section 9.0 Fish, Wildlife, and Plants

Future projects will need to address any potential effects on species that are federally protected or have a State of Idaho sensitive species ranking. Preliminary research conducted on these species is discussed in the following sections. Additional research, including field surveys to determine the presence of these species, will be needed prior to future development activities.

9.1 Federally Listed Threatened and Endangered Species

In accordance with Section 7(a)(2) of the Endangered Species Act (ESA), as amended, future actions must consider impacts to federally listed or proposed threatened or endangered species for all federally funded, permitted, or licensed projects. The U.S. Fish and Wildlife Service (USFWS) list six species that have a Threatened, Endangered, or Candidate species designation and may be found in Bonner County, Idaho (USFWS 2013). Federally Threatened species include Canada lynx (*Lynx canadensis*), bull trout *(Salvelinus confluentus*), and grizzly bear (*Ursus arctos horribilis*). The Selkirk Mountain woodland caribou (*Rangifer tarandus caribou*) and the Kootenai River white sturgeon (*Acipenser transmontanus*) are listed as Federally Endangered and the Whitebark Pine (*Pinus albicaulis*) is currently listed as a Candidate species.

USFWS identifies only the bull trout in their Information, Planning, and Conservation (IPaC) System as a species that may be affected by development activities based on the proximity of the Priest River Airport to bull trout habitat. In addition to the IPaC system, previous discussions with Idaho Department of Fish and Game (IDFG) and the USFWS were documented in an Environmental Assessment (EA) that was prepared for airport land acquisition in 2011 (ES Engineering 2011). The EA documented that grizzly bear may also occur (although unlikely) in the vicinity of the airport. Therefore, bull trout and grizzly bear are briefly discussed in the following sections.

9.1.1 Bull Trout

Bull trout are listed as Threatened by the USFWS (63 FR 31647; June 10, 1998) under authority of the ESA. Designated critical habitat for bull trout includes the Pend Oreille River (south of the airport) and Priest River (east of the airport). Prior to development at the Priest River Municipal Airport, the USFWS should be contacted to determine the depth of analysis required to assess potential impacts on bull trout, and a biological assessment will likely be required.

9.1.2 Grizzly Bear

Grizzly bear are listed as Threatened by the USFWS (40 FR 31734 ; July 28, 1975) under authority of the ESA. The closest grizzly bear recovery zone is the Selkirk Recovery Area, which is located more than 20 miles north of the Priest River Airport. Prior to development at the Priest River Municipal Airport, the USFWS should be contacted again to determine the depth of analysis required to assess potential impacts on grizzly bear, and a biological assessment may be required.

9.2 State of Idaho Sensitive Species

Data provided by the Idaho Fish and Wildlife Information System (IFWIS) indicate there are State of Idaho sensitive flora and fauna species observed within a five-mile buffer of the Priest River Municipal Airport (IFWIS 2014). These species are listed in Table 1.

Table 1. State of Idaho sensitive species (includes state ranking S1, S2, S3) that have been documented near the Priest River Municipal Airport.

Scientific Name	Common Name	State Ranking
Sanicula marilandica	Maryland Sanicle	Vulnerable (S3)
Trientalis europaea ssp. arctica	Northern Starflower	Vulnerable (S3)
Oncorhynchus clarki lewisi	Westslope Cutthroat Trout	Imperiled (S2)
Oncorhynchus mykiss gairdneri	Columbia River Redband Trout	Imperiled to Vulnerable (S2S3)
Oncorhynchus nerka	Kokanee (Late Spawner)	Critically Imperiled (S1)
Salvelinus confluentus	Bull Trout	Vulnerable (S3)
Gavia immer	Common Loon	Critically Imperiled Breeding Population (S1B); Imperiled Nonbreeding Population (S2N)
Haliaeetus leucocephalus	Bald Eagle	Vulnerable Breeding population (S3B); Apparently Secure Nonbreeding Population (S4N)
Otus flammeolus	Flammulated Owl	Vulnerable Breeding population (S3B)
Picoides arcticus	Black-backed Woodpecker	Vulnerable (S3)
Canis lupus	Grey Wolf	Vulnerable (S3)
Rana luteiventris	Columbia Spotted Frog	Vulnerable (S3)
Elgaria coerulea	Northern Alligator Lizard	Imperiled (S2)
Thamnophis sirtalis	Common Gartersnake	Vulnerable (S3)
Zacoleus idahoensis	Sheathed Slug	Imperiled (S2)

Prior to airport development, a field assessment should be conducted to evaluate the presence of these species, and further coordination with the Idaho Department of Fish and Game may be necessary.

Section 10.0 Floodplains

Airport development within a floodplain should minimize the potential risks for flood-related property loss and impacts on human safety, health, and welfare, as well as minimize adverse impact to the floodplain's natural and beneficial values (FAA 2007). Existing Priest River Municipal Airport boundaries fall outside of the floodway and 100-year flood event boundary (Figure 1) established by the Federal Emergency Management Agency (FEMA) Flood Insurance Rate Maps (Map numbers 16017C0858E, 16017C0859E, 16017C0866E, 16017C0867E). Further analysis may be required if the location of future development occurs in or near the floodplain and/or floodway boundaries.

Section 11.0 Hazardous Materials

Airport actions should avoid hazardous waste sites and environmentally contaminated property when possible and an Environmental Due Diligence Audit (EDDA) should be conducted prior to airport actions to minimize this risk (FAA 2007). A search was conducted for known and/or potential sources of hazardous materials using available databases in accordance with USEPA's Standard Practice for All Appropriate Inquiries (40 CFR Part 312) and the ASTM Standard Practice for Environmental Site Assessments (E 1527-13) (EDR 2014). Sites identified during this search are described in Table 2 and the full hazardous waste report is available upon request. In this report, no sites were identified within the appropriate search radius that were on the National Priorities List (NPL), Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), or the Emergency Response Notification System (ERNS). Brief descriptions of databases that returned results in the hazardous waste report include:

- ALLSITES – A combination of IDEQ-managed state and federal remediation programs.
- BROWNFIELDS – Assessment, Cleanup and Redevelopment Exchange system (ACRES) operated as part of the EPA Brownfields grant programs.
- FINANCIAL ASSURANCE 1 – Financial Assurance Information Listing.
- FINDS – Facility Index System/Facility Registry System. A combination of site management databases made up of Permit Compliance System (PCS), Aerometric Information Retrieval System (AIRS), DOCKET and C-DOCKET, Federal Underground Injection Control (FURS), Federal Facilities Information System (FFIS), State Environmental Laws and Statutes (STATE), and PCB Activity Data System (PADS).
- LUST (RGA) – Recovered government archived leaking underground storage tank incidents.
- SPILLS – State of Idaho's Central Communication Center records of hazardous material release events.
- MINES – Mines Master Index File. All mine identification numbers issued for active or open mines since 1971.
- RCRA-CESQG – Part of the RCRA. All RCRA Database sources were searched for this document. CESQG stands for Conditionally Exempt Small Quantity Generator.
- UST – Registered Underground Storage Tanks. Part of the RCRA. All RCRA Database sources were searched for this document.
- VCP – Voluntary Cleanup Program Sites.

Table 2. Sites identified as potential sources of hazardous materials (EDR 2014)

Site	Address	Distance From Airport (Miles)	Direction From Airport	Database(s)
Charbonneau Hotel	401 High St.	0.463	S	ALLSITES
Corner Gas And Grocery	101 9th St.	0.375	SSW	ALLSITES, FINANCIAL ASSURANCE 1, UST
Curleys Sales & Service	919 W Albeni Rd.	0.381	SSW	ALLSITES
Duane Randolf	1014 W Jefferson	0.276	SW	ALLSITES
G & M Construction	105 Church St.	0.411	S	ALLSITES
Huett Center	Church & High St.	0.462	S	ALLSITES, FINANCIAL ASSURANCE 1, LUST (3), UST
Louisiana Pacific Corp (2)	State Hwy 2, 1 Mile East of Town of Priest River	~ 1	E[1]	LUST (RGA)
Louisiana Pacific Sawmill	1 Mile E of Priest River	~ 1	E[1]	LUST (RGA)
Louisiana Pacific/ Priest River Mill Site	1 Mile E Of Priest River	~ 1	E[1]	LUST (RGA)
Louisiana Pacific/Priest River	1 Mile E Of Priest River	~ 1	E[1]	SPILLS
Lyles Chevron Service	905 W Albeni Rd.	0.372	SSW	ALLSITES, SPILLS
Macs & Mamma Macs Deli Cafe	708 9th St.	0.027	SW	ALLSITES, FINANCIAL ASSURANCE 1, UST
Mitchells Express	905 W Albeni Rd.	0.372	SSW	FINANCIAL ASSURANCE 1, LUST, UST,
Parson Marina	1005 W Albeni Rd.	0.425	SSW	ALLSITES, FINANCIAL ASSURANCE 1, LUST, UST
Priest River Cleaners	Lincoln St & Hwy 57	0.168	SSW	ALLSITES, LUST (RGA)
Priest River Ctrl Ofc (1310-Bia)	120 Wisconsin St.	0.487	S	ALLSITES

Priest River Elementary	418 Harriet	0.164	S	ALLSITES, SPILLS
Priest River Landfill	Hwy 57 & N Cemetery Rd.	0.293	N	ALLSITES, BROWNFIELDS, FINDS, VCP
Priest River Municipal Airport	On Site	0	-	FINANCIAL ASSURANCE 1, UST
R W Elliott	Albeni Rd & Church St.	0.402	S	ALLSITES
Shoshone Silver / Gold Mine		0.089	SSE	MINES
Stewarts Concrete	600 9th St.	0.119	SSW	ALLSITES
Virgil Semple	202 Jackson	0.411	SSE	ALLSITES

The site identified on Priest River Municipal Airport property has facility identification number 1-090031 and it contained 2 underground storage tanks (IDEQ 2014). These tanks and associated pipes are no longer used; currently an aboveground storage tank system is used. The site was last inspected in 2010 and records indicate that no leaking events have occurred (IDEQ 2014).

In 2011, a Phase I EDDA was conducted in preparation for a 12.5 acre land acquisition which included an on-site assessment and interviews with local public officials and property owners. That on-site assessment identified no additional sites and none of the interviewees had knowledge of any spills or hazardous materials that were previously at the site (Clearwater Engineering 2011).

Section 12.0 Historic, Archeological, and Cultural Resources

The National Registry of Historic Places lists four sites within a five-mile buffer of the Priest River Municipal Airport (Idaho State Historical Society 2014). These sites are listed in Table 3.

Table 3. List of National Registry of Historic Places Within a 5 mile Radius of Priest River Municipal Airport (Idaho State Historical Society 2014)

Reference Number	Name	Listed Date	Resource Type	Approximate Distance from Site (Mile)
91001718	Hotel Charbonneau	11/19/1991	Building	0.5
95001057	Priest River Commercial Core Historic District	8/31/1995	District	0.5
95001402	Priest River High School	12/7/1995	Building	0.35
99000418	Settlement School	4/1/1999	Building	1.4

In 2011, a cultural resources assessment was conducted for the 12.5 acre land acquisition. In addition to the sites listed in Table 3, above, the 2011 assessment also noted site 10BR733, which was a large sized fire modified rock on the bank of the Priest River, approximately 0.3 miles east of the airport (Kincaid and Hudson 2011). Before implementation of any improvements to the airport facilities, a review, as described in Section 106 of the National Historic Preservation Act of 1966, will be required. Historic sites recorded by the Idaho State Historic Preservation Office but not currently included in the National Register of Historic Places may be identified during this review process.

Section 13.0 Light Emissions and Visual Effects

Impacts due to light emissions and visual effects may include the following (FAA 2006):

- An annoyance to people in the vicinity,
- Interference with normal activities, or
- Proposed development that contrasts with the existing environment to an objectionable level.

Typically, the level of light intensity at an airport compared to existing levels of background lighting is not great enough to have the adverse impacts listed above. However, a description of potential impacts specific to future development plans must be included during the environmental analysis phase, and mitigation may be needed if the future projects have significant light emissions or visual effects.

Section 14.0 Natural Resources, Energy Supply, and Sustainability Design

Potential impacts on energy supply and natural resources must be evaluated with regard to actions needed to build and maintain airports. Any future airport developments will require

coordination with local resource management bodies, and/or utility companies. Future analysis may be necessary if development projects include any of the following elements (FAA 2006):

- Airside/landside expansion
- Land acquisition
- New or moved access roadways
- Remote parking facilities
- Significant changes in air traffic and airfield operations
- Significant construction activity

Section 15.0 Noise

The FAA guidelines for noise may require an analysis to address how the cumulative impact of noise exposure could affect the surrounding resources (FAA 2007). The Priest River Municipal Airport's Runway Design Code (RDC) is B/I(small)/VIS, which is described in *Section 2.5.4* of the *Draft 2014 Master Plan Update* (T-O Engineers 2014), meets the criteria described in Section 14.6a, Appendix A of FAA Order 1050.1E, Change 1 (FAA 2006) and is therefore exempt from the noise analysis requirement.

Section 16.0 Secondary (Induced) Impacts

Future analysis may be necessary if airport development projects significantly influence the following community shifts (FAA 2006):

- Population movement patterns or growth,
- Public service demands, or
- Business or economic activity.

Section 17.0 Socioeconomic Impacts, Environmental Justice, and Children's Environmental Health and Safety Risks

The Priest River Municipal Airport is within census tract 9505, block group 001 (U.S. Census Bureau 2010). Census data from 2008-2012 for the Priest River subsection of Bonner County estimates the median household income is $39,295, which is lower than the overall State of Idaho estimated median household income of $47,015. For the Priest River subsection of Bonner County, minority population estimate is 0.3%, which is lower than the median minority population percentage for the State of Idaho.

FAA Order 1050.1E lists impact thresholds for environmental justice, children's environmental health and safety risks, and socioeconomic impacts, which should be considered in conjunction with the nature and magnitude of future developments. Additional demographic data and detail will be obtained as needed after a future development project is identified.

Section 18.0 Water Quality

Airport development may affect surface water, groundwater (including but not limited to sole source aquifers), and drinking water supplies. Depending on the nature and extent of future proposed developments at the Priest River Municipal Airport, an evaluation of effects to water quality will be required.

18.1 Surface and Groundwater

The Priest River Municipal Airport lies between waterways; Priest River (0.16 miles to the east) and the Pend Oreille River (0.55 miles to the south). The airport's elevation is approximately 100 feet above the floodplain for both rivers.

The Priest River Municipal Airport and immediate vicinity does not overlie a sole source aquifer (USEPA 2014). The nearest sole source aquifer is the Spokane-Rathdrum Sole Source Aquifer, which is over ten aerial miles away from the Priest River Municipal Airport and is south of the Pend Oreille River.

18.2 Stormwater

Currently, stormwater at Priest River Municipal Airport is not directed offsite. Most precipitation infiltrates naturally over the permeable areas of the airport. Two stormwater drywells near Airport Road and airport support structures have been installed to prevent unwanted flooding. A Stormwater Pollution Prevention Plan (SWPPP) will be required for future construction at the airport.

18.3 Wastewater

The city of Priest River wastewater treatment facility (NPDES Permit Number ID-002080-0) discharges in to the Pend Oreille River to the south of the Priest River Municipal Airport. Under conditions of the NPDES permit, the facilities are required to monitor the effluent. Fact sheets for the facility, which includes permit information and monitoring data, can be accessed online (USEPA 2011). If future development at the Priest River Municipal Airport includes more than one acre of land, the Construction Contractor must file a NOI under the NPDES CGP guidelines.

Section 19.0 Wetlands

Section 404 of the Clean Water Act (CWA) regulates the discharge and/or dredging of material in waters of the U.S., including wetlands. The National Wetland Inventory (NWI) does not indicate wetlands are present near the Priest River Municipal Airport. However, the NWI database is intended to be used only as a guiding resource and should not be used as the sole determinant for identifying wetlands requiring compliance with the CWA (USFWS 2014a).

Section 20.0 Wild and Scenic Rivers

There are no designated Wild and Scenic Rivers in the vicinity of the Priest River Municipal Airport (USFWS 2014b). The nearest designated Wild and Scenic River is the Priest River between the Canadian border and Upper Priest Lake, which is over 50 river miles upstream from the Priest River Municipal Airport.

Section 21.0 Summary

Future development plans for the Priest River Municipal Airport will need to consider several environmental components, as described in this document. Elements of primary concern include the following:

- If future planned airport actions may cause a reasonable foreseeable emissions increase then an air quality assessment, including an emissions inventory, will be required as described in the *Aviation Emissions and Air Quality Handbook* (FAA 2014).
- If future airport actions have potential to impact federally listed species under the ESA (or their habitat), a biological assessment may be required to evaluate action impacts to them, especially bull trout because it has designated critical habitat near the airport.
- A historical review of the site, as described in Section 106 of the National Historic Preservation Act of 1966, will be required prior to improvements on existing airport facilities.
- Future airport actions will require an analysis of effects on water quality, including surface water, groundwater, and drinking water sources.
- A SWPPP will be required prior to construction activities, and if the area of impact is greater than one acre, additional requirements must be met.
- Soil on and surrounding airport property is classified as prime farmland; therefore Farmland Protection Policy Act coordination will be required if future actions seek to permanently convert land to non-agriculture use.

Each of these environmental elements were considered in the planning level decision-making process(es) used in selecting development alternatives at the Priest River Municipal Airport as part of this master plan. Additional, more detailed environmental analysis (i.e. Categorical Exclusion Checklist or Environmental Assessment) will be required prior to implementation of development projects.

Section 22.0 References

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USFWS 2014b. National Wild and Scenic Rivers System. http://www.rivers.gov. Accessed September 24, 2014

APPENDIX C – OBSTRUCTIONS

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T-O ENGINEERS

TECHNICAL MEMORANDUM

TO: Priest River Municipal Airport (LWS)

FROM: Ian McKay, Aviation Planner – T-O Engineers

SUBJECT: Obstructions to Airspace
DATE: September 8, 2016

In 2014 Bonner County, the owner and operator of Priest River Municipal Airport, procured T-O Engineers for an update to the Airport Master Plan. As a result, an obstruction survey was conducted

1 CFR Part 77

Title 14 Code of Federal Regulations Part 77 Safe, Efficient Use, and Preservation Navigable Airspace (Part 77) defines imaginary surfaces that exist at public airports for the purpose of protecting airspace from obstructions on the ground. Imaginary surfaces are three dimensional planes that extend upward and outward from the airport environment at specific slopes and dimensions based on operational characteristics of the airport. There are five imaginary surfaces listed in Part 77; primary, approach, transitional, horizontal, and conical.

Part 77 surfaces act as notification surfaces and penetrations to these surfaces are known as 'obstructions' and trigger extensive review process by multiple groups within the Federal Aviation Administration (FAA). All objects exceeding specific notification criteria, specifically the 100:1 notification surface, require formal notification through the 7460 process and subsequent airspace review. This refers to the form 7460-1 Notice of Proposed Construction or Alteration. The product of the airspace review is a formal determination letter. If penetrations occur to one of the five surfaces mentioned above, then a Determination of Presumed Hazard is issued and further analysis is required.

For off-airport obstructions, the FAA Obstruction Evaluation Group (OEG) is responsible for writing the final determination. The OEG circulates the study to other FAA groups such as Flight Procedures, Air Traffic Organization, Technical Operations, Flight Standards, and Airports Division, each group reviews the objects for different criteria.

2 United States Standard for Terminal Instrument Procedures

FAA Order 8260.3C United States Standard for Terminal Instrument Procedures (TERPS)

refers to an internal FAA document that governs standards and protocols for the development of instrument flight procedures. Additional imaginary surfaces are defined within this document and the dimensions are based on variables specific to the airport and any published Instrument Approach Procedures (IAP) or Departures Procedures (DP). TERPS surfaces are reviewed by Flight Procedures and Flight Standards.

Priest River Municipal Airport currently does not have any published instrument procedures serving it. That being said, the implementation of instrument procedures and the airport could significantly increase the airport's utility and usability; therefore, it is in the interest of the airport to keep future TERPS surfaces clear of penetrations.

Two primary TERPS surfaces that impact the potential development of instrument procedures are the 20:1 and 34:1 Visual Surfaces. Penetrations to the Visual Surfaces can reduce the effectiveness of a flight procedure by raising the elevation of Decision Altitudes (DA), eliminating Visual Descent Points (VDP), raising weather minimums, eliminating approach procedures at night, and requiring more demand DPs; all which reduce the utility of the airport.

3 Threshold Siting Surfaces

FAA Advisory Circular 150/5300-13A Airport Design establishes standards governing the design, geometry, and siting of airport infrastructure. Similar to TERPS, this document defines specific imaginary surfaces known as Threshold Siting Surfaces (TSS) that are reviewed by the Airports Division of the FAA. Penetrations to TSS are considered to be the most impactful as they define the siting of runway thresholds. Impacts to the TSS can result in displacement of runway thresholds and the implementation of declared distances. Not only does this reduce the runway length available for landing and departure, it also results in costly airport construction projects that required to accommodate such impacts. Ultimately, penetrations to TSS deplete an airport's utility and can render the public's investment in capital improvements useless.

It is the responsibility of the airport sponsor to keep the TSS clear of penetrations and to maintain maximum utility of the airport available to the flying public. Priest River Municipal Airport has numerous penetrations to the 20:1 TSS that must be mitigated in order to retain maximum runway length available for landing and departure.

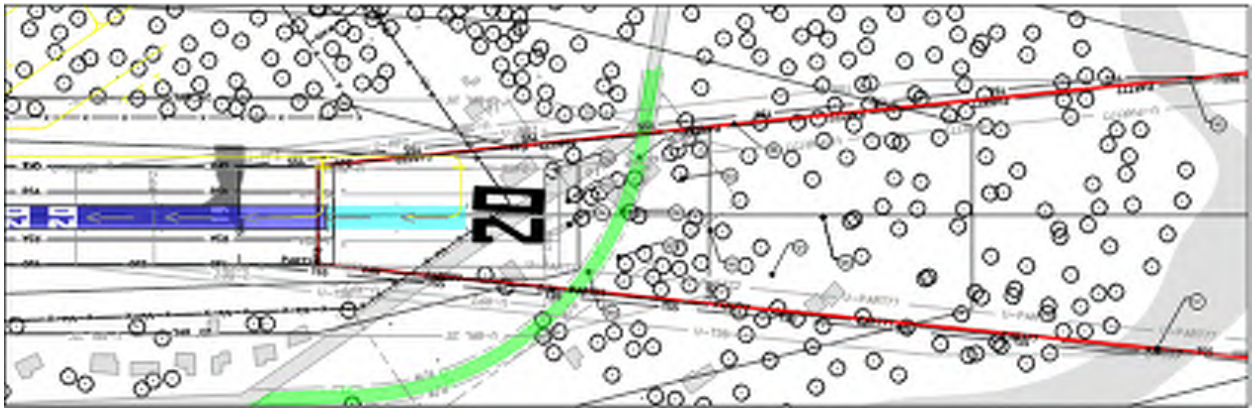
4 Airspace Obstruction Analysis

An obstruction survey of objects and terrain was conducted around Priest River Municipal Airport in support of the master planning efforts and revealed numerous penetrations to CFR Part 77, TERPS, and TSS surfaces. The subsequent impacts to these surfaces justify an extensive obstruction removal program that requires procuring avigation easements and/or rights of entry to mitigate or otherwise remove obstacles from nearby property owner's

parcels.

