



# CHAPTER 2: INVENTORY

## Introduction

The Inventory chapter of the Airport Master Plan for the Ronan Airport provides the baseline framework to evaluate the airport facility. The facility inventory provides a review of the existing social environment to formulate profiles of the community and airport. The environmental inventory provides data to identify key environmental constraints and planning considerations that may affect airport development according to National Environmental Policy Act (NEPA) guidelines.

This inventory data collection will be used to compare the existing conditions to the future airport needs. Background information and data is gathered from various sources and compiled into this chapter. Please refer to the various appendices referenced within this narrative for more detailed information.

This chapter provides an inventory of the following elements:

- [Background](#)
- [Facility Inventory](#)
  - [Land](#)
  - [Airfield Facilities](#)
  - [NAVAIDS & Airspace](#)
  - [General Aviation](#)
  - [Support Facilities](#)
  - [Ground Access, Circulation & Parking](#)
  - [Other](#)
- [Surrounding Land Use](#)
- [Financial Overview](#)
- [Environmental Inventory](#)
- [Socioeconomic Data](#)

## Background

### *General*

The Ronan Airport (FAA ID: 750), is a non-certificated general aviation airport serving the City of Ronan and surrounding areas of Lake County in northwestern Montana within the Flathead Indian Reservation. The airport is owned and operated by Lake County and the City of Ronan. The airport is a critical community asset providing vital connectivity to the region.

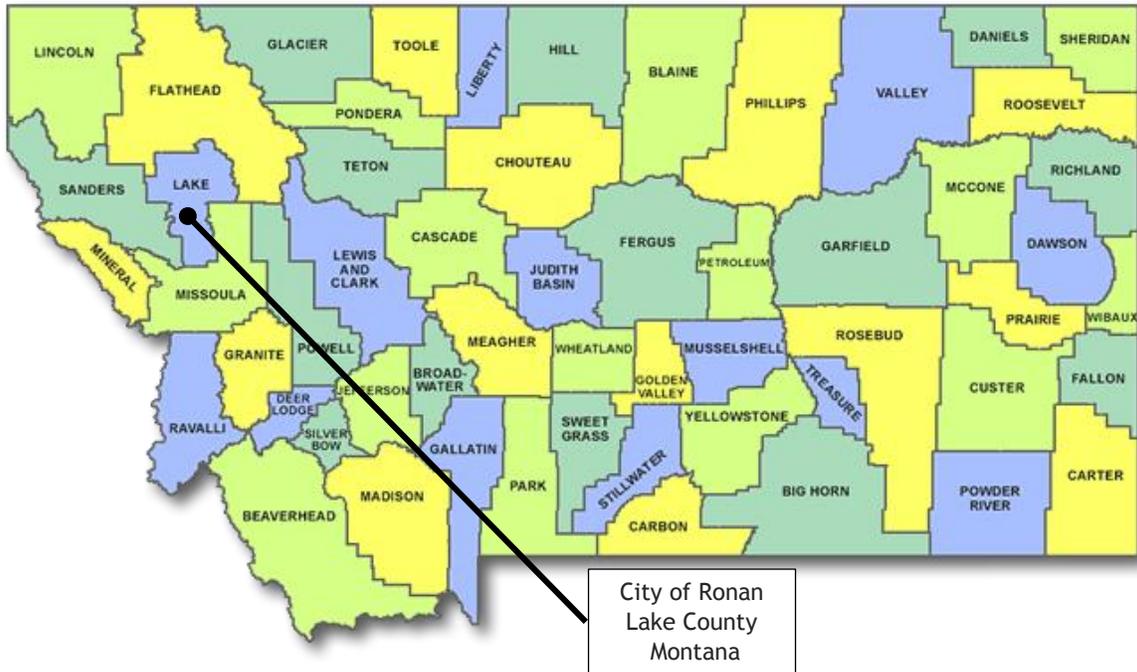
The Ronan airport has one runway. Runway 16/34 is paved and lighted at 4,800 feet long and 75 feet wide and is capable of accommodating instrument approaches during poor weather.

750 provides multiple aeronautical functions including emergency response, fire suppression, corporate aviation, community access and agricultural support. According to the FAA records as of May 2016, the airport is home to 27 locally-confirmed based aircraft and serves 9,850, annual flight operations annually for an average of 27 each day.



## Location

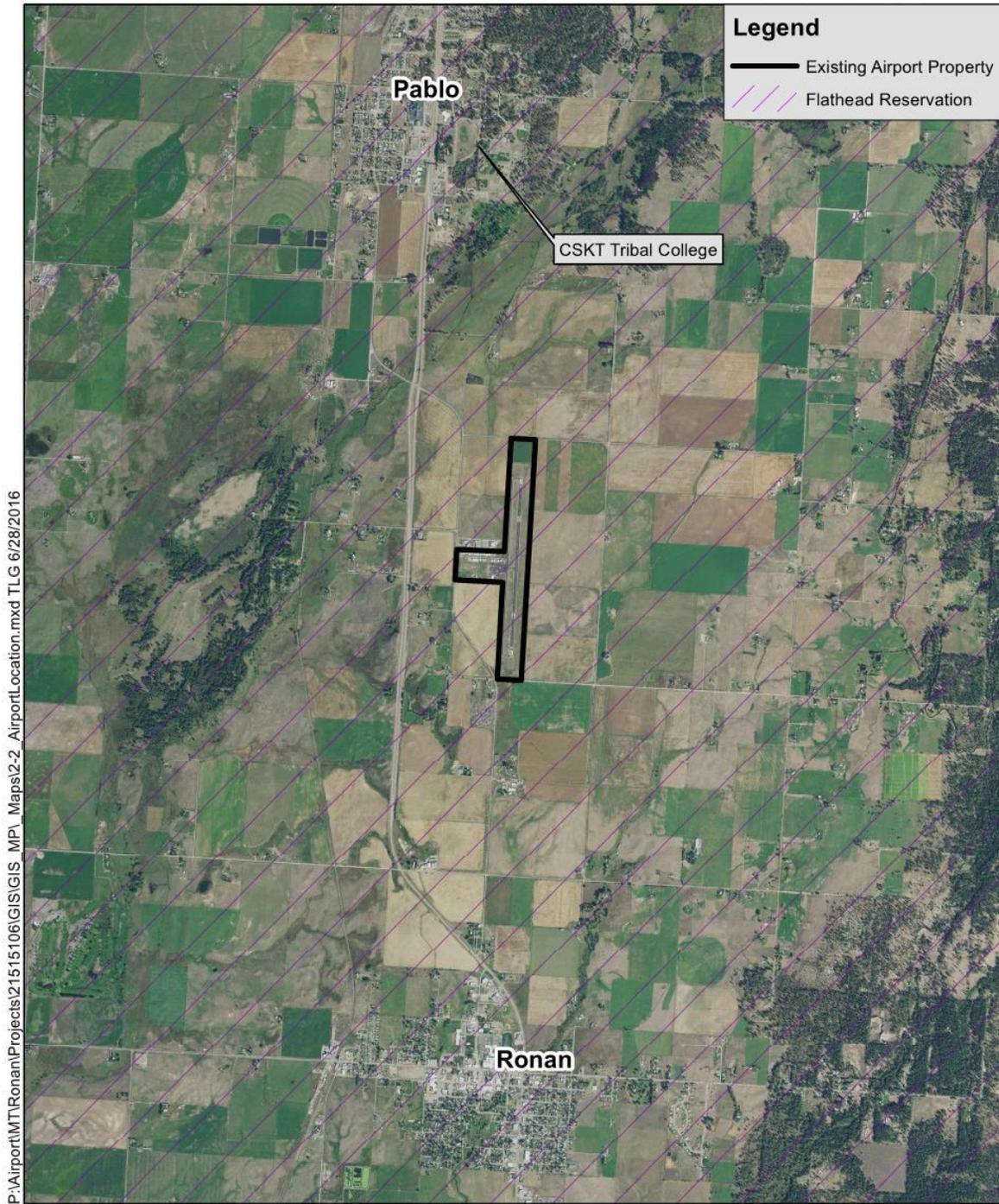
### Exhibit 2-1 – Statewide Airport Location



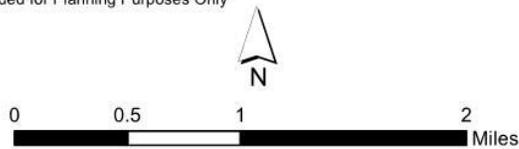
Source: KLJ

The City of Ronan is located in Northwest Montana in Lake County on the Flathead Indian Reservation, about 12 miles south of Flathead Lake on US 93 and about 65 miles north of Missoula. The main route to Ronan is US 93. The closest Interstate is I-90, which is 40 miles to the south on US 93. The Ronan Airport is located approximately two and one-half (2½) miles north of the City of Ronan on old Highway 93 in Lake County, Montana. The airport property (124.49 acres) is located in Section 24 of Township 21 North, Range 20 West.

Lake County encompasses an area of 1,654 square miles of which 1,490 square miles is land and 164 square miles is water. The population reported in the 2010 US Census was 28,746, growing approximately 2,200 from the 2000 US Census (26,507). Community centers include Polson (the county seat), Ronan, and St. Ignatius. Lake County is also home to the Confederated Salish and Kootenai Tribes of the Flathead Nation.



\*Intended for Planning Purposes Only



**Ronan Airport  
Exhibit 2-2: Airport Location**



## Setting

Originally settled by Salish residents in 1883, Ronan was called Spring Creek for the local warm springs that flow into the nearby Flathead River. Residents changed the name to Ronan Springs in 1893 as a tribute to Maj. Peter Ronan, who served as the Flathead Indian Reservation agent from 1877 until his death in 1893. Ronan experienced a sudden boom when the federal government opened the Flathead Indian Reservation to non-Indian homesteading in 1910. Over the next 100 years the population has continued to grow based on light manufacturing and tourism leading the way.



*General Airport Environment*

With the backdrop of the Mission Mountains and various sources of fishing and wildlife habitat, Ronan offers a wealth of natural resources and enjoyment for its residents. These include the Ninepipe and Pablo National Wildlife Refuge is a wetland complex that contains over 800 glacial potholes and a 1,770-acre reservoir; it is located just north of the City of Pablo and the Airport. About 200 bird species have been recorded. Nesting great blue herons and double-crested cormorants can be observed from the road on the west side of the refuge.

The airport is sited on relatively flat land at 3,085 feet above Mean Sea Level (MSL) and is surrounded by grassland and agricultural land. The Confederated Salish and Kootenai Forestry Department (Division of Fire and Forest Development-North Greenhouse) adjoins the Airport as a through-the-fence operation.



*Confederated Salish and Kootenai Forestry Department*

## Airport Ownership & Management

The City of Ronan and Lake County are the owners and operators of the Ronan Airport. The Lake County Joint Airport Board oversees the operation and maintenance of 750 and has been doing so since 1966. The Airport board works with city staff and consultants to ensure proper operations and maintenance of the airport. It is an advisory board that provides recommendations to the Ronan City Council and Lake County. The County is the decision-making body for 750. And it provides funding for airport improvement projects. The day-to-day airport management is handled by the Airport Manager.



