# 2.0 INVENTORY

## 2.1 AIRPORT REFERENCE CODE & AIRCRAFT GROUPINGS

The Federal Aviation Administration (FAA) classifies airports in the United States with a coding system known as the Airport Reference Code (ARC). This classification helps apply design criteria appropriate to operational and physical characteristics of the aircraft types operating at the Airport. The ARC is made up of two separate components: the Aircraft Approach Category and the Airplane Design Group (ADG[2]).

The Aircraft Approach Category is an alphabetical classification of aircraft based upon 1.3 times the stall speed in a landing configuration at their maximum certified landing weight. The approach category for an airport is determined by the approach speed of the fastest aircraft that operates at the airport at least 500 times per year, with Category A being the slowest approach speed and E being the fastest. Approach Categories are summarized in **Table 2-1**.

TABLE 2-1 – AIRCRAFT APPROACH CATEGORY

| Approach Category | Approach Speed |
|---|---|
| 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 |

*Source: FAA AC 15/5300-13A, Airport Design*

The ADG is a numerical classification of aircraft based on wingspan or tail height. If an airplane's wingspan and tail height are in two categories, the most demanding category is used. Similar to the approach category, the ADG for an airport is determined by the largest aircraft operating at least 500 times per year at the facility. For airports with multiple runways, the published ARC is based on the most demanding runway design group. ADG classifications are summarized in **Table 2-2**.

TABLE 2-2 – AIRPLANE DESIGN GROUP (ADG)

| Group # | Tail Height (ft) | 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 15/5300-13A, Airport Design*

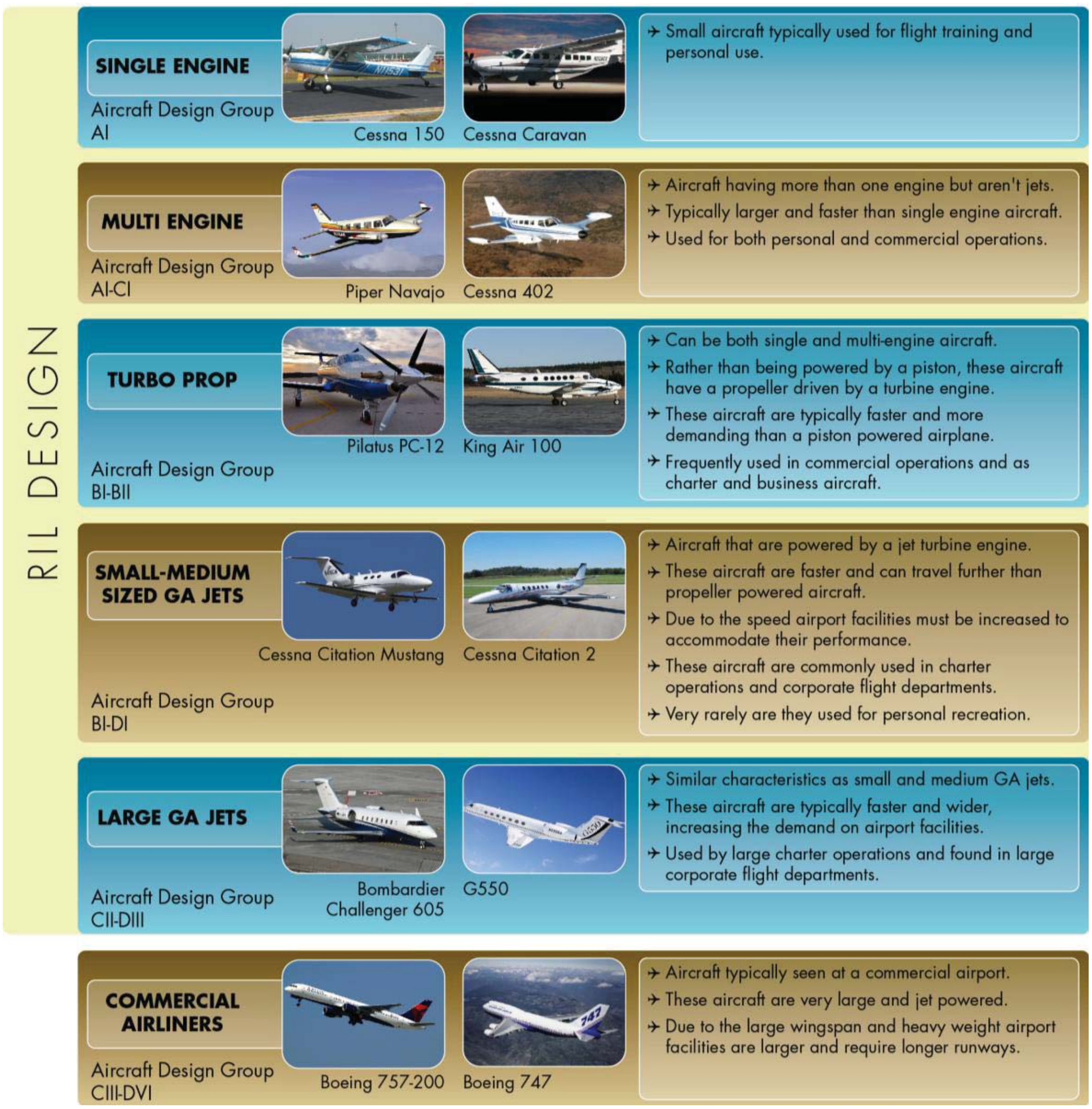
Rifle Garfield County Airport (RIL) recently completed a major airfield improvement project which included upgrading the runway and associated taxiway system from B-II to D-II. This allows the Airport to

[2] Definitions are also found in Appendix A, *Aviation Glossary of Terms*.

serve aircraft that have a faster approach speed, and include the larger General Aviation (GA) business jets like the Gulfstream 550.

In addition to ARC, family groupings of aircraft are also used to assist an airport in determining runway length requirements, pavement design, and facility requirements. **Figure 2-1** summarizes typical aircraft groupings, ranging from small single engine aircraft to large commercial airlines. RIL regularly services aircraft in every aircraft grouping, save for commercial airlines. As such, facilities are designed to accommodate the most demanding aircraft grouping, large GA Jets, which includes ADG D-III aircraft.

FIGURE 2-1 – AIRCRAFT GROUPINGS




*Source: Jviation, Inc.*

## 2.2 AIRPORT REFERENCE POINT (ARP)

The Airport Reference Point (ARP) is the latitude and longitude of the approximate center of the runway(s) at an airport. The current ARP is located at a Latitude of 39˚31'35.800" north and Longitude of 107˚43'40.80" west. The established airport elevation, which is defined as the highest point on an airport's runway(s) is 5,537 feet above mean sea level (MSL), and is located at the end of Runway 26.