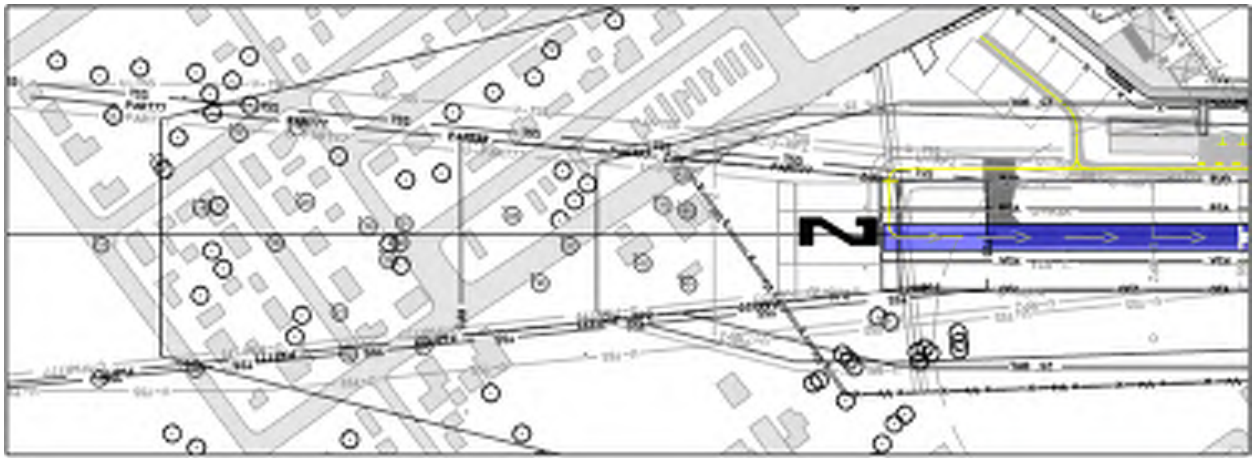
According to the Priest River Airport Layout Plan, there are at least 123 objects that are depicted on Sheets 3 and 4 of the Airport Layout Plan Set and 95 of them are penetrations to at least the CFR Part 77 surfaces. The objects consist primarily of trees but also include roadways, power poles, buildings, hangars, and NAVAIDs. **Figures 4-1 and 4-2** depict the noted obstructions near the runway ends.

Figure 4-1 Obstructions Noted on the Approach End of Runway 20



Note. All data contained in the graphic is from a 2015 obstruction survey and is listed on the obstruction data table in the Airport Layout Plan Set.

Figure 4-2 Obstructions Noted on the Approach End of Runway 2



Note. All data contained in the graphic is from a 2015 obstruction survey and is listed on the obstruction data table in the Airport Layout Plan Set.

Out of 95 penetrations to the CFR Part 77 Surfaces identified in the Airport Layout Plan, 67 of them are trees that are slated to be removed in a future obstruction removal project. It's important to note that many of these surveyed points, particularly in regards to trees, are actually representing large clusters of trees rather than individual trees. This being the case,

the number of total penetrations to imaginary surfaces is far greater than what is reported in the Part 77 Obstructions Tables on Sheet 4 of the Airport Layout Plan Set.

5 Obstruction Removal/Mitigation

Some of the obstructions listed in Table 5-1 penetrate surfaces beyond just the CFR Part 77 notification surfaces, particularly the TERPS surfaces. As a result, the master plan outlines a preferred alternative involving displacing runway thresholds to accommodate obstruction clearance and to mitigate/shift the runway protection zones. Another alternative and suggested project includes procuring avigation easements on properties that lie underneath the Part 77 Approach Surface and host objects that are obstructions to the surface. Once the acquisitions have been made, the airport sponsor, or its representative will be able to begin removing obstructions to the TSS surfaces. Some of the obstructions, particularly the trees, lie far from the approach end of Runway 20 but due to protruding terrain, are significant obstructions to TSS surfaces. It is not feasible to remove all of these tree clusters and certainly unfeasible to remove the terrain features; however, proper mitigation of these objects using obstruction lighting techniques in AC 70/7460-1L Obstruction Marking and Lighting can compensate for not removing the obstruction altogether.

Removing/mitigating as many obstruction as possible will help protect the airport sponsor by complying with FAA and ITD grant assurances while generally improving the functionality of the airport making in more accessible to the flying public.

Table 5-1 Obstructions Noted on the Airport Layout Plan Set

Type	Quantity	Action
Tree	78	Remove/OB Light
Road	17	None
Railroad	3	None
US Route 2	3	None
Pend Oreille River	3	None
Power Pole	5	OB Light
Building	3	OB Light
Hangar	5	OB Light
Road PR	3	None
Priest River	2	None
Windcone	1	Relocate

Note. All data contained in the table is from a 2015 obstruction survey and is listed on the obstruction data table in the Airport Layout Plan Set.

6 FAA Grant Assurances

The FAA is responsible for ensuring that the public's investments into the National Airspace System (NAS) through grant funding of capital improvement projects for airports in the National Plan of Integrated Airports Systems (NPIAS) are properly utilized. The FAA's method of ensuring that the investments are not squandered is through grant assurances. These are essentially conditions that an airport sponsor inherently agrees to when accepting federal funding. There are two primary grant assurances that necessitate the justification for a robust obstruction mitigation program and Priest River Municipal Airport. They are as follows:

Hazard Removal and Mitigation

It will take appropriate action to assure that such terminal airspace as is required to protect instrument and visual operations to the airport (including established minimum flight altitudes) will be adequately cleared and protected by removing, lowering, relocating, marking, or lighting or otherwise mitigating existing airport hazards and by preventing the establishment or creation of future airport hazards.

Compatible Land Use

It will take appropriate action, to the extent reasonable, including the adoption of zoning laws, 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. In addition, if the project is for noise compatibility program implementation, it will not cause or permit any change in land use, within its jurisdiction, that will reduce its compatibility, with respect to the airport, of the noise compatibility program measures upon which Federal funds have been expended.

Compliance with the above grant assurances is necessary for the Priest River Municipal Airport in order to continue receiving federal funding for future projects and to keep the airport functioning with maximum effectiveness.

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PRIEST RIVER AIRSPACE OBSTRUCTION ANALYSIS

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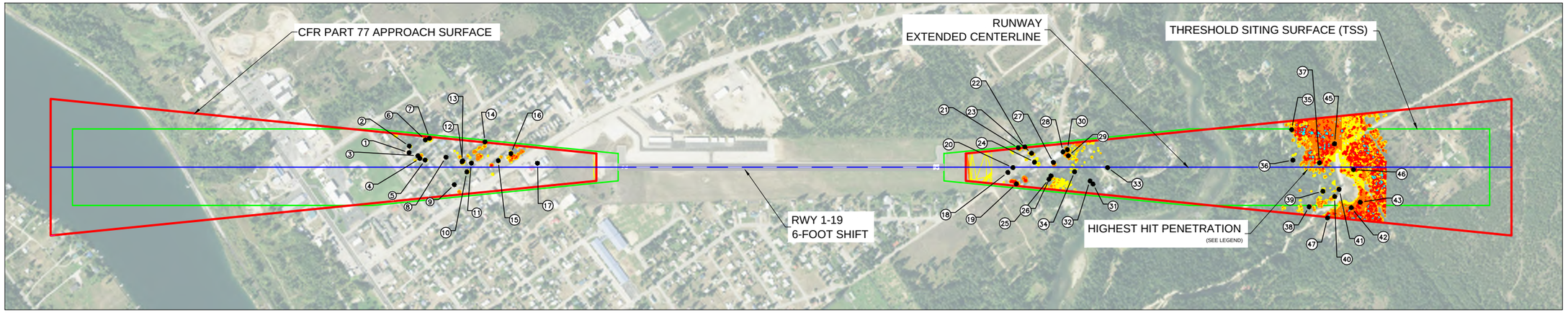
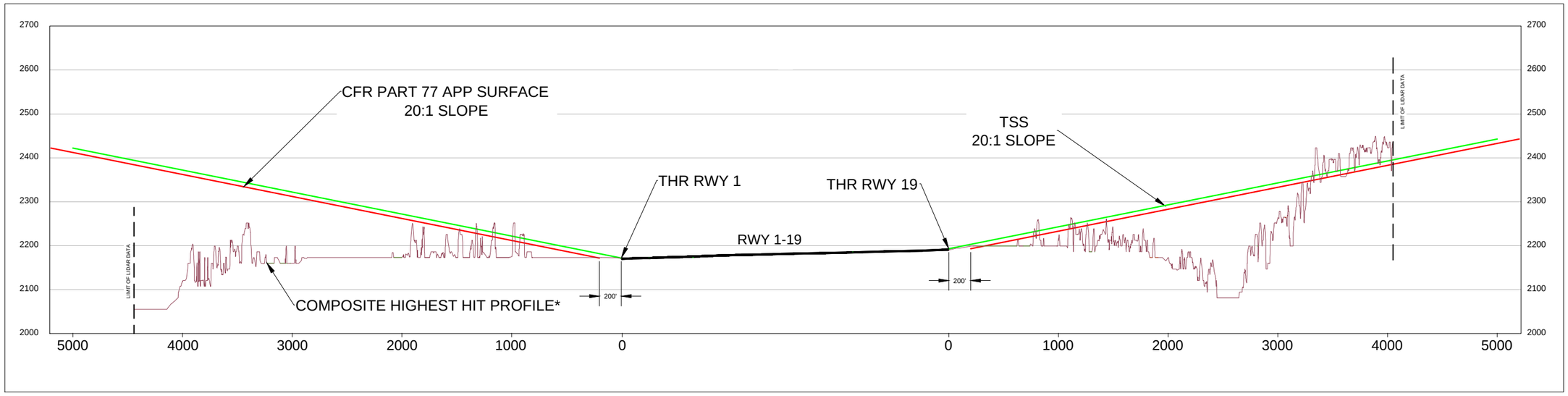
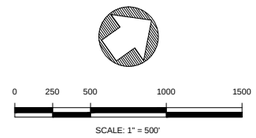




*COMPOSITE HIGHEST HIT PROFILE : DATA FROM LIDAR SURVEY DATED 2012 - HIGHEST HIT - INCLUDE HEIGHT OF HIGHEST OBJECT



HIGHEST HIT PENETRATION		
	CFR PART 77 APP SURFACE	TSS
	0' - 10'	NONE
	10' - 40'	0' - 30'
	40' - 70'	30' - 60'
	70' - 97'	60' - 87'

OBSTRUCTIONS			
OBJECT ID	PENETRATION CFR PART 77 APPROACH SURFACE	PENETRATION TSS	TYPE
1	0.4'	NONE	TREE
2	22.5'	12.5'	TREE
3	19.2'	9.2'	TREE
4	30.6'	20.6'	TREE
5	18.6'	8.6'	TREE
6	15.9'	5.9'	TREE
7	39.4'	9.4'	TREE
8	6.7'	NONE	TREE
9	6.3'	NONE	TREE
10	39.2'	29.2'	TREE
11	45.7'	35.7'	TREE
12	40.9'	30.9'	TREE
13	47.7'	37.7'	TREE
14	64.0'	54.0'	POWER POLE

DATA: GROUND SURVEY DATED 2015, T-O ENGINEERS

OBSTRUCTIONS			
OBJECT ID	PENETRATION CFR PART 77 APPROACH SURFACE	PENETRATION TSS	TYPE
15	44.4'	34.4'	POWER POLE
16	52.4'	42.4'	TREE
17	1.9'	NONE	POWER POLE
18	7.8'	NONE	TREE
19	77.4'	67.4'	TREE
20	1.3'	NONE	TREE
21	38.9'	28.9'	TREE
22	32.7'	22.7'	TREE
23	55.8'	45.8'	TREE
24	16.5'	6.5'	TREE
25	28.8'	18.8'	TREE
26	25.1'	15.1'	TREE
27	41.7'	31.7'	TREE
28	25.7'	15.7'	TREE
29	54.7'	44.7'	TREE
30	43.8'	33.8'	TREE

DATA: GROUND SURVEY DATED 2015, T-O ENGINEERS

OBSTRUCTIONS			
OBJECT ID	PENETRATION CFR PART 77 APPROACH SURFACE	PENETRATION TSS	TYPE
31	3.4'	NONE	TREE
32	0.7'	NONE	TREE
33	9.3'	NONE	TREE
34	13.9'	3.9'	TREE
35	30.4'	20.4'	TREE
36	11.1'	1.1'	TREE
37	77.4'	67.4'	TREE
38	66.9'	56.9'	TREE
39	37.1'	27.1'	TREE
40	53.1'	43.1'	TREE
41	52.8'	42.8'	TREE
42	95'	85'	TREE
43	83.9'	73.9'	TREE
44	77.5'	67.5'	TREE
45	89.3'	79.3'	TREE
46	78.6'	68.6'	TREE
47	101.1'	91.1'	TREE

DATA: GROUND SURVEY DATED 2015, T-O ENGINEERS

DRAFT

E-FILE NAME: ####
DESIGNED: MJV
DRAWN: MJV
CHECKED:
APPROVED:

REVISIONS
NO. | ITEM | DATE

T-O ENGINEERS
CONSULTING ENGINEERS, SURVEYORS & PLANNERS
260 W. PRAIRIE AVENUE
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MERIDIAN, IDAHO
NAMPA, IDAHO
SPOKANE, WA

PRIEST RIVER MUNICIPAL AIRPORT
CFR PART 77 APPROACH SURFACE & TSS PENETRATION ANALYSIS

DATE: APRIL 2016
PROJECT: 140040

SHEET 1 OF 1

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APPENDIX D – GRANT HISTORY

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APPENDIX D: GRANT HISTORY

FAA GRANTS

Fiscal Year	Project Description	FAA Grants
2009	Install Perimeter Fencing	$123,915
2010	Construct Taxiway	$104,859
2011	Construct Taxiway	$180,191
2013	Construct Apron, Taxiway, Improve Access Road, Rehabilitate Apron	$655,560
2014	Airport Master Plan Study	$145,255
Total		**$1,209,780**

Source: FAA

STATE GRANTS

The following state grants include grants provided to the County for state only projects, but also state grants provided as a match for FAA projects.

Fiscal Year	Project Description	State Grants
1978	Planning	$2,000
1981	LIRL	$10,257.23
1992	Overlay Ramp, 1 ½" Asphalt	$7,500
1996	Seal Coat Runway & Apron, Crack Seal Runway	$10,629.50
2003	Pavement Rehabilitation	$10,733
2005	Carry Over	$3,947
2010	Perimeter Fence	$3,260
2011	Construct Taxiway	$2,759
2012	Land Acquisition	$4,741
2014	Construct Apron, Taxiway, Improve Access Road, Rehabilitate Apron	$36,380
Total		**$92,207**

Source: ITD

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APPENDIX E – GRANT ASSURANCES

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APPENDIX E: GRANT ASSURANCES

FAA GRANT ASSURANCES

GENERAL FEDERAL REQUIREMENTS.

It will comply with all applicable Federal laws, regulations, executive orders, policies, guidelines, and requirements as they relate to the application, acceptance and use of Federal funds for this project including but not limited to the following:

FEDERAL LEGISLATION

a. Title 49, U.S.C., subtitle VII, as amended.
b. Davis-Bacon Act - 40 U.S.C. 276(a), et seq.[1]
c. Federal Fair Labor Standards Act - 29 U.S.C. 201, et seq.
d. Hatch Act – 5 U.S.C. 1501, et seq.[2]
e. Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 Title 42 U.S.C. 4601, et seq.[1 2]
f. National Historic Preservation Act of 1966 - Section 106 - 16 U.S.C. 470(f).[1]
g. Archeological and Historic Preservation Act of 1974 - 16 U.S.C. 469 through 469c.[1]
h. Native Americans Grave Repatriation Act - 25 U.S.C. Section 3001, et seq.
i. Clean Air Act, P.L. 90-148, as amended.
j. Coastal Zone Management Act, P.L. 93-205, as amended.
k. Flood Disaster Protection Act of 1973 - Section 102(a) - 42 U.S.C. 4012a.[1]
l. Title 49, U.S.C., Section 303, (formerly known as Section 4(f))
m. Rehabilitation Act of 1973 - 29 U.S.C. 794.
n. Title VI of the Civil Rights Act of 1964 (42 U.S.C. § 2000d et seq., 78 stat. 252) (prohibits discrimination on the basis of race, color, national origin);
o. Americans with Disabilities Act of 1990, as amended, (42 U.S.C. § 12101 et seq.), prohibits discrimination on the basis of disability).
p. Age Discrimination Act of 1975 - 42 U.S.C. 6101, et seq.
q. American Indian Religious Freedom Act, P.L. 95-341, as amended.
r. Architectural Barriers Act of 1968 -42 U.S.C. 4151, et seq.[1]
s. Power plant and Industrial Fuel Use Act of 1978 - Section 403- 2 U.S.C. 8373.[1]
t. Contract Work Hours and Safety Standards Act - 40 U.S.C. 327, et seq.[1]
u. Copeland Anti-kickback Act - 18 U.S.C. 874.1
v. National Environmental Policy Act of 1969 - 42 U.S.C. 4321, et seq.[1]
w. Wild and Scenic Rivers Act, P.L. 90-542, as amended.
x. Single Audit Act of 1984 - 31 U.S.C. 7501, et seq.[2]
y. Drug-Free Workplace Act of 1988 - 41 U.S.C. 702 through 706.
z. The Federal Funding Accountability and Transparency Act of 2006, as amended (Pub. L. 109-282, as amended by section 6202 of Pub. L. 110-

252).

EXECUTIVE ORDERS

a. Executive Order 11246 - Equal Employment Opportunity[1]
b. Executive Order 11990 - Protection of Wetlands
c. Executive Order 11998 – Flood Plain Management
d. Executive Order 12372 - Intergovernmental Review of Federal Programs
e. Executive Order 12699 - Seismic Safety of Federal and Federally Assisted New Building Construction[1]
f. Executive Order 12898 - Environmental Justice

FEDERAL REGULATIONS

a. 2 CFR Part 180 - OMB Guidelines to Agencies on Governmentwide Debarment and Suspension (Nonprocurement).
b. 2 CFR Part 200, Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards. [OMB Circular A-87 Cost Principles Applicable to Grants and Contracts with State and Local Governments, and OMB Circular A-133 - Audits of States, Local Governments, and Non-Profit Organizations].[4, 5, 6]
c. 2 CFR Part 1200 – Nonprocurement Suspension and Debarment
d. 14 CFR Part 13 - Investigative and Enforcement Procedures14 CFR Part 16 - Rules of Practice For Federally Assisted Airport Enforcement Proceedings.
e. 14 CFR Part 150 - Airport noise compatibility planning.
f. 28 CFR Part 35- Discrimination on the Basis of Disability in State and Local Government Services.
g. 28 CFR § 50.3 - U.S. Department of Justice Guidelines for Enforcement of Title VI of the Civil Rights Act of 1964.
h. 29 CFR Part 1 - Procedures for predetermination of wage rates.[1]
i. 29 CFR Part 3 - Contractors and subcontractors on public building or public work financed in whole or part by loans or grants from the United States.[1]
j. 29 CFR Part 5 - Labor standards provisions applicable to contracts covering federally financed and assisted construction (also labor standards provisions applicable to non-construction contracts subject to the Contract Work Hours and Safety Standards Act).[1]
k. 41 CFR Part 60 - Office of Federal Contract Compliance Programs, Equal Employment Opportunity, Department of Labor (Federal and federally assisted contracting requirements).[1]
l. 49 CFR Part 18 - Uniform administrative requirements for grants and cooperative agreements to state and local governments.[3]
m. 49 CFR Part 20 - New restrictions on lobbying.
n. 49 CFR Part 21 – Nondiscrimination in federally-assisted programs of the Department of Transportation - effectuation of Title VI of the Civil Rights Act of 1964.
o. 49 CFR Part 23 - Participation by Disadvantage Business Enterprise in

Airport Concessions.

p. 49 CFR Part 24 – Uniform Relocation Assistance and Real Property Acquisition for Federal and Federally Assisted Programs.[1 2]
q. 49 CFR Part 26 – Participation by Disadvantaged Business Enterprises in Department of Transportation Programs.
r. 49 CFR Part 27 – Nondiscrimination on the Basis of Handicap in Programs and Activities Receiving or Benefiting from Federal Financial Assistance.[1]
s. 49 CFR Part 28 – Enforcement of Nondiscrimination on the Basis of Handicap in Programs or Activities conducted by the Department of Transportation.
t. 49 CFR Part 30 - Denial of public works contracts to suppliers of goods and services of countries that deny procurement market access to U.S. contractors.
u. 49 CFR Part 32 – Government-wide Requirements for Drug-Free Workplace (Financial Assistance)
v. 49 CFR Part 37 – Transportation Services for Individuals with Disabilities (ADA).
w. 49 CFR Part 41 - Seismic safety of Federal and federally assisted or regulated new building construction.

SPECIFIC ASSURANCES

Specific assurances required to be included in grant agreements by any of the above laws, regulations or circulars are incorporated by reference in this grant agreement.

FOOTNOTES TO ASSURANCE C.1.

[1] These laws do not apply to airport planning sponsors.

[2] These laws do not apply to private sponsors.

[3] 49 CFR Part 18 and 2 CFR Part 200 contain requirements for State and Local Governments receiving Federal assistance. Any requirement levied upon State and Local Governments by this regulation and circular shall also be applicable to private sponsors receiving Federal assistance under Title 49, United States Code.

[4] On December 26, 2013 at 78 FR 78590, the Office of Management and Budget (OMB) issued the Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards in 2 CFR Part 200. 2 CFR Part 200 replaces and combines the former Uniform Administrative Requirements for Grants (OMB Circular A-102 and Circular A-110 or 2 CFR Part 215 or Circular) as well as the Cost Principles (Circulars A-21 or 2 CFR part 220; Circular A-87 or 2 CFR part 225; and A-122, 2 CFR part 230). Additionally it replaces Circular A-133 guidance on the Single Annual Audit. In accordance with 2 CFR section 200.110, the standards set forth in Part

200 which affect administration of Federal awards issued by Federal agencies become effective once implemented by Federal agencies or when any future amendment to this Part becomes final. Federal agencies, including the Department of Transportation, must implement the policies and procedures applicable to Federal awards by promulgating a regulation to be effective by December 26, 2014 unless different provisions are required by statute or approved by OM.

[5] Cost principles established in 2 CFR part 200 subpart E must be used as guidelines for determining the eligibility of specific types of expenses.

[6] Audit requirements established in 2 CFR part 200 subpart F are the guidelines for audits.

RESPONSIBILITY AND AUTHORITY OF THE SPONSOR.

aa. Public Agency Sponsor:
It has legal authority to apply for this grant, and to finance and carry out the proposed project; that a resolution, motion or similar action has been duly adopted or passed as an official act of the applicant's governing body authorizing the filing of the application, including all understandings and assurances contained therein, and directing and authorizing the person identified as the official representative of the applicant to act in connection with the application and to provide such additional information as may be required.

bb. Private Sponsor:
It has legal authority to apply for this grant and to finance and carry out the proposed project and comply with all terms, conditions, and assurances of this grant agreement. It shall designate an official representative and shall in writing direct and authorize that person to file this application, including all understandings and assurances contained therein; to act in connection with this application; and to provide such additional information as may be required.

SPONSOR FUND AVAILABILITY.

It has sufficient funds available for that portion of the project costs which are not to be paid by the United States. It has sufficient funds available to assure operation and maintenance of items funded under this grant agreement which it will own or control.

GOOD TITLE.

cc. It, a public agency or the Federal government, holds good title, satisfactory to the Secretary, to the landing area of the airport or site thereof, or will give assurance satisfactory to the Secretary that good title will be acquired.

dd. For noise compatibility program projects to be carried out on the property of

the sponsor, it holds good title satisfactory to the Secretary to that portion of the property upon which Federal funds will be expended or will give assurance to the Secretary that good title will be obtained.