*Representative Landscape*

## Airport History

Since the last Airport Layout Plan was completed at 750 in 2007, several airport capital improvement development projects have been completed. These include:

- Install AWOS - 2007
- Extend Taxiway - 2008
- Rehabilitate Apron, Taxiways, Runway - 2013



A complete list of major airport development projects that received funding from FAA and the State can be found in **Appendix X: Airport Funding & History**.

## **Airport Role & Design**

750 is a general aviation (GA) airport, meaning it accommodates aviation activities other than scheduled commercial air service. General aviation airports provide vital aeronautical functions serving the public interest including emergency response, critical community access, personal and business aviation, as well as commercial, industrial and economic activities.

According to the last Montana State System Plan (2015) 750 is classified as a general aviation airport-level 1 facility. Level 1 airports maintain a consistent and contributing role in enabling the local, regional, and state-wide economy to have access to and from the national and global economy.

750 is one of approximately 3,300 airports nationally included in the [National Plan of Integrated Airport Systems \(NPIAS\)](#) by the Federal Aviation Administration (FAA). NPIAS airports link the community to the national air transportation system.

Within the GA category, there are four groups that describe the functions of each airport as identified by the [FAA General Aviation ASSET 1 Study](#). 750 is categorized as one of 1,236 local airports. Local airports support general aviation activities such as emergency service, charter or critical passenger service, cargo operations, flight training, and personal flying, with moderate levels of multiengine propeller aircraft.

**Appendix X: Airport Classification** contains more information on this topic with **Chapter 6: Implementation Plan** providing additional information about the Federal funding programs available for the airport.

The Airport Reference Code (ARC) identifies a design category based on aircraft wingspan, tail height and approach speed for aircraft types that regularly use an airport. The last 750 Airport Layout Plan prepared in 2007 identified a future FAA ARC classification of B-II for a Beechcraft King Air B200 corporate aircraft.

The current design aircraft is verified to be an FAA ARC B-II airplane. The maximum gross weight is up to 20,000 pounds with occasional use of aircraft heavier than 20,000 pounds. The taxiway design group (TDG) for these aircraft is TDG-2.

See **Chapter 4: Facility Requirements** for more details on FAA design classifications.

*Table 2-1 – Airport Role & Design*

Airport ID	State Classification	FAA Classification	FAA GA Group	ARC	TDG
750	General Aviation-Level 1	Public Use General Aviation	Local	B-II	2

Source: [Federal Aviation Administration, State Aviation System Plan \(2012\)](#), [750 Airport Layout Plan](#)

## **Airport Service Area**

The Airport Service Area (ASA) defines the geographic area which serves the basic public aviation needs. These airports are identified on the federal National Plan of Integrated Airport Systems (NPIAS). The core service area provides service to populations where 750 is the closest NPIAS airport which happens to be the Polson Airport, located 8 nautical miles to the north of the Airport. The Polson Airport recently completed an airport layout plan update (ALP) and it was determined that the development of the Polson Airport would focus on infill of existing areas and that future growth would need to be fulfilled in other locations. As part of this master planning effort we will explore options to expand Ronan to meet needs which the Polson Airport cannot.



## Airport Activity

### GENERAL AVIATION

General aviation makes up the vast majority of the airport activity at 7S0. Flights are for various purposes including air ambulance/medical transport, agricultural spraying, firefighting activity, business/corporate travel, personal travel, flight training, recreational and tourism.

#### Based Aircraft

As of May 2016, 7S0 is home to 27 locally-confirmed based fix wing aircraft and one (1) helicopter. The FAA validates 27 based aircraft from 2016 (Airport Manager). All reported aircraft based in 7S0 are single-engine aircraft less than 12,500 pounds maximum takeoff weight and they are hangered in private hangars or tied down on the ramp. There currently very limited hangar space for transient aircraft visiting 7S0. The State Aviation System Plan estimates based aircraft will grow at an annual growth rate of 1.4 percent.

#### Annual Operations

The FAA Terminal Area Forecast estimates there are 9,850 annual flight operations (takeoff and landings) at 7S0 annually, or approximately 27 operations per day on average. FAA estimates approximately 45 percent of total annual flight operations are conducted from locations at least 20 miles away from 7S0. Prior to 2013 the FAA estimated there were 3,800 annual flight operations but recently readjusted the figure to 9,850 with no growth projected over the next 20 years. The State Aviation System Plan also estimates 9,850 annual flight operations with a projected annual growth rate of 1.40 percent.

*Table 2-2 – Airport Activity Summary*

FAA Validated Aircraft (2016)	Confirmed Local Based Aircraft	FAA TAF Annual Operations
27	27	9,850

Source: [Federal Aviation Administration](#), [Basedaircraft.com](#), KLJ Analysis

#### Operators

The Airport is mainly used by the local flying public as a way to access the back-country or to fly to Missoula or other near-by desitinations. The Airport is also the base for the Tribal fire fighting organization. The tribal land is covered mostly by forest and the Tribal Fire base at the Ronan Airport helps fight these fires. Emergency medical flights occur occasionally to fly people to Missoula and Campbell Spraying provides agricultural spraying to farms in the region.

### SCHEDULED PASSENGER AIRLINES

7S0 is not served by any scheduled commercial passenger airlines. The nearest airport with scheduled passenger airline service is the located 40 miles south in Missoula (Missoula International Airport-MSO). MSO is currently served by numerous airlines to several nonstop locations in the United States.

### REGULAR CARGO SERVICE

There is no regular air cargo service to 7S0. The majority of community's air cargo needs are served regionally from either Missoula or Glacier National Park Airport (Kalispell)

The table below summarizes the major operators from 2015.



*Table 2-3 – 2015 Airport Operators*

Organization/Type	Aircraft Type(s)	2015 Operations
Air Taxi	Beechcraft SuperKing Air B-300 Bombardier Challenger 300 Cessna Citation	4 (IFR)
General Aviation	Pilatus PC-12 LearJet 31 Cirrus SR22	77 (IFR)

Source: FAA Traffic Flow Management System (TFMS)

A complete listing of FAA recorded flight operations operated on an Instrument Flight Rules (IFR) flight plan is can be found in **Appendix X: Aviation Activity & Forecasts Data**. See **Chapter 3: Forecasts** for more detailed information on existing and projected 750 based aircraft and aircraft operations.

## Facility Inventory

An inventory of Ronan Airport facilities was performed to establish a baseline for determining required future improvements. As discussed in the following sections, 750 airport facilities are grouped into several categories: land, airfield, navigational aids (NAVAIDS)/airspace, general aviation, support, access/parking and other facilities.

### Land

Airport property owned by the City of Ronan is designated as aeronautical or non-aeronautical, and is leased to private entities for approved uses. The City of Ronan owns approximately 125 acres of property fee simple and 59.7 acres in aviation easement. As part of this Master Plan, a comprehensive update will occur to ensure that the existing codes and land uses meet new FAA standards.

Airport land is leased to private parties for approved aeronautical uses. Examples of aeronautical uses include land to construct an aircraft storage hangar.

### Airfield Facilities

Airside facilities are those that are necessary for aircraft surface movement, such as runways, taxiways, aprons and associated lighting, marking and signage systems. A map depicting existing airport airside components is included in **Exhibit 2-3: Airfield Facilities Map**. Information on design codes is contained in **Appendix X: Airport Classification**.



## RUNWAY 16/34

The Ronan Airport has one paved runway. Runway 16/34 is a 4,800 x 75 foot asphalt runway with pavement strength of 20,000 pounds single-wheel gear (SWG). Additional airside facilities include the taxiway system that provides access to various landside areas. Runway 16/34 has a full-length parallel taxiway located on the west side of the runway which is designated as Taxiway “A.” The function of the parallel taxiway is supported by one (1) connector taxiway, designated as Taxiway “B”, providing the ability for landing aircraft to exit the runway at the apron area, providing access to aircraft parking and private hangars. The aircraft parking apron is located midfield, on the west side of the airport.



Runway 16/34

Runway 16/34 is marked with non-precision markings. Visual aids include a rotating airport beacon, a 2-box PAPI on Runway 16, and a 2-box PAPI on Runway 34. Runway 16/34 has a pilot-controlled medium intensity runway lighting (MIRL) system. Taxiway reflectors line the edges of Parallel Taxiway “A” and connector Taxiway “B”. NAVAIDS include a segmented circle and lighted windcone. There also is a AWOS system in place at the airport. The approach slope is 34:1 on both runway ends. According to the latest 5010 inspection the Runway 16/34 marking have faded.

The runway is designed to meet FAA Runway Design Code (RDC) B-II design standards with approach visibility minimums as low as 1 mile. Based on a full-length parallel taxiway and runway-taxiway centerline separation distance of 400 feet, the Approach Reference Code (APRC) <sup>1</sup> is B-II-2400. This provides the operational capability to accommodate ARC B-II aircraft with approach visibility minimums as low as ½ mile. Both runway ends accommodate non-precision instrument approaches with vertical guidance.

The runway pavement surface is asphalt with no surface friction improvements. The pavement is designed to accommodate regular use of up to 20,000 pound aircraft in a single wheel main landing gear configuration. There is no published Pavement Classification Number (PCN).

This Master Plan and ALP will evaluate whether or not to lengthen 16/34 based on current and projected aircraft operations.

**Table 2-4 – Runway Facility Summary**

Component	Runway 16/34
Runway Length (feet)	4,800'
Displaced Threshold Length	0'
Runway Width (feet)	75'
Runway Surface Material	Asphalt
Runway Surface Treatment	None
Single Wheel Pavement Strength	20,000 lbs.
Double Wheel Pavement Strength	N/A.
Pavement Classification Number (PCN)	N/A

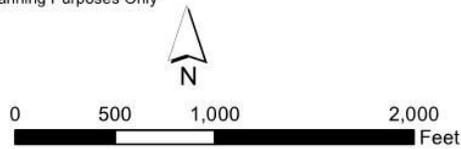
Source: [Airnav.com](http://Airnav.com), [FAA Airport Master Record](#)

<sup>1</sup> Current operational capabilities of a runway and associated parallel taxiway with regard to landing operations



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\*Intended for Planning Purposes Only



**Ronan Airport  
Exhibit 2-3:  
Airfield Facilities**



## TAXIWAYS

750 is served by a system of taxiways to facilitate the movement of aircraft from the runway environment to other airport facilities including hangars and parking aprons. Locations and identifiers are depicted in **Exhibit 2-3**. Taxiways are labeled A and B.

- Parallel Taxiway A is a 35 foot wide full length parallel taxiway serving Runway 16/34. The parallel portion of the taxiway is located 240 feet from the adjacent runway centerline. Taxiway A provides access from Runway 16 to the general aviation apron and hangar area.
- Connecting Taxiway B is 35-feet wide and connects Runway 16/34 with the general aviation apron and hangar area. This taxiway provides access to the fuel facility and aircraft storage hangars.



*Parallel + Taxiway B*

## TAXILANES

750 is served by various low-speed taxilanes providing access from the taxiway to individual aircraft parking areas. Taxilanes are also designated within apron areas to separate aircraft parking from access areas.