## 2.3 RUNWAY BEARING AND MAGNETIC DECLINATION

Aircraft compasses and runway identifiers utilize magnetic north for directional guidance. For this reason, it is important to evaluate an airport's runway numerals every few years to ensure that the numbers painted on the runway accurately represent the current magnetic heading. Declination must be applied to a compass to accurately determine a true north heading since global magnetic forces are constantly shifting. According to the National Geophysical Data Center[3], as of January 2013, the current declination for Rifle is 10 ° 3' 55" and is changing by 7.8' west per year. The current true bearing for Runway 8/26 is 88° 26' 34.2" with a magnetic declination of 78° 23' 45.2" for Runway 8, and 258° 24' 42.0" for Runway 26.

## 2.4 METEOROLOGICAL DATA

### 2.4.1 WEATHER OBSERVATION EQUIPMENT

An Automated Surface Observing System (ASOS) is located on the airfield and transmits weather reports via radio frequency 132.575 MHz. Weather reported by the ASOS includes temperature, dew point, wind speed and direction, visibility, cloud coverage, and ceiling. The ASOS also has the ability to report precipitation, the presence of thunderstorms, and altimeter settings. This data aids pilots with safe navigation to, and in the vicinity of, the Airport.

### 2.4.2 WIND COVERAGE

Wind conditions are particularly important for runway use at an airport. Each aircraft has an acceptable crosswind component for landing and takeoff. The crosswind component is a calculation of the speed of wind at a right angle to the runway centerline. When the acceptable crosswind component of an aircraft is exceeded, the aircraft must divert to another runway or a different airport. Maximum allowable crosswind is determined by Runway Design Code (RDC), a summary of the maximum allowable crosswind component is summarized in **Table 2-3**.

Per FAA Advisory Circular (AC) 150/5300-13A, *Airport Design*, when the current runway(s) provide less than 95% wind coverage for aircraft that use an airport on a regular basis, a crosswind(s) runway should be considered[4]. Wind speeds of 10.5, 13, 16, and 20 knots were analyzed to determine allowable crosswind components at RIL.

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[3] http://www.ngdc.noaa.gov/geomag-web/#declination

[4] Federal Aviation Administration. (2012). Airport Design (AC 150/5300-13 A). Chapter 3. Section 302. Paragraph 3. p. 44

Wind data listed on the current approved 2010 ALP and used for the runway realignment project in 2010 is also used for this Master Plan. Data was obtained from the National Climatic Data Center (NCDC) for Rifle Garfield County Airport for the 1993-2002 time periods.

This data indicates that during "All Weather" conditions, the runway orientation for Runway 8/26 provides 96.75% coverage for a 10.5 knot crosswind, 98.21% coverage for a 13 knot crosswind, 99.31% coverage for a 16 knot crosswind, and 99.79% coverage for a 20 knot crosswind. "All Weather" includes data for winds present during all types of weather conditions. Data was analyzed for Instrument Flight Rules (IFR) conditions, which determined the current runway orientation; it provides 97.02% coverage for a 10.5 knot crosswind, 98.22% coverage for a 13 knot crosswind, 99.17% coverage for a 16 knot crosswind, and 99.71% coverage for a 20 knot crosswind.

The FAA "All Weather" and IFR weather wind roses are depicted in **Figure 2-2** and **Figure 2-3** on the following pages. As shown by this data, greater than 95% coverage is provided across all categories.

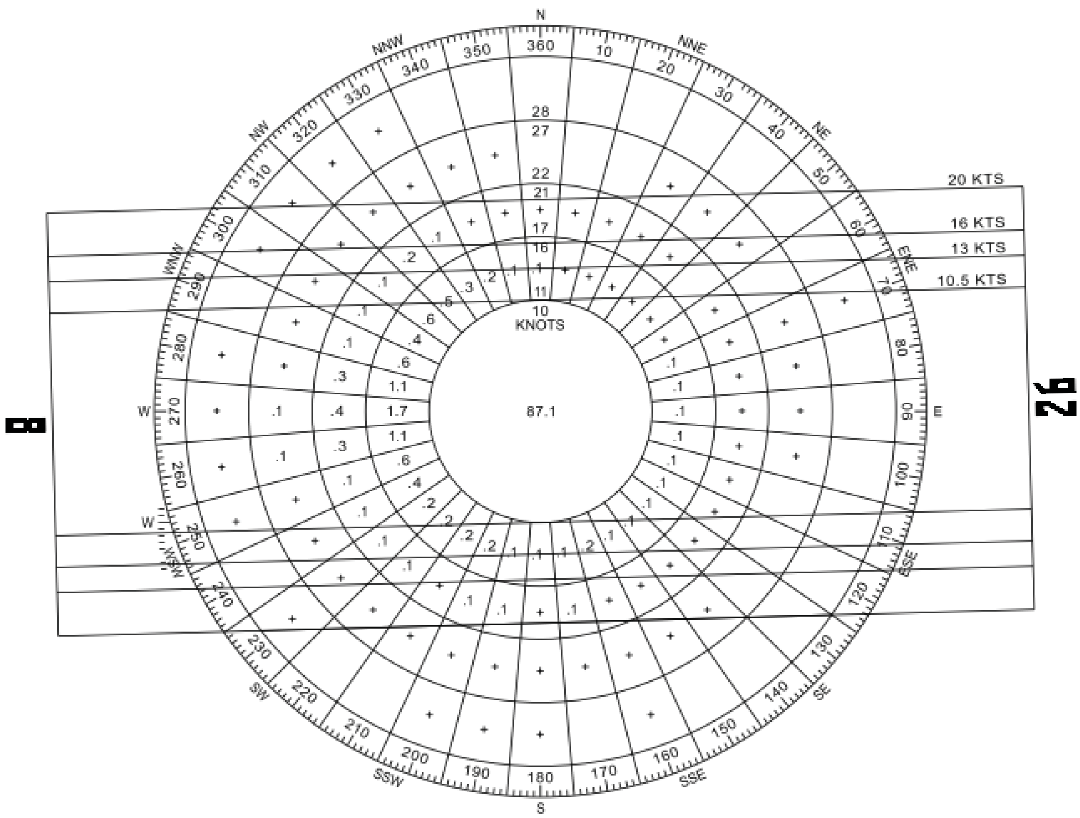
TABLE 2-3 – ALLOWABLE CROSSWIND COMPONENT PER RUNWAY DESIGN CODE (RDC)

| | Runway Design Code | Allowable Crosswind Component |
|---|---|---|
| RIL | A-I and B-I | 10.5 knots |
| RIL | A-II and B-II | 13 knots |
| RIL | A-III, B-III<br>C-I through D-III<br>D-I through D-III | 16 knots |
| | A-IV and B-IV<br>C-IV through C-VI<br>D-IV through D-VI | 20 knots |
| | E-IV through E-VI | 20 knots |

*Source: FAA Advisory Circular 5300-13A*[5]

[5] Federal Aviation Administration. (2012). *Airport Design* (AC 150/5300-13A), Chapter 3. Runway Design. Table 3-1. p. 44