PRESERVING RIGHTS AND POWERS.

ee. It will not take or permit any action which would operate to deprive it of any of the rights and powers necessary to perform any or all of the terms, conditions, and assurances in this grant agreement without the written approval of the Secretary, and will act promptly to acquire, extinguish or modify any outstanding rights or claims of right of others which would interfere with such performance by the sponsor. This shall be done in a manner acceptable to the Secretary. It will not sell, lease, encumber, or otherwise transfer or dispose of any part of its title or other interests in the property shown on Exhibit A to this application or, for a noise compatibility program project, that portion of the property upon which Federal funds have been expended, for the duration of the terms, conditions, and assurances in this grant agreement without approval by the Secretary. If the transferee is found by the Secretary to be eligible under Title 49, United States Code, to assume the obligations of this grant agreement and to have the power, authority, and financial resources to carry out all such obligations, the sponsor shall insert in the contract or document transferring or disposing of the sponsor's interest, and make binding upon the transferee all of the terms, conditions, and assurances contained in this grant agreement.

ff. For all noise compatibility program projects which are to be carried out by another unit of local government or are on property owned by a unit of local government other than the sponsor, it will enter into an agreement with that government. Except as otherwise specified by the Secretary, that agreement shall obligate that government to the same terms, conditions, and assurances that would be applicable to it if it applied directly to the FAA for a grant to undertake the noise compatibility program project. That agreement and changes thereto must be satisfactory to the Secretary. It will take steps to enforce this agreement against the local government if there is substantial non-compliance with the terms of the agreement.

gg. For noise compatibility program projects to be carried out on privately owned property, it will enter into an agreement with the owner of that property which includes provisions specified by the Secretary. It will take steps to enforce this agreement against the property owner whenever there is substantial non- compliance with the terms of the agreement.

hh. If the sponsor is a private sponsor, it will take steps satisfactory to the Secretary to ensure that the airport will continue to function as a public-use airport in accordance with these assurances for the duration of these assurances.

ii. If an arrangement is made for management and operation of the airport by any agency or person other than the sponsor or an employee of the sponsor, the sponsor will reserve sufficient rights and authority to insure that the airport will be operated and maintained in accordance Title 49, United States Code, the regulations and the terms, conditions and assurances in this grant agreement and shall insure that such arrangement also requires compliance therewith.

2. Sponsors of commercial service airports will not permit or enter into any arrangement that results in permission for the owner or tenant of a property used as a residence, or zoned for residential use, to taxi an aircraft between that property and any location on airport. Sponsors of general aviation airports entering into any arrangement that results in permission for the owner of residential real property adjacent to or near the airport must comply with the requirements of Sec. 136 of Public Law 112-95 and the sponsor assurances.

CONSISTENCY WITH LOCAL PLANS.

The project is reasonably consistent with plans (existing at the time of submission of this application) of public agencies that are authorized by the State in which the project is located to plan for the development of the area surrounding the airport.

CONSIDERATION OF LOCAL INTEREST.

It has given fair consideration to the interest of communities in or near where the project may be located.

CONSULTATION WITH USERS.

In making a decision to undertake any airport development project under Title 49, United States Code, it has undertaken reasonable consultations with affected parties using the airport at which project is proposed.

PUBLIC HEARINGS.

In projects involving the location of an airport, an airport runway, or a major runway extension, it has afforded the opportunity for public hearings for the purpose of considering the economic, social, and environmental effects of the airport or runway location and its consistency with goals and objectives of such planning as has been carried out by the community and it shall, when requested by the Secretary, submit a copy of the transcript of such hearings to the Secretary. Further, for such projects, it has on its management board either voting representation from the communities where the project is located or has advised the communities that they have the right to petition the Secretary concerning a proposed project.

METROPOLITAN PLANNING ORGANIZATION.

In projects involving the location of an airport, an airport runway, or a major runway extension at a medium or large hub airport, the sponsor has made available to and has provided upon request to the metropolitan planning organization in the area in which the airport is located, if any, a copy of the proposed amendment to the airport layout plan to depict the project and a copy of any airport master plan in which the project is described or depicted.

PAVEMENT PREVENTIVE MAINTENANCE.

With respect to a project approved after January 1, 1995, for the replacement or reconstruction of pavement at the airport, it assures or certifies that it has implemented an effective airport pavement maintenance-management program and it assures that it will use such program for the useful life of any pavement constructed, reconstructed or repaired with Federal financial assistance at the airport. It will provide such reports on pavement condition and pavement management programs as the Secretary determines may be useful.

TERMINAL DEVELOPMENT PREREQUISITES.

For projects which include terminal development at a public use airport, as defined in Title 49, it has, on the date of submittal of the project grant application, all the safety equipment required for certification of such airport under section 44706 of Title 49, United States Code, and all the security equipment required by rule or regulation, and has provided for access to the passenger enplaning and deplaning area of such airport to passengers enplaning and deplaning from aircraft other than air carrier aircraft.

ACCOUNTING SYSTEM, AUDIT, AND RECORD KEEPING REQUIREMENTS.

a. It shall keep all project accounts and records which fully disclose the amount and disposition by the recipient of the proceeds of this grant, the total cost of the project in connection with which this grant is given or used, and the amount or nature of that portion of the cost of the project supplied by other sources, and such other financial records pertinent to the project. The accounts and records shall be kept in accordance with an accounting system that will facilitate an effective audit in accordance with the Single Audit Act of 1984.

b. It shall make available to the Secretary and the Comptroller General of the United States, or any of their duly authorized representatives, for the purpose of audit and examination, any books, documents, papers, and records of the recipient that are pertinent to this grant. The Secretary may require that an appropriate audit be conducted by a recipient. In any case in which an independent audit is made of the accounts of a sponsor relating to the disposition of the proceeds of a grant or relating to the project in connection with which this grant was given or used, it shall file a certified copy of such audit with the Comptroller General of the United States not later than six (6) months following the close of the fiscal year for which the audit was made.

MINIMUM WAGE RATES.

It shall include, in all contracts in excess of $2,000 for work on any projects funded under this grant agreement which involve labor, provisions establishing minimum rates of wages, to be predetermined by the Secretary of Labor, in accordance with the Davis-Bacon Act, as amended (40 U.S.C. 276a-276a-5), which contractors shall pay to skilled and unskilled labor, and such minimum rates

shall be stated in the invitation for bids and shall be included in proposals or bids for the work.

VETERAN'S PREFERENCE.

It shall include in all contracts for work on any project funded under this grant agreement which involve labor, such provisions as are necessary to insure that, in the employment of labor (except in executive, administrative, and supervisory positions), preference shall be given to Vietnam era veterans, Persian Gulf veterans,
Afghanistan-Iraq war veterans, disabled veterans, and small business concerns owned and controlled by disabled veterans as defined in Section 47112 of Title 49, United States Code. However, this preference shall apply only where the individuals are available and qualified to perform the work to which the employment relates.

CONFORMITY TO PLANS AND SPECIFICATIONS.

It will execute the project subject to plans, specifications, and schedules approved by the Secretary. Such plans, specifications, and schedules shall be submitted to the Secretary prior to commencement of site preparation, construction, or other performance under this grant agreement, and, upon approval of the Secretary, shall be incorporated into this grant agreement. Any modification to the approved plans, specifications, and schedules shall also be subject to approval of the Secretary, and incorporated into this grant agreement.

CONSTRUCTION INSPECTION AND APPROVAL.

It will provide and maintain competent technical supervision at the construction site throughout the project to assure that the work conforms to the plans, specifications, and schedules approved by the Secretary for the project. It shall subject the construction work on any project contained in an approved project application to inspection and approval by the Secretary and such work shall be in accordance with regulations and procedures prescribed by the Secretary. Such regulations and procedures shall require such cost and progress reporting by the sponsor or sponsors of such project as the Secretary shall deem necessary.

PLANNING PROJECTS.

In carrying out planning projects:

c. It will execute the project in accordance with the approved program narrative contained in the project application or with the modifications similarly approved.

d. It will furnish the Secretary with such periodic reports as required pertaining to the planning project and planning work activities.

e. It will include in all published material prepared in connection with the planning project a notice that the material was prepared under a grant provided by the United States.

f. It will make such material available for examination by the public, and agrees that no material prepared with funds under this project shall be subject to copyright in the United States or any other country.

g. It will give the Secretary unrestricted authority to publish, disclose, distribute, and otherwise use any of the material prepared in connection with this grant.

h. It will grant the Secretary the right to disapprove the sponsor's employment of specific consultants and their subcontractors to do all or any part of this project as well as the right to disapprove the proposed scope and cost of professional services.

i. It will grant the Secretary the right to disapprove the use of the sponsor's employees to do all or any part of the project.

j. It understands and agrees that the Secretary's approval of this project grant or the Secretary's approval of any planning material developed as part of this grant does not constitute or imply any assurance or commitment on the part of the Secretary to approve any pending or future application for a Federal airport grant.

OPERATION AND MAINTENANCE.

k. The airport and all facilities which are necessary to serve the aeronautical users of the airport, other than facilities owned or controlled by the United States, shall be operated at all times in a safe and serviceable condition and in accordance with the minimum standards as may be required or prescribed by applicable Federal, state and local agencies for maintenance and operation. It will not cause or permit any activity or action thereon which would interfere with its use for airport purposes. It will suitably operate and maintain the airport and all facilities thereon or connected therewith, with due regard to climatic and flood conditions. Any proposal to temporarily close the airport for non-aeronautical purposes must first be approved by the Secretary. In furtherance of this assurance, the sponsor will have in effect arrangements for-

   1) Operating the airport's aeronautical facilities whenever required;

   2) Promptly marking and lighting hazards resulting from airport conditions, including temporary conditions; and

   3) Promptly notifying airmen of any condition affecting aeronautical use of the airport. Nothing contained herein shall be construed to require that the airport be operated for aeronautical use during temporary periods when snow, flood or other climatic conditions interfere with such operation and maintenance. Further, nothing herein shall be construed as requiring the maintenance, repair, restoration, or replacement of any structure or facility which is substantially damaged or destroyed due to an act of God or other condition or circumstance beyond the control of the sponsor.

l. It will suitably operate and maintain noise compatibility program items

that it owns or controls upon which Federal funds have been expended.

HAZARD REMOVAL AND MITIGATION.

It will take appropriate action to assure that such terminal airspace as is required to protect instrument and visual operations to the airport (including established minimum flight altitudes) will be adequately cleared and protected by removing, lowering, relocating, marking, or lighting or otherwise mitigating existing airport hazards and by preventing the establishment or creation of future airport hazards.

COMPATIBLE LAND USE.

It will take appropriate action, to the extent reasonable, including the adoption of zoning laws, 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. In addition, if the project is for noise compatibility program implementation, it will not cause or permit any change in land use, within its jurisdiction, that will reduce its compatibility, with respect to the airport, of the noise compatibility program measures upon which Federal funds have been expended.

ECONOMIC NONDISCRIMINATION.

m. It will make the airport available as an airport for public use on reasonable terms and without unjust discrimination to all types, kinds and classes of aeronautical activities, including commercial aeronautical activities offering services to the public at the airport.

n. In any agreement, contract, lease, or other arrangement under which a right or privilege at the airport is granted to any person, firm, or corporation to conduct or to engage in any aeronautical activity for furnishing services to the public at the airport, the sponsor will insert and enforce provisions requiring the contractor to-

1) furnish said services on a reasonable, and not unjustly discriminatory, basis to all users thereof, and

2) charge reasonable, and not unjustly discriminatory, prices for each unit or service, provided that the contractor may be allowed to make reasonable and nondiscriminatory discounts, rebates, or other similar types of price reductions to volume purchasers.

o. Each fixed-based operator at the airport shall be subject to the same rates, fees, rentals, and other charges as are uniformly applicable to all other fixed-based operators making the same or similar uses of such airport and utilizing the same or similar facilities.

p. Each air carrier using such airport shall have the right to service itself or to use any fixed-based operator that is authorized or permitted by the airport to serve any air carrier at such airport.

q. Each air carrier using such airport (whether as a tenant, non-tenant, or

subtenant of another air carrier tenant) shall be subject to such nondiscriminatory and substantially comparable rules, regulations, conditions, rates, fees, rentals, and other charges with respect to facilities directly and substantially related to providing air transportation as are applicable to all such air carriers which make similar use of such airport and utilize similar facilities, subject to reasonable classifications such as tenants or non-tenants and signatory carriers and non- signatory carriers. Classification or status as tenant or signatory shall not be unreasonably withheld by any airport provided an air carrier assumes obligations substantially similar to those already imposed on air carriers in such classification or status.

r. It will not exercise or grant any right or privilege which operates to prevent any person, firm, or corporation operating aircraft on the airport from performing any services on its own aircraft with its own employees [including, but not limited to maintenance, repair, and fueling] that it may choose to perform.

s. In the event the sponsor itself exercises any of the rights and privileges referred to in this assurance, the services involved will be provided on the same conditions as would apply to the furnishing of such services by commercial aeronautical service providers authorized by the sponsor under these provisions.

t. The sponsor may establish such reasonable, and not unjustly discriminatory, conditions to be met by all users of the airport as may be necessary for the safe and efficient operation of the airport.

3. The sponsor may prohibit or limit any given type, kind or class of aeronautical use of the airport if such action is necessary for the safe operation of the airport or necessary to serve the civil aviation needs of the public. Exclusive Rights.

It will permit no exclusive right for the use of the airport by any person providing, or intending to provide, aeronautical services to the public. For purposes of this paragraph, the providing of the services at an airport by a single fixed-based operator shall not be construed as an exclusive right if both of the following apply:

a. It would be unreasonably costly, burdensome, or impractical for more than one fixed-based operator to provide such services, and

b. If allowing more than one fixed-based operator to provide such services would require the reduction of space leased pursuant to an existing agreement between such single fixed-based operator and such airport. It further agrees that it will not, either directly or indirectly, grant or permit any person, firm, or corporation, the exclusive right at the airport to conduct any aeronautical activities, including, but not limited to charter flights, pilot training, aircraft rental and sightseeing, aerial photography, crop dusting, aerial advertising and surveying, air carrier operations, aircraft sales and services, sale of aviation petroleum products whether or not conducted in conjunction with other aeronautical activity, repair and maintenance of aircraft, sale of aircraft parts, and any other activities which because of their direct relationship to the operation of aircraft can be regarded as an aeronautical activity, and that it will terminate any exclusive right to conduct an aeronautical activity now existing at such an airport before the grant of any assistance under Title 49, United States Code.

FEE AND RENTAL STRUCTURE.

It will maintain a fee and rental structure for the facilities and services at the airport which will make the airport as self-sustaining as possible under the circumstances existing at the particular airport, taking into account such factors as the volume of traffic and economy of collection. No part of the Federal share of an airport development, airport planning or noise compatibility project for which a grant is made under Title 49, United States Code, the Airport and Airway Improvement Act of 1982, the Federal Airport Act or the Airport and Airway Development Act of 1970 shall be included in the rate basis in establishing fees, rates, and charges for users of that airport.

AIRPORT REVENUES.

c. All revenues generated by the airport and any local taxes on aviation fuel established after December 30, 1987, will be expended by it for the capital or operating costs of the airport; the local airport system; or other local facilities which are owned or operated by the owner or operator of the airport and which are directly and substantially related to the actual air transportation of passengers or property; or for noise mitigation purposes on or off the airport. The following exceptions apply to this paragraph:

1) If covenants or assurances in debt obligations issued before September 3, 1982, by the owner or operator of the airport, or provisions enacted before September 3, 1982, in governing statutes controlling the owner or operator's financing, provide for the use of the revenues from any of the airport owner or

operator's facilities, including the airport, to support not only the airport but also the airport owner or operator's general debt obligations or other facilities, then this limitation on the use of all revenues generated by the airport (and, in the case of a public airport, local taxes on aviation fuel) shall not apply.

2) If the Secretary approves the sale of a privately owned airport to a public sponsor and provides funding for any portion of the public sponsor's acquisition of land, this limitation on the use of all revenues generated by the sale shall not apply to certain proceeds from the sale. This is conditioned on repayment to the Secretary by the private owner of an amount equal to the remaining unamortized portion (amortized over a 20-year period) of any airport improvement grant made to the private owner for any purpose other than land acquisition on or after October 1, 1996, plus an amount equal to the federal share of the current fair market value of any land acquired with an airport improvement grant made to that airport on or after October 1, 1996.

3) Certain revenue derived from or generated by mineral extraction, production, lease, or other means at a general aviation airport (as defined at Section 47102 of title 49 United States Code), if the FAA determines the airport sponsor meets the requirements set forth in Sec. 813 of Public Law 112-95.

d. As part of the annual audit required under the Single Audit Act of 1984, the sponsor will direct that the audit will review, and the resulting audit report will provide an opinion concerning, the use of airport revenue and taxes in paragraph (a), and indicating whether funds paid or transferred to the owner or operator are paid or transferred in a manner consistent with Title 49, United States Code and any other applicable provision of law, including any regulation promulgated by the Secretary or Administrator.

e. Any civil penalties or other sanctions will be imposed for violation of this assurance in accordance with the provisions of Section 47107 of Title 49, United States Code.

REPORTS AND INSPECTIONS.

It will:

f. submit to the Secretary such annual or special financial and operations reports as the Secretary may reasonably request and make such reports available to the public; make available to the public at reasonable times and places a report of the airport budget in a format prescribed by the Secretary;

g. for airport development projects, make the airport and all airport records and documents affecting the airport, including deeds, leases, operation and use agreements, regulations and other instruments, available for inspection by any duly authorized agent of the Secretary upon reasonable request;

h. for noise compatibility program projects, make records and documents relating to the project and continued compliance with the terms, conditions, and assurances of this grant agreement including deeds, leases, agreements, regulations, and other instruments, available for inspection by any duly authorized agent of the Secretary upon reasonable request; andin a format and time prescribed by the Secretary, provide to the Secretary and make available to the public following each of its fiscal years, an annual report listing in detail:

1) all amounts paid by the airport to any other unit of government and the purposes for which each such payment was made; and

2) all services and property provided by the airport to other units of government and the amount of compensation received for provision of each such service and property.

USE BY GOVERNMENT AIRCRAFT.

It will make available all of the facilities of the airport developed with Federal financial assistance and all those usable for landing and takeoff of aircraft to the United States for use by Government aircraft in common with other aircraft at all times without charge, except, if the use by Government aircraft is substantial, charge may be made for a reasonable share, proportional to such use, for the cost of operating and maintaining the facilities used. Unless otherwise determined by the Secretary, or otherwise agreed to by the sponsor and the using agency, substantial use of an airport by Government aircraft will be considered to exist when operations of such aircraft are in excess of those which, in the opinion of

the Secretary, would unduly interfere with use of the landing areas by other authorized aircraft, or during any calendar month that –

i. Five (5) or more Government aircraft are regularly based at the airport or on land adjacent thereto; or

j. The total number of movements (counting each landing as a movement) of Government aircraft is 300 or more, or the gross accumulative weight of Government aircraft using the airport (the total movement of Government aircraft multiplied by gross weights of such aircraft) is in excess of five million pounds.

LAND FOR FEDERAL FACILITIES.

It will furnish without cost to the Federal Government for use in connection with any air traffic control or air navigation activities, or weather-reporting and communication activities related to air traffic control, any areas of land or water, or estate therein, or rights in buildings of the sponsor as the Secretary considers necessary or desirable for construction, operation, and maintenance at Federal expense of space or facilities for such purposes. Such areas or any portion thereof will be made available as provided herein within four months after receipt of a written request from the Secretary.

AIRPORT LAYOUT PLAN.

k. It will keep up to date at all times an airport layout plan of the airport showing

1) boundaries of the airport and all proposed additions thereto, together with the boundaries of all offsite areas owned or controlled by the sponsor for airport purposes and proposed additions thereto;

2) the location and nature of all existing and proposed airport facilities and structures (such as runways, taxiways, aprons, terminal buildings, hangars and roads), including all proposed extensions and reductions of existing airport facilities;

3) the location of all existing and proposed non-aviation areas and of all existing improvements thereon; and

4) all proposed and existing access points used to taxi aircraft across the airport's property boundary. Such airport layout plans and each amendment, revision, or modification thereof, shall be subject to the approval of the Secretary which approval shall be evidenced by the signature of a duly authorized representative of the Secretary on the face of the airport layout plan. The sponsor will not make or permit any changes or alterations in the airport or any of its facilities which are not in conformity with the airport layout plan as approved by the Secretary and which might, in the opinion of the Secretary, adversely affect the safety, utility or efficiency of the airport.

l. If a change or alteration in the airport or the facilities is made which the Secretary determines adversely affects the safety, utility, or efficiency of any federally owned, leased, or funded property on or off the airport and which is not in conformity with the airport layout plan as approved by the Secretary, the

owner or operator will, if requested, by the Secretary (1) eliminate such adverse effect in a manner approved by the Secretary; or (2) bear all costs of relocating such property (or replacement thereof) to a site acceptable to the Secretary and all costs of restoring such property (or replacement thereof) to the level of safety, utility, efficiency, and cost of operation existing before the unapproved change in the airport or its facilities except in the case of a relocation or replacement of an existing airport facility due to a change in the Secretary's design standards beyond the control of the airport sponsor.

CIVIL RIGHTS.

It will promptly take any measures necessary to ensure that no person in the United States shall, on the grounds of race, creed, color, national origin, sex, age, or disability be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination in any activity conducted with, or benefiting from, funds received from this grant.

m. Using the definitions of activity, facility and program as found and defined in §§ 21.23 (b) and 21.23 (e) of 49 CFR § 21, the sponsor will facilitate all programs, operate all facilities, or conduct all programs in compliance with all non- discrimination requirements imposed by, or pursuant to these assurances.

n. Applicability

1) Programs and Activities. If the sponsor has received a grant (or other federal assistance) for any of the sponsor's program or activities, these requirements extend to all of the sponsor's programs and activities.

2) Facilities. Where it receives a grant or other federal financial assistance to construct, expand, renovate, remodel, alter or acquire a facility, or part of a facility, the assurance extends to the entire facility and facilities operated in connection therewith.

3) Real Property. Where the sponsor receives a grant or other Federal financial assistance in the form of, or for the acquisition of real property or an interest in real property, the assurance will extend to rights to space on, over, or under such property.

o. Duration.

The sponsor agrees that it is obligated to this assurance for the period during which Federal financial assistance is extended to the program, except where the Federal financial assistance is to provide, or is in the form of, personal property, or real property, or interest therein, or structures or improvements thereon, in which case the assurance obligates the sponsor, or any transferee for the longer of the following periods:

1) So long as the airport is used as an airport, or for another purpose involving the provision of similar services or benefits; or

2) So long as the sponsor retains ownership or possession of the property.

p. Required Solicitation Language. It will include the following notification in all solicitations for bids, Requests For Proposals for work, or material under this grant agreement and in all proposals for agreements, including airport concessions, regardless of funding source:

"The **(Name of Sponsor)**, in accordance with the provisions of Title VI of the Civil Rights Act of 1964 (78 Stat. 252, 42 U.S.C. §§ 2000d to 2000d-4) and the Regulations, hereby notifies all bidders that it will affirmatively ensure that any contract entered into pursuant to this advertisement, disadvantaged business enterprises and airport concession disadvantaged business enterprises will be afforded full and fair opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, color, or national origin in consideration for an award."

q. Required Contract Provisions.

1) It will insert the non-discrimination contract clauses requiring compliance with the acts and regulations relative to non-discrimination in Federally-assisted programs of the DOT, and incorporating the acts and regulations into the contracts by reference in every contract or agreement subject to the non- discrimination in Federally-assisted programs of the DOT acts and regulations.

2) It will include a list of the pertinent non-discrimination authorities in every contract that is subject to the non-discrimination acts and regulations.

3) It will insert non-discrimination contract clauses as a covenant running with the land, in any deed from the United States effecting or recording a transfer of real property, structures, use, or improvements thereon or interest therein to a sponsor.