- Unnamed taxilanes between hangar buildings provide access to public and private hangars. The pavement width ranges from 20 to 30 feet.

Taxilanes through the general aviation apron meet wingtip separation clearances for FAA Design Group II aircraft up to 79-foot wingspan. Taxilanes through the hangar areas meet minimum wingtip separation clearances for Design Group I aircraft up to 49-foot wingspan.



## APRONS

There are two public aircraft parking aprons at 7S0. Locations are identified in **Exhibit 2-4: Terminal/Hangar Area Facilities Map**. Apron areas serve the loading, unloading and parking needs for general aviation.

The general aviation apron is the primary aircraft parking apron at 7S0 serving the transient parking needs and main hangar; it is almost always at full capacity in late summer and early fall if there is a fire fighting operation occurring at the airport. It is located to the west of the Runway 16/34 providing space for aircraft parking and maneuvering. The apron is approximately 17,225 square yards in size and made of an asphalt surface with an estimated pavement strength of 20,000 pounds. There are 32 striped aircraft tie-downs for small aircraft parking (Group I) and 3 larger aircraft (Group II) tie-down spots. The north-south access taxiway is designed for FAA Design Group II aircraft up to 79-foot wingspan. There is one entry and exit point requiring aircraft to perform a turnaround when exiting the apron area.



*General Aviation Apron*



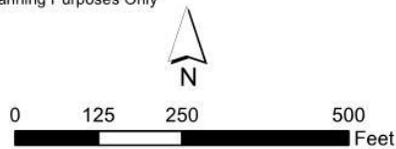
*Fueling Area*

The north apron is separated from the general aviation apron by a row of conventional hangars. It is approximately 4,800 square yards in size.

The public fueling apron is located to the northeast of the general aviation apron, adjacent to Taxiway “A” and the pilots lounge. There is space for temporary aircraft parking, but does not have designated tie-down spaces.



\*Intended for Planning Purposes Only



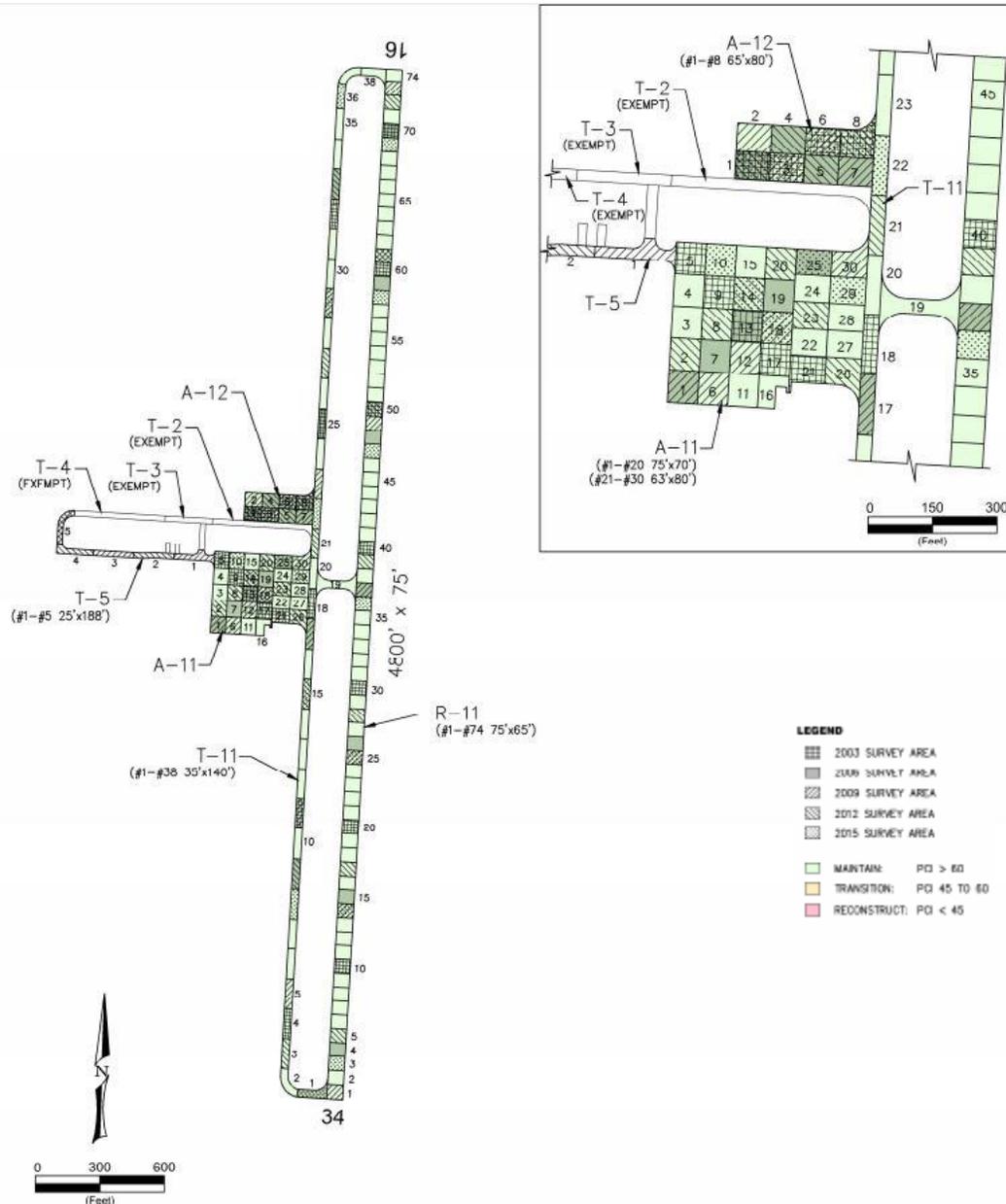
**Ronan Airport  
Exhibit 2-4:  
Pilot Lounge/Hangar Area  
Facilities Map**



## PAVEMENT CONDITION

Airport pavements are basic infrastructure components at airports. Airfield pavements need to be maintained in a safe and operable condition for aircraft operations. Pavement condition is comprehensively evaluated by the State every three years and measured on a 0 to 100 scale known as the Pavement Condition Index rating. Pavement evaluation includes runway, taxiway, and apron pavement. A summary of the latest 2015 PCI rating for the runway and selected other airfield pavements follows.

*Exhibit 2-5 – Pavement Condition Map*



Source: 750 Pavement Condition Report (2015)

Runway 16/34 is in good condition as it received a crack seal in 2013/2014, but it has a PCI of 65. The taxiway and apron areas have PCIs ranging from 72-74 and is considered in good condition. The 2015



Report recommends pavement rehabilitation for the runway, taxiway and apron areas. Excerpts from the 2015 report are found in **Appendix X: Airfield Pavement Condition**.

## ***NAVAIDS & Airspace***

Navigational aids (NAVAIDs) provide visual and electronic guidance to pilots enabling the airport to safely, efficiently and effectively accommodate arriving and departing flights. Airspace is a resource that is necessary to allow flights to safely operate and maneuver in the airport environment. **Exhibit 2-3** identifies visual and electronic navigational aids and weather facilities graphically.

### **VISUAL NAVIGATION AIDS**

Visual aids are installed to provide airport usability during periods of darkness and/or low visibility. Pavement markings and lighting systems available at 750 are summarized in the following sections.

#### **Identification Lighting**

A white-green rotating beacon is a two-sided light used to assist pilots in the visual identification of a civilian airport. The 750 rotating airport beacon is located south of the airport entrance road. It operates sunset to sunrise.

#### **Pavement Edge Lighting**

Runway 16/34 is equipped with Medium Intensity Runway Lighting (MIRL). Lights are in fair condition and were constructed in 1990. Taxiway edge lighting or retro-reflective blue markers are installed on the airfield.

#### **Visual Approach Lighting**

Visual approach lighting provides vertical descent guidance to pilots for a runway end. This navigational aid is used by the pilot to acquire and maintain the correct glide path for landing. The red and white lights emitted are interpreted by the pilot to indicate whether they are too high, too low, or on glidepath. Precision Approach Path Indicator Lights (PAPI) are the current FAA standard equipment installed for this purpose, however other types of equipment exist.

Runway 16 and 34 ends are equipped with a two-box Precision Approach Path Indicator (PAPI-2L) system installed on the left side of the runway with a 3.0 degree glidepath.

#### **Approach Lighting System**

An approach lighting system provides extended runway centerline alignment information near the runway's end for pilots to transition from instrument flight to visual flight for landing in low visibility conditions. There are several types of systems with varying configurations. There is no approach lighting system installed for any runway end at 750.

#### **Pilot-Controlled Lighting**

Airfield lighting systems allow for pilots to control the complexity and intensity of lights. Runway 16/34 is equipped with a pilot-controlled lighting system (PCL) to turn on the lights during the day, or to increase the intensity of runway lights above a standard low-intensity at night. Lights are able to be activated using aircraft radio on the UNICOM frequency designated for the airport.

#### **Pavement Markings**

Pavement markings provide visual guidance to aircraft to critical areas on the runway and taxiway surface. Runway markings vary in complexity depending on the type of approach.

Runway 16/34 is equipped with non-precision runway markings identifying the runway designation, threshold, centerline and aiming point.



Taxiway markings include centerline striping to provide proper clearance from pavement edges and fixed objects. Taxiway centerline striping is in place at 750. There are no enhanced markings in place near intersections with runways, however it is not required for this non-certificated airport.

Runway hold position markings identify the safety setback from active runways in association with airfield guidance signs at non-certificated airports. Hold position markings are installed 200 feet from the centerline of Runway 16/34.

Other markings include aircraft tie-downs.



*Runway 16/34  
Mandatory Guidance*

### **Airfield Guidance Signs**

Guidance signs provide location, direction, and guidance information to pilots on the ground to enhance awareness. Signs are placed around the airfield to identify runway and taxiway intersections, runway hold positions, and other guidance. Mandatory signs are red and identify an intersection with a runway or critical safety zone. Other types of signs include location, direction, destination and distance remaining signs.

Lighted mandatory signs are installed where taxiways meet Runway 16/34.

### **ELECTRONIC NAVIGATION AIDS**

Electronic navigational aids are installed to provide critical guidance information when operating in the airport environment. These navigational aids often provide horizontal and/or vertical guidance in conjunction with published navigation procedures.

#### **Instrument Landing System (ILS)**

An Instrument Landing System is installed for a runway end to allow pilots to capture a horizontal and vertical radio beam to the runway threshold to assist in landing. Components of an ILS include the glideslope antenna, localizer antenna, approach lighting system, and marker beacons. The glideslope antenna is located alongside the runway providing vertical guidance, the localizer antenna is installed beyond the opposite runway end providing horizontal guidance, the approach lighting system provides visual guidance to the runway end, and the marker beacons provide aural cues for pilots flying the approach.

There is no ILS installed for any runway end at 750.