FIGURE 2-2 – ALL WEATHER WIND ROSE



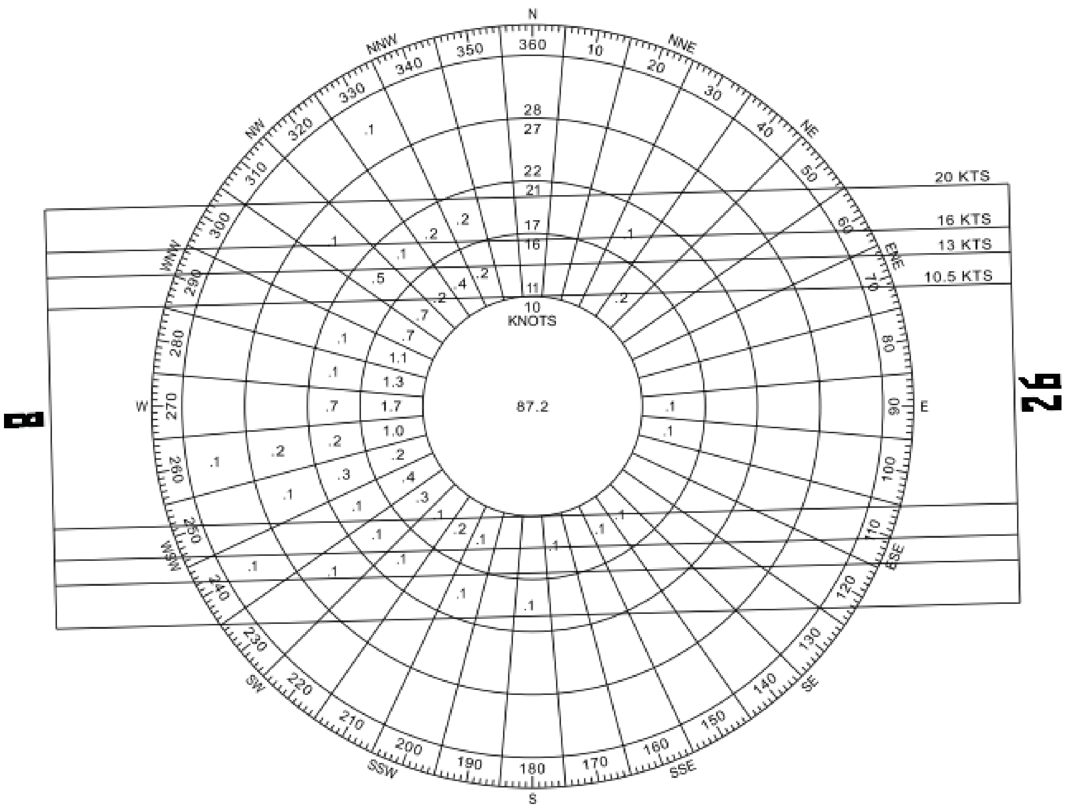

| WIND COVERAGE | RUNWAY 8/26 | | |
|---|---|---|---|
| | WIND SPEED | EXISTING | FUTURE/ULTIMATE |
| | 10.5 KNOTS | 96.87% | 96.75% |
| | 13 KNOTS | 98.27% | 98.21% |
| | 16 KNOTS | 99.33% | 99.31% |
| | 20 KNOTS | 99.80% | 99.79% |

**VFR WIND ROSE**

DATA SOURCE: NATIONAL CLIMATIC DATE CENTER, ASHVILLE, NORTH CAROLINA
STATION LOCATION: GARFIELD COUNTY REGIONAL AIRPORT, COLORADO
PERIOD: 1993-2002

*Source: NCDC; Image: Jviation, Inc.*

FIGURE 2-3 – IFR WIND ROSE




| WIND COVERAGE | RUNWAY 8/26 | | |
|---|---|---|---|
| | WIND SPEED | EXISTING | FUTURE/ULTIMATE |
| | 10.5 KNOTS | 97.13% | 97.02% |
| | 13 KNOTS | 98.37% | 98.22% |
| | 16 KNOTS | 99.16% | 99.17% |
| | 20 KNOTS | 99.71% | 99.71% |

**IFR WIND ROSE**

DATA SOURCE: NATIONAL CLIMATIC DATE CENTER, ASHVILLE, NORTH CAROLINA
STATION LOCATION: GARFIELD COUNTY REGIONAL AIRPORT, COLORADO
PERIOD: 1993-2002

*Source: NCDC; Image: Jviation, Inc.*

## 2.4.3 TEMPERATURE

Rifle, Colorado is subject to occasional seasonal extremes due to its location in a mountain climate. However, these extremes are moderated by the fact that the area is sunny 71% of the year. The mean maximum temperature of the hottest month, referred to as the airport reference temperature, occurs in July with a temperature of 90.9°F. **Table 2-4** lists the average maximum, minimum, and average temperatures for all 12 months, as well as an annual summary.

TABLE 2-4 – RIFLE GARFIELD COUNTY AIRPORT TEMPERATURE SUMMARY

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Ann. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Av. Max. °F | 35.8 | 42.4 | 53.3 | 62.7 | 73.4 | 85.0 | 90.9 | 87.9 | 78.0 | 64.3 | 48.0 | 35.8 | 63.2 |
| Mean. °F | 24.0 | 30.7 | 39.6 | 47.9 | 56.5 | 66.2 | 72.7 | 70.4 | 61.2 | 48.9 | 35.6 | 25.0 | 48.3 |
| Av. Min. °F | 12.2 | 18.9 | 25.9 | 33.1 | 39.7 | 47.4 | 54.6 | 52.9 | 44.4 | 33.6 | 23.2 | 14.3 | 33.4 |

*Source: NOAA National Climatic Data Center, 181-2010 Climate Normals*

### 2.4.4 PRECIPITATION

September is typically the wettest month in Rifle, receiving 1.45 inches of precipitation, while annual precipitation is 13.4 inches on average as shown in **Table 2-5**. Given its location in the mountains, Garfield County receives an average of 38.5 inches of snowfall annually. The snowiest months are in December and January when 11 inches of snow fall on average.

TABLE 2-5 – RIFLE GARFIELD COUNTY AIRPORT PRECIPITATION SUMMARY

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sept | Oct | Nov | Dec | Ann. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Precip Av. (in.) | .77 | .94 | 1.01 | 1.26 | 1.29 | .89 | 1.22 | 1.15 | 1.45 | 1.40 | 1.16 | 0.93 | 13.4 |
| Snow Av. (in.) | 11.0 | 7.6 | 3.7 | .8 | .0 | .0 | .0 | .0 | .0 | .5 | 3.7 | 11.1 | 38.5 |

*Source: NOAA National Climatic Data Center, 181-2010 Climate Normals*

## 2.5 HISTORICAL AVIATION ACTIVITY

### 2.5.1 OPERATIONS AND BASED AIRCRAFT

Current estimated activity at RIL is 11,057 annual operations (take-offs and landings). There are 69 based aircraft, which consists of GA aircraft ranging from small single engine piston aircraft up to large GA Jets. **Table 2-6** provides a summary of the total of aircraft based on aircraft engine type based at RIL.