4) It will insert non-discrimination contract clauses prohibiting discrimination on the basis of race, color, national origin, creed, sex, age, or handicap as a covenant running with the land, in any future deeds, leases, license, permits, or similar instruments entered into by the sponsor with other parties:

a) For the subsequent transfer of real property acquired or improved under the applicable activity, project, or program; and

b) For the construction or use of, or access to, space on, over, or under real property acquired or improved under the applicable activity, project, or program.

r. It will provide for such methods of administration for the program as are found by the Secretary to give reasonable guarantee that it, other recipients, sub-recipients, sub-grantees, contractors, subcontractors, consultants, transferees, successors in interest, and other participants of Federal financial assistance under such program will comply with all requirements imposed or pursuant to the acts, the regulations, and this assurance.

s. It agrees that the United States has a right to seek judicial enforcement with regard to any matter arising under the acts, the regulations, and this assurance.

DISPOSAL OF LAND.

t. For land purchased under a grant for airport noise compatibility purposes, including land serving as a noise buffer, it will dispose of the land, when the land is no longer needed for such purposes, at fair market value, at the

earliest practicable time. That portion of the proceeds of such disposition which is proportionate to the United States' share of acquisition of such land will be, at the discretion of the Secretary, (1) reinvested in another project at the airport, or (2) transferred to another eligible airport as prescribed by the Secretary. The Secretary shall give preference to the following, in descending order, (1) reinvestment in an approved noise compatibility project, (2) reinvestment in an approved project that is eligible for grant funding under Section 47117(e) of title 49 United States Code, (3) reinvestment in an approved airport development project that is eligible for grant funding under Sections 47114, 47115, or 47117 of title 49 United States Code, (4) transferred to an eligible sponsor of another public airport to be reinvested in an approved noise compatibility project at that airport, and (5) paid to the Secretary for deposit in the Airport and Airway Trust Fund. If land acquired under a grant for noise compatibility purposes is leased at fair market value and consistent with noise buffering purposes, the lease will not be considered a disposal of the land. Revenues derived from such a lease may be used for an approved airport development project that would otherwise be eligible for grant funding or any permitted use of airport revenue.

u. For land purchased under a grant for airport development purposes (other than noise compatibility), it will, when the land is no longer needed for airport purposes, dispose of such land at fair market value or make available to the Secretary an amount equal to the United States' proportionate share of the fair market value of the land. That portion of the proceeds of such disposition which is proportionate to the United States' share of the cost of acquisition of such land will, (1) upon application to the Secretary, be reinvested or transferred to an othereligible airport as prescribed by the Secretary. The Secretary shall give preference to the following, in descending order: (1) reinvestment in an approved noise compatibility project, (2) reinvestment in an approved project that is eligible for grant funding under Section 47117(e) of title 49 United States Code, (3) reinvestment in an approved airport development project that is eligible for grant funding under Sections 47114, 47115, or 47117 of title 49 United States Code, (4) transferred to an eligible sponsor of another public airport to be reinvested in an approved noise compatibility project at that airport, and (5) paid to the Secretary for deposit in the Airport and Airway Trust Fund.

v. Land shall be considered to be needed for airport purposes under this assurance if (1) it may be needed for aeronautical purposes (including runway protection zones) or serve as noise buffer land, and (2) the revenue from interim uses of such land contributes to the financial self-sufficiency of the airport. Further, land purchased with a grant received by an airport operator or owner before December 31, 1987, will be considered to be needed for airport purposes if the Secretary or Federal agency making such grant before December 31, 1987, was notified by the operator or owner of the uses of such land, did not object to such use, and the land continues to be used for that purpose, such use having commenced no later than December 15, 1989.

w. Disposition of such land under (a) (b) or (c) will be subject to the retention or reservation of any interest or right therein necessary to ensure that such land will only be used for purposes which are compatible with noise levels associated with operation of the airport.

ENGINEERING AND DESIGN SERVICES.

It will award each contract, or sub-contract for program management, construction management, planning studies, feasibility studies, architectural services, preliminary engineering, design, engineering, surveying, mapping or related services with respect to the project in the same manner as a contract for architectural and engineering services is negotiated under Title IX of the Federal Property and Administrative Services Act of 1949 or an equivalent qualifications-based requirement prescribed for or by the sponsor of the airport.

FOREIGN MARKET RESTRICTIONS.

It will not allow funds provided under this grant to be used to fund any project which uses any product or service of a foreign country during the period in which such foreign country is listed by the United States Trade Representative as denying fair and equitable market opportunities for products and suppliers of the United States in procurement and construction.

POLICIES, STANDARDS, AND SPECIFICATIONS.

It will carry out the project in accordance with policies, standards, and specifications approved by the Secretary including but not limited to the advisory circulars listed in the Current FAA Advisory Circulars for AIP projects, dated__ (the latest approved version as of this grant offer) and included in this grant, and in accordance with applicable state policies, standards, and specifications approved by the Secretary.

RELOCATION AND REAL PROPERTY ACQUISITION.

x. It will be guided in acquiring real property, to the greatest extent practicable under State law, by the land acquisition policies in Subpart B of 49 CFR Part 24 and will pay or reimburse property owners for necessary expenses as specified in Subpart B.
y. It will provide a relocation assistance program offering the services described in Subpart C and fair and reasonable relocation payments and assistance to displaced persons as required in Subpart D and E of 49 CFR Part 24.
z. It will make available within a reasonable period of time prior to displacement, comparable replacement dwellings to displaced persons in accordance with Subpart E of 49 CFR Part 24.

ACCESS BY INTERCITY BUSES.

The airport owner or operator will permit, to the maximum extent practicable, intercity buses or other modes of transportation to have access to the airport; however, it has no obligation to fund special facilities for intercity buses or for other modes of transportation.

4. **DISADVANTAGED BUSINESS ENTERPRISES.**

The sponsor shall not discriminate on the basis of race, color, national origin or sex in the award and performance of any DOT-assisted contract covered by 49 CFR Part 26, or in the award and performance of any concession activity contract covered by 49 CFR Part 23. In addition, the sponsor shall not discriminate on the basis of race, color, national origin or sex in the administration of its DBE and ACDBE programs or the requirements of 49 CFR Parts 23 and 26. The sponsor shall take all necessary and reasonable steps under 49 CFR Parts 23 and 26 to ensure nondiscrimination in the award and administration of DOT-assisted contracts, and/or concession

contracts. The sponsor's DBE and ACDBE programs, as required by 49 CFR Parts 26 and 23, and as approved by DOT, are incorporated by reference in this agreement. Implementation of these programs is a legal obligation and failure to carry out its terms shall be treated as a violation of this agreement. Upon notification to the sponsor of its failure to carry out its approved program, the Department may impose sanctions as provided for under Parts 26 and 23 and may, in appropriate cases, refer the matter for enforcement under 18 U.S.C. 1001 and/or the Program Fraud Civil Remedies Act of 1936 (31 U.S.C. 3801).

HANGAR CONSTRUCTION.

If the airport owner or operator and a person who owns an aircraft agree that a hangar is to be constructed at the airport for the aircraft at the aircraft owner's expense, the airport owner or operator will grant to the aircraft owner for the hangar a long term lease that is subject to such terms and conditions on the hangar as the airport owner or operator may impose.

COMPETITIVE ACCESS.

a. If the airport owner or operator of a medium or large hub airport (as defined in section 47102 of title 49, U.S.C.) has been unable to accommodate one or more requests by an air carrier for access to gates or other facilities at that airport in order to allow the air carrier to provide service to the airport or to expand service at the airport, the airport owner or operator shall transmit a report to the Secretary that-

   1) Describes the requests;

   2) Provides an explanation as to why the requests could not be accommodated; and

   3) Provides a time frame within which, if any, the airport will be able to accommodate the requests.

b. Such report shall be due on either February 1 or August 1 of each year if the airport has been unable to accommodate the request(s) in the six month period prior to the applicable due date.

STATE GRANT ASSURANCES

The following Grant Assurances are a standard part of all IAAP Grant Agreements and must be followed. These requirements are effective for the life of the facilities developed (not to exceed 20 years from the date of grant acceptance).

1. The Airport Sponsor agrees to comply with the regulations relative to non-discrimination in State assisted programs of the Idaho Transportation Department.

The Sponsor shall:

2. Diligently and expeditiously complete this project and likewise pursue appropriate measures as may be agreed upon by the SPONSOR and AERONAUTICS to remedy project delays, including but not limited to litigation or condemnation.

3. Carry out and complete the project in accordance with the plans and specifications, as they may be revised or modified, with approval of AERONAUTICS.

4. All contracts for construction involved in this project shall be bid competitively in accordance with bidding procedures otherwise authorized for public entities.

5. In connection with the acquisition of real property for the project, the SPONSOR shall secure at least two written appraisals by licensed appraisers. The SPONSOR shall not pay in excess of the highest appraisal without the written consent of AERONAUTICS or except as directed by a court of competent jurisdiction after a contested trial and a judgment not resulting from agreement between the parties.

6. No State funds will be paid to the SPONSOR in any case until it certifies in writing that it has funds available and will spend at least the amount designated for this project in the Grant Agreement, solely for the project in question.

7. The SPONSOR agrees to hold said airport open to the flying public for the useful life of the facilities developed under this project.

8. The SPONSOR shall grant no exclusive use or operating agreements, to any person, company, or corporation; that failure to abide by such agreement shall automatically obligate the immediate and full return of all State of Idaho money expended in behalf of the project to the State of Idaho.

9. The allowable costs of the project shall not include any costs determined by AERONAUTICS to be ineligible.

10. SPONSOR shall report project commencement date.

11. SPONSOR shall make periodic progress reports as appropriate.

12. SPONSOR shall receive approval prior to any change in the scope of the project

13. SPONSOR shall report project completion date and request final inspection and payment.

14. Such allocation agreement shall become effective upon the SPONSOR acceptance of this offer and shall remain in full force and effect throughout the useful life of the facilities developed under the project but in any event not to exceed twenty (20) years from the date of acceptance.

15. Said offer and acceptance shall comprise allocation agreement, constituting the obligation and rights of the State of Idaho and the SPONSOR with respect to the accomplishment of the project and the operation and the maintenance of the airport.

16. SPONSOR must develop the airport in accordance with current Idaho Division of Aeronautics design and construction standards.

17. SPONSOR cannot allow any activity or action on the airport that would interfere with its use for airport purposes

18. SPONSOR must allow all types, kinds, and classes of aeronautical activities use the airport. This includes such activities as parachute jumping and ultralight vehicles. One possible reason for not allowing an aeronautical activity on the airport is if it cannot be conducted safely. The final safety determination is the responsibility of the Idaho Division of Aeronautics.

19. SPONSOR must allow people to service their own aircraft according to all applicable Federal Aviation Regulations (FARs).

20. The Idaho Division of Aeronautics prefers that all revenue generated on the airport by the Sponsor be used for airport purposes only.

21. SPONSOR should have a master plan or an airport or heliport layout plan to be eligible for participation in the allocation program. The plan must be approved by the Division of Aeronautics.

22. SPONSOR should have proof of ownership or lease of all land upon which any project is proposed in order to protect the investment of public funds.

23. SPONSOR should have compatible land use and height zoning for the airport to prevent incompatible land uses and the creation or establishment of structures or objects of natural growth which would constitute hazards or obstructions to aircraft operating to, from, on, or in the vicinity of the subject airport.

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APPENDIX F – IASP PROFILE

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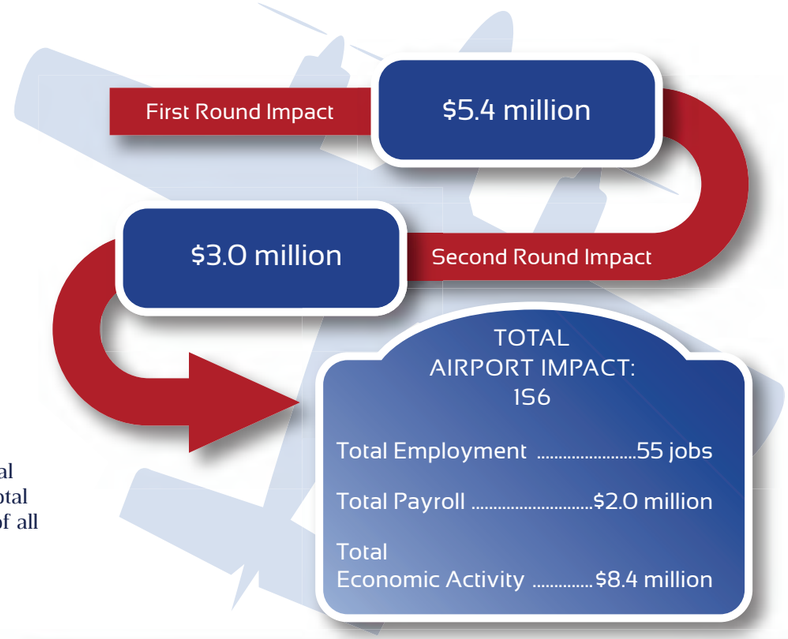
Economic Benefit to Idaho

The system plan quantifies the total economic activity of each airport in the Idaho system. Through a comprehensive survey process, the direct economic benefits related to on-airport business tenants and the indirect benefits associated with visitor related expenditures were determined for each system airport. The multiplier effect of these benefits was then calculated to ascertain the total airport-related impacts. The total economic activity is the sum of all direct (on-airport), indirect (off-airport visitor industry), and multiplier impacts. The study finds that aviation-related businesses located on airports support thousands of jobs and produce billions of dollars of economic impact.



STATEWIDE AVIATION IMPACT		
Total Employment 23,000 jobs	Total Payroll $718.5 million	Total Economic Activity $2.1 billion

Compatible Land Use

The development of land uses that are not compatible with airports and aircraft noise is a growing concern across the country. In addition to aircraft noise, there are other issues, such as safety and environmental impacts to land uses around airports which need to be considered when addressing the overall issue of land use compatibility. Although several federal programs include noise standards or guidelines as part of their funding-eligibility and performance criteria, the primary responsibility for integrating airport considerations into the local land use planning process rests with local governments. ITD Division of Aeronautics has long been an advocate for compatible land use planning around airports. Through the IASP, an Airport Land Use Guidebook was developed for use by the airports, local governments, and the Division of Aeronautics. The Idaho Airport Land Use Guidebook not only informs and educates airports, communities, and local governments but it also provides the necessary tools for implementing compatible land use planning.

For more information contact:

IDAHO TRANSPORTATION DEPARTMENT | DIVISION OF AERONAUTICS
3483 RICKENBACKER STREET, BOISE, ID 83705 | P.O. BOX 7129, BOISE, ID 83707-1129
PHONE: 1-208-334-8775 | IN-STATE TOLL FREE: 1-800-426-4587 | FAX: 1-208-334-8789
HTTP://ITD.IDAHO.GOV/AERO/

Prepared by: Wilbur Smith Associates and T-O Engineers

Idaho Airport System Plan

Priest River Municipal Airport

156

INDIVIDUAL AIRPORT SUMMARY | 2009

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Understanding the Airport

The town of Priest River is located in northern Idaho near the confluence of the Priest River and the Pend Oreille River. The surrounding area is home to several recreation centers and provides wilderness areas for many forms of outdoor activity. The primary industry in the area is logging.

Priest River Municipal Airport is a general aviation airport, located just north of the center of Priest River. The airport is used for many different activities, including recreational flights into the backcountry, flight instruction, medical evacuation and medical shipments, and seasonal firefighting activities. The airport is occasionally used by Police and Military personnel. Two area businesses depend on the airport, Northland Aviation and Aerocet Floats.

The airport has one runway that is 2,950 feet long by 48 feet wide, and handles approximately 7,800 operations throughout the year.

Airport Roles

The Idaho Airport System Plan (IASP) has identified five functional roles for the 75 public-use airports included in the study. These roles expand on the Federal Aviation Administration's (FAA) role categories of commercial service and general aviation airports. Airports that are included in the FAA's National Plan of Integrated Airport Systems (NPIAS) are eligible for federal funding.

Role Summary	
IASP Role →	Local Recreational
Federal Role →	General Aviation
NPIAS →	Yes

Forecasts

When planning for new or additional airport facilities, projections in the form of based aircraft and annual operations can be helpful in determining the type and size of necessary improvements. Historical demand and local socioeconomic indicators, as well as state and national trends and the airport's master plan were reviewed in developing the airport's forecast.

The table below highlights the forecast activity for Priest River Municipal Airport.

Activity Forecast Summary		
ACTIVITY	2007	2027
Based Aircraft	16	25
Annual Operations	10,000	15,800

Facilities & Services and Recommended Development Costs

Facility and service objectives were developed for each of the five role categories of the IASP. These objectives provide guidance on the minimum level of facilities and services needed for the airport to fulfill its identified role in the system.

In order to continue to serve the aviation needs of surrounding communities and the State of Idaho, the IASP has identified several important projects for the airport. Many of these projects are eligible for federal and/or state funding. Recommended development costs include projects needed to meet each of the recommendations of the Idaho Airport System Plan as well as projects from the airport's capital improvement plan (CIP). While these projects are included as part of the IASP, it is recognized that execution of these projects is dependent on the local economic environment. Further, if the minimum system objective is exceeded, then maintenance of that objective is recommended.

The following table summarizes current facilities and services, the airport's facility and service objectives, projects recommended to meet the objectives within the context of the system plan, and the estimated development costs to implement the projects. Planning and environmental recommendations serve as guidance related to the development needed for the airport to fulfill its role in the overall statewide system.

Priest River Municipal Airport is an integral component to the State's system of airports. It provides access to our nation's air transportation network, provides community benefits, and generates economic activity. The proposed development improvements will ensure that Priest River Municipal Airport continues to provide area residents and businesses with the aviation infrastructure necessary for the 21st century.

	EXISTING	SYSTEM OBJECTIVE	RECOMMENDATION	DEVELOPMENT COST
AIRSIDE FACILITIES				
Primary Runway Length	2,950 feet	3,090 feet or greater	Extend 140 feet	$58,400**
Runway Width	48 feet	60 feet	Widen 12 feet	$378,800**
Runway Strength	12,500 Lbs SW	12,500 Lbs SW	None	$0
Taxiway Type	Partial Parallel	Turnarounds	None	$0
Instrument Approach	Visual	Non-Precision/Visual	None	$0
Visual Aids	None	Rotating Beacon	None	$0
	Wind Cone	Wind Cone	None	$0
Runway Lighting/Reflectors	NSTD LIRL	Maintain Existing	None	$0
Weather Reporting Facilities	None	None	None	$0
LANDSIDE FACILITIES				
Terminal with Public Restroom	Yes	None	None	$0
Hangar Storage	19 Spaces	8 Spaces	None	$0
Apron Spaces	11 Spaces	9 Spaces	None	$0
Auto Parking	14 Spaces	Parking Spaces	None	$0
SERVICES				
Phone	Yes	Yes	Provide Phone	$1,000**
Restroom	Yes	Yes	None	$0
FBO	None	None	None	$0
Maintenance Facilities	Yes	None	None	$0
Fuel	None	AvGas Only	Provide AvGas	$100,000**
Ground Transportation	None	Courtesy/Loaner Car	None	$0
PAVEMENT MAINTENANCE, PLANNING/ENVIRONMENTAL AND MISCELLANEOUS				
Pavement Maintenance				$584,900**
Master Plan/ALP/Environmental				$30,000**
Segmented Circle				$9,500**
Landside Development				$115,000*
Other CIP Projects				$3,577,800*
TOTAL				$4,855,400

**Airport Capital Improvement Plan (CIP) Project | **Idaho Airport System Plan (IASP) Project*

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APPENDIX G – LAND USE

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APPENDIX G: LAND USE

DISCLOSURE LANGUANGE

SAMPLE
FAIR DISCLOSURE STATEMENT
DISCLOSURES BY (OWNER) (BUYER)
6.0 OF REAL PROPERTY IN BONNER COUNTY, IDAHO

This is a notification, disclosure, and acknowledgement by (Owner) (Buyer) of real property located in the vicinity of the Priest River Municipal Airport in Bonner County, Idaho.

(Owner) (Buyer) hereby acknowledges the following:

7.0 AIRPORT

1. Proximity to the Airport
The subject parcel, located in Section ___ Township ___ Range ____, is located in one of five height and/or land use zones of the Priest River Municipal Airport. Airplanes may fly at low elevations over the parcel as they operate to, from, or at the airport. The airport is operational 24 hours per day. Flights may occur at all hours of the day or night.

2. Disclosure of Noise Impacts
Due to the proximity of the parcel to the Priest River Municipal Airport and the airport's area of influence; owner(s) / buyer(s) should expect varying degrees of noise from these aircraft, which some persons may find intrusive.

3. Future Improvements and Aircraft Operations
The airport plans to expand its facilities and operations in the future. The plans include, but are not limited to those shown on the approved Airport Layout Plan. These improvements may result in increased aircraft operations, operations by larger aircraft, and increased nighttime operations, which could increase the noise levels within the vicinity of the airport.

4. Avigation Easement
Where specified on the Airport Compatible Land Use Table, the property owner shall dedicate, in advance of receiving a building permit, an avigation easement to Bonner County, Idaho. The purpose of this easement shall be to establish a maximum height restriction on the use of property and to hold the public harmless for any damages caused by noise, vibration, fumes, dust, fuel, fuel particles, or other effects that may be caused by the operation of aircraft landing at, taking off from, or operating on or at public airport facilities.

CERTIFICATION

This undersigned owner(s) / purchaser(s) of said parcel of land certify(ies) that (he/she/they) (has/have) read the above disclosure statement and acknowledge(s) the pre or planned existence of the airport named above and the noise exposure due to the operation of said airport.

_____

(SIGNED) Date

ORDINANCE LANGUANGE

ORDINANCE NO. _____

AIRPORT HAZARD OVERLAY ZONE

An ordinance of Bonner County, Idaho, enacting a new Airport Hazard Overlay Zone in the Bonner County Zoning Ordinance.

DEFINITIONS

AIRPORT. Any runway, any area, or other facility designed or used either publicly or privately for the landing and taking-off of aircraft, including all accessory taxiways, aircraft storage an tie down areas, hangars, and other necessary buildings. For purposes of this Ordinance, Airport includes Priest River Municipal Airport.

AIRPORT ELEVATION. The highest point of an airport's usable landing area measured in feet from mean sea level.

AIRPORT INFLUENCE AREA. An area which establishes boundaries used to define the airport environs for land use planning purposes. Factors to be considered in defining the boundary of the Airport Influence Area include airport noise contours (when applicable), airport traffic patterns, departure, arrival and instrument approach corridors, safety zones and height restriction areas.

APPROACH SURFACE. A surface longitudinally centered on the extended runway centerline, extending outward and upward from the end of the primary surface and at the same slope as the approach zone height limitation slope set forth in Section XX-5 of this Ordinance. The outer width of an approach/departure surface will be that width prescribed in this subsection for the most precise approach existing or planned for that runway end as identified on the airport's approved Airport Layout Plan.

APPROACH, TRANSITIONAL, HORIZONTAL, AND CONICAL ZONES. These zones are set forth in Section XX-4 of this Ordinance.

AVIATION HAZARD. An obstruction or hazard to air navigation that includes any new or existing structure, object of natural growth, use of land, or modification thereto, which endangers

the lives and property of users of an airport, or of occupants of land in its vicinity, and that reduces the size of the area available for landing, taking off and maneuvering of aircraft, or penetrates an imaginary surface, and has an adverse effect on the safe and efficient utilization of the navigable airspace.

AVIGATION EASEMENT. A non-possessing property interest in airspace over a land parcel or portion of land. It is a legally developed document obtained by the owner of an airport to permit activities including the right of flight and the right to remove obstructions, but not necessarily to the extent of prohibiting the use of the land within the limits of the rights obtained.

BOARD. Board of County Commissioners of Bonner County, Sandpoint, Idaho.

BOARD OF ADJUSTMENT. For purposes of this Ordinance, the Board of Adjustment shall consist of three (3) members appointed by the Bonner County Commissioners.

BUFFER ZONE. An area in the proposed City Impact Area where aircraft are commonly operating for the purposes of landing and take-off. The Buffer Zone(s) establishes land use restrictions to enhance the protection of people and property on the ground while considering influences of the City Impact Area.