#### **Global Positioning System (GPS)**

GPS is a satellite-based navigation system that allows location to be triangulated from space-based satellites. Equipped aircraft can navigate between user-defined or FAA waypoints with lateral and vertical guidance. With ground-based transmitters known as Wide Area Augmentation System (WAAS) the system can provide accuracy down to a few feet. GPS is widely becoming the preferred aircraft navigation system and FAA is establishing en-route and approach procedures using this satellite-based technology.

GPS is used at 750 in the establishment of straight-in instrument approach procedures with horizontal and vertical guidance to the Runway 16 and 34 ends.

### **METEOROLOGICAL FACILITIES**

Metrological facilities provide users with up-to-date weather information at the airport to aid in pilot decision making for safe flight operations.



## Wind Indicator

Wind direction indicators provide immediate visual indication of the wind direction and velocity. A segmented circle provides a visual indication of the wind cone area together with runway alignment and/or traffic pattern information.

A lighted windcone with a segmented circle providing runway centerline reference information is installed in the center of the airfield, located 450 feet east of Runway 16/34 centerline. There are no other supplemental wind cones installed.

## Weather Reporting

There are two types of weather reporting systems on an airport. Automated Surface Observation Systems (ASOS) are operated and controlled by the National Weather Service and FAA. These primary climate stations have equipment that provide weather observations every minute. A second-tier Automated Weather Observation System (AWOS) have varying sets of equipment packages to provide local weather observations.

750 has a SuperAWOS system that was install in 2007; it is not currently certified by the FAA and is expected to be replaced in the next few years.

## CLIMATOLOGICAL DATA

Ronan is located within a humid continental climate zone with mild summers and cold winters. From 1981-2010 the Ronan the average annual temperature is 45.65 degrees Fahrenheit with annual precipitation of 15.54 inches of precipitation with 33 inches of snowfall. The annual high temperature average is 57.6 degrees and the annual low temperature average is 36.1 degrees.

Local weather conditions are a significant factor in the design and development of airport facilities. Temperature affects runway length, wind direction and speed affect runway orientation, and visibility and cloud ceiling conditions affect the need for runway navigational aids and lighting. Over the last 30 years (1981-2010) the average maximum temperature at 750 in the hottest month has been 84.0 degrees Fahrenheit.

Prevailing winds are from the north aligned with the airport's runway configuration. Crosswind or tailwind conditions can be hazardous to aircraft operations if they exceed the operational capabilities of the airplane or flight crew. The current all-weather combined wind coverage of the primary runway exceeds FAA minimum recommendations of 95 percent.

*Table 2-5 – All-Weather Wind Coverage*

Runway	Crosswind Component (Wind Speed)	
	10.5 knots	13.0 knots
Runway 16/34	99.33%	99.64%

Source: [MesoWest](#) data from RONM8 RAWS (2006-2015; hourly)

Pilots are able to fly with visual reference to the ground and other aircraft during most weather conditions. This is known as Visual Meteorological Conditions (VMC). Pilots are required to reference flight instruments and be on a FAA Instrument Flight Riles (IFR) flight plan when the cloud ceiling is less than 1,000 feet above the ground or the flight visibility is less than 3 statute miles. These conditions are known as Instrument Meteorological Conditions (IMC) and require a pilot to be instrument rated. Wind coverage during IMC is evaluated to determine the ideal alignment for instrument approach to an airport's runway. The current IMC wind coverage does achieve 95 percent for the design aircraft on the primary runway.



**Table 2-6 – IMC Wind Coverage**

Runway	Crosswind Component (Wind Speed)	
	10.5 knots	13.0 knots
Runway 16/34	95.79%	97.24%
Runway 16 Only	72.76%	73.55%
Runway 34 Only	77.19%	77.85%

Source: [Airport GIS](#) data from KMSO ASOS (2006-2015)

According to true hourly weather data the airport experiences IFR weather conditions 6.83 percent of the time. The airport has weather conditions below current instrument approach weather minimums a total of 8.26 days per year. This means the airport is not usable for landings when the cloud ceiling is below 400 feet or the flight visibility is less than 1 mile.

**Table 2-7 – Meteorological Analysis**

Weather Condition	Percentage	Days per Year	Hours per Year
VMC	93.17%	340.07	8161.63
Usable IMC	4.57%	16.67	400.08
<b>Usability</b>	<b>97.74%</b>	<b>356.74</b>	<b>8561.71</b>
Below Weather Minimums*	2.26%	8.26	198.29
<b>Total</b>	<b>100.00%</b>	<b>365.00</b>	<b>8760.00</b>

Source: [MesoWest](#) data from KMSO ASOS (2006-2015; hourly), KLJ Analysis

## COMMUNICATION FACILITIES

Communication facilities allow aircraft to transmit and receive clearances to air traffic control to safely and effectively navigate the national airspace system.

### **Local Area**

7S0 is an uncontrolled airport and is not served by a local Air Traffic Control (ATC) tower providing landing and takeoff clearances. Individual aircraft are responsible for announcing their position and stating their intentions over an air-ground Common Traffic Advisory Frequency (CTAF), otherwise known as UNICOM. The CTAF/UNICOM frequency at 7S0 is 122.80 MHz. This system is typical for low activity general aviation airports such as 7S0.



## APPROACH/DEPARTURE PROCEDURES

Aircraft operate under either Visual Flight Rules (VFR) or Instrument Flight Rules (IFR) depending on weather conditions and/or operational standards.

### Visual Approach/Departure Procedures

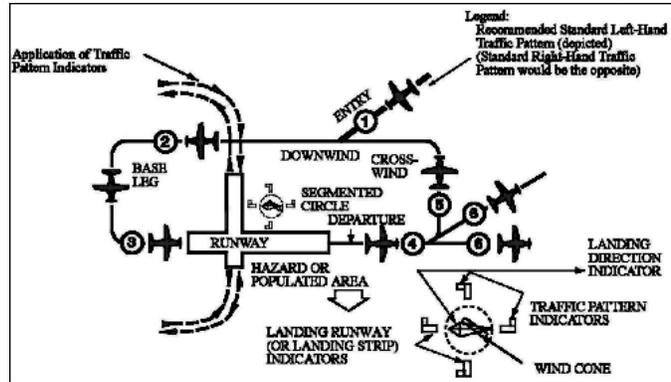
Under VFR, pilots are advised to utilize a standard rectangular traffic pattern around the runway to approach or depart an airport. Standard traffic pattern legs include upwind, crosswind, downwind, base and final.

Departures are typically straight-out from a departing runway, a 90 degree crosswind, or 180 degree downwind. Arrivals typically enter a traffic pattern 45 degrees to a downwind leg for landing.

The traffic pattern at 750 is a left-hand pattern, meaning pilots must make left turns throughout the traffic pattern from each leg. The standard traffic pattern altitude is 1,000 feet above ground level (AGL).

### Instrument Approach Procedures

Pilots operating under IFR intending to land at 750 must navigate aircraft according to published Instrument Approach Procedures (IAP). Four IAPs are available for Runway 16/34 with either ground-based or satellite-based navigational aids. Instrument approach weather minimums are a result of the approach type, airport infrastructure and prevailing airspace obstructions.



*Table 2-8 – Instrument Approach Procedures*

Approach Procedure	Approach Type	Lowest Cloud Ceiling Minimum (HAT)	Lowest Visibility Minimum (n.m.)
RNAV (GPS) RWY 16	Approach with Vertical Guidance	LPV: 357 feet LNAV/VNAV: 357 feet	1 <sup>1</sup> / <sub>4</sub> mile
RNAV (GPS) RWY 34	Approach with Vertical Guidance	LPV: 357 feet LNAV/VNAV: 357 feet	1 <sup>1</sup> / <sub>4</sub> mile

Source: [Aircraft.com](http://Aircraft.com)

Note: HAT = Height Above Touchdown, n.m. = nautical miles (reported), VG = Vertical Guidance, NVG = Non-Vertical Guidance, LPV = Localizer Performance with Vertical Guidance, LNAV = Lateral Navigation, VNAV = Vertical Navigation, \*Assumes Category B approaches

**Appendix X: FAA Airport Publications** contains all charted 750 instrument approach procedures.



## IFR/Obstacle Departure Procedures

Special procedures are published at airports to provide aircraft with adequate obstacle clearance. Examples include increased aircraft climb rates or recommended turns. There are no special IFR or obstacle departure procedures reported for 750.

## AIRSPACE & SURVEILLANCE

### Airspace Classification

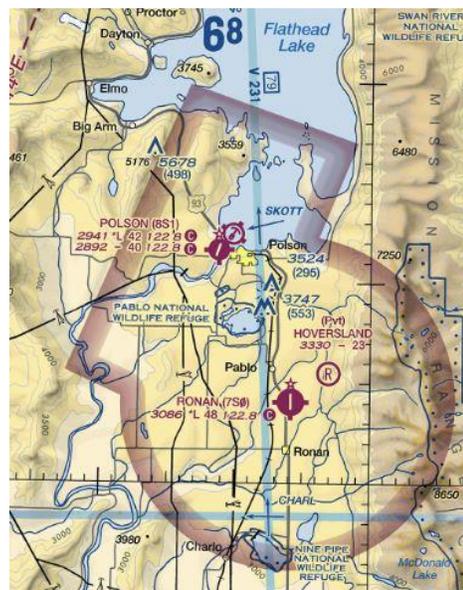
Airspace is segregated into controlled, uncontrolled, special use or other airspace. Each airspace class has different operating rules.

750 is located within controlled Class E Airspace beginning at 700 feet above ground level<sup>2</sup>. This airspace is used to transition between the terminal and en-route environment.

No ATC clearance or radio communication is required for VFR flights in Class E or G airspace. For IFR flights, ATC clearance is required before entering controlled Class E airspace but not uncontrolled Class G.

### Automatic Dependent Surveillance-Broadcast (ADS-B)

ADS-B is a satellite-based surveillance technology in which aircraft transmit GPS position information to other aircraft and to ATC facilities. ADS-B will supplement primary ground-based radar. FAA has required all aircraft operating within airspace requiring a transponder to have ADS-B transmitting equipment installed by the year 2020 as part of the Next Generation Air Transportation System (NextGen) initiative. Various ground stations have been located nationwide to provide ADS-B coverage.



FAA VFR Sectional Chart (Source: Skyvector.com)

The closest ground station to 750 is located at the Missoula International Airport in Missoula, MT approximately 40 nautical miles to the south. ADS-B coverage is estimated to begin at 1,000 feet AGL at 750.

Table 2-9 – Navigational Aid Summary

Component	Runway 16/34
Runway Length	4,800'
Runway Width	75'
Pavement Surface	Asphalt
Pavement Markings	Non-Precision
Runway Lighting	MIRL
Taxiway Lighting	None
Approach Lighting	PAII-2L (16, 34)
Instrument Approach Procedures	GPS 16,34))

Source: [Ainav.com](http://Ainav.com), [FAA Airport Master Record](http://FAA Airport Master Record)

## AIRSPACE OBSTRUCTIONS

### FAR Part 77

Airspace is an important resource around airports that is very important for safe flight operations. There are established standards to identify airspace obstructions around airports. [Title 14 CFR \(Code of](#)

<sup>2</sup> Class G Airspace is in effect until 700 feet above ground level.