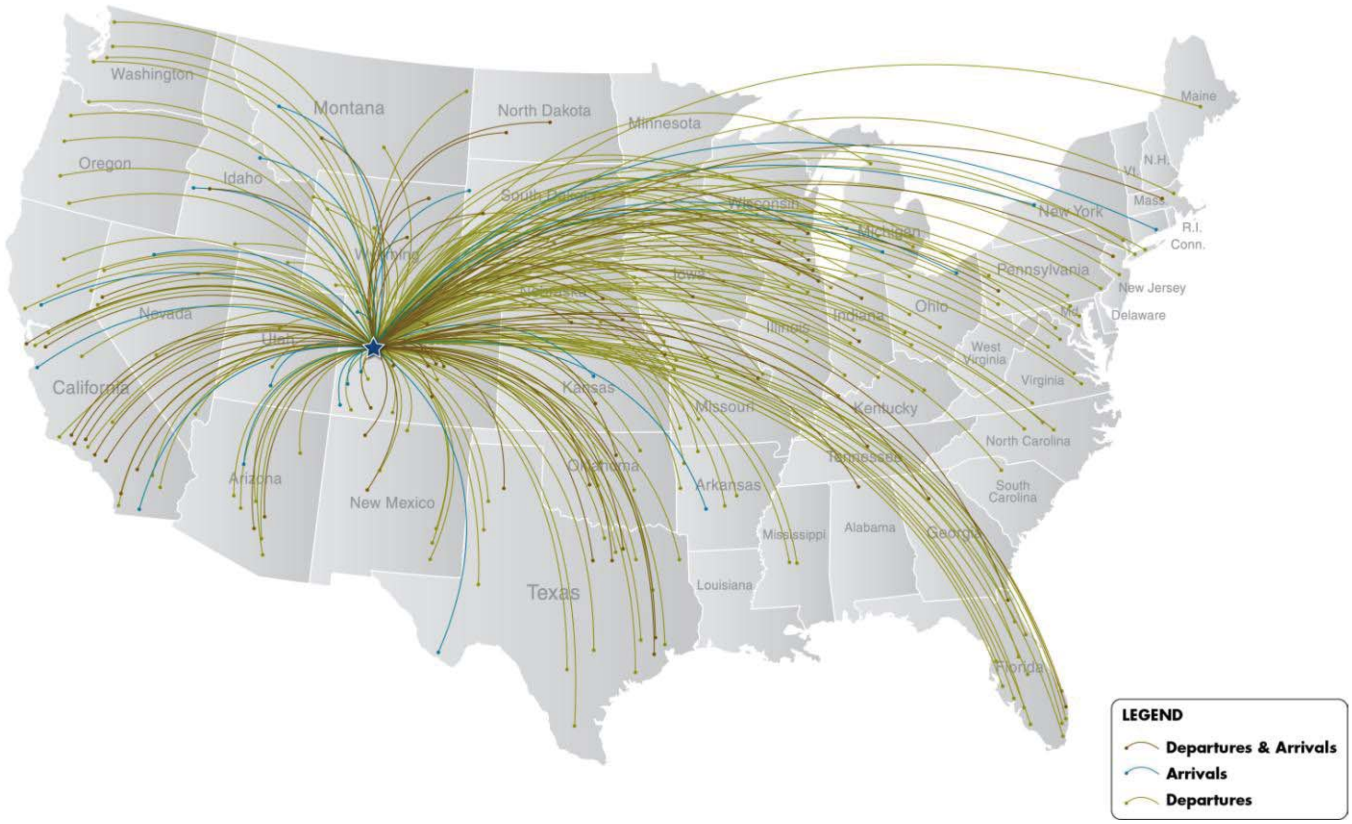
TABLE 2-6 – BASED AIRCRAFT

| Aircraft Type | Amount |
|---|---|
| Jet | 7 |
| Turbo Prop | 9 |
| Multi-Engine | 6 |
| Single Engine | 45 |
| Glider/Other | 2 |
| **Total** | **69** |

*Source: Rifle Garfield County Airport.*

RIL is utilized by general aviation aircraft all over the United States given its close proximity to the Colorado Rockies, and its position as a primary GA diversion airport for both Eagle County Regional Airport (EGE) and Aspen-Pitkin County Airport (ASE). As shown in **Figure 2-4**, Instrument Flight Plans at RIL are flown from all areas of the United States annually.

FIGURE 2-4 – IFR FLIGHT PLANS FILED TO/FROM RIL




*Sources: Data: GCR, Inc.; Map: Jviation, Inc.*

## 2.5.2 Fuel Sales

Historical fuel data as reported by the Atlantic Aviation (Atlantic) Fixed Base Operator (FBO) is detailed in **Table 2-7.** In 2012, Atlantic reported fuel sales of 625,672 gallons of Jet-A and 36,934 gallons of Avgas, for a total of 662,606 gallons of fuel. In 2013, fuel sales totaled over 895,208 gallons of Jet-A, and 33,056 gallons of AvGas, for a total of 928,264 gallons sold. While the trend in fuel sales at RIL has generally declined over the past few years, it is important to note that fuel sales are often subject to fluctuations based on several variables. At RIL, this includes the economy and seasonal weather patterns. As a primary diversion airport for EGE and ASE, the amount of diversion traffic has been lower than years past due to the unseasonably warm winters in 2010-2011 and currently in 2012-2013.

TABLE 2-7 – RIL FBO FUEL SALES 2006-2013

| Year | Fuel Sales | | Total |
|---|---|---|---|
| | Jet-A (gal) | Avgas (gal) | |
| 2013 | 895,208 | 33,056 | 928,264 |
| 2012 | 625,672 | 36,934 | 662,606 |
| 2011 | 809,787 | 34,934 | 844,721 |
| 2010* | 559,480 | 16,356 | 575,836 |
| 2009 | 929,509 | 48,281 | 977,790 |
| 2008 | 1,045,578 | 69,349 | 1,114,927 |
| 2007 | 1,358,006 | 97,228 | 1,455,234 |
| 2006 | 1,005,219 | 65,714 | 1,070,933 |

**Airport closed from April to November for airfield upgrade*
*Source: Rifle Garfield County Airport – Rifle Jet Center Monthly Report*

## 2.6 FINANCIAL INFORMATION

### 2.6.1 FAA AIP GRANT HISTORY & CAPITAL IMPROVEMENT PLAN (CIP)

RIL receives grant funds for airport improvement projects from both federal and state funding programs. **Table 2-8** provides the grant history information for RIL since 2000.