COMMERCIAL USES. Commercial uses include community retail, wholesale, service, office and limited manufacturing businesses. For purposes of this Ordinance, High Intensity commercial uses such as large retail box stores (i.e. Walmart, Home Depot, Costco, etc.) are not acceptable commercial uses in all airport land use zones. Refer to the Airport Land Use Overlay Zone Map.

CONICAL SURFACE. A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

CRITICAL ZONES. An extended area off the runway end used to enhance the protection of people and property on the ground.

LIGHT INDUSTRIAL USES. Light industrial uses include a wide
range of manufacturing and related establishments, research, supplies and sales businesses. For purposes of this Ordinance, light industrial uses shall be free of hazardous or objectionable elements such as obstructions, dust, smoke or glare that result in an Aviation Hazard.

INNER CRITICAL ZONE. Rectangular in shape and centered about the extended runway centerline. The width of the Inner Critical Zone is 2000 feet and extends a horizontal distance of 5,000 feet from each end of the primary surface.

OUTER CRITICAL ZONE. Rectangular in shape and centered about the extended runway centerline. The width of the Outer Critical Zone is 1,000 feet and extends a horizontal distance of up to 5,000 feet, but no less than 3,000 feet, from each end of the Inner Critical Zone.

FAA. The Federal Aviation Administration.

14 CFR PART 77. Code of Federal Regulations referred to as Federal Aviation Regulation (FAR) Part 77. 14 CFR Part 77 defines the regulations applicable to objects which may affect navigable airspace.

FAIR DISCLOSURE STATEMENT. A notification to prospective buyers of property near airports that they may be exposed to potentially impactive levels of aircraft overflight. These statements in no way abrogate an individual's right to take later action against the airport, but rather give buyers a fair warning.

HEIGHT. For the purpose of determining the height limits in all zones set forth in this Ordinance and shown on the zoning map, the datum shall be mean sea level elevation unless otherwise specified.

HORIZONTAL SURFACE. A horizontal plane 150 feet above the established airport elevation, the perimeter of which in plan coincides with the perimeter of the Horizontal Zone.

LARGER THAN UTILITY RUNWAY. A runway that is constructed for and intended to be used by propeller driven aircraft of greater than 12,500 pounds maximum gross weight and jet powered aircraft.

LATERAL SAFETY ZONE. An area extending 1,000 feet either side of runway centerline and including the area between the ends of the primary surface(s) used to enhance the protection of people and property on the ground.

NAVD 88. North American Vertical Datum 1988. All elevations in this Ordinance are referenced to the 1988 North American Vertical Datum.

NAVIGABLE AIRSPACE. Any airspace where heavier-than-air craft can operate. Specifically per Federal Aviation Regulations (FAR), navigable airspace includes airspace at and above the minimum safe flight level, including airspace needed for safe takeoff and landing.

NONCONFORMING USE. A use of premise which does not conform to the regulations of this Ordinance, but which was in existence at the time of the effective date of this Ordinance.

NONPRECISION INSTRUMENT RUNWAY. A runway having an existing instrument approach procedure utilizing air navigation facilities with only horizontal guidance, or area type navigation equipment, for which a straight-in nonprecision instrument approach procedure has been approved or planned. It also means a runway for which a nonprecision approach system is planned and is so indicated on an approved Airport Layout Plan.

OBSTRUCTION. Any structure, growth, or other object, including a mobile object, which exceeds a limiting height set forth in Section XX-5 of this Ordinance.

PERSON. An individual, corporation, joint venture, limited partnership, partnership, firm, syndicate, association, trustee, or other similar entity or organization

PRECISION INSTRUMENT RUNWAY. A runway having an existing instrument approach procedure utilizing an Instrument Landing System (ILS), a Precision Approach Radar (PAR) or a Global Positioning System (GPS). It also means a runway for which a precision approach system is planned and is so indicated on an approved Airport Layout Plan.

PRIMARY SURFACE. A surface longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway; for military runways or when the runway has no specially prepared hard surface, or planned hard surface, the primary surface ends at each end of that runway. The width of the

primary surface is set forth in Section XX-4 of this Ordinance. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline.

RUNWAY. A defined area on an airport prepared for landing and takeoff of aircraft along its length.

RUNWAY PROTECTION ZONE (RPZ). An area off the runway end used to enhance the protection of people and property on the ground. The RPZ is trapezoidal in shape and centered about the extended runway centerline. The inner width of the RPZ is the same as the width of the primary surface. The outer width of the RPZ is a function of the type of aircraft and specified approach visibility minimum associated with the runway end. The applicable RPZ dimensions are depicted on the Airport Layout Plan.

STRUCTURE. Anything constructed or erected and which is attached, directly or indirectly, to a fixed location on the ground. Structures include, but are not limited to, buildings, modular homes, mobile homes, walls, fences, signs and billboards. For purposes of this Ordinance, the term "structure" shall be expanded to include, in addition to the foregoing, overhead electrical transmission lines or power poles, and their appurtenances, towers, cranes, and smokestacks.

TRANSITIONAL SURFACES. These surfaces extend outward at 90-degree angles to the runway centerline and the runway centerline extended at a slope of seven (7) feet horizontally for each foot vertically from the sides of the primary and approach surfaces as defined in FAR Part 77 to a point where they intersect the horizontal and conical surfaces. Transitional surfaces for those portions of the precision approach surfaces, which project through and beyond the limits of the conical surface, extend a distance of 5,000 feet measured horizontally from the edge of the approach surface and at 90-degree angles to the extended runway centerline.

TRAFFIC PATTERN AREA. An area comprised of a rectangle based on a determined distance from the runway centerline and end. The Traffic Pattern Area represents an area where aircraft are commonly operating for the purposes of landing and take-off as depicted in the Airport Land Use Overlay Zone Map. A Traffic Pattern Area is commonly based on the predominant usage of the category of aircraft forecast to use the airport and the specific traffic patterns established at the airport.

TREE. A perennial woody plant having at least one main trunk and produces a more or less distinct and less elevated crown with many branches.

UTILITY RUNWAY. A runway that is constructed for and intended to be used by propeller driven aircraft of 12,500 pounds maximum gross weight and less.

VISUAL RUNWAY. A runway intended solely for the operation of aircraft using visual approach procedures.

CHAPTER XX
PRIEST RIVER MUNICIPAL AIRPORT HAZARD ZONING

Section XX-1. Purpose.
Section XX-2. Authority.
Section XX-3. Short Title.
Section XX-4. Airport Height Restriction Zones (Height Zones).
Section XX-5. Airport Height Zone Limitations.

Section XX-6. Compatible Land Use Regulations.
Section XX-7. Non-Conforming Uses.
Section XX-8. Permits.
Section XX-9. Enforcement.
Section XX-10. Board of Adjustment.
Section XX-11. Appeals.
Section XX-12. Judicial Review.
Section XX-13. Penalties.
Section XX-14. Conflicting Regulations.
Section XX-15. Severability
Section XX-16. Effective Date.

XX-1. **PURPOSE.**

XX-1.01 It is the purpose of the Priest River Municipal Airport Hazard Zoning (herein referenced in this chapter as "this Ordinance") to restrict the height of structures and objects of natural growth, and otherwise regulate the use of property, in the vicinity of the Priest River Municipal Airport (the Airport) by: creating the appropriate zones and establishing the boundaries thereof; providing for changes in the restrictions and boundaries of such zones; define certain terms used herein; reference the Airports' FAR Part 77 Airspace Drawing and Airport Land Use Zone Map, which are incorporated in and made a part of this Ordinance; provide for enforcement; establish a board of adjustment; and impose penalties.

It is hereby found that an aviation hazard endangers the lives and the property of users of the Airport, as well as the property and the occupants of land in the vicinity of the Airport. An aviation hazard reduces the size of the area available for landing, takeoff and maneuvering of aircraft, and thus diminishes or impairs the utility of the Airport and the public investment therein.

Accordingly, it is declared that:

1. The Airport fulfill an essential community purpose; and

2. The creation or establishment of an aviation hazard is a public nuisance and will injure the region served by the Airport; and

3. The encroachment of noise sensitive or otherwise incompatible land uses within certain areas as set forth herein endangers the health, safety, and welfare of the owners, occupants, or users of the land; and

4. It is necessary in the interest of the public health, safety, and general welfare that the creation of aviation hazards be prevented; and

5. Joint cooperation between all governing boards having jurisdiction within or adjoining the airports' hazard areas is encouraged as a mechanism to prevent aviation hazards; and

6. The prevention of these aviation hazards should be accomplished, to the extent legally possible, by the exercise of the police power without compensation.

XX-2. **AUTHORITY.** The Board adopts this Ordinance pursuant to the provisions and authority conferred by Article 12, Section 2, of the Idaho State Constitution, and Title 21, Chapter 5, Airport Zoning Act, and Title 67, Chapter 65, Local Land Use Planning, of the Idaho Code.

XX-3. **SHORT TITLE.** This Ordinance shall be known as the "Priest River Municipal Airport Hazard Zoning Ordinance."

XX-4. **AIRPORT HEIGHT RESTRICTION ZONES (HEIGHT ZONES).**

XX-4.01 In order to carry out the provisions of this Ordinance, there are hereby created and established certain zones which include all of the land lying beneath the approach surfaces, transitional surfaces, horizontal surfaces, and conical surfaces as they apply to the Airports. Such zones are shown on the Airport's Federal Aviation Regulation (FAR) Part 77 Airspace Drawings. Three (3) original, official, and identical copies of the FAR Part 77 Airspace Drawings reflecting the boundaries of the airport Height Zones of Bonner County, Idaho are hereby adopted, and the Board is hereby authorized to sign and attest each map as the official Priest River Municipal Airport FAR Part 77 Airspace Drawings of Bonner County, Idaho, and such maps adopted as reference shall be filed and maintained as follows:

1. One (1) copy each shall be filed in the office of the Administrator and shall be designated as Exhibit 1. The Administrator shall maintain this copy by posting thereon all subsequent changes and amendments.

2. One (1) copy each shall be filed in the office of the County Clerk and Recorder and shall be designated as Exhibit 2. The Administrator shall maintain this copy by posting thereon all subsequent changes and amendments.

3. One (1) copy each shall be filed in the office of the Airport Manager and shall be designated as Exhibit 3. The Administrator shall maintain this copy by posting thereon all subsequent changes and amendments.

XX-4.02 Each portion of an area located in more than one (1) of the following zones shall be evaluated independently according to the zone in which it is located. The various zones are hereby established and defined below. Not all Approach Zones may apply. Refer to the Federal Aviation Administration (FAA) Part 77 Airspace Drawing to determine the applicable Approach Zone(s).

1. PRECISION INSTRUMENT RUNWAY APPROACH ZONE (LARGER THAN UTILITY RUNWAY). The inner edge of this approach zone coincides with the width of the primary surface and is 1,000 feet wide. The approach zone expands outward uniformly to a width of 16,000 feet at a horizontal distance of 50,000 feet. Its centerline is the continuation of the centerline of the runway.

2. NONPRECISION INSTRUMENT RUNWAY APPROACH ZONE (LARGER THAN UTILITY RUNWAY). The inner edge of this approach zone coincides with the width of the primary surface and is 500 feet wide. The approach zone expands outward uniformly to a width of 3,500 feet at a horizontal distance 10,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

3. NONPRECISION INSTRUMENT RUNWAY APPROACH ZONE (UTILITY AIRCRAFT). The inner edge of this approach zone coincides with the width of the primary surface and is 500 feet wide. The approach zone expands outward uniformly to a width of 2,000 feet at a horizontal distance 5,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

4. VISUAL RUNWAY APPROACH ZONE (LARGER THAN UTILITY RUNWAY). The inner edge of this approach zone coincides with the width of the primary surface and is 500 feet wide. The approach surface expands uniformly to a width of 1,500 feet at a horizontal distance 5,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway.

5. VISUAL RUNWAY APPROACH ZONE (UTILITY AIRCRAFT). The inner edge of this approach zone coincides with the width of the primary surface and is 250 feet wide. The approach surface expands uniformly to a width of 1,250 feet at a horizontal distance of 5,000 feet from the primary surface. The centerline of the approach zone is a continuation of the centerline of the runway.

6. TRANSITIONAL ZONE. The transitional zones are the areas beneath the transitional surfaces.

7. HORIZONTAL ZONE. The horizontal zone is established by swinging arcs of 5,000 or 10,000 feet radii from the center of each end of the primary surface of the primary runway and connecting the adjacent arcs by drawing lines tangent to those arcs. The horizontal zone does not include the approach and transitional zones. The horizontal zone was constructed with 5,000 feet radii.

8. CONICAL ZONE. The conical zone is established as the area that commences at the periphery of the horizontal zone and extends outward there from a horizontal distance of 4,000 feet.

XX.5. **AIRPORT HEIGHT ZONE LIMITATIONS.**

XX-5.01 Pursuant to Section XX.4 and except as otherwise provided in this Ordinance, no structure shall be erected, altered, or maintained, and no tree shall be allowed to grow in any Height Zone created by this Ordinance to a height in excess of the applicable height limit herein established for such zone. Such applicable height limitations are hereby established for each of the Height Zones in question as follows:

1. PRECISION INSTRUMENT RUNWAY APPROACH ZONE. Slopes fifty (50) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 10,000 feet along the extended runway centerline. Then slopes forty (40) feet outward for each foot upward beginning at the end of and at the same elevation as the first 10,000 feet and extending to a horizontal distance of 40,000 feet along the extended runway centerline.

2. NONPRECISION INSTRUMENT RUNWAY APPROACH ZONE (LARGER THAN UTILITY RUNWAY). Slopes thirty-four (34) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 10,000 feet along the extended runway centerline.

3. NONPRECISION INSTRUMENT RUNWAY APPROACH ZONE (UTILITY AIRCRAFT). Slopes twenty (20) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 5,000 feet along the extended runway centerline.

4. VISUAL RUNWAY APPROACH ZONE. Slopes twenty (20) feet outward for each foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 5,000 feet along the extended runway centerline.

5. TRANSITIONAL ZONE. Slopes seven (7) feet outward for each foot upward beginning at the sides of and at the same elevation as the primary surface and the approach surface, and extending to a height of 150 feet above the airport elevation. In addition to the foregoing, there are established height limits sloping seven (7) feet outward for each foot upward beginning at the sides of and at the same elevation as the approach surface, and extending to where they intersect the conical surface. Where the precision instrument runway approach zone projects beyond the conical zone, there are established height limits sloping seven (7) feet outward for each foot upward beginning at the sides of and at the same elevation as the approach surface, and extending a horizontal distance of 5,000 feet measured at 90-degree angles to the extended runway centerline.

6. HORIZONTAL ZONE. Established at 150 feet above the airport elevation.

7. CONICAL ZONE. Slopes twenty (20) feet outward for each foot upward beginning at the periphery of the horizontal zone and at 150 feet above the airport elevation and extending to a height of 350 feet above the airport elevation.

XX-5.02 EXCEPTED HEIGHT LIMITATIONS. In the area lying within the limits of the Horizontal and Conical Zones, nothing in this Ordinance shall be construed as prohibiting the construction, maintenance, or growth of anything to a height that is less than fifty (50) feet above the surface of the land, except when, because of terrain, land contour or topographic features, such structure or growth would extend above the height limits prescribed herein.

XX-6. **COMPATIBLE LAND USE REGULATIONS.**

XX-6.01 AIRPORT COMPATIBLE LAND USE OVERLAY ZONES (LAND USE ZONES). The controlled area of the Airport is divided into Airport Compatible Land Use Overlay Zones (Land Use Zones). The purpose of such zones shall be to regulate the development of noise sensitive land uses; promote compatibility between the Airport and the surrounding land uses; protect the Airport from incompatible development; and promote the health, safety and general welfare of property users. The Airport Land Use Zones established herein shall be known as:

- Runway Protection Zone (RPZ)
- Lateral Safety Zone (LSZ)
- Inner Critical Zone (ICZ)
- Outer Critical Zone (OCZ)
- Traffic Pattern Area (TPA)
- Airport Influence Area (AIA)
- Buffer Zone (BZ)

XX-6.02 AIRPORT LAND USE ZONE MAP. The boundaries of the Airport Land Use Zones set out herein shall be delineated upon the Airport's Airport Land Use Zone Maps, with said maps being adopted by reference and made a part of this Ordinance as fully as if the same were set forth herein in detail.

Three (3) original, official, and identical copies of the Airport Land Use Zone Maps that reflect the boundaries of the Airport Land Use Zones are hereby adopted, and the Board is hereby authorized to sign and attest each map as the official Airport Land Use Zone Maps of Bonner County, Idaho, and such maps shall be filed and maintained as follows:

1. One (1) copy shall be filed in the office of the Administrator and shall be designated as Exhibit 1. The Administrator shall maintain this copy by posting thereon all subsequent changes and amendments.

2. One (1) copy shall be filed in the office of the County Clerk and Recorder and shall be designated as Exhibit 2. The Administrator shall maintain this copy by posting thereon all subsequent changes and amendments.

3. One (1) copy shall be filed in the office of the Airport Manager and shall be designated as Exhibit 3. The Administrator shall maintain this copy by posting thereon all subsequent changes and amendments.

XX-6.03 AIRPORT COMPATIBLE LAND USE OVERLAY ZONE BOUNDARIES. The Airport Land Use Zone boundary lines shown on the official Airport Land Use Zone Map shall be located and delineated along contour lines established for the Airport. Where

uncertainty exists as to the boundaries of the Airport Land Use Zones as shown on the official Map, the following rules shall apply:

1. Boundaries shall be scaled from the nearest runway end shown on the map.

2. Boundaries shall be scaled from the nearest physical feature shown on the map.

3. Distances not specifically indicated on the original Airport Land Use Zone Map shall be determined by a scaled measurement on the map.

XX-6.04 Where physical features on the ground differ from the information shown on the official Airport Land Use Zone Map or when there arises a question as to how or where a parcel of property is zoned and such questions cannot be resolved by the application of Section XX-6.03, the property shall be considered to be classified as the most restrictive Airport Land Use Zone.

XX-6.05 Where a parcel of land lies within more than one (1) Airport Land Use Zone, the zone within which each portion of the property is located shall apply individually to each portion of the development.

XX-6.05 USE OF LAND AND BUILDINGS.

1. Within the Airport Land Use Zones as defined herein, no land shall hereafter be used and no structure or other object shall hereafter be erected, altered, converted, or modified other than for those compatible land uses permitted by the underlying comprehensive zoning districts, as specified in the Bonner County Zoning Ordinance. Additional land uses are prohibited in the Airport Land Use Zones, regardless of underlying zoning, as set forth in the Airport Compatible Land Use Table included in Attachment A.

2. Where any use of prohibited land and buildings set forth in Section XX-6.06(1) conflicts with any use of land and buildings set forth in the Bonner County Zoning Ordinance and/or Zoning Map, this chapter shall apply.

3. Section XX.6.06 does not apply to property within the official boundaries of the Airport Zone as defined in Title 9, Subdivision Regulations.

XX-6.06 ADDITIONAL LAND USE REGULATIONS.

1. Except as provided in Section XX-6.06(1) and Section XX-9 of this Ordinance, all development within the jurisdiction of Bonner County, Idaho and within the Airport Influence Area as depicted on the Airport Land Use Zone Map, shall have a minimum land division size of 40 acres.

2. On property within the Airport Land Use Zone Map jurisdiction, but outside the jurisdictional limits of Bonner County, Idaho, Section XX-6.06(1) shall be used to formulate land use recommendations or responses to land use comment requests from other jurisdictions.

3. In the event of conflict between this section and any aviation hazard restriction, the most restrictive provision shall apply.

4. Notwithstanding any other provisions of this Ordinance or sections of the Priest River Municipal Airport Hazard Zoning Ordinance, no use may be made of land, water, or structures within any zone established by this Ordinance in such a manner as to create electrical interference with navigational signals or radio communication between the Airport and aircraft; make it difficult for pilots to distinguish between airport lights and others, or result in glare in the eyes of pilots using the Airport; impair visibility in the vicinity of the Airport; create bird strike hazards; or otherwise in any way endanger or interfere with the landing, taking off, or flight operations of aircraft utilizing the Airport.

XX-7. **NON-CONFORMING USE.**

XX-7.01 REGULATIONS NOT RETROACTIVE. The regulations prescribed by this Ordinance shall not require the removal or alteration of any structure or tree not conforming to this Ordinance on its effective date. The regulations of this Ordinance shall not interfere with the continuance of such nonconforming use. Nothing contained herein shall require a change in the construction, alteration, or intended use of any structure whose construction or alteration commenced prior to the effective date of this Ordinance and whose construction is being diligently pursued.

XX-7.02 MARKING AND LIGHTING. Notwithstanding the provisions of XX-7.01, the owner of a non-conforming structure or growth is hereby required to permit the installation, operation, and maintenance of such markers and lights as the Commission deems appropriate as indicators of aviation hazards or obstructions to the operators of aircraft. Such markers and lights shall be installed, operated, and maintained at the expense of Bonner County.

XX-8. **PERMITS.**

XX-8.01 FUTURE USES. Except as specifically provided in “1” and “2” hereunder, no material change shall be made in the use of land, no structure shall be erected or established, and no tree shall be planted in any zone hereby created without a properly authorized permit. Each application for a permit shall indicate the action to be permitted and shall provide enough detail shall be provided, including a map or drawing showing the heights and location of the permitted action in relation to the Height and Land Use Zones, to allow a determination of whether the resulting use,

structure, or tree will conform to the regulations prescribed herein. An FAA Form 7460-1, *Notice of Proposed Construction or Alteration*, shall accompany each application. Receipt of an FAA Determination of No Hazard is required before issuing a permit. No permit for a use inconsistent with the provisions of this Ordinance shall be granted unless a variance has been approved in accordance with Section XX-8.05.

1. No permit shall be required by this Ordinance for any tree or structure less than 200 feet above ground level that is located in the area lying within the limits of the approach, transitional, horizontal, and conical zones, and which is lower than an imaginary surface extending outward and upward at a slope of 100 feet horizontal for each 1 foot vertical within 20,000 feet (3.8 statute miles) beginning at the closest point of the closest runway.

2. Nothing contained in any of the foregoing exceptions shall be construed as permitting or intending to permit any construction, or alteration of any structure, or growth of any tree in excess of any of the height limits established by this Ordinance.

XX-8.02 EASEMENTS AND DISCLOSURE. Where specified in the Airport Compatible Land Use Table, the property owner shall dedicate, in advance of receiving a building permit, an avigation easement to the County. In addition, a Fair Disclosure Statement will be provided to prospective buyers. The avigation easement shall establish a height restriction on the use of the property and hold Bonner County harmless from any damages caused by noise, vibration, fumes, dust, fuel, fuel particles, or other effects that may be caused by the operation of aircraft taking off, landing, or operating on or near the Airport. The avigation easement shall be signed and recorded in the deed records of the County. The Fair Disclosure Statements will serve to notify prospective buyers of property near airports that they may be exposed to potentially impactive levels of aircraft overflight.

XX-8.03 EXISTING USES. A permit shall not be granted if it would allow the establishment or creation of an obstruction or would allow a nonconforming use, structure, or tree to become a greater hazard to air navigation than it was prior to the effective date of this Ordinance, the effective date of any amendment to this Ordinance, or the application date of a permit.

XX-8.04 NONCONFORMING USES ABANDONED OR DESTROYED. If the Zoning Commission determines that a nonconforming tree or structure has been abandoned or that more than eighty percent (80%) of it has been demolished, deteriorated, or decayed, then a permit that would allow such structure or tree to exceed the applicable height limit or otherwise deviate from the zoning regulations shall not be granted.