Federal Regulations): [Part 77 Safe, Efficient Use, and Preservation of the Navigable Airspace](#) establishes various airspace surfaces in the vicinity of airports. Part 77 is used to determine if an object is an obstruction that penetrates an “imaginary” three-dimensional surface. Surfaces include the primary, approach, transitional, horizontal and conical surfaces each with different standards.

When evaluating objects, the FAA determines whether or not an obstruction is a **hazard** to air navigation. FAA subsequently evaluates the obstruction using more in-depth minimum airspace standards. These include FAA Approach/Departure Surfaces from [FAA AC 150/5300-13A, Airport Design](#) or instrument procedure surfaces identified in [FAA Order 8260.3B, U.S. Standard for Terminal Instrument Procedures \(TERPS\)](#). Corrective action is then recommended. Examples of corrective action include removing, lowering, or obstruction lighting an object.

Clear airspace is necessary for the safe and efficient use of aircraft arriving and departing an airport. Part 77 airspace standards are defined by the most demanding approach to a runway. There are three main approach types:

- **Precision:** A runway having an existing instrument approach procedure utilizing an existing or planned Instrument Landing System (ILS) with horizontal and vertical guidance. Visibility minimums are less than ¾ mile.
- **Non-Precision:** A runway having an existing instrument approach procedure utilizing air navigation facilities with horizontal guidance, or area type navigation equipment, for which a straight-in non-precision instrument approach procedure has been approved or planned. Approaches with vertical guidance are considered non-precision. Visibility minimums are typically 1 mile but as low as ¾ mile.
- **Visual:** A runway intended solely for the operation of aircraft using visual approach procedures, with no straight-in instrument approach procedure published or planned.

There are two runway classifications:

- **Utility:** A runway that is constructed for and intended to be used by propeller driven aircraft of 12,500 pounds maximum gross weight and less.
- **Other-Than-Utility:** A runway that is constructed for and intended to be used by aircraft greater than 12,500 pounds maximum gross weight.

The combination of the approach type and the runway classification defines the dimensional criteria for each approach. The Part 77 airspace dimensional criteria for 750 is identified in the following table.

**Table 2-10 – Existing Part 77 Approach Airspace Standards**

Runway End	Approach Standards	Part 77 Code	Dist. From Runway End	Inner Width*	Outer Width	Length	Slope
16	Non-Precision Other-Than-Utility Greater than ¾ mile	A	200'	500'	3,500'	10,000'	34:1
34	Non-Precision Other-Than-Utility Greater than ¾ mile	A	200'	500'	3,500'	10,000'	34:1

Source: [14 CFR Part 77, FAA Airport Master Record](#)

\*Inner width is also the Primary Surface width driven by the most demanding approach to a runway.

The Montana Aeronautics Division in August 2013 last inspected the airport and reported to FAA that there are no Part 77 obstructions or penetrations.



## FAA Approach/Departure Surfaces

FAA Approach/Departure airspace surfaces identified in Table 3-2 of [AC 150/5300-13A](#) were also reviewed for object penetrations. These airspace protection surfaces are established for runways based on their instrument approach type, visibility minimums and aircraft design category. More detail on these surfaces is provided in **Chapter 4: Facility Requirements.**

The 34:1 approach surfaces for a visual approach for Runway 16/34 are clear of obstruction/penetrations.

## SURROUNDING AIRPORTS

Public use airports in the United States within an approximately 50 nautical mile radius of 7S0 were reviewed to provide background into the other area airports.

*Table 2-11 – Surrounding Public Airports*

Airport Name	FAA ID	Location from 7S0	Based Aircraft	Instrument Approach	Longest Runway
<b>RONAN</b>	<b>7S0</b>	-	<b>27</b>	<b>Yes/GPS</b>	<b>4,800' x 75'</b>
Polson	8S1	8 nm N	31	Yes/GPS	4,195' x 75'
Ferndale	53U	30 nm NE	0	None	3,500' x 95'*
St Ignatius	52S	14 nm S	9	None	2,610' x 60'
Kalispell City	S27	40 nm N	65	Yes/GPS	3,600' x 60'
Missoula International	MSO	40 nm S	134	Yes/ILS	9,501' x 150'
Glacier International	GPI	45 nm N	155	Yes/GPS	9,007' x 150'

Source: [Skyvector.com](#); \*Turf surface

Missoula International Airport in Missoula is located 40 nautical miles south of 7S0 and has an Instrument Landing System (ILS) and runway greater than 9,500 feet in length. Although not ideal over landing at 7S0, MSO serves as a suitable alternate when weather minimums prevent landing at 7S0. MSO is 50 driving minutes from 7S0, and 45 minutes from downtown Ronan according to Google Maps. This drive time assumes no weather or traffic delays.

## **General Aviation**

General Aviation (GA) elements include facilities that serve aeronautical needs of the flying public beyond those needed for commercial airlines. Facilities include those necessary for the movement of passengers as well as parking, service and storage of aircraft. Examples of these facilities include the aircraft storage hangars, aircraft parking apron, arrival/departure building and fixed based operators. A map depicting these GA facilities is shown in **Exhibit 2-4.**

## AIRCRAFT STORAGE HANGARS

7S0 has 27 based aircraft and one helicopter at the airport. All are stored in aircraft storage hangars. Hangar facilities consist of large conventional hangars (greater than 10,000 square feet), small conventional hangars (10,000 square feet or less) and nested “T” hangars. The hangar area is located north of Rosebud Lane (airport access road).

Below is a table showcasing the aircraft storage hangars at the Airport.



*Typical Hangar Building*



Table 2-12 – Aircraft Storage Hangars

Facility Number	Area	Facility Type	Dimensions (Area)
1	North of Main Apron Area	Private Conventional Hangar	50' x 40' (2,000 SF)
2	North of Main Apron Area	Private Conventional Hangar	50' x 45' (2,250 SF)
3	North of Main Apron Area	Private Conventional Hangar	50' x 50' (2,500 SF)
4	North of Main Apron Area	Private Conventional Hangar	55' x 50' (2,750 SF)
5	North of Main Apron Area	Private T-Hangar (4 units)	110' x 60' (6,600 SF)
6	North of Main Apron Area	Private Conventional Hangar	60' x 50' (3,000 SF)
7	North of Main Apron Area	Private T-Hangar (6 units)	155' x 60' (9,300 SF)
8	West of Secondary Apron Area	Private Conventional Hangar	40' x 30' (1,200 SF)
9	West of Secondary Apron Area	Private Conventional Hangar	50' x 50' (2,500 SF)
10	West of Secondary Apron Area	Private Conventional Hangar	50' x 50' (2,500 SF)
11	West of Secondary Apron Area	Private Conventional Hangar	50' x 50' (2,500 SF)
12	West of Secondary Apron Area	Private Conventional Hangar	60' x 50' (3,000 SF)
13	West of Secondary Apron Area	Private Conventional Hangar	55' x 50' (2,750 SF)
14	West of Secondary Apron Area	Private Conventional Hangar	60' x 50' (3,000 SF)
15	West of Secondary Apron Area	Private Conventional Hangar	50' x 40' (2,000 SF)
16	West of Secondary Apron Area	Private Conventional Hangar	50' x 50' (2,500 SF)
17	West of Secondary Apron Area	Private Conventional Hangar	50' x 50' (2,500 SF)
18	West of Secondary Apron Area	Private Conventional Hangar	50' x 50' (2,500 SF)
19	West of Secondary Apron Area	Private Conventional Hangar	60' x 50' (3,000 SF)
20	South of Main Apron Area	Private Conventional Hangar	100' x 65' (6,500 SF)
<b>Conventional Hangars</b>			<b>48,950 SF</b>
<b>T-Hangars (10 units)</b>			<b>15,900 SF</b>
<b>TOTAL</b>			<b>64,850 SF</b>

Source: Google Earth Imagery (2015), KLJ Analysis

### AIRCRAFT PARKING APRON

There are two public aircraft parking aprons at 750. Locations are identified in **Exhibit 2-4: Terminal/Hangar Area Facilities Map**. Apron areas serve the loading, unloading and parking needs for general aviation.

The general aviation apron is the primary aircraft parking apron at 750 serving the based aircraft and transient parking needs and main hangar. It is located to the west of the Runway 16/34 providing space for aircraft parking and maneuvering. The apron is approximately 17,225 square yards in size and made of an asphalt surface with an estimated pavement strength of 20,000 pounds. There are 32 striped aircraft tie-downs for small aircraft parking (Group I) and 3 larger aircraft (Group II) tie-down spots. The north-south access taxilane is designed for FAA Design Group II aircraft up to 79-foot wingspan. There is one entry and exit point requiring aircraft to perform a turnaround when exiting the apron area.

The north apron is separated from the general aviation apron by a row of conventional hangars. It is approximately 4,800 square yards in size.

The public fueling apron is located to the northeast of the general aviation apron, adjacent to Taxiway “A” and the pilots lounge. There is space for temporary aircraft parking, but does not have designated tie-down spaces.



## PILOTS LOUNGE

The pilots lounge is located in the south of the apron. It is accessed via the main airport access road. The building is 25' x 25' in size for a total of 625 square feet. The building has a small kitchen area, snack area, pilot work station, and a conference room.



*Pilots Building*

## FIXED BASE OPERATORS

Fixed Base Operators (FBOs) are commercial businesses that providing multiple aviation services to the public, primarily for general aviation. Specialized Aviation Service Providers (SASOs) are commercial aviation businesses providing one or a few services. There are currently no FBOs or SASOs at 750

## **Support Facilities**

Support facilities are necessary to facilitate the day-to-day maintenance and operation of the airport. A map depicting these facilities is shown in **Exhibit 2-4**.

## AIRPORT ADMINISTRATION

There are no separate airport administration facilities at 750. The pilots lounge contains workspace.

## AIRPORT MAINTENANCE

There airport maintenance building is located the airport access road and is 40' x 50' in size. The Airport has one dedicated snow plow as listed below:

- 2005 Freightliner M2 Airport Plow Truck & Plow (Fair Condition; FAA/State/City funded)
- (1975-1981)Ford Tractor Model 7600
- 2013 Kubota Kommander Lawn Mower Model #ZG127E
- 1988 Ford Escort (loaner car)
- 1993 Ford Explorer XLT

## FUELING FACILITIES

The airport currently offers 100 LL AvGas and Jet A fuel in underground storage tanks. The self service fueling area is located on the south side of the apron, near the pilot's lounge.



*Self-Fueling Area*

## FENCING & SECURITY

A 4-foot high, five-strand barbed wire fence outlines the perimeter of the airport property. Although the terminal area is gated, there is unrestricted access from the entrance road to the apron area and fueling area.

## **Ground Access, Circulation & Parking**

These facilities provide vital connectivity within the airport facility and from the airport to the surrounding community. Facilities are depicted in **Exhibits 2-3 and 2-4**.



## GROUND ACCESS & CIRCULATION

Ronan Airport is located east of Highway 93. Old Highway 93 provides local access between Highway 93 and the main airport entrance. The vehicle parking area is located adjacent to the main apron area. Old Highway 93 is a paved, two-lane roadway; roadways and parking areas within airport property are a mix of asphalt and gravel surfaces. There are no on-airport perimeter roadways.