TABLE 2-8 – FAA GRANT HISTORY 2000-2013

| Project Description | Fiscal Year | Federal | | State | Total |
|---|---|---|---|---|---|
| | | Entitlement | Discretionary | | |
| Pavement Fog Seal | 2013 | $150,000 | $0 | $8,333 | $158,333 |
| Overmatch Pavement Fog Seal | 2013 | $0 | $0 | $75,000 | $75,000 |
| Conduct Airport Master Plan Study | 2012 | $151,781 | $0 | $187,107 | $338,888 |
| Improve Runway Safety Area | 2011 | $98,073 | $1,155,927 | $400,000 | $1,654,000 |
| Improve Runway Safety Area | 2010 | $0 | $2,227,086 | $250,000 | $2,477,086 |
| Improve Runway Safety Area | 2009 | $148,234 | $15,536,496 | $0 | $15,684,730 |
| Improve Runway Safety Area | 2009 | $150,000 | $17,850,212 | $250,000 | $18,250,212 |
| Improve Runway Safety Area | 2008 | $805,170 | $3,000,000 | $213,764 | $4,018,934 |
| Improve Runway Safety Area | 2007 | $503,219 | $0 | $200,000 | $703,219 |
| Improve Runway Safety Area | 2006 | $324,434 | $0 | $140,000 | $464,434 |
| Conduct Environmental Study | 2005 | $145,585 | $0 | $0 | $145,585 |
| Construct Apron | 2004 | $465,535 | $18,463 | $14,766 | $498,764 |
| Improve Runway Safety Area | 2003 | $144,180 | $0 | $13,600 | $157,780 |
| | 2002 | - | - | $45,000 | $45,000 |
| Acquire Snow Removal Equipment | 2001 | $150,000 | $0 | $35,625 | $185,625 |
| Construct Taxiway | 2000 | $1,043,407 | $0 | $108,744 | $1,152,151 |

*Sources: FAA Denver Airports District Office & CDOT Aeronautics*

### 2.6.2 CAPITAL IMPROVEMENT PLAN

RIL has a current Capital Improvement Plan submitted to the FAA and Colorado Department of Transportation (CDOT) Division of Aeronautics. The CIP outlines planned development in both the near and long-term. Cost estimates for all planned projects are included, along with anticipated project funding details for short-term projects. The updated CIP will be discussed in **Chapter 7**, *Financial Implementation Plan*.

## 2.7 REGIONAL SETTING AND LAND USE

Land surrounding the Airport is primarily zoned as Rural to the north and east, with Planned Unit Development (PUD) to the south, and Light Industrial PUD to the west. No residential development exists in close proximity to the Airport.

An airport influence area was also designated in 2000 by Garfield County, and coincides with the 14 CFR Part 77 Imaginary Surfaces[6] that protect the airspace surrounding the Airport. This encompasses the approach area for both ends of the runway, as well as the Conical and Horizontal Surfaces. The existing airport influence zone is aligned with original centerline of the runway. As a result, this zoning overlay should be updated to reflect the new runway centerline coinciding with the runway realignment in 2010.

The City of Rifle and Garfield County zoning and land use exhibits are attached as exhibits in **Appendix B** of this Master Plan Document.

## 2.8 COMMUNITY PLANNING INITIATIVES

The City of Rifle has designated a majority of the land around RIL as an industrial airpark. Approximately 500 acres of land have been set aside for economic development and job creation. A Planned Unit Development (PUD) submittal has been developed and approved for this airpark. Future development must align with established PUD provisions under the City of Rifle. This land is designated as "Special Area Plan" on the Comprehensive Plan Land Use Map. The Rifle Comprehensive Plan has identified the interchange at I-70 and Mamm Creek Road as an area for potential improvements to meet the demand from future growth of the Airport and is planned as a future gateway feature for the City of Rifle. Finally, the Rifle Comprehensive Plan has made it a goal to promote the Airport as a regional travel center.

The 2030 Comprehensive Plan for Garfield County identified the land zoned as Industrial, Light Industrial, and PUD surrounding the Airport and within the industrial airpark as a Regional Employment Center. A goal stated in the county plan is to identify potential business sectors that could be attracted to the industrial airpark, resulting in job creation.

## 2.9 AIRPORT AIRSPACE USAGE & NEXTGEN

The airspace surrounding RIL is complex and restrictive due to the surrounding mountainous terrain. During periods of inclement weather, when aircraft must operate under instrument flight rules, airspace complexity and restrictiveness increase.

### 2.9.1 MOUNTAIN AIRSPACE

Terrain from the surrounding mountains is the primary impact to RIL airspace for several reasons. The mountains serve to obstruct aircraft from flying the most direct flight path to the Airport and necessitate

[6] 14 CFR Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace*, is a federal regulation that establishes standards to determine the effects of objects and communication facilities on airspace. Further 14 CFR Part 77 requires the protection of the airspace at and around an airport.

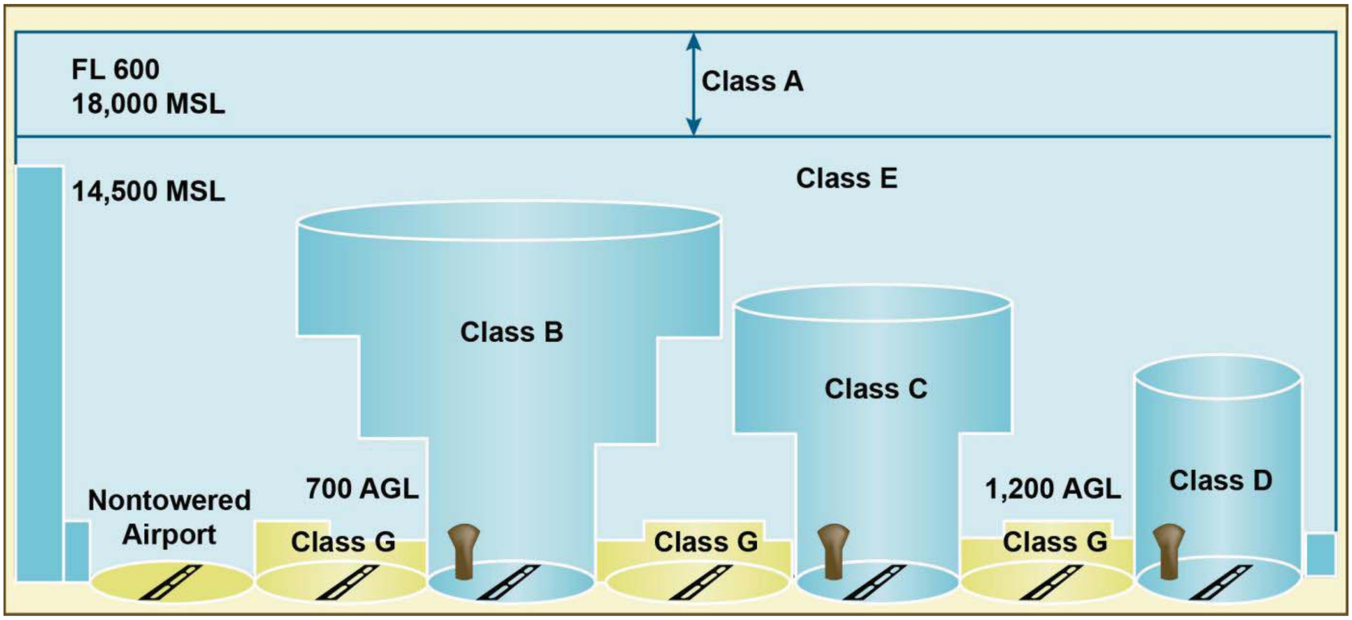
circuitous routes through the less obstructed mountain valleys. Additionally, the close proximity of the EGE and ASE airports further complicate aircraft navigation, as aircraft operating into all three airports must navigate following the same mountain valley routes. During peak operational periods, including the busy winter ski season, demand can exceed system throughput capacity, resulting in delays and cancellations.