XX-8.05 VARIANCE. A person desiring to erect or increase the height of any structure, or permit the growth of a tree, or use property in a manner which is not in accordance with the regulations prescribed in this Ordinance, shall apply to the County Planning and Zoning Commission for a variance from such regulations. In addition to these requirements, an application for a variance shall also be accompanied by a determination by the Federal Aviation Administration and the Idaho Division of Aeronautics concerning the affect of the proposal on the operation of air navigation

facilities and on the safe, efficient use of the navigable airspace. Such variance shall be viewed favorably if it is determined that: a literal application or enforcement of the regulations would result in unnecessary hardship which could be relieved by the variance, and if it is determined that the variance will not be contrary to the public interest, will not create an aviation hazard, will do no substantial injustice, and will be in accordance with the spirit of this Ordinance. A variance requested pursuant to this section shall only be considered by the Commission after the airport manager, or designated representative, has been given an opportunity to review the application for its aeronautical affects and has submitted written comments to the Commission. If the airport manager's opinion has not been submitted within fifteen (15) days after receipt of the application, the Commission shall act upon the application without such advice.

XX-8.06 OBSTRUCTION MARKING AND LIGHTING. In granting a variance permit, the Commission may, if such action is deemed advisable to fulfill the purpose of this Ordinance, place conditions upon the variance which require the owner of the structure or tree in question to install, operate, and maintain at the owner's expense such markings and lights as are considered to be necessary. If deemed proper by the Board of Adjustment, this condition may be modified to require the owner to allow Bonner County, at the county's expense, to install, operate, and maintain the necessary markings and lights.

XX-9. **ENFORCEMENT.**

It shall be the duty of the County to administer and enforce the regulations prescribed herein through the office of the County. Applications for permits and variances shall be made to the County upon a form published for that purpose. Applications required by this Ordinance shall be promptly considered by the County. Each application shall be either: a. Granted without conditions. b. Granted with added conditions, or c. Denied.

XX-10. **BOARD OF ADJUSTMENT.**

XX-10.01 There is hereby created a Board of Adjustment to have and to exercise the following powers:

1. To hear and decide appeals from any order, requirement, decision, or determination made by the County Planning and Zoning Commission in its enforcement of this Ordinance.

2. To hear and to consider whether any requirement which this Ordinance imposes upon a specific applicant should be modified or set aside in its entirety or in part.

3. To request and consider expert testimony from professionals conversant with various standards, such as but not limited to the FAA and Idaho Division of Aeronautics staff.

4. To consider recommendations and/or make final decisions relating to any application that by Ordinance or Idaho Code requires such to be made by the Board of Adjustment.

XX-10.02 The Board of Adjustment shall maintain its governance in harmony with the provisions of this Ordinance. Meetings of the Board of Adjustment shall be held at the call of the Chairman and at such other times as the Board of Adjustment may determine. All hearings of the Board of Adjustment shall be public. The Board of Adjustment shall keep minutes of its proceedings showing the vote of each member of the Board upon each question. If a member of the Board is absent or has failed to vote, the minutes shall indicate such. The minutes shall keep records of the Board's examinations and other official actions, and the minutes shall be filed immediately in the office of the County Planning and Zoning Commission, where they shall be shown upon appropriate request.

XX-10.03 The Board of Adjustment shall make written findings of fact and conclusions of law giving the facts upon which it acted and its legal conclusions from such facts in reversing, affirming, or modifying any order, requirement, decision, or determination which come before it under the provisions of this chapter or when required by Idaho Code.

XX-10.04 The concurring vote of a majority of the members of the Board of Adjustment shall be sufficient to override any requirement or decision by the County Planning and Zoning Commission; to set aside any requirement that this Ordinance imposes upon an applicant; and to effect a variation from this Ordinance.

XX-11. **APPEALS.**

XX-11.01 Any affected person as defined by Idaho Code Section 67-6521, as it may be amended from time to time, may appeal a requirement or decision of the Commission made in the administration of this Ordinance to the Board of Adjustment.

XX-11.02 All appeals hereunder must be filed with the Administrator's Office within twenty-eight (28) days from the date of the requirement or decision appealed from. All issues being appealed must be specifically stated in the appeal. When an appeal is filed, the Administrator shall gather the record of the matter appealed and shall submit it to the Board of Adjustment.

XX-11.03 The Board of Adjustment may stay all proceedings in furtherance of the action appealed if it deems such a stay to be necessary. Any such stay that is imposed shall automatically be lifted upon the Board of Adjustment issuing a written decision on the matter being appealed, unless otherwise stated by the Board.

XX-11.04 The Board of Adjustment shall fix a reasonable time for hearing appeals, give public notice and due notice to the parties in interest, and decide the same within a reasonable time.Upon hearing, any party may appear in person or by agent or by attorney.

XX-11.05 In conformity with the provisions of this Ordinance, the Board of Adjustment may reverse or affirm, in whole or in part, or modify the requirement(s) or decision appealed from, and/or may make such requirement(s), decision, or other determinations as may be appropriate under the circumstances.

XX-12. **JUDICIAL REVIEW.** Any affected person as defined by section XX-11.01, may appeal any final decision to the district court as provided by the Local Land Use Planning Act, Title 67, Chapter 65 Idaho Code.

XX-13. **PENALTIES.** Violation of this Ordinance, or of any regulation, order, or ruling promulgated hereunder, shall be subject to the penalties and actions prescribe as provided in Section 1-4-1 of this code; and each day a violation continues to exist shall constitute a separate offence.

XX-14. **CONFLICTING REGULATIONS.** Where there exists a conflict between this Ordinance and other regulations applicable to the same area, whether the conflict be with respect to the height of structures or trees, the use of the land, or any other matter, the more stringent limitation or requirement shall govern and prevail.

XX-15. **SEVERABILITY.** If a provision of this Ordinance or the application thereof to any person or circumstance is held invalid, such invalidity shall not affect other provisions or applications of this Ordinance, which can be given effect without the invalid provision(s) or application(s); to this end, the provisions of this Ordinance are declared to be severable.

XX-16. **EFFECTIVE DATE.** Whereas the immediate operation of the provisions of this Ordinance is necessary for the preservation of the public health, safety, and general welfare, this Ordinance shall be in force and effect as of the date and time this Ordinance is passed by the Bonner County Board of County Commissioners and published as required by law.

ATTACHMENT A
LAND USE COMPATIBILITY TABLE

Land Use	1 Runway Protection Zone	2 Lateral Safety Zone	3 Inner Critical Zone	4 Outer Critical Zone	5 Traffic Pattern Area	6 Airport Influence Area	7 Buffer Zone
Residential							
Single-family, nursing homes, multi-family, apartments, condominiums, mobile home parks	X	X	X	C (1,2,6)	C (1,3,6)	C (1,6)	C (1,4)
Transient lodging (i.e. hotels and motels)	X	X	X	C (1,6)	C (1,6)	C (1,6)	C (1)
Public							
Schools, libraries, churches	X	X	X	X	C (1,6)	C (1,6)	C (1,6)
Parking and cemeteries	X	P	P	P	P	P	P
Commercial/Industrial							
Offices, retail trades, light industrial, general manufacturing, utilities, extractive industry	X	C (1)	C (1,5)	C (1,6)	C (1)	C (1)	C (1)
Airport revenue-producing enterprises	X	C (1)	C (1,5)	C (1,6)	C (1)	C (1)	C (1)
Agricultural and Recreational							
Cropland	P	P	P	P	P	P	P
Livestock breeding, zoos, golf courses, riding stables, water recreation	X	X	C (6,7)	C (6,7)	C (7)	P	C (7)
Outdoor spectator sports, parks, playgrounds	X	X	X	C (1,6)	C (1,6)	C (1,6)	C (1,6)
Amphitheaters	X	X	X	X	C (1,6)	C (1,6)	C (1,6)
Open space	P	P	P	P	P	P	P
Bird and Wildlife Attractants							
Sanitary Landfills	X	X	X	X	X	C (7)	X
Water treatment plants, water impoundments	X	X	X	X	X	C (7)	X
Wetlands Mitigation	X	C (7)	C (7)	C (7)	C (7)	C (7)	C (7)

CONDITIONS

All facilities should be configured to comply with FAR Part 77 requirements.

1. If allowed, Fair Disclosure Statement must be required as a condition of development.

2. Limit residential density to 1 unit per 2.5 acres.

3. Limit residential density to **a maximum** of 1 unit per 2.5 acres. It is recommended that the County utilize cluster development or other similar land use planning mechanisms where reasonable and necessary in the Traffic Pattern Area to ensure minimum residential density while providing for maximum safety of aircraft operators and surrounding residents as well as reduced impacts on the quality of life of residents. Refer to the Bonner County Zoning Ordinance, as amended.

4. Limit residential density to 1 unit per 1 acre.

5. Avoid High Intensity commercial uses such as large retail box stores (i.e. Walmart, Home Depot). Use should be located as far from extended centerline as possible.

6. If no reasonable alternative exists, use should be located as far from extended centerline as possible.

7. Such uses may present a bird and wildlife attractant. If allowed, consideration of the proximity of the airport and potential negative impacts should be considered. Refer to FAA Advisory Circulars (AC) 150/5200-33B and 150/5200-34A, as amended

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COMPREHENSIVE PLAN EXAMPLE

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DRAFT

FOR EXAMPLE/TRAINING PURPOSES ONLY

Bonner County Comprehensive Plan

Chapter 17: Public Airport Facilities

Idaho Code §67-6508 (q) requires the following for the Public Airport Facilities component:
Public Airport Facilities -- An analysis prepared with assistance from the Idaho transportation department division of aeronautics, if requested by the planning and zoning commission, and the manager or person in charge of the local public airport identifying, but not limited to, facility locations, the scope and type of airport operations, existing and future planned airport development and infrastructure needs, and the economic impact to the community.

Bonner Planning Department

DRAFT: Bonner County, Idaho

8/28/2014

TABLE OF CONTENTS

INTRODUCTION:

There are currently four (4) public-use airports in Bonner County. According to the Federal Aviation Administration (FAA) and Idaho Transportation Department - Division of Aeronautics (ITD Aero), a public-use airport is open to and for public use without prior permission, and without restrictions within the physical capacities of available facilities.

Two of the four public-use airports in the county are owned and operated by Bonner County; Sandpoint and Priest River. Both airports are also eligible for and receive airport improvement grants from the FAA and ITD Aero. The other airports, Cavanaugh Bay and Priest Lake are owned by ITD Aero and the United States Forest Service (USFS) respectively.

Public Airport Facilities Component Goal:
"Bonner County…

."

Following is a summary of each of the public-use airports in the County. Additional information is included for several private-use airports and heliports in the County.

COUNTY-OWNED, PUBLIC-USE AIRPORTS

There are currently 119 public-use airports in the state of Idaho. Of these 119, 75 are considered core airports by ITD Aero (Idaho Airport System Plan (IASP), 2010). The Sandpoint and Priest River Airports are considered core statewide airports by ITD Aero. ITD Aero's mission for its aviation system is as follows:

The Idaho Transportation Department's Division of Aeronautics serves to provide the highest quality, most effective, efficient, and safest airport system for all users of aviation services. To this end, the Division of Aeronautics plans and implements essential programs, services and projects to develop, encourage, and foster an exemplary system of airports that meet the current and future requirements of a growing and diverse Idaho aviation community. (http://itd.idaho.gov/aero/)

Both airports are categorized in the IASP:

The Sandpoint Airport is categorized as a Regional Business Airport. Regional Business airports support regional economic activities, connecting to state and national economies, and serve all types of general aviation aircraft. They also accommodate local business activities and various types of general aviation users.

The Priest River Airport is categorized as a Local Recreational Airport. Local Recreational Airports serve a supplemental role in local economies, primarily accommodating recreational, personal flying, and limited local business activities.

The impact of the Idaho airport system on the state's economy was also examined by ITD Aero as part of the IASP. The IASP's system of airports generates $2.1 billion of economic activity, supports 23,000 jobs, and generates $781.5 million in annual payroll (IASP 2010). Specific economic impacts for the Sandpoint and Priest River airports are included in the individual airport summaries below.

Both airports are also an important part of the national transportation infrastructure and are included in the FAA National Plan of Integrated Airport Systems (NPIAS). Airports in the NPIAS are considered necessary to provide a safe, efficient, and integrated system of nation-wide public-use airports adequate to anticipate and meet the needs of commercial air service; civil aeronautics; the national defense requirements of the Secretary of Defense; emergency air medical evacuation; BLM and USFS fire response support as well as the United States Postal Service (FAA NPIAS Report 2013-2017). As NPIAS airports, both airports receive federal funding via the FAA Airport Improvement Program and are subject to FAA design standards, regulations, rules, Sponsor responsibilities, and policies.

Following is a summary of facilities, activity, economic impact, and future improvements at the airports.

SANDPOINT AIRPORT

Sandpoint Airport

Source: Bonner County

The Sandpoint Airport, located on approximately 60 acres in northwest Sandpoint, was established in the 1940s. The airport is operated by Bonner County, and has an annual budget of about $50,000 (O'Leary).

FACILITIES

The elevation at the Sandpoint Airport is 2127 feet. The asphalt runway is 5,500 feet long and 75-feet wide and is listed in good shape. The runway single-wheel weight limit is 40,000 pounds. (Airnav web site). The airport offers a restroom, maintenance and repair services, 24-hour refueling, rental cars and private and public hangar rentals, tie-downs and flight school. The airport has an all- weather instrument landing system (LOC/DME), pilot-activated runway lights and a lighted wind indicator.

Air Traffic

Much of the air traffic using the Sandpoint Airport arrives from other destinations, rather than originating in Sandpoint. The airport registers about 18,000 operations (take-offs and landings) annually. About 40 percent of the air traffic is business-related. Another 40 percent use the Sandpoint facility for tourism-related activities, while the remaining 20 percent is attributed to recreational flying or training. The Sandpoint Industrial Park adjoins the airport site and draws traffic to the facility. Overnight delivery and parcel service companies use the airport on a daily basis. The Sandpoint Airport also sees traffic from medical flights and U.S. Forest Service fire- fighting planes and is beginning to see greater traffic from owners of recreational or second homes in Bonner County. Sandpoint does not have an airplane commuter service at this time, although the Bonner County facility has the ability to handle small commuter jets. Schweitzer and local golf course operators desire an air commuter service to the area, but to make the service economical may take an increase in population or some method of subsidy (O'Leary).

State statistics reflect 73 percent of the Sandpoint air traffic is attributed to general transient aviation, 24 percent to local general aviation and the remaining 3 percent to air taxi service. There are 60 aircraft based at Sandpoint's airport, representing 55 single-engine planes, three multi-engine aircraft, one glider and one helicopter (Airnav web site).

Economics

The economic benefits of the Sandpoint Airport to the community include 482 jobs created directly or indirectly by the airport operation, a payroll of $15 million and an estimated output or economic spin-off of approximately $32.9 million (IASP 2010).

Future Development

Bonner County, with the assistance of a consultant, is updating its airport master plan. The plan will look at the present facility, previous master plan and what the Sandpoint facility needs to meet future demands. Better instrument landing equipment, such as a global positioning system (GPS), and runway improvements for greater separation of the runway and taxiway may be on the list of future airport improvements. The future wish list includes development of a commuter air service, perhaps serving the Seattle or Calgary areas (O'Leary). Bonner County also has examined the possibilities of commuter service to Boise.

PRIEST RIVER

Priest River Airport

Source: T-O Engineers

Priest River Municipal Airport, located east of State Highway 57 and north of the City of Priest River, is operated by Bonner County. Established in about 1921, it is the oldest airport in the area. The airport and associated facilities encompass about 39 acres (FAA Form 5010/GCR).

FACILITIES

Elevation at the Priest River Airport is 2187 feet (estimated). The airport's asphalt runway is 2,950 feet long and about 48 feet wide. No instrumental landing systems are available at the airport. A lighted wind indicator and pilot-activated runway lights are provided. There are three private hangars and one County-owned hangar which provide a pilots' lounge and 10 hangar spaces. About 10 tie-downs are available during warmer weather for transient air traffic (Mendive).

AIR TRAFFIC

The Priest River Airport receives its heaviest use during the summer months, when tourists and second-home owners arrive in the area. Priest River's facility is the closest paved airport to Priest Lake, a popular tourist destination. Traffic is also generated by the financial industry, mills, construction work, U.S. Forest Service projects, medical flights and general recreational aviation. The Priest River Airport has seen its greatest growth in the past five years (Mendive).

Economics

The economic benefits of the Priest River Airport to the community include 55 jobs created directly or indirectly by the airport operation, a payroll of $2 million and an estimated output or economic spin-off of approximately $8.4 million (IASP 2010).

Future Development

There are no immediate plans for improvement of the Priest River Airport. With grant money and matching local funds, a runway resurfacing project is tentatively in the works (Mendive).

Non-County-Owned Public-Use Airports

As previously mentioned there are two additional public-use airports located in Bonner County in addition to the Sandpoint and Priest River airports; Cavanaugh Bay and Priest Lake airports. Cavanaugh Bay is owned by ITD Aero and Priest Lake by the USFS.

While these two airports are not part of the core system of 75 airports identified in the ITD Aero IASP, they are recognized in another ITD Aero airport system subset, the Idaho Airstrip Network (IAN).

Per the 2005 IAN, the Idaho Airstrip Network consists of airstrips, the adjacent or nearby lands and facilities, and the portal communities to which they are connected. This network includes airstrips that have turf and dirt surfaces, and limited facilities which vary in their level of development. They are held in public or private ownership, but in all cases public access for general aviation purposes is permitted. Private airstrips without public access are not included in the Network. Predominant uses of these airstrips include: access to recreation opportunities (e.g., rafting, hunting, and fishing), fire protection, the provision for emergency services, natural resource management, recreational aviation, and the servicing of remote ranches and other economic enterprises through pickup and delivery of passengers, mail, food and other supplies (IAN 2005).

Like airports in the IASP, airports in the IAN are categorized.

The Cavanaugh Bay Airport is categorized as a Community Airstrip. Community Airstrips may have additional navigational aids and radio service and other services associated with proximity to communities or other attractions. They are typically located near a community with access to full-service roads and close to some development. Maintenance of these facilities includes: clear vegetation, remove obstacles, blade, mow, treat, fertilize, water, treat invasive and noxious weed, and make spot treatments to maintain an improved airstrip surface (IAN 2005).

The Priest Lake Airport is categorized as a Developed Airstrip. Developed Airstrips have basic navigational aids and some additional services such as restrooms or camping facilities. They may have road access to nearby attractions. They are typically located in areas of high use, often in remote settings, but may be accessed by improved roads. Maintenance of these facilities include: clear hazardous vegetation from approaches, remove obstacles, blade, mow, water, treat invasive and noxious weeds, and make spot improvements regularly to maintain improved airstrip surface (IAN 2005).

Following is summary of facilities, activity, economic impact, and future improvements at the airports.

CAVANAUGH BAY AIRPORT (OWNED BY ITD AERO)

Source: ITD Aero

The Cavanaugh Bay Airport is located about 3 miles north of the Coolin townsite on the east side of Priest Lake.

FACILITIES

The airport is open to the public, but unattended. The grass runway is 3,100-feet long by 120-feet wide. There is no winter maintenance of the airstrip. A wind indicator is provided. There are no services. Elevation at the airstrip is 2484 feet (estimated). Seasonal tie-downs are available (Airnav web site).

Air Traffic

The airport's proximity to Priest Lake and the area's marinas and resorts attracts seasonal air traffic. The facility registers about 86 landings and take-offs per week on the average. The traffic is 100 percent transient general aviation.

Future Development

*****NEED INFORMATION*****

Priest Lake Airport (Owned by USFS)

Source: AirNav.com

The Priest Lake Airport is located about 3 miles south of Nordman, on the west side of Priest Lake, west of State Highway 57. The airstrip is public and operated by the U.S. Forest Service.

Facilities

There are no services other than seasonal tie-downs available at the Priest Lake Airport. The facility is at an estimated elevation of 2611feet. The 4,400-foot long by 175-foot wide grass landing strip is open only on a seasonal basis; there is no winter maintenance. The grass strip is not mowed to its full width. The airstrip is unattended and has a wind indicator (Airnav web site).

Air Traffic

The landing strip receives about 23 operations per week. The air traffic is 100 percent general aviation, transient (Airnav web site).

Future Development

*****NEED INFORMATION*****

Private Aviation Facilities – Landing Fields and Heliports

In addition to the four public-use airports discussed above, there are several private use aviation facilities in Bonner County. Per the FAA and ITD Aero, private use aviation facilities are available for use by the owner only or by the owner and other persons authorized by the owner.

Following is summary of the private aviation facilities in the county.

Private Landing Fields

There are numerous private landing fields and several smaller airstrips that have been developed in Bonner County to serve the outlying areas. Some of the landing fields are marked on the U.S. Forest Service map. At least two subdivisions in Bonner County, Treeport Subdivision in the southern portion of the county, and the River Lake Estates area, south of the Clark Fork River in eastern Bonner County, have developed residential homesites around community airstrips. There are 12 private aviation facilities and six public facilities in Bonner County. Three of the facilities, two at Priest Lake and one at Bottle Bay, provide seaplane bases (g.c.r. & associates inc.).

Heliports

The Federal Aviation Administration lists three private heliports in operation in Bonner County. The facilities are: Bonner General Hospital's emergency medical helipad in the City of Sandpoint; Bird #1 heliport at Glengary Bay on Lake Pend Oreille; and Holiday Shores, west of Hope on Lake Pend Oreille (g.c.r. & associates inc.). A U.S. Forest Service-operated helipad is located 3 miles south of Nordman at the Priest Lake Airport.

Issues

- **Encroachment of incompatible development** - One of the greatest threats to the viability airports today is the encroachment of incompatible land use. More recently, ITD Aero and FAA have been working with Idaho's airports to strengthen airport land use compatibility policies and practices to reverse this trend. Encroaching incompatible land use poses a significant threat to the state and national airport system and the communities they serve.

- **Safety and Quality of Life** – Proactive planning around the airports ensures the safety of both aircraft operators and airport neighbors from potential aircraft accidents. It also protects the quality of life of airport neighbors by ensuring they are not impacted by the noise, dust and fumes that are associated with airport operations.

- **Grant Assurances** – The Sandpoint and Priest River Airports receive FAA and ITD Aero grant funds for capital improvement projects. When accepting these funds, Bonner County agrees to certain conditions known as Grant Assurances. These Grant Assurances include specific requirements that the County should protect the airport's airspace and prevent incompatible land uses through zoning. Failure to do so may result in the FAA and ITD Aero no longer funding the airport if they do not believe Bonner County has taken reasonable steps to protect the airports from incompatible development. Duration of these grant assurances is a period of 20 years from when the County received the last grant.

- **Jurisdiction** - One major challenge airport owners face when promoting compatible land use is lack of jurisdiction. Airport operations and associated potential impacts (i.e. safety, noise, dust, fumes) can and do extend beyond the physical boundary of airport property. The airport owner is liable for adherence to the FAA and ITD Aero grant assurances. In many instances however, surrounding jurisdictions have control of land in the vicinity of the airport, not the owner, thus the owner has no say in land use policies and decisions. If the surrounding jurisdictions do not wish to proactively plan around the airport, they do not have to.

  Further, neither the FAA nor ITD Aero have jurisdiction over local land use nor do they have any enforcement authority to stop incompatible encroachment. As such, local communities are heavily relied upon and responsible for undertaking such efforts.

- **Protection of local, state and federal investment** - Both the Sandpoint and Priest River airports have received substantial financial investment from either the FAA, ITD Aero, or both, for many years. The County itself has invested significant funding into the airports to operate and maintain them. Proactive planning around the airports, including zoning, will help insure the airports are protected and can operate for the long term thus protecting the substantial federal, state, and local investment.

  As the state and FAA consider future investments into the airports, a major consideration is the community's willingness to protect the investment. This begins with effective compatible land use planning.

- **Economic Benefit** - The Sandpoint and Priest River airports provide a substantial economic benefit to the County and its citizens. Users such as corporations, life flight operators use the airports and contribute to economy as a result of their use. These airports need to be protected so that they can continue to provide users access to the community and continue to provide economic benefits for many years to come.