## AUTOMOBILE PARKING

There is an automobile parking area located just east of the main apron. Parking spaces are unmarked; the parking area is approximately 750 square yards. Unmarked automobile parking is also located in front of and to the side of the pilots lounge and adjacent to each private hangar.

## **Other**

### CONSOLIDATED SALISH KOOTENAI TRIBE (CSKT)

The Consolidated Salish-Kootenai Tribe (CSKT) has developed a Tribal Fire Fighting Base adjacent to airport property, north of the terminal area. The CSKT Fire Base includes a large administrative building, and several other smaller buildings for equipment storage and maintenance.



### UTILITIES

The following utility infrastructure is available at the airport to serve facility demands:

- **Water:** Water is currently being supplied from a well northwest of the existing SRE building. New hangar development projects will include the extension of water mains to the new areas.
- **Wastewater:** Wastewater is collected and treated by a septic tank and released to a drain field. New hangar development projects will require separate septic tank and drain field systems.

### AIRPORT COMPLIANCE

The City of Ronan and Lake County dedicates airport property for aeronautical use. Any use of airport property should be evaluated for compatibility with the airport's planned development and [FAA grant assurances](#).

Airport compliance issues including status of FAA approval and steps for airport to achieve compliance with FAA grant assurances per [FAA Order 5190.6B](#), [FAA Airport Compliance Manual](#) is identified in **Chapter 4: Facility Requirements**.

## Surrounding Land Use

### ***Background***

The effect of airport planning decisions extends well beyond the airport property boundary. The land uses that surround the airport must be evaluated to help determine the impact of airport planning decisions.

Compatible land uses are defined as those uses that can coexist with a nearby airport without either constraining the safe and efficient operation of the airport or exposing people working or living nearby



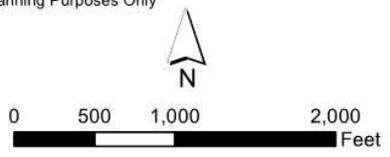
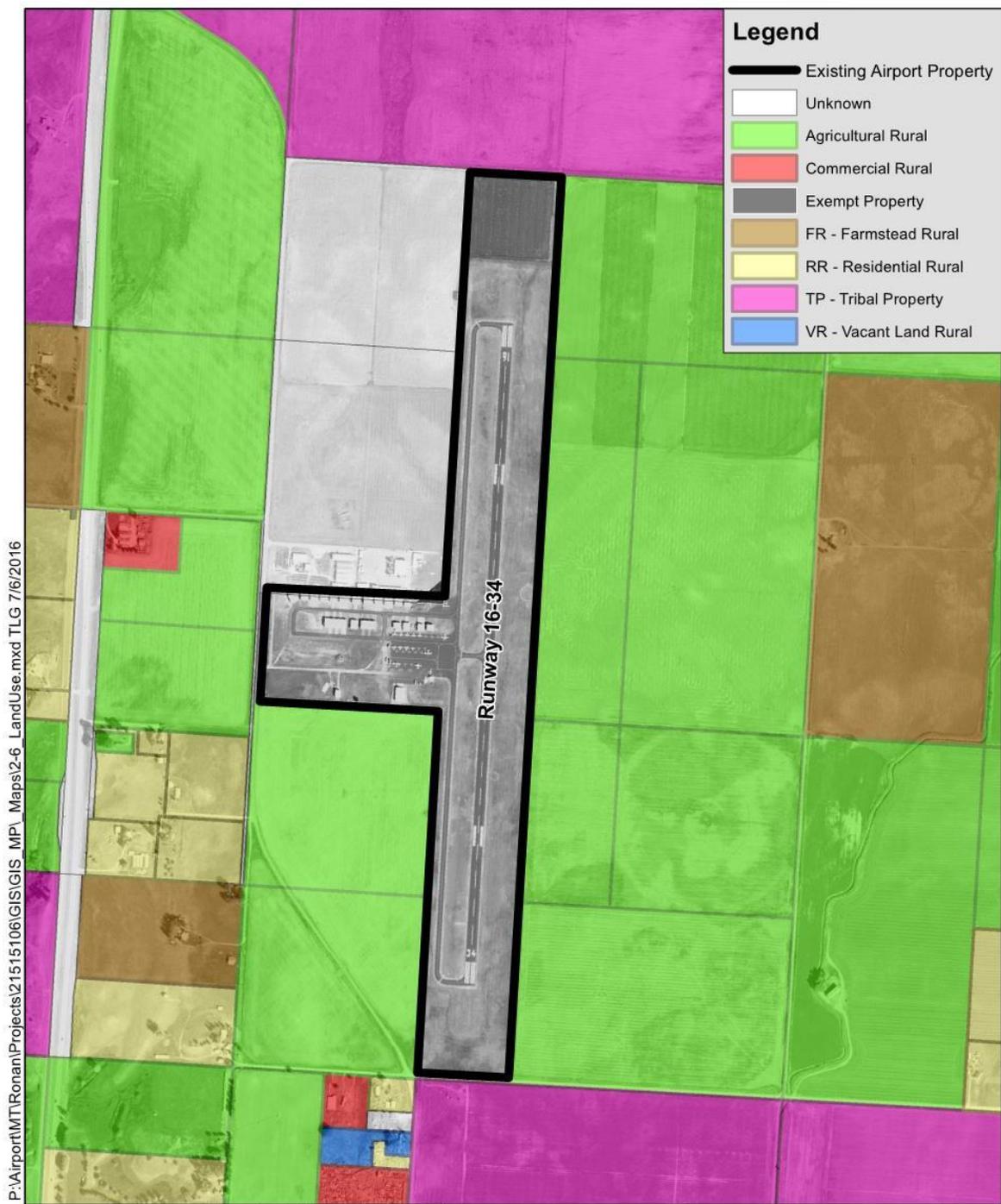
to unacceptable levels of noise or safety hazards. Typical airport land use compatibility elements for GA airports include:

- FAA airspace standards for airport safety and operational capability.
- Land use compatibility near runway ends associated with the FAA Runway Protection Zone (RPZ)
- State or local airport land use standards, if applicable.
- FAA wildlife hazard mitigation plans for aircraft operational safety.

This section provides an overview of existing land uses and plans. Surrounding land uses are depicted graphically in **Exhibit 2-6: Land Use Map**.

### ***Existing Land Uses***

750 is located to the north of the Ronan city limits in Lake County. Airport property is within Section 24 of Lake County. The only adjacent land uses are agricultural in nature. There are no structures within any of the runway protection zones (RPZs), however, Canyon Mill Rd and North Crow Rd are located within RPZs for Runway 34, 16 respectively.



**Ronan Airport  
Exhibit 2-6:  
Surrounding Land Use Map**



## **Land Use Plans**

The 1855 Hellgate Treaty created the 1,316,871-acre Flathead Indian Reservation, which overlaps with approximately two-thirds of Lake County, including the area of the Airport. The reservation was opened to non-native settlement in the early 1900s and since that time, much of the land on the reservation, has left tribal control including most of the land surrounding the Airport. Jurisdiction over land use policy is a major issue in the overlapping territory. Both the lands under Lake County's jurisdiction and the lands under the Confederated Salish & Kootenai Tribes' jurisdiction must be included and treated equally.

Lake County has a staff of three planners, a planning board with nine seats, and a board of adjustment with five seats. The City of Ronan has a zoning ordinance in place and has a seven-member planning board that utilizes Lake County planning staff.

The Lake County Growth Policy was developed in 2003. Within this document (which was an update to the 1988 Lake County General Plan) is a guide to facilitate growth and development in ways that limit the negative impacts of growth.

Chapter 5 of this document discusses the Ronan Airport and discusses the need to “plan to protect the integrity and future expansion capabilities of the airports within Lake County”. At the end of Chapter 5 and contained within Goal 1, it is stated that the County will, “Protect airports from development projects that compromise safety and limit their opportunity to expand. (Airport Influence Zone planning)”.

## **Airport Zoning**

The Lake County Planning Department adopted an updated Ronan Airport Affected Area (2013) Municipal Airport Zoning Ordinance in 2013 (No.12-22). The ordinance regulates and restricts the heights of objects and the use of property in proximity to the airport. The purpose was to help ensure airspace and land uses around 750 meet safety requirements for existing and future airport operations. The ordinance follows the minimum standards identified under Montana Airport Compatibility Act found in Title 67, Chapter 7, Montana Code Annotated (MCA).

A copy of this ordinance along with a summary of the restrictions is contained in **Appendix X: Airport Zoning Ordinance**. Airspace restrictions generally follow those standards identified in FAR Part 77 for the ultimate airport configuration identified in the 2007 ALP. These standards may exceed minimum standards for the existing runway configurations. Regulations are not retroactive, thus non-confirming uses that existed prior to the zoning ordinance may be able to remain.

The Ronan Airport Affected Area (AAA) is located partially within the jurisdictional area of the Lake County Commissioners and partially within the jurisdictional area of the Ronan City Council. The City of Ronan Planning Department shall be responsible for the administration and enforcement of regulations for those affected properties located inside the municipal boundary of the City of Ronan; the Lake County Planning Department shall be responsible for the administration and enforcement of regulations for those affected properties located outside the municipal boundary of the City of Ronan.

The designated AAA lies within the Flathead Indian Reservation, and because Lake County and the City of Ronan have no jurisdiction over land held in Tribal and Individual Tribal Trust status on the Reservation, those Tribal lands that the County and City have no jurisdiction over are exempt from or otherwise not subject to these regulations.



## Financial Overview

Lake County is responsible for supporting the maintenance, operations and capital improvements at 750. A cursory review of the airport's financial structure was completed. The financial overview is important in considering the sponsor's ability to fund future capital improvements.

General aviation airports rely on FAA and State grants to support its operation. Opportunities to maximize airport revenue and reduce expenses is an on-going effort completed by airport management.

### ***Operating Expenses & Revenues***

#### **REVENUES**

Lake County collected approximately \$343,000 in revenue in 2015 (fiscal year) for the Ronan Airport. Airport revenues include:

- Aircraft Fuel Sales (64%)
- FAA & State Grants (15%)
- Taxes (10%)
- Loan Proceeds 5%)
- Landing Fees (3%)
- Land Lease (2%)

#### **EXPENSES**

Lake County incurred approximately \$207,000 in expenses in 2015 for the Ronan Airport. Airport expenses include:

- Aviation Fuel (69%)
- Contracted Professional Services (20%)
- Debt Services (3%)
- Supplies (2%)
- Utilities 1%)
- Salaries (1%)<sup>3</sup>
- Repair and Maintenance (1%)
- Insurance (1%)
- Travel and Purchased Services (1%)

The most significant airport expense is aircraft fuel for resale, professional services, debt service, utilities, repairs and insurance.

### ***Airport Business Model***

Lake County separately budgets and tracks airport revenues and expenses as part of the county's General Fund. These funds are used to support maintenance, operations and the local share of capital improvements. Capital improvements are typically funded through the FAA Airport Improvement Program (AIP), MTDOT Aeronautics State-Aid program, and through the local airport budget.