Mountain airspace is also impacted by restrictions in how aircraft are guided and monitored by air traffic control. Aircraft monitoring and guidance is performed through the use of radar flight tracking. As an aircraft flies to its destination, its position is constantly monitored and updated, allowing controllers to maintain adequate separation between trailing aircraft. Radar requires an unobstructed line of sight between the radar equipment and aircraft. Terrain in mountain areas serves to obstruct this line of sight, resulting in the loss of radar contact. When radar contact is lost, air traffic controllers are not able to provide real time guidance and must increase separation between aircraft to ensure an adequate level of safety is maintained. This results in reduced airspace capacity, given the limited flight routes and greater separation requirements. The combination of limited available flight routes and increased aircraft separation reduces airspace capacity.

### 2.9.2 AIRSPACE CLASSIFICATION

The FAA designates the airspace surrounding airports using a letter classification ranging from B to E, as depicted in **Figure 2-5.** Classifications are based on the level and type of aircraft operations for a specific airport. Airspace surrounding the nation's busiest airports, like Denver International Airport, is designated as Class B, and is strictly controlled by air traffic control. Other towered airports are surrounded by Class C and D airspace. For airports that have no Air Traffic Control Tower (ATCT), the surrounding airspace is designated Class E. The most restrictive of these airspaces is Class A airspace. It exists between 18,000 and 60,000 feet mean sea level (MSL). Class A is controlled airspace applicable during the enroute portion of flight. Airspace that has not been designated as Class A, Class B, Class C, Class D, or Class E airspace is classified as Class G (uncontrolled) airspace. This airspace extends from the surface to 1,200 above ground level (AGL), as described in FAA Order JO 7400.2J, *Procedures for Handling Airspace*.

FIGURE 2-5 – AIRSPACE CLASSIFICATIONS




*Source: Federal Aviation Administration*

For RIL, a non-towered airport, the airspace surrounding the Airport is designated as a Class E, with a secondary designation as a surface area. This secondary designation expands the airspace to surround all instrument approach procedures to the extent practicable[7]. For RIL this classification protects a 10 mile radius of airspace surrounding the Airport, along with the airspace used for the Instrument Landing System (ILS) approach to Runway 26. Airspace classified as Class E is subject to less restrictive air traffic control than that of Classes A through D. The primary restriction to this airspace is maintaining separation from other aircraft and minimum weather requirements of three statute mile visibilities and remaining clear of clouds by 1,000 feet above, 500 feet below, and 2,000 feet horizontally.

The neighboring EGE and ASE airports both have operational ATCTs and are classified as Class D. Aircraft operating in Class D airspace must be able to have two-way radio communication with air traffic control and the same weather minimums as Class E. Finally, an area of airspace surrounding RIL, EGE, and ASE is designated as Class E. This designation is due to the close proximity of these airports to each other, requiring aircraft to utilize the same traffic routing. With the presence of terrain and limited available airspace, the FAA handles aircraft routing and sequencing to all three airports within this area of airspace through the utilization of a single air traffic controller. Air traffic control functions are provided by the Denver Air Route Traffic Control Center (ARTCC) utilizing radar technology. Given the mountain terrain and lack of complete positive radar contact, air traffic must be managed to maintain adequate separation, resulting in reduced capacity within the mountain airspace and at each airport. RIL airspace is uncontrolled except during IFR conditions. During IFR conditions, a Multilateration system provides radar coverage for

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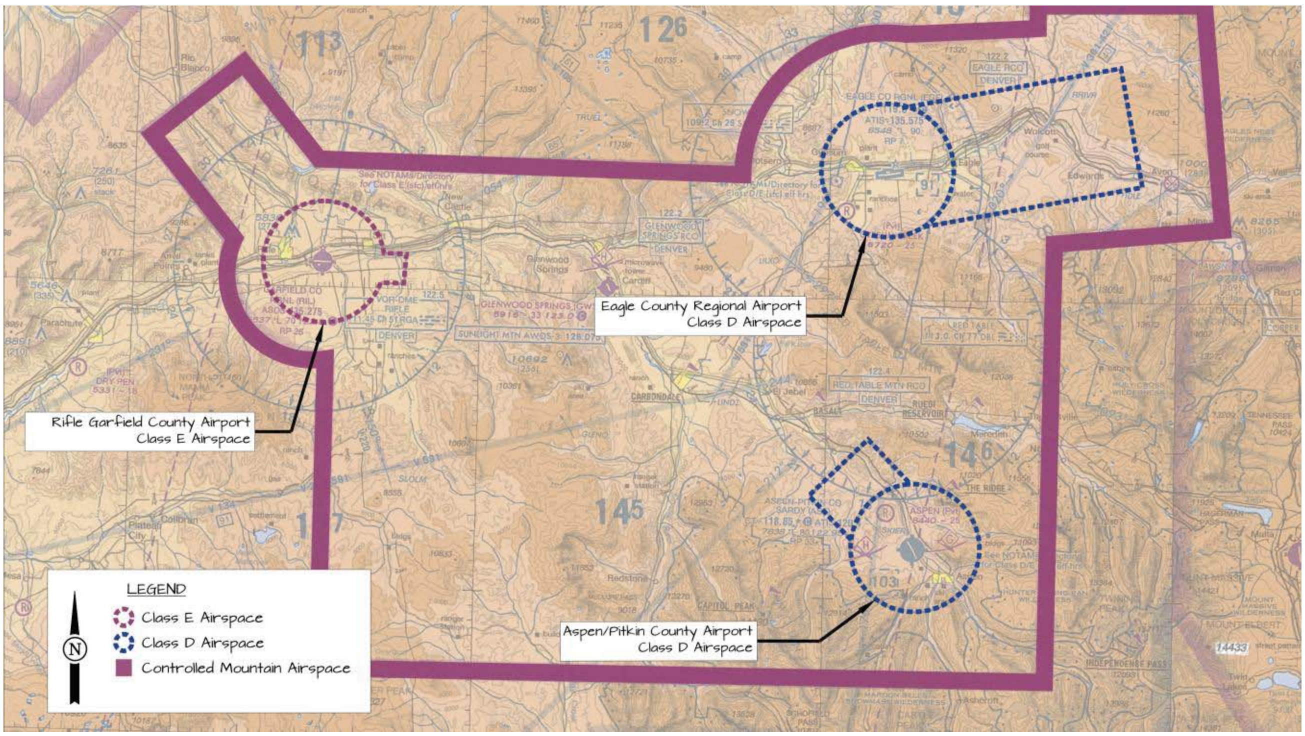
[7] Federal Aviation Administration. (2012). Procedures for Handling Airspace Matters (Order JO 7400.2J). Chapter 18. Class E Airspace. Section 1 Paragraph b. p. 18-1-1.

air traffic in the RIL airspace. Multilateration is discussed below in **Section 2.9.4**. The mountain airspace, as well as the airspace surrounding RIL and neighboring airports, is depicted in **Figure 2-6**.