OBJECTIVES & POLICIES

- Bonner County will be proactive in protecting the public health, safety, and general welfare of both airport users and the communities around the airports. Primary consideration will be the public-use airports in the County. The County will be cognizant of potential impacts on private use aviation facilities that may be impacted by future growth and development in the County.

- As the owner of the Sandpoint and Priest River Airports, Bonner County will be proactive in protecting the operation, orderly maintenance, and development of the airports.

- Planning and expansion of the Sandpoint and Priest River airports should account for existing economic activity and transportation infrastructure so as to integrate with, complement, or augment them.

- Compatible land use planning around the airports should be proactive and effective in its purpose while keeping in mind property owner's rights and concerns.

ACTION PLAN

1. Adhere to guidelines provided in the Airport Master Plans and/or the Airport Layout Plans and associated drawings of the airports when evaluating land use compatibility issues associated with new development in areas near or influenced by operations at the airports.

2. Adopt a combination of criteria, standards and zoning techniques that will protect the airports and aviation uses from incompatible development. Include special airport overlay zoning, height restrictions, building restrictions in high noise areas, and development siting criteria for evaluating land uses or activities in key areas adjacent to the airport.

3. Coordinate as required with all surrounding political subdivisions, including the cities of Sandpoint and Priest River, Idaho, USFS (Priest Lake Airport), and ITD Aero (Cavanaugh Bay Airport) to establish consistent development guidelines and regulations that utilize local, state and FAA guidelines, standards, rules, regulations and other best management practices encouraging compatible land uses adjacent to the airports.

4. Notify all political subdivisions providing services within Bonner County, including the cities of Sandpoint, Priest River, the USFS and ITD Aero, of intent to adopt or revise the comprehensive and other land use plans that may impact the airports in the county. This includes the evaluation of future planning activities to ensure they will not result in an increase to incompatible land uses or development adjacent to an airport.

5. Encourage aviation-related economic development opportunities in appropriate locations surrounding the airports.

6. Require avigation easement and/or disclosure notification for new or substantial redevelopment of lots, buildings, structures and activities near the airport. The easement and disclosure should notify that the property is both near an airport and may experience low overhead flights, noise and other aviation impacts.

7. Encourage commercial and industrial uses in the proximity of the airport that benefit from and do not conflict with aircraft operations.

8. Prohibit uses in airport areas which attract birds, create visual hazards, and emit transmissions which may interfere with aviation communications, or otherwise obstruct or conflict with airport operations.

9. Allow uses that promote the efficient mobility of goods and services consistent with regional economic development and transportation goals.

10. Encourage open space and clear areas within key safety areas adjacent to the airport to protect the airport and to reduce safety risk exposure of people on the ground and in the air.

BIBLIOGRAPHY

Review and attach bibliographic info to body of document

FAA Form 5010-1, Airport Master Record g.c.r. & associates inc., web site: http://www.gcr1.com/5010WEB/APT.

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---. *Statewide Transportation Improvement Program*.

---. Web site: http//www2.state.id.us/itd/planning/data/atrlist.pdf

FAA FORM 7460-1 NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION

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NOTICE OF PROPOSED CONSTRUCTION OR ALTERATION

§ 77.7 Form and time of notice.

(a) If you are required to file notice under §77.9, you must submit to the FAA a completed FAA Form 7460–1, Notice of Proposed Construction or Alteration. FAA Form 7460–1 is available at FAA regional offices and on the Internet.

(b) You must submit this form at least 45 days before the start date of the proposed construction or alteration or the date an application for a construction permit is filed, whichever is earliest.

(c) If you propose construction or alteration that is also subject to the licensing requirements of the Federal Communications Commission (FCC), you must submit notice to the FAA on or before the date that the application is filed with the FCC.

(d) If you propose construction or alteration to an existing structure that exceeds 2,000 ft. in height above ground level (AGL), the FAA presumes it to be a hazard to air navigation that results in an inefficient use of airspace. You must include details explaining both why the proposal would not constitute a hazard to air navigation and why it would not cause an inefficient use of airspace.

(e) The 45-day advance notice requirement is waived if immediate construction or alteration is required because of an emergency involving essential public services, public health, or public safety. You may provide notice to the FAA by any available, expeditious means. You must file a completed FAA Form 7460–1 within 5 days of the initial notice to the FAA. Outside normal business hours, the nearest flight service station will accept emergency notices.

§ 77.9 Construction or alteration requiring notice.

If requested by the FAA, or if you propose any of the following types of construction or alteration, you must file notice with the FAA of:

(a) Any construction or alteration that is more than 200 ft. AGL at its site.

(b) Any construction or alteration that exceeds an imaginary surface extending outward and upward at any of the following slopes:

(1) 100 to 1 for a horizontal distance of 20,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway more than 3,200 ft. in actual length, excluding heliports.

(2) 50 to 1 for a horizontal distance of 10,000 ft. from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway no more than 3,200 ft. in actual length, excluding heliports.

(3) 25 to 1 for a horizontal distance of 5,000 ft. from the nearest point of the nearest landing and takeoff area of each heliport described in paragraph (d) of this section.

(c) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of paragraph (a) or (b) of this section.

(d) Any construction or alteration on any of the following airports and heliports:

(1) A public use airport listed in the Airport/Facility Directory, Alaska Supplement, or Pacific Chart Supplement of the U.S. Government Flight Information Publications;

(2) A military airport under construction, or an airport under construction that will be available for public use;

(3) An airport operated by a Federal agency or the DOD.

(4) An airport or heliport with at least one FAA-approved instrument approach procedure.

(e) You do not need to file notice for construction or alteration of:

(1) Any object that will be shielded by existing structures of a permanent and substantial nature or by natural terrain or topographic features of equal or greater height, and will be located in the congested area of a city, town, or settlement where the shielded structure will not adversely affect safety in air navigation;

(2) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device meeting FAA-approved siting criteria or an appropriate military service siting criteria on military airports, the location and height of which are fixed by its functional purpose;

(3) Any construction or alteration for which notice is required by any other FAA regulation.

(4) Any antenna structure of 20 feet or less in height, except one that would increase the height of another antenna structure.

Mail Processing Center
Federal Aviation Administration
Southwest Regional Office
Obstruction Evaluation Group
2601 Meacham Boulevard
Fort Worth, TX 76193
Fax: (817) 321-7765
Phone: (817) 321-7750

Website: https://oeaaa.faa.gov

INSTRUCTIONS FOR COMPLETING FAA FORM 7460-1

PLEASE TYPE or PRINT

ITEM #1. Please include the name, address and phone number of a personal contact point as well as the company name.

ITEM #2. Please include the name, address and phone number of a personal contact point as well as the company name.

ITEM #3. New Construction would be a structure that has not yet been built.

Alteration is a change to an existing structure such as the addition of a side mounted antenna, a change to the marking and lighting, a change to power and/or frequency, or a change to the height. The nature of the alteration shall be included in ITEM #21 "Complete Description of Proposal".

Existing would be a correction to the latitude and/or longitude, a correction to the height, or if filing on an existing structure which has never been studied by the FAA. The reason for the notice shall be included in ITEM #21 "Complete Description of Proposal".

ITEM #4. If Permanent, so indicate. If Temporary, such as a crane or drilling derrick, enters the estimated length of time the temporary structure will be up.

ITEM #5. Enter the date that construction is expected to start and the date that construction should be completed.

ITEM #6. Please indicate the type of structure. DO NOT LEAVE BLANK.

ITEM #7. In the event that obstruction marking and lighting is required, please indicate type desired. If no preference, check "other" and indicate "no preference" DO NOT LEAVE BLANK. NOTE: High Intensity lighting shall be used only for structures over 500' AGL. In the absence of high intensity lighting for structures over 500' AGL, marking is also required.

ITEM #8. If this is an existing tower that has been registered with the FCC, enter the FCC Antenna Structure Registration number here.

ITEM #9 and #10. Latitude and longitude must be geographic coordinates, accurate to within the nearest second or to the nearest hundredth of a second if known. Latitude and longitude derived solely from a hand-held G P S instrument is NOT acceptable. A hand-held GPS is only accurate to within 100 meters (328 feet) 95 percent of the time. This data, when plotted, should match the site depiction submitted under ITEM #20.

ITEM #11. NAD 83 is preferred; however, latitude and longitude may be submitted in NAD 27. Also, in some geographic areas where NAD 27 and NAD 83 are not available other datum may be used. It is important to know which datum is used. DO NOT LEAVE BLANK.

ITEM #12. Enter the name of the nearest city and state to the site. If the structure is or will be in a city, enter the name of that city and state.

ITEM #13. Enter the full name of the nearest public-use (not private-use) airport or heliport or military airport or heliport to the site.

ITEM #14. Enter the distance from the airport or heliport listed in #13 to the structure.

ITEM #15. Enter the direction from the airport or heliport listed in #13 to the structure.

ITEM #16. Enter the site elevation above mean sea level and expressed in whole feet rounded to the nearest foot (e.g. 17'3" rounds to 17', 17'6" rounds to 18'). This data should match the ground contour elevations for site depiction submitted under ITEM #20.

ITEM #17. Enter the total structure height above ground level in whole feet rounded to the next highest foot (e.g. 17'3" rounds to 18'). The total structure height shall include anything mounted on top of the structure, such as antennas, obstruction lights, lightning rods, etc.

ITEM #18. Enter the overall height above mean sea level and expressed in whole feet. This will be the total of ITEM #16 + ITEM #17.

ITEM #19. If an FAA aeronautical study was previously conducted, enter the previous study number.

ITEM #20. Enter the relationship of the structure to roads, airports, prominent terrain, existing structures, etc. Attach an 8-1/2" x 11" non-reduced copy of the appropriate 7.5 minute U.S. Geological Survey (USGS) Quadrangle Map MARKED WITH A PRECISE INDICATION OF THE SITE LOCATION. To obtain maps, contact USGS at 1-888-275-8747 or via internet at "http://store.usgs.gov". If available, attach a copy of a documented site survey with the surveyor's certification stating the amount of vertical and horizontal accuracy in feet.

ITEM #21.

- For transmitting stations, include maximum effective radiated power (ERP) and all frequencies.
- For antennas, include the type of antenna and center of radiation (Attach the antenna pattern, if available).
- For microwave, include azimuth relative to true north.
- For overhead wires or transmission lines, include size and configuration of wires and their supporting structures (Attach depiction).
- For each pole/support, include coordinates, site elevation, and structure height above ground level or water.
- For buildings, include site orientation, coordinates of each corner, dimensions, and construction materials.
- For alterations, explain the alteration thoroughly.
- For existing structures, thoroughly explain the reason for notifying the FAA (e.g. corrections, no record or previous study, etc.).

Filing this information with the FAA does not relieve the sponsor of this construction or alteration from complying with any other federal, state or local rules or regulations. If you are not sure what other rules or regulations apply to your proposal, contact local/state aviation's and zoning authorities.

Please Type or Print on This Form

Form Approved OMB No.2120-0001
Expiration Date: 10/31/2017

U.S. Department of Transportation
Federal Aviation Administration

Failure To Provide All Requested Information May Delay Processing of Your Notice

Notice of Proposed Construction or Alteration

FOR FAA USE ONLY

Aeronautical Study Number

1. Sponsor *(person, company, etc. proposing this action):*

Attn. of:

Name:

Address:

City: State: Zip:

Telephone: Fax:

2. Sponsor's Representative *(if other than #1):*

Attn. of:

Name:

Address:

City: State: Zip:

Telephone: Fax:

3. Notice of: ☐ New Construction ☐ Alteration ☐ Existing

4. Duration: ☐ Permanent ☐ Temporary (___ months, ____days)

5. Work Schedule: Beginning End

6. Type: ☐ Antenna Tower ☐ Crane ☐ Building ☐ Power Line
☐ Landfill ☐ Water Tank ☐ Other

7. Marking/Painting and/or Lighting Preferred:
☐ Red Lights and Paint ☐ Dual - Red and Medium Intensity
☐ White-Medium Intensity ☐ Dual - Red and high Intensity
☐ White -High Intensity ☐ Other

8. FCC Antenna Structure Registration Number *(if applicable)*:

9. Latitude: 0 , , "

10. Longitude: 0 , ,

11. Datum: ☐ NAD 83 ☐ NAD 27 ☐ Other

12. Nearest: City: State

13. Nearest *Public-use* *(not private-use)* or Military Airport or Heliport:

14. Distance from #13. to Structure:

15. Direction from #13. to Structure:

16. Site Elevation ***(AMSL)***: ft.

17. Total Structure Height ***(AGL)***: ft.

18. Overall Height (#16 + #17) ***(AMSL)***: ft.

19. Previous FAA Aeronautical Study Number *(if applicable)*:

-OE

20. Description of Location: *(Attach a USGS 7.5 minute Quadrangle Map with the precise site marked and any certified survey)*

21. Complete Description of Proposal:

Frequency/Power (kW)	

Notice is required by 14 Code of Federal Regulations, part 77 pursuant to 49 U.S.C., Section 44718. Persons who knowingly and willingly violate the notice requirements of part 77 are subject to a civil penalty of $1,000 per day until the notice is received, pursuant to 49 U.S.C., Section 46301(a)

I hereby certify that all of the above statements made by me are true, complete, and correct to the best of my knowledge. In addition, I agree to mark and/or light the structure in accordance with established marking & lighting standards as necessary.

Date	Typed or Printed Name and Title of Person Filing Notice	Signature

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APPENDIX H – NOISE ANALYSIS

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NOISE STUDY ANALYSIS

1.1 ASSUMPTIONS

Airport noise is among the most controversial environmental impact at airports. To evaluate aircraft noise around Priest River Municipal Airport, the Integrated Noise Model (INM) version 7.0d, a computer noise model developed by the Federal Aviation Administration (FAA), in cooperation with the John A. Volpe National Transportation Systems Center and ATAC Corporation was used.

INM requires several inputs to compute and evaluate aircraft noise:

- Airport characteristics
- Fleet Mix and runway use
- Type and number of aircraft operations (including departure, arrivals, daytime and nighttime operations)
- Flight track geometry and percentage of utilization of each track

Further, the noise metric used for this study is the Day Night Average Sound Level (DNL). This metric is used to quantify noise levels at many airports in the United States and represents the 365-day average, in decibels, day-night average sound level.

1.1.1 AIRPORT INFORMATION

Priest River Municipal Airport is located in north Idaho, and it serves the city of Priest River and Bonner County. It is part of the FAA's National Plan of Integrated Airport Systems (NPIAS) as a "General Aviation" Airport. Further, it is identified as a "Local Recreational" airport in the Idaho Transportation Department (ITD) Idaho Aviation System Plan (IASP).

The airport is equipped with a single paved runway, Runway 01/19, and is at an elevation of 2,193 feet. The usable pavement for runway calculation is 2,983 feet.

It should be noted that in the absence of an Airport Traffic Control Tower (ATCT), or other regular means of counting operations, current usage is an estimate and it is difficult to fully understand and quantify the number of operations at non-towered airports.

1.1.2 AIRPORT OPERATIONS AND FORECASTS

Table 1 summarizes the Aviation Activity Forecasts predicted as part of this airport master plan. In 2034, 6,565 operations are predicted at the airport.

TABLE 1: SUMMARY OF PRIEST RIVER MUNICIPAL AIRPORT AVIATION FORECASTS

	Year	Local Operations	Itinerant Operations	Total Operations
Historic	2014	1,636	6,540	**8,176**
Projected	2019	1,768	7,066	**8,834**
	2024	1,910	7,635	**9,545**
	2034	2,230	8,913	**11,143**

Source: T-O Engineers, Inc.

Table 2 summarizes the annual average daily operations in 2014 and 2034. To simplify the computations, the daily averages have been rounded up to the nearest integer.

TABLE 2: AVERAGE DAILY OPERATIONS

Year	Type of Operations	Total Year	Daily Average*
2014	**Total Operations**	8,176	23
2034	**Total Operations**	11,143	31

Note: * Daily averages have been rounded to the nearest integer

Source: T-O Engineers, Inc.

1.1.3 NIGHT TIME OPERATIONS

The airport is equipped with non-standard Low Intensity Runway Lights (LIRL) on Runway 1/19 and nighttime operations are really occasional. This information is important because noise occurring during the night is considered a greater nuisance. Therefore, the DNL metric uses weighting factors (or multipliers) for night time operations and, in this metric, one night-time operation is worth ten day-time operations.

1.1.4 FLEET MIX

Priest River Municipal Airport predominantly serves single-engine aircraft with infrequent use by small multi-engine aircraft as well.

For the purposes of this study, the Cessna 182, the critical aircraft, was considered as representative of single-engine aircraft activity. In addition, the Pilatus PC-12 was included in this study to model small turboprop aircraft operations. It was also considered that the jet activity

at Priest River Municipal Airport was not significant in the short-term or long-term, given the runway length, and existing constraints and limitations of the airport.

It was assumed that 10 percent of the operations were touch-and-go operations and that these operations were conducted exclusively by single engine aircraft. Lastly, night operations represents only a low percentage of the operations at the airport.

Table 3 summarizes the average daily operations per aircraft.

TABLE 3: AVERAGE DAILY OPERATIONS

Year	Aircraft	Arrival		Departure		Touch and Go		Total
		Day	Night	Day	Night	Day	Night	
2014	Cessna 182	10.4	0.1	10.4	0.1	1	0	22
	Pilatus PC-12	0.5	0	0.5	0	0	0	1
2034	Cessna 182	14.4	0.1	14.4	0.1	1	0	30
	Pilatus PC-12	0.5	0	0.5	0	0	0	1

Source: T-O Engineers, Inc.

1.1.5 RUNWAY UTILIZATION

Based on a discussion with pilots and airports' users, Runway 19 accommodates approximately 90 percent of the departures, while each runway accommodates approximately 50% of the arrivals. Night operations recommended in the 5010 show approach on Runway 1 and depart from Runway 19. In addition, each runway accommodates approximately 50 percent of the touch-and-go operations.

1.1.6 FLIGHT TRACKS

Priest River Municipal Airport is currently a VFR only airport, with no instrument approach capabilities. Further, the airport is not equipped with an ATCT. Therefore, the flight path followed by the aircraft will be highly dependent on their origin or destination as well as the type of aircraft.

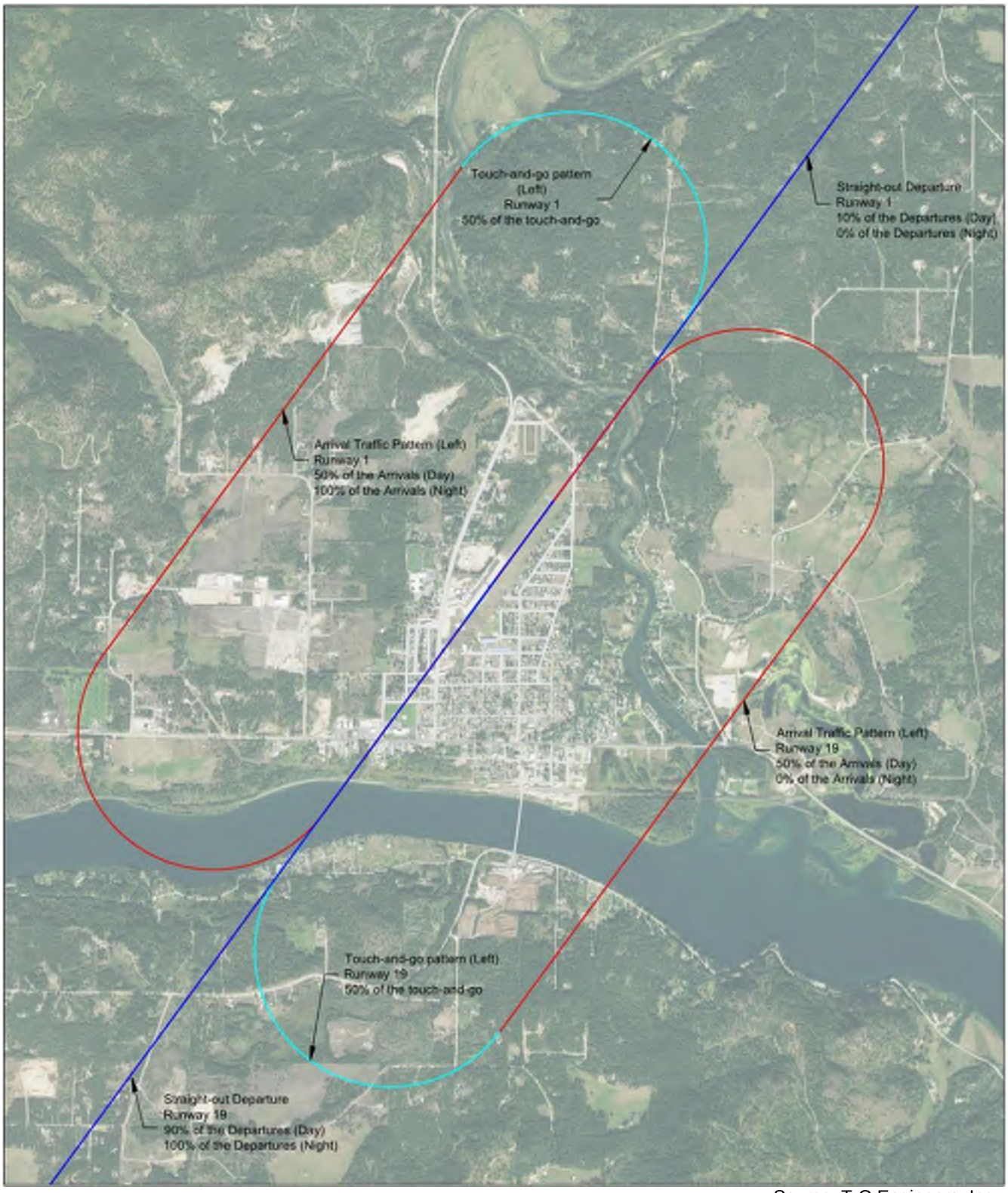
The types of operations considered in this study include:

- Approach
- Departures
- Touch-and-go

Figure 1 depicts the Flight Tracks at Priest River Municipal Airport; these flight tracks are based on an interview with pilots and airport's users. It is important to note that in the absence of an ATCT, current usage and flight tracks are estimate only.

In addition, the shape of the flight track depends on several factors, including weather, the type and number of aircraft in the traffic pattern, the size of the airport, individual pilot's skills and experience with the airport, and the aircraft destination. These tracks have been modeled to represent aircraft patterns as closely as possible; however, it is likely to observe deviations and that not all the aircraft will fly exactly on these tracks.

FIGURE 1: FLIGHT TRACK



Source: T-O Engineers, Inc.

Table 4 summarizes the approximate use of each flight track.

TABLE 4: FLIGHT TRACK UTILIZATION

Runway	Flight Track	Percent of Use
Approaches and Departures (Day)		
Runway 1	Departure (Straight Out)	90%
Runway 1	Approach (Circuit to land)	50%
Runway 19	Departure (Straight Out)	10%
Runway 19	Approach (Circuit to land)	50%
Approaches and Departures (Night)		
Runway 1	Departure (Straight Out)	0%
Runway 1	Approach (Circuit to land)	100%
Runway 19	Departure (Straight Out)	100%
Runway 19	Approach (Circuit to land)	0%
Touch-and-go		
Runway 1	Touch-and-go (Left Circuit)	50%
Runway 19	Touch-and-go (Right Circuit)	50%

Source: T-O Engineers, Inc.

1.2 NOISE ANALYSIS

1.2.1 LAND USE COMPATIBILITY

The FAR Part 150 Airport Noise Compatibility Planning Program provides guidance for aviation noise compatibility on and around airports. **Table 5** summarizes the various land uses based on DNL sound levels.

Areas below DNL 65 decibels are considered to be compatible with all land uses. In addition, residential or school uses can be allowed within the DNL 65 to 75 decibels range, if measures to achieve outdoor to indoor Noise Level Reduction (NLR) of at least 25 dB and 30 dB are achieved.