At the present time, 750 is a financially self-sustaining facility and surplus funds have been reserved for the purchasing of fuel for the next year, upcoming projects and/or maintenance in the future

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<sup>3</sup> Starting in 2016 the airport manager started receiving a monthly paycheck of \$500



## Environmental Inventory

This section provides an overview of environmental conditions and issues at the Ronan Airport and the immediate vicinity. The purpose of this section is to provide a cursory overview of potential or known environmental features which should be considered in the alternatives analysis. This review does not meet the full analytical and procedural requirements associated with the NEPA process. The intent is to assemble readily available information in a systematic manner.

### ***NEPA Process***

A thorough review of the existing environmental conditions provides the foundation to review for potential impacts of airport development actions. Appropriate NEPA documentation in accordance with FAA Order 5050.4B, *NEPA Instructions for Airport Actions*, and FAA Order 1050.1F, *Environmental Impacts: Policies and Procedures*, needs to be conducted prior to commencing with future projects. The following environmental documentation is required for airport actions:

- **Categorical Exclusion (CATEX)** This documentation is used for actions that have a very low potential for environmental impacts. Typical projects that can be covered by a CATEX include planning projects and standard, low-impact development projects such as pavement maintenance or lighting replacement. Documentation required includes the completion of a checklist and supporting information as needed certifying that the project will not exceed applicable environmental impact thresholds.
- **Environmental Assessment (EA)** Typical projects that require an EA are those that are not categorically excluded, and include significant development actions, land acquisition, and runway extensions. Extraordinary circumstances such as wetland impacts, historical properties, or floodplains could also trigger the need to complete an EA. Documentation required includes a more comprehensive environmental review of the proposed action and the potential for impacts resulting from the project. Public and agency review is an important part of the EA process. The primary purpose of the EA is to determine if an Environmental Impact Statement (EIS) is required. If the EA produces a FONSI (Finding of No Significant Impact), an EIS is not required. A FONSI is usually valid for three years.
- **Environmental Impact Statement (EIS)** This is the most comprehensive level of environmental analysis in the NEPA program. Projects that require an EIS include those that will have significant impacts as determined in the EA process. A Record of Decision (ROD) is produced at the end of the process in support of the Final EIS. The EIS is typically valid for a three year period.



## Environmental Features

### DRAINAGE DITCHES & WETLANDS

Drainage at Ronan generally flows from the east to the west. The Airport is relatively flat with an elevation ranging from 3,072 to 3,084 Mean Sea Level (MSL). There are multiple drains located on the Airport to help with drainage.



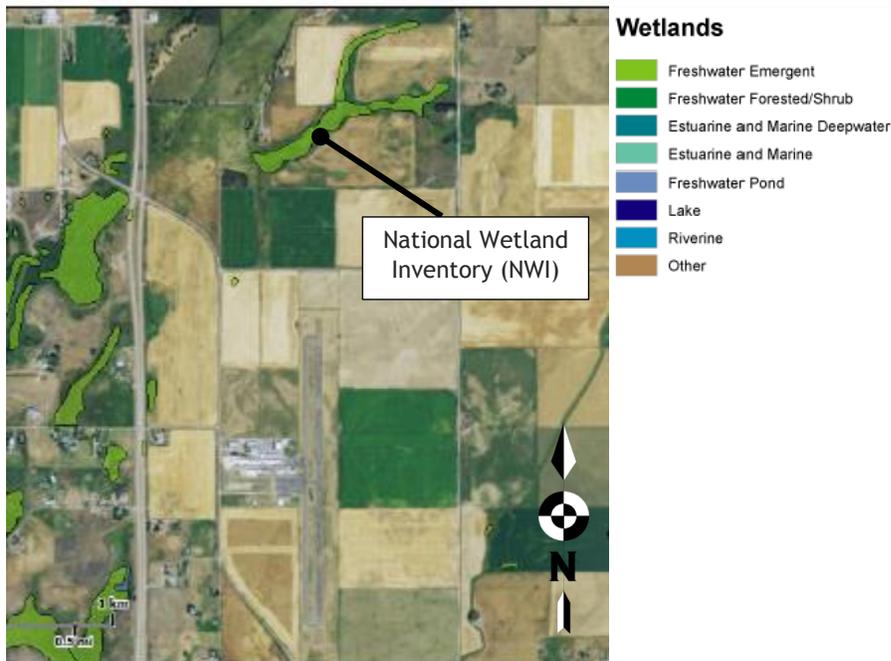
*Airport Drainage Ditches*

An edge drain is located on both sides of Runway 34 and 16, as well as Taxiway A. Any extension of Runway 16-34 and the associated parallel Taxiway A to the north would impact the current ditches and drains along the Runway. As long as the construction does not impact any wetlands a permit will not be required.

There are wetlands in the National Wetland Inventory (NWI) located to the north and the west on Airport property. All wetlands would require delineation to clearly identify their boundaries. In addition to maintaining water quality in rivers and recharging groundwater among other positive benefits, wetlands may have the potential to attract wildlife that can be hazardous to aircraft using the Airport. Potential areas in and around Ronan with wetland characteristics includes land to the east of Runway 16 and 34. **Exhibit 2-7 - National Wetlands Inventory Map** depicts the NWI wetlands.

Projects that result in wetland impacts greater than one half acre of wetlands require a U.S Army Corps of Engineers (USACE) general permit and be reviewed in an EA to complete the NEPA documentation process. A field delineation should be completed and coordination with USACE completed in an EA.

### *Exhibit 2-7 – National Wetland Inventory Map*



Source: [U.S. Fish and Wildlife Service](#)



## FLOOD ZONES

Floodplains constitute lands situated along rivers and their tributaries that are subject to periodic flooding on the average interval of 100 years or less. Airport property is located in an area that has a no chance of flood as shown on the attached FEMA Flood Insurance Rate Map (FIRM) map illustrated in **Exhibit 2-8: FEMA FIRM Maps** (Panels 30047C0780C and 30047C0790C). The airport property is not located in the floodplain or floodway, therefore no further analysis is required.

### *Exhibit 2-8 – FEMA Floodplain Map*



Source: [FEMA ARCGIS Public Map Service](#)

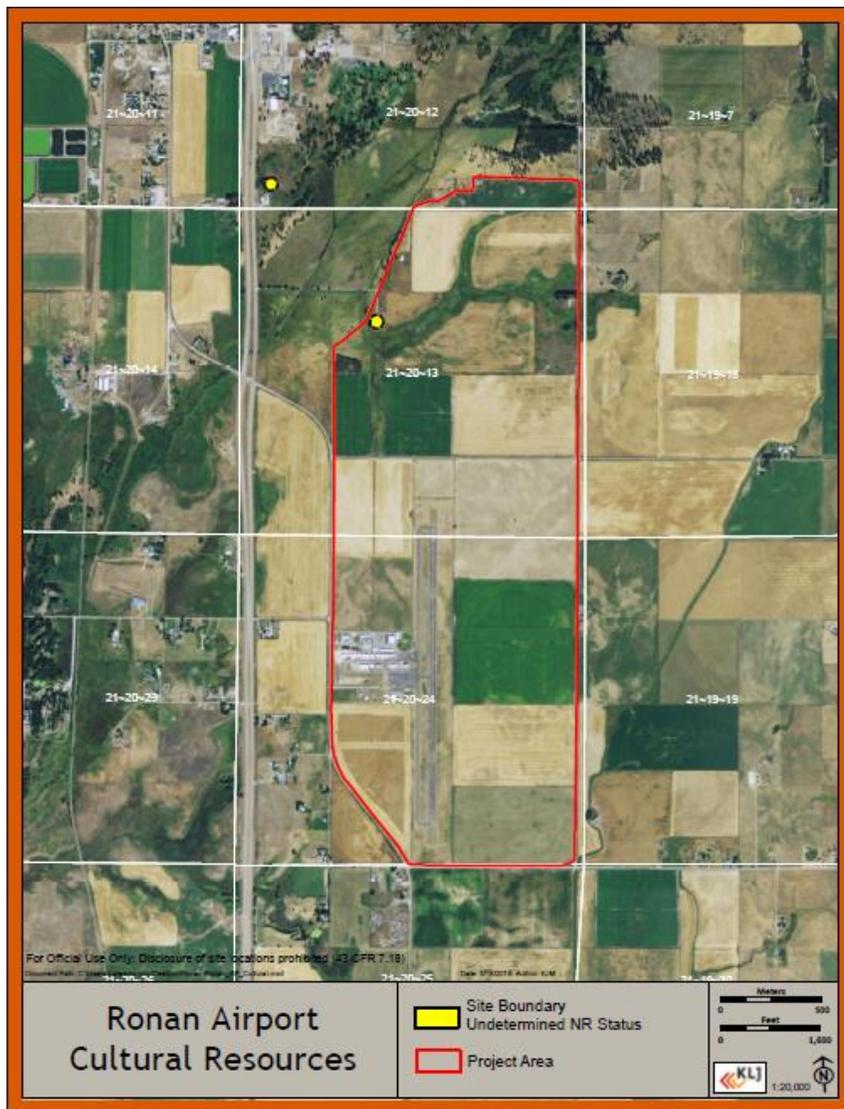


## HISTORIC AND CULTURAL FEATURES

A file search was completed by the Montana State Historical Preservation Office (SHPO) as shown on **Exhibit 2-9 - Ronan Airport Cultural Resources**. There are two archaeological sites or historic structures registered on the National Register of Historic Places (NRHP) within a one mile radius of the Ronan Airport. There is a potential that undiscovered cultural features exist on and around the Airport. Additional research, including a field survey, will be necessary due to Ronan Airport being located on Flathead Indian Reservation.

Projects that involve ground surface disturbance in areas not previously disturbed by the construction of the Airport will also need to be surveyed by a qualified Archeologist and THPO crew chief. A determination of affect to historic properties would need to be obtained from the SHPO and THPO. Resolutions of any adverse effects would need to be coordinated with the SHPO/THPO. Further review regarding potential cultural sites historic properties may be required at the environmental documentation phase.

*Exhibit 2-9 – Ronan Airport Cultural Resources*





## SECTION 4(F)

Section 4(f) is applicable to projects which require the use of publicly-owned land from a public park, recreation area, or wildlife and waterfowl refuge of national, state, or local significance, or land of an historic site of national, state, or local significance.

The closest section 4(f) property is the Silver Fox Golf Course located approximately 0.40 miles north of airport property. The Pablo National Wildlife refuge is located approximately 2.70 miles northwest of the airport and Flathead National Forest is located approximately 7.80 miles east of the airport.

It does not appear that these section 4(f) properties would be impacted by the project, but if they were then coordination with the properties should be conducted early if any of these would be impacted by airport development. Further review regarding potential cultural sites or historic properties may be required at the environmental documentation phase.

## BIOTIC RESOURCES

Biotic resources includes flora and fauna that are present in an area. Ronan Airport is located in the (16j) Flathead Valley ecoregion<sup>(4)</sup>. These valleys are generally characterized by shortgrass prairie vegetation and are flanked by forested mountains (Woods and others, 1999); thus, the valleys' biotas with regards to fish and insects are comparable. Agriculture and modern development have played a role in altering the floral communities as extensive areas have been cleared for farming, grazing, and mining. Today the area contains a mix of native short grass and agricultural fields.