FIGURE 2-6 – RIL & SURROUNDING MOUNTAIN AIRSPACE




*Sources: Jviation, Inc with information from FAA Sectional Chart*

### 2.9.3 AIRSPACE CONGESTION

The limited flight routes and the absence of complete radar coverage, serves to increase congestion significantly, especially during peak operating periods or when inclement weather requires IFR operation. This is further compounded with the restriction of aircraft operations to one-way traffic. Any aircraft departing from a mountain airport requires air traffic control to hold arrival traffic until the first aircraft is clear of the mountain airspace, and vice versa. Typically, two-way operations occur allowing an aircraft to land from one direction and depart in the opposite direction which increases aircraft separation and enhances safety.

In the past, levels of congestion led to lengthy delays and frequent diversions to alternate airports. CDOT estimates that delays caused by congestion and inclement weather can result in aircraft acceptance rates dropping from 12-17 flight per hour to four per hour at Colorado mountain airports. When this occurs, it is estimated that up to 75 aircraft per Colorado mountain commercial service airport, per day, experience delay or are diverted[8]. These lengthy delays not only impact local airports but the national airspace system as well. Airport delay has a ripple effect that can be felt at other airports around the country, which is felt through

[8] http://www.faa.gov/nextgen/implementation/programs/adsb/wsa/wam/

an increase in traffic from diversions, reduced apron area while delayed aircraft occupy parking, and decreased airspace capacity from airborne aircraft holding to receive clearance to land.

### 2.9.4 Programs and Procedures to Relieve Airspace Congestion

Delays grew enough within the RIL, EGE, and ASE airspace that the FAA began examining ways to relieve the airspace congestion. The first program introduced was the Special Traffic Management Procedures (STMP), or "Slot Time" program. Through the STMP program, aircraft operators were required to reserve time slots in order to operate within the mountain airspace en route to RIL, EGE, and ASE. Aircraft wishing to operate during STMP periods that have not made a reservation are not permitted to access the airspace. The goal of the STMP program is to eliminate the first come first serve system that has been utilized in the past. With the reservation system, aircraft operations are now spread throughout the day at the three airports. Although RIL does not serve commercial service aircraft like EGE and ASE, the program assisted the operations of general aviation aircraft at RIL during times of congestion. Currently, this program is only in effect during high traffic periods that occur during the Christmas and New Year holidays.

While the STMP program served to reduce the amount of congestion during the peak holiday periods, it does not reduce congestion that occurs outside of these six days of operations, and does not address delays which occur when weather dictates the use of IFR operations. The system also has the potential to be abused, as some aircraft operators have attempted to reserve multiple time slots in order to increase their chances of obtaining a preferred arrival slot. This has led to time slots going unused, while other aircraft operators were left unable to make a reservation. The STMP program was renewed for each winter season; however, as of 2014, the STMP program was not implemented at RIL for the 2013-2014 ski season.

Recognizing that a broader solution to congestion and delay was needed for the Colorado mountain airports, CDOT, in partnership with the FAA, implemented a new type surveillance technology to augment radar. This program, called the Colorado Air Traffic Control Beacon Interrogator (CO-ATCBI) Automatic Dependent Surveillance-Broadcast (ADS-B) System[9], was rolled out in September 2009 and utilizes ground based sensors to augment radar coverage in areas where line of sight cannot be maintained. Radar systems require direct line of site between the radar equipment and an aircraft at all times, when objects or terrain obstruct this line of sight radar contact is lost. Using a technology called Wide Area Multilateration (WAM), these ground based sensors transmit signals to and from an aircraft using a technology determines where the aircraft is located. The first phase of the CO-ATCBI program installed ground sensors for four airports, including RIL, as depicted in **Figure 2-7**. The WAM capability provides the airports with improved safety, efficiency, and capacity by allowing controllers to see aircraft which are outside radar coverage. This saves time and money lost due to flight delays and cancellations or diversions to other airports.[10]

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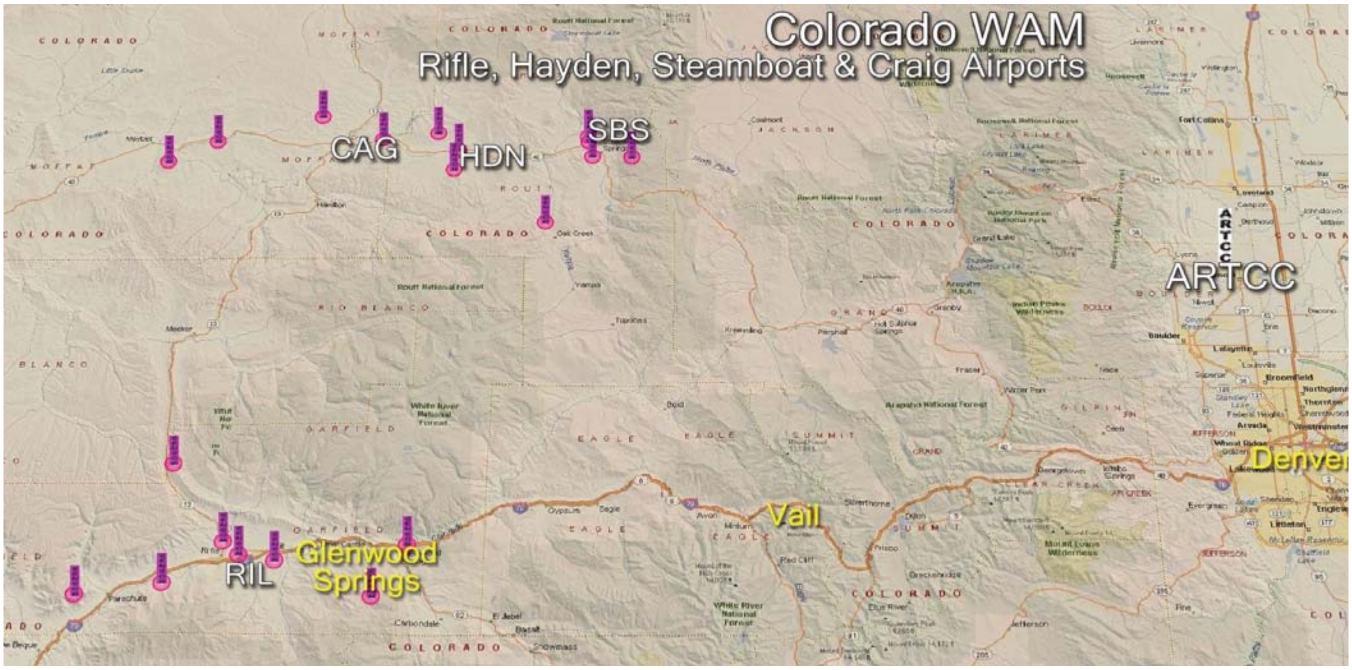
[9] http://www.faa.gov/nextgen/implementation/programs/adsb/wsa/cmap/
[10] http://www.faa.gov/nextgen/implementation/programs/adsb/wsa/cmap/

FIGURE 2-7 – COLORADO WAM SENSOR LOCATIONS




*Source: FAA*

The goal of this system is to reduce the amount of coverage lost as a result of radar tracking due to line of sight obstructions. By increasing the amount of radar coverage, air traffic control is able to reduce the amount of separation required between aircraft. Prior to WAM aircraft separation during IFR resulted in 15 minute separation between aircraft operating into and out of the mountains, resulting in a maximum of four operations per hour. With the introduction of WAM aircraft are capable of being sequenced into the airspace five minutes behind the first aircraft, resulting in 10 operations per hour[11], a 150% increase in hourly capacity.

### 2.9.5 Further Improvement & NextGen Technology

The use of STMP and the improvements to aircraft surveillance have served to help decrease airspace congestion and resultant delay. However, there are still periods where RIL and the neighboring airports experience delay and/or diversions due to decreased capacity. As in the past, this occurs most often during periods of inclement weather, when IFR flight procedures are in place. While surveillance has improved, there are still areas where radar contact is obstructed, requiring air traffic control to increase aircraft separation.

The CO-ATCBI program continues to be implemented in a phased approach, with Phase II beginning in December 2012 when surveillance at Montrose Regional Airport came on-line. Three more airports are planned for Phase II, which will increase the overall mountain coverage to eight airports by the end of Phase II. Finally, the FAA is beginning to roll out improvements to the national airspace system under its

[11] Colorado Department of Transportation. (2010). Colorado Mountain Airport Study Update, Technical Report. Chapter 6. Identify Structure of Mountain Operating Environment. Section 6.8. p. 39

NextGen initiative. Through NextGen, airspace navigation will move from ground based technology to satellite based systems. This will be achieved through the use of Global Positioning Systems (GPS) augmented with ground based monitors, creating a more efficient airspace navigation system. Specifically for mountain airspace, satellite based navigation will eliminate line of site requirements for radar and allow for precision navigation within mountain valleys, and will serve to further increase capacity. At RIL, this new navigation system has the potential to increase aircraft acceptance rates with new instrument procedures that guide aircraft around obstructing terrain and to lower minimum altitudes (see Appendix C for additional information).

## 2.10 INSTRUMENT APPROACH EQUIPMENT AND PROCEDURES

### 2.10.1 Precision Instrument Landing System

RIL is one of the few Colorado mountain airports equipped with a full Precision Instrument Landing System (ILS). The ILS aids pilots in navigation and approach to Runway 26 through the use of two ground-based signals, a localizer, and glideslope. The localizer signal represents the projected centerline of the runway, while the glide slope provides a signal that guides an aircraft to a point where visual identification of the runway is achieved. Combined, these signals provide a precision approach path for aircraft during inclement weather.

The recent airfield upgrade project, completed in 2010, included an improvement to the Airport's ILS. Prior to completion of this project, the minimum weather conditions aircraft could operate under was five nautical miles of visibility and an altitude of no less than 1,556 feet above ground level (AGL). This means that if visibility dropped below five nautical miles or the pilot was not able to visually identify RIL at 1,556 feet, they were required to go-around and perform another approach or divert to an alternate airport. The new ILS allows aircraft to arrive with four nautical miles visibility and a minimum altitude of 1,263 feet AGL. These new minimums allow aircraft to approach RIL in worse weather conditions than in the past, increasing aircraft arrival rates and reducing diversions.

While recent upgrades are an improvement, the terrain surrounding the Airport does not permit the lowest minimums possible with a traditional ILS system. As a result, when weather conditions drop below the published minimums, aircraft must either wait for weather conditions to improve before departing for RIL, remain airborne in a holding pattern, or divert to an alternate airport. It is vital for RIL to provide the best possible ILS procedures given its close proximity to EGE and ASE, to make it a primary diversion airport for non-air carrier operations. Air carrier operations must divert to a commercial service airport. The restrictive minimums at RIL often require general aviation aircraft to divert to other airports, like Grand Junction or to airports in the Denver metropolitan area. Passengers on diverted aircraft must wait for conditions to improve or drive to their final destination. General aviation aircraft that diver to Grand Junction and the Denver metropolitan area therefore accrue significant increases to travel time on account of drive times to their final destinations. Whereas diverting to RIL, while not the preferred option for aircraft operators, provides a greatly reduced travel time due to the significantly closer proximity to the ASE and EGE airports.

Greater improvements to the ILS would better serve aircraft operating to/from RIL, as well as aircraft diverting from EGE and ASE. A stated goal of the airfield upgrade project was to improve the ILS beyond what was finally approved by the FAA. In 2008, an airspace study was performed to identify any obstructions that impact operations to the new realigned runway. This data suggests there is an opportunity to further improve ILS minimums. This Master Plan includes analysis of the ILS which is investigated further in **Chapter 4,** *Facility Requirements and Demand/Capacity Analysis*.

### 2.10.2 Non-precision Approach Systems

In addition to the ILS, there are several non-precision instrument approaches procedures in place at RIL. These approaches provide instrument guidance horizontally only. As a result, minimums for these types of approaches are higher, due to the lack of vertical guidance. There are also Global Positioning System (GPS) based approaches in place for both runway ends. These approaches are based on satellite navigation and are augmented with ground based navigational aids to provide vertical guidance at a level of precision lower than that of the ILS. The other two non-precision approaches utilize the localizer signal of the ILS along with the on airport Distance Measuring Equipment (DME) and Very High Frequency Omni-directional Range (VOR). Minimums for all instrument approaches are identified in **Table 2-9.**

TABLE 2-9 – RIL INSTRUMENT APPROACHES AND MINIMUMS

| Runway 8 - Approach | Lowest Minimums | Decision Height (feet-AGL) |
|---|---|---|
| RNAV (GPS) | 7420′ – 1 ¼ mile | 1883′ |
| RNAV (RNP)* | 5748′ – 1 mile | 250′ |
| **Runway 26 - Approach** | **Lowest Minimums** | **Decision Height (feet-AGL)** |
| ILS | 6800′ – 4 mile | 1263′ |
| RNAV (GPS) | 7180′ – 1 ¼ mile | 1643′ |
| RNAV (RNP)* | 5955′ – 1 mile | 418′ |
| **Circling** | **Lowest Minimums** | **Decision Height (feet-AGL)** |
| LOC/DME | 7780′ – 1 ¾ mile | 2243′ |
| VOR/DME | 7360′ – 1 ¼ mile | 1823′ |

**Requires FAA authorization and aircraft certification*
*Source: FAA Instrument Approach Charts*

## 2.11 NOISE ABATEMENT PROCEDURES

Historically, aircraft noise from RIL has not had a significant impact on the surrounding community. Given the location of the Airport in relation to the Cities of Rifle and Parachute, and given the minimal development surrounding the Airport, there are no requirements for aircraft specific procedures to offset any noise impacts. The existing and future land use in the vicinity of the Airport is also considered compatible. Given these factors, there are no requirements for noise abatement procedures, both currently or in the future.

## 2.12 OBSTRUCTIONS TO AIR NAVIGATION

Coinciding with the realignment of Runway 8/26 in 2010, an