It should be noted that the DNL is an average noise level; this metric does not take into account the peak noise level that can occasionally be experienced at any locations. In addition, some people can be more sensitive to noise and the level of annoyance can depend on the time of the day, the time of the year, but also the activities of the people.

TABLE 5: LAND USE COMPATIBILITY WITH YEARLY DAY-NIGHT AVERAGE SOUNDS LEVELS

Land use	Yearly day-night average sound level (L_{dn}) in decibels					
	Below 65	65-70	70-75	75-80	80-85	Over 85
RESIDENTIAL						
Residential, other than mobile homes and transient lodgings						
Mobile home parks						
Transient lodgings						
PUBLIC USE						
Schools						
Hospitals and nursing homes						
Churches, auditoriums, and concert halls						
Governmental services						
Transportation						
Parking						
COMMERCIAL USE						
Offices, business and professional						
Wholesale and retail—building materials, hardware and farm equipment						
Retail trade—general						
Utilities						
Communication						
MANUFACTURING AND PRODUCTION						
Manufacturing, general						
Photographic and optical						
Agriculture (except livestock) and forestry						
Livestock farming and breeding						
Mining and fishing, resource production and extraction						
RECREATIONAL						
Outdoor sports arenas and spectator sports						
Outdoor music shells, amphitheaters						
Nature exhibits and zoos						
Amusements, parks, resorts and camps						
Golf courses, riding stables and water recreation						

Prohibited | Allowed with conditions | Allowed

Conditions typically include noise Level Reduction (outdoor to indoor) to be achieved through incorporation of noise attenuation into the design and construction of the structure. **For additional details on the conditions, refer to FAR Part 150, Appendix A.**

Source: FAR Part 150, Appendix A, T-O Engineers, Inc.

1.2.2 NOISE CONTOURS

Noise Contours have been prepared for Priest River Municipal Airport for the base year (Year 2014) and the long-term forecast (Year 2034).

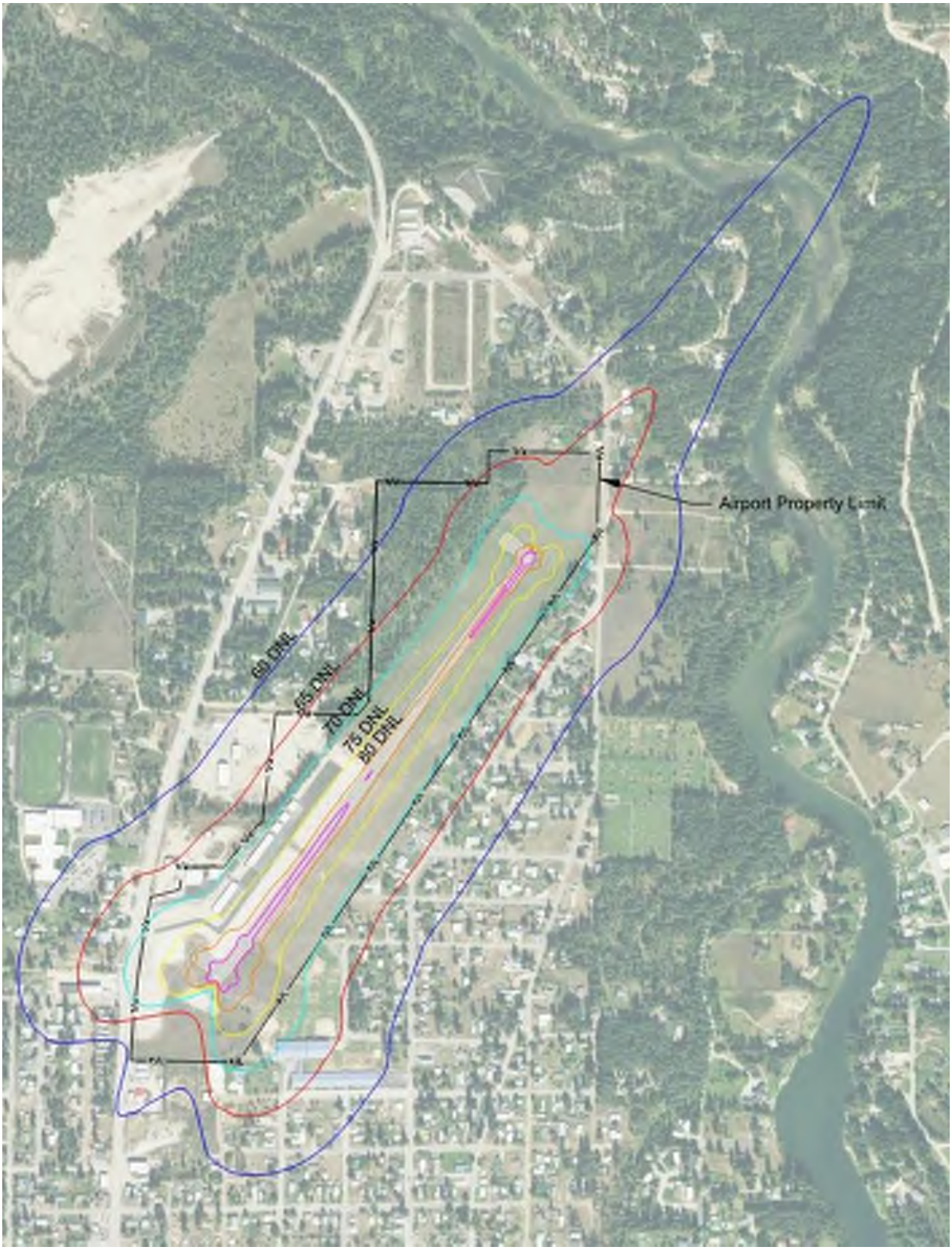
The area encompassed by the long-term noise contour is slightly larger than that of the base year. The total area of the 65 DNL noise contour is 101.6 acres in 2014 and is expected to be 119.2 acres in 2034. **Figures 2 and 3** depict the DNL 60 to DNL 85 (with 5 DNL increments) noise contours for the base year and the long-term forecast (Year 2034).

As depicted in **Figures 2 and 3**, significant portions of the DNL 65 extend beyond the airport property limits and Priest River Municipal Airport does no control significant portions of this noise contour. Having entire control of the DNL 65 mitigates for incompatible land uses and enhances noise control.

It should be noted that multiple buildings, including residential buildings, barns, sheds and maintenance buildings are in the DNL 65 noise contour.

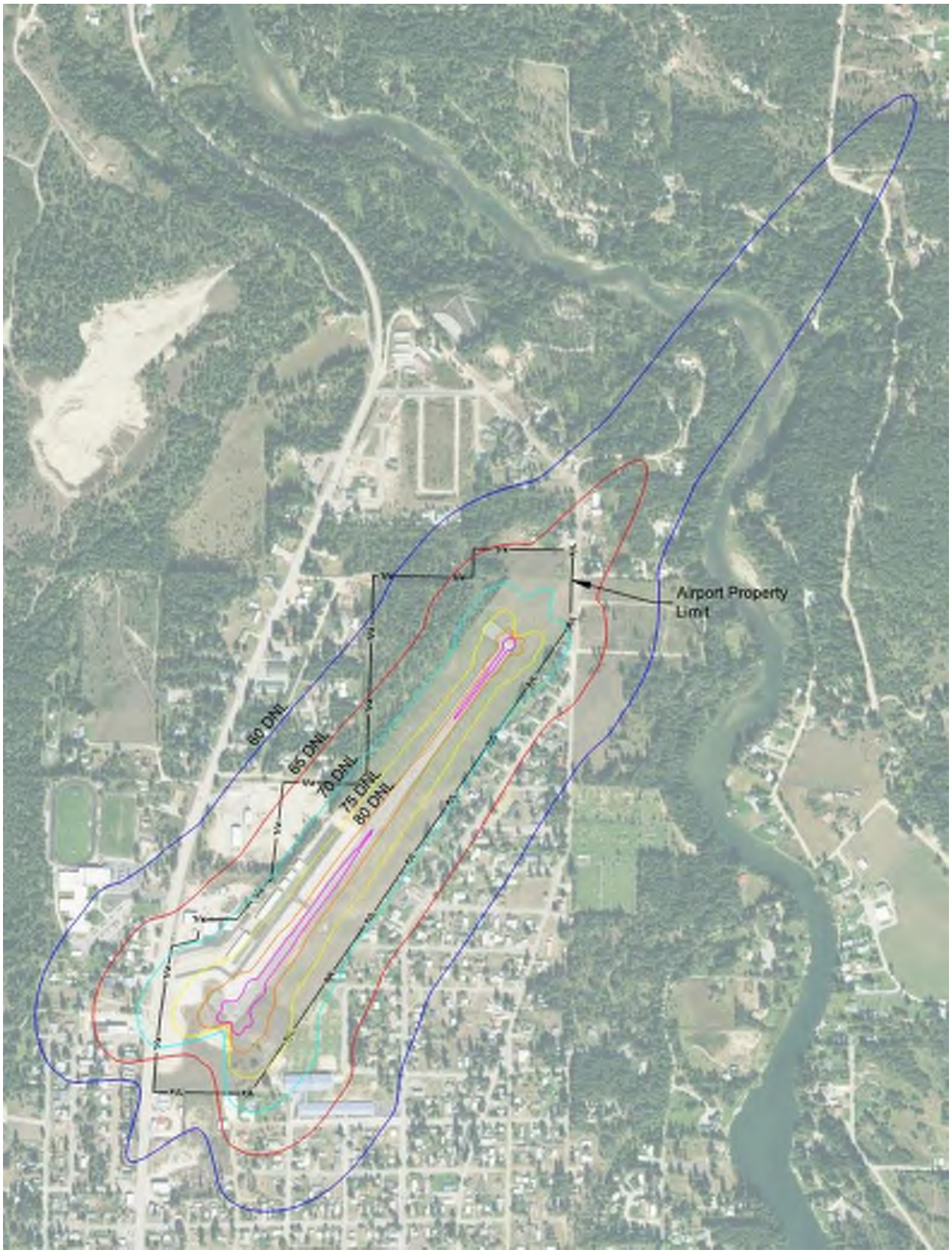
At busier and larger airports, the FAA funds FAR Part 150 Airport Noise study to guide and control aviation noise compatibility on and around airports. Mitigation measures to prevent non-compatible uses are then established. In addition, for existing uses, mitigation measures can include assistance to improve isolation, or even acquisition and relocation.

FIGURE 2: ALL NOISE CONTOURS (2014)



Source: T-O Engineers, Inc.

FIGURE 3: ALL NOISE CONTOURS (2034)



Source: T-O Engineers, Inc.

INM Scenarios

Base Case 2014

INM 7.0d SCENARIO RUN INPUT REPORT 27-Apr-15 17:19

STUDY: I:\140040\ACADDWG\INM\140040_NOISEANALYSIS\
Created : 17-Mar-15 15:53
Units : English
Airport : 1S6
Description :
Priest River Noise Analysis

SCENARIO: 2014-Scenario
Created : 17-Mar-15 16:07
Description : Scenario Base Year 2014
Last Run : 23-Apr-15 15:54
Run Duration : 000:00:43

STUDY AIRPORT
Latitude : 48.190694 deg
Longitude : -116.909777 deg
Elevation : 2187.0 ft

CASES RUN:

CASENAME: Base Case
Temperature : 51.2 F
Pressure : 29.92 in-Hg
AverageWind : 8.0 kt
ChangeNPD : No

STUDY RUNWAYS
1
Latitude : 48.187306 deg
Longitude : -116.913421 deg
Xcoord : -0.1463 nmi
Ycoord : -0.2034 nmi
Elevation : 2171.9 ft
OtherEnd : 19
Length : 2982 ft
Gradient : 0.70 %
TkoThresh : 0 ft
AppThresh : 0 ft

CASENAME: Base Case
RwyWind : 8.0 kt
19
Latitude : 48.193963 deg
Longitude : -116.906322 deg
Xcoord : 0.1387 nmi
Ycoord : 0.1963 nmi
Elevation : 2192.9 ft
OtherEnd : 1
Length : 2982 ft
Gradient : -0.70 %
TkoThresh : 0 ft
AppThresh : 0 ft

CASENAME: Base Case
RwyWind : 8.0 kt

STUDY TRACKS
RwyId-OpType-TrkId
Sub PctSub TrkType Delta(ft)
1-APP-ARR-1-1
0 100.00 Vectors 0.0
1-DEP-DEP-1-1
0 100.00 Vectors 0.0
1-TGO-TGO-1-1
0 100.00 Vectors 0.0
19-APP-APP-19-1
0 100.00 Vectors 0.0
19-DEP-DEP-19-1
0 100.00 Vectors 0.0
19-TGO-TGO-19-1
0 100.00 Vectors 0.0

STUDY TRACK DETAIL
RwyId-OpType-TrkId-SubTrk
SegType Dist/Angle Radius(nmi)
1-APP-ARR-1-1-0
1 Straight 2.0000 nmi
2 Left-Turn 180.0000 deg 0.4500
3 Straight 0.8000 nmi
1-DEP-DEP-1-1-0
1 Straight 3.0000 nmi
1-TGO-TGO-1-1-0
1 Straight 1.2000 nmi
2 Left-Turn 180.0000 deg 0.4500

```
     3  Straight        2.0000 nmi
     4  Left-Turn     180.0000 deg      0.4500
     5  Straight        0.8000 nmi
  19-APP-APP-19-1-0
     1  Straight        2.0000 nmi
     2  Left-Turn     180.0000 deg      0.4500
     3  Straight        0.8000 nmi
  19-DEP-DEP-19-1-0
     1  Straight        3.0000 nmi
  19-TGO-TGO-19-1-0
     1  Straight        1.2000 nmi
     2  Left-Turn     180.0000 deg      0.4500
     3  Straight        2.0000 nmi
     4  Left-Turn     180.0000 deg      0.4500
     5  Straight        0.8000 nmi

AIRCRAFT GROUP ASSIGNMENTS
   AcftId          GroupId         AcftType
   CNA182            ALL             Civil
   CNA208            ALL             Civil

---------------------------------------------------------------------

STUDY AIRPLANES
   CNA182        Standard data
   CNA208        Standard data

STUDY SUBSTITUTION AIRPLANES
   PC12          Standard data

USER-DEFINED NOISE CURVES

USER-DEFINED METRICS

USER-DEFINED PROFILE IDENTIFIERS

USER-DEFINED PROCEDURAL PROFILES

USER-DEFINED FIXED-POINT PROFILES

USER-DEFINED FLAP COEFFICIENTS

USER-DEFINED JET THRUST COEFFICIENTS

USER-DEFINED PROP THRUST COEFFICIENTS

USER-DEFINED GENERAL THRUST COEFFICIENTS
```

STUDY MILITARY AIRPLANES

USER-DEFINED MILITARY NOISE CURVES

USER-DEFINED MILITARY PROFILE IDENTIFIERS

USER-DEFINED MILITARY FIXED-POINT PROFILES

STUDY HELICOPTERS

USER-DEFINED HELICOPTER PROFILE IDENTIFIERS

USER-DEFINED HELICOPTER PROCEDURAL PROFILES

USER-DEFINED HELICOPTER NOISE CURVES

USER-DEFINED HELICOPTER DIRECTIVITY

CASE FLIGHT OPERATIONS - [Base Case]

Acft	Op	Profile	Stg	Rwy	Track	Sub	Group	Day	Evening	Night
CNA182	APP	STANDARD	1	1	ARR-1-1	0	ALL	5.2000	0.0000	0.1000
CNA182	APP	STANDARD	1	19	APP-19-1	0	ALL	5.2000	0.0000	0.0000
CNA182	DEP	STANDARD	1	1	DEP-1-1	0	ALL	9.3600	0.0000	0.0000
CNA182	DEP	STANDARD	1	19	DEP-19-1	0	ALL	1.0400	0.0000	0.1000
CNA182	TGO	STANDARD	1	1	TGO-1-1	0	ALL	0.5000	0.0000	0.0000
CNA182	TGO	STANDARD	1	19	TGO-19-1	0	ALL	0.5000	0.0000	0.0000
CNA208	APP	STANDARD	1	1	ARR-1-1	0	ALL	0.2500	0.0000	0.0000
CNA208	APP	STANDARD	1	19	APP-19-1	0	ALL	0.2500	0.0000	0.0000
CNA208	DEP	STANDARD	1	1	DEP-1-1	0	ALL	0.4500	0.0000	0.0000
CNA208	DEP	STANDARD	1	19	DEP-19-1	0	ALL	0.0500	0.0000	0.0000

CASE RUNUP OPERATIONS - [Base Case]

SCENARIO RUN OPTIONS
Run Type : Single-Metric
NoiseMetric : DNL
Do Terrain : No Terrain
Do Contour : Recursive Grid

Refinement : 14
Tolerance : 0.25
Low Cutoff : 55.0
High Cutoff : 85.0
Ground Type : All-Soft-Ground
Do Population : No
Do Locations : No
Do Standard : No
Do Detailed : No
Compute System Metrics:
DNL : No
CNEL : No
LAEQ : No
LAEQD : No
LAEQN : No
SEL : No
LAMAX : No
TALA : No
NEF : No
WECPNL : No
EPNL : No
PNLTM : No
TAPNL : No
CEXP : No
LCMAX : No
TALC : No

SCENARIO GRID DEFINITIONS

Name	Type	X(nmi)	Y(nmi)	Ang(deg)	DisI(nmi)	DisJ(nmi)	NI	NJ	Thrsh	dAmb	(hr)
CONTOUR	Contour	-8.0000	-8.0000	0.0	16.0000	16.0000	2	2	85.0	0.0	0.00

Future Case 2034

INM 7.0d SCENARIO RUN INPUT REPORT 27-Apr-15 17:19

STUDY: I:\140040\ACADDWG\INM\140040_NOISEANALYSIS\
Created : 17-Mar-15 15:53
Units : English
Airport : 1S6
Description :
Priest River Noise Analysis

SCENARIO: 2034-Scenario
Created : 17-Mar-15 16:07
Description : Scenario Future Year 2034
Last Run : 23-Apr-15 15:54
Run Duration : 000:00:43

STUDY AIRPORT
Latitude : 48.190694 deg
Longitude : -116.909777 deg
Elevation : 2187.0 ft

CASES RUN:

CASENAME: Future Case 2034
Temperature : 51.2 F
Pressure : 29.92 in-Hg
AverageWind : 8.0 kt
ChangeNPD : No

STUDY RUNWAYS
1
Latitude : 48.187306 deg
Longitude : -116.913421 deg
Xcoord : -0.1463 nmi
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Elevation : 2171.9 ft
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CASENAME: Future Case 2034
RwyWind : 8.0 kt
19

Latitude : 48.193963 deg
Longitude : -116.906322 deg
Xcoord : 0.1387 nmi
Ycoord : 0.1963 nmi
Elevation : 2192.9 ft
OtherEnd : 1
Length : 2982 ft
Gradient : -0.70 %
TkoThresh : 0 ft
AppThresh : 0 ft

CASENAME: Future Case 2034
RwyWind : 8.0 kt

STUDY TRACKS

RwyId-OpType-TrkId	Sub	PctSub	TrkType	Delta(ft)
1-APP-ARR-1-1	0	100.00	Vectors	0.0
1-DEP-DEP-1-1	0	100.00	Vectors	0.0
1-TGO-TGO-1-1	0	100.00	Vectors	0.0
19-APP-APP-19-1	0	100.00	Vectors	0.0
19-DEP-DEP-19-1	0	100.00	Vectors	0.0
19-TGO-TGO-19-1	0	100.00	Vectors	0.0

STUDY TRACK DETAIL

RwyId-OpType-TrkId-SubTrk	#	SegType	Dist/Angle	Radius(nmi)
1-APP-ARR-1-1-0	1	Straight	2.0000 nmi	
	2	Left-Turn	180.0000 deg	0.4500
	3	Straight	0.8000 nmi	
1-DEP-DEP-1-1-0	1	Straight	3.0000 nmi	
1-TGO-TGO-1-1-0	1	Straight	1.2000 nmi	
	2	Left-Turn	180.0000 deg	0.4500
	3	Straight	2.0000 nmi	
	4	Left-Turn	180.0000 deg	0.4500
	5	Straight	0.8000 nmi	

19-APP-APP-19-1-0
1 Straight 2.0000 nmi
2 Left-Turn 180.0000 deg 0.4500
3 Straight 0.8000 nmi
19-DEP-DEP-19-1-0
1 Straight 3.0000 nmi
19-TGO-TGO-19-1-0
1 Straight 1.2000 nmi
2 Left-Turn 180.0000 deg 0.4500
3 Straight 2.0000 nmi
4 Left-Turn 180.0000 deg 0.4500
5 Straight 0.8000 nmi

AIRCRAFT GROUP ASSIGNMENTS

AcftId	GroupId	AcftType
CNA182	ALL	Civil
CNA208	ALL	Civil

STUDY AIRPLANES

CNA182	Standard data
CNA208	Standard data

STUDY SUBSTITUTION AIRPLANES

PC12	Standard data

USER-DEFINED NOISE CURVES

USER-DEFINED METRICS

USER-DEFINED PROFILE IDENTIFIERS

USER-DEFINED PROCEDURAL PROFILES

USER-DEFINED FIXED-POINT PROFILES

USER-DEFINED FLAP COEFFICIENTS

USER-DEFINED JET THRUST COEFFICIENTS

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STUDY MILITARY AIRPLANES

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USER-DEFINED HELICOPTER NOISE CURVES

USER-DEFINED HELICOPTER DIRECTIVITY

CASE FLIGHT OPERATIONS - [Future Case 2034]

Acft	Op	Profile	Stg	Rwy	Track	Sub	Group	Day	Evening	Night
CNA182	APP	STANDARD	1	1	ARR-1-1	0	ALL	7.2000	0.0000	0.1000
CNA182	APP	STANDARD	1	19	APP-19-1	0	ALL	7.2000	0.0000	0.0000
CNA182	DEP	STANDARD	1	1	DEP-1-1	0	ALL	12.9600	0.0000	0.0000
CNA182	DEP	STANDARD	1	19	DEP-19-1	0	ALL	1.4400	0.0000	0.1000
CNA182	TGO	STANDARD	1	1	TGO-1-1	0	ALL	0.5000	0.0000	0.0000
CNA182	TGO	STANDARD	1	19	TGO-19-1	0	ALL	0.5000	0.0000	0.0000
CNA208	APP	STANDARD	1	1	ARR-1-1	0	ALL	0.2500	0.0000	0.0000
CNA208	APP	STANDARD	1	19	APP-19-1	0	ALL	0.2500	0.0000	0.0000
CNA208	DEP	STANDARD	1	1	DEP-1-1	0	ALL	0.4500	0.0000	0.0000
CNA208	DEP	STANDARD	1	19	DEP-19-1	0	ALL	0.0500	0.0000	0.0000

CASE RUNUP OPERATIONS - [Future Case 2034]

SCENARIO RUN OPTIONS
Run Type : Single-Metric
NoiseMetric : DNL
Do Terrain : No Terrain
Do Contour : Recursive Grid
Refinement : 14
Tolerance : 0.25
Low Cutoff : 55.0

High Cutoff : 85.0
Ground Type : All-Soft-Ground
Do Population : No
Do Locations : No
Do Standard : No
Do Detailed : No
Compute System Metrics:
DNL : No
CNEL : No
LAEQ : No
LAEQD : No
LAEQN : No
SEL : No
LAMAX : No
TALA : No
NEF : No
WECPNL : No
EPNL : No
PNLTM : No
TAPNL : No
CEXP : No
LCMAX : No
TALC : No

SCENARIO GRID DEFINITIONS

Name	Type	X(nmi)	Y(nmi)	Ang(deg)	DisI(nmi)	DisJ(nmi)	NI	NJ	Thrsh	dAmb	(hr)
CONTOUR	Contour	-8.0000	-8.0000	0.0	16.0000	16.0000	2	2	85.0	0.0	0.00