*Airport Setting*

The following is not a complete list of fauna that could be present in the area, it represents the species most likely to be encountered. Lake-nesting birds are present in the surrounding area due to the proximity to the Pablo National Wildlife Refuge; including Canada Geese, swans, and various duck species. Mammals such as the white-tailed deer, moose, coyote, grizzly bear, wolverine, badger, muskrat, mink, and voles are also known to be in the area.

According to the U.S. Fish and Wildlife Services website, federally listed endangered, threatened, proposed or candidate species in Lake County include the: Grizzly Bear, Canada Lynx, Water Howellia, Spalding Campion, Bull Trout, Yellow-billed cuckoo (western population), Wolverine, Whitebark Pine, and the Meltwater Ledian Stonefly.

## NATURAL RESOURCES

Existing operations at the Airport would not cause demands that would exceed available or future natural resource or energy supplies.

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<sup>4</sup> <http://www.plantmaps.com/interactive-montana-ecoregions-l4-map.php>



## OTHER NEPA ELEMENTS

### **Air Quality**

Areas identified by EPA as non-attainment areas may require additional analysis if one (1) or more of the six Ambient Air Quality Standards are exceeded. Ronan Airport is located in a Clean Air Act non-attainment or maintenance area.

The emission inventories at the Airport are at low operation levels and are not likely to produce pollutant discharges high enough to cause degradation to the existing air quality. FAA Air Quality Handbook recommends an air quality analysis if the airport is either a commercial service airport with greater than 1.3 million annual passengers and more than 180,000 general aviation annual operations. The forecasted operations at the Sioux Falls Regional Airport are beneath these levels thus an air quality analysis is not required.

Temporary increases in emissions due to construction will be mitigated through the use of Best Management Practices (BMP's).

### **Farmland**

Impacts to farmlands considered to be prime, unique or statewide or locally important needs to be considered under NEPA. These lands can be used for the production of the Nation's food supply. A search of the USDA Natural Resources Conservation Service (NRCS) web soil survey identified farmlands on-airport and within 1 mile of the airport that are classified as prime farmland, prime farmland if drained, prime farmland if irrigated, and farmland of statewide importance. Further consultation with NRCS is required in a project environmental review stage to calculate the Farmland Conversion Impact Rating to determine if impacts would be significant.



*Agricultural uses north of Runway 16*

### **Hazardous Materials**

If hazardous materials are encountered, project work will be suspended in the impact area and the Montana Department of Environmental Quality (MT DEQ) will be notified within 24 hours. Prior to acquisition of new land to be owned in fee title by an airport sponsor, FAA recommends that an Environmental Due Diligence Audit (EDDA) be performed. An EDDA includes a more detailed review of an area, relative to NEPA-level review, for the possible presence of environmental contamination.

### **Land Use**

FAA typically evaluates land use in terms of compatibility of existing and planned uses in the vicinity of the airport usually associated with the airport's noise impacts. Other land use considerations, including noise, surrounding physical land uses, airport zoning regulations and FAA airport design land use compatibility standards has been previously identified in this Chapter.

### **Noise**

FAA has not required a noise analysis at airports whose forecasted operations do not exceed 90,000 annual propeller operations or 700 annual jet operations. These operations normally result in a cumulative noise exposure to be less than a 65 decibel Day-Night Level (DNL) identified as a critical threshold by FAA to take actions to mitigate sound exposure. Current airport operations at Ronan Airport are below this threshold.



## Solid Waste

The airport has not produced significant amounts of solid waste including garbage, refuse or sludge as compared to the broader community. FAA requires a Solid Waste Management Plan to be developed as part of this Airport Master Plan study. A Solid Waste study is located in **Appendix X: Recycling & Solid Waste Plan**.

## Water Quality

The Federal Water Pollution Control Act, as amended by the Clean Water Act of 1977, provides the authority to establish water quality standards, control discharges into surface and subsurface waters, develop waste treatment management plans and practices, issue permits for discharges (Section 402) and for dredged or fill material (Section 404).

Airport activities can affect water quality. This is mainly due to stormwater runoff from paved areas. Providing treatment for stormwater runoff from runway, taxiway and apron areas through the use of best management practices and grassed swale areas would minimize potential impacts to water quality. Stormwater management will be of particular emphasis with the additional of large expanses of pavements for projects such as expanded aircraft parking/de-icing aprons.

A General Permit for Storm Water Discharges Associated with Construction Activities may be required from the MT DEQ for the proposed improvements if the area of disturbance exceeds one acre. Permit requirements would need to be reviewed during the environmental documentation phase. Further coordination with the MT DEQ may be needed for airport development projects.

## WILDLIFE HAZARD MANAGEMENT

The Airport and the adjacent properties are mostly short grasses and agricultural crop land which are somewhat likely to attract waterfowl, song birds, and mammals of various sizes to them. The Pablo National Wildlife refuge is located approximately 2.70 miles northwest of the airport which may attract waterfowl. Due to the flat terrain, standing water is prevalent after storm events which may additionally attract waterfowl. There are wooded areas located to the west and east of the airport.

The Airport does currently have a 3-wire fence but this does not discourage large mammals from moving across the airport. There is one documented wildlife strikes in the FAA Wildlife Strike Database for the Ronan Airport.

The airport will conduct a wildlife hazard site visit (WHSV) study to evaluate any possible hazards and prepare a wildlife hazard mitigation plan (WHMP). These studies will be completed by a qualified airport wildlife biologist.

## Socioeconomic Data

Historic socioeconomic data provides a foundation for evaluating the nature of airport community. For purposes of this Master Planning analysis, Lake County has been determined to represent the local airport service area.

### *Population*

The City of Ronan has an estimated population of 1,981 with Lake County having an estimated population of 29,457 as of July 1, 2015<sup>5</sup>. Lake County is not located within a metropolitan or metropolitan statistical area. Lake County has a steady population with an average annual growth rate

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<sup>5</sup> [American Fact Finder, U.S. Census Bureau \(2015\)](#)



of 1.35 percent since 1990. This compares to a Montana statewide population growth rate of 1.03 percent.

**Table 2-13 – Population Summary**

Year	City of Ronan	Lake County	Montana	United States
1990	1,547	21,041	799,065	248,709,873
2000	1,812	26,507	902,195	281,421,906
2010	1,871	28,746	989,415	308,745,538
2015 (est.)	1,981	29,457	1,032,949	321,418,820
Annual Growth Rate	0.99%	1.35%	1.03%	1.04%

Source: [U.S. Census Bureau](#)

## **Income**

Per Capita Personal Income (PCPI) in 2014 for Lake County is \$31,460 in 2014 dollars, which is 24 percent less than the statewide average and nearly 34 percent below the United States average.

**Table 2-14 – Per Capita Personal Income**

Year	Lake County	Montana	United States
1990	\$13,394	\$15,533	\$19,354
2000	\$19,242	\$23,594	\$30,319
2009	\$26,379	\$33,627	\$39,791
2014	\$31,460	\$39,303	\$46,411
Annual Growth Rate	3.47%	3.78%	3.56%

Source: *Bureau of Economic Analysis (20014 Dollars)*

## **Employment**

Industrial and manufacturing activity, while increasing in Lake County, has traditionally struggled as a major industry. Light manufacturing plants provide a steadily increasing number of jobs, especially with the emergence of a new technology company in Ronan (CORE Motion) that has reenergized the sector with the development of a revolutionary gasless motor concept that is applicable to a wide variety of products from hedge trimmers to wind mills and beyond.



**Table 2-15 – Lake County Employment (2015)**

Industry	Employment	Earnings (in millions)
State and Local Government	2,982	\$148.708
Retail Trade	1,500	\$36.072
Health Care and Social Assistance	1,428	\$55.831
Farm	1,296	\$4.946
Construction	999	\$34.702
Other Services, Except Public Administration	869	\$11.267
Accommodation and Food Service	764	\$36.072
Real Estate and Rental and Lease	670	\$4.032
Manufacturing	618	\$20.281
Professional and Technical Services	578	\$18.049
Finance and Insurance	417	\$10.731
Administrative and Waste Services	326	\$5.33
Arts, Entertainment and Recreation	251	\$1.932
Forestry, Fishing, Related Activities and Other Employment	226	\$5.208
Transportation and Warehousing	211	\$4.139
Information	171	\$9.852
Wholesale Trade	164	\$5.923
Federal Military	147	\$6.866
Educational Services	129	\$1.458
Mining	107	\$2.556
Utilities	99	\$11.534
Federal Civilian Government	75	6.120
Management of Companies and Enterprises Employment	58	1.54
<b>All Industries</b>	<b>100% (14,085)</b>	<b>100% (\$424.627)</b>

Source: Woods & Poole Economics (2009 dollars)

**Table 2-16 – Lake Area Private Major Employers**

Employer Name	Industry	Number of Employees
<b>Lake County</b>		
St. Luke Community Hospital	Health Care	250-499
St. Joseph Hospital	Health Care	100-249
Super 1 Foods	Retail Trade	100-249
Wal-Mart	Retail Trade	100-249
Mission Mountain Enterprises	Education	100-249
Jore Corporation	Manufacturing	100-249
Ashley Martin Manufacturing	Manufacturing	50-99
Community Bank	Retail Trade	50-99
Mission Valley Power	Utilities	50-99
Safeway	Retail Trade	50-99
Home Caregivers Inc	Health Care	50-99

Source: Source: Montana Department of Labor and Industry, Quarterly Census of Employment of Wages (QCEW) Program. This list ONLY includes industry employers subject to unemployment insurance. Railroads, tribal entities, and government agencies are excluded (2012).

Total employment has stayed relatively comparable with the state and national growth rates.



**Table 2-17 – Total Employment**

Year	Lake County	Montana	United States
1990	9,318	433,400	138,331,100
2000	13,789	552,934	165,371,000
2010	13,551	613,635	173,626,700
2014 (est)	14,085	643,412	183,038,000
Annual Growth Rate	1.67%	1.59%	1.07%

Source: Woods & Poole Economics, Bureau of Economic Analysis

## Retail Sales

Retail sales is an economic indicator of vitality. Lake County, has seen retail sales matching growing to more than double over the past 20 years. These rates are comparable to statewide and national averages.

**Table 2-18 – Retail Sales (in millions)**

Year	Lake County	Montana	United States
1990	\$163.139	\$8,741.068	\$2,803,666
2000	\$251.878	\$12,761.602	\$3,902,969
2010	\$295.542	\$15,421.953	\$4,149,070
2014	\$315.393	17,486.133	\$4,617,326
Annual Growth Rate	2.67%	3.61%	2.10%

Source: Woods & Poole Economics (2009 dollars)

## Conclusion

The information collected and documented in this Inventory chapter provides a baseline foundation to update the Ronan Airport long-range plan. This information will feed into future sections to determine how facilities will meet the projected airport needs based on aviation activity forecasts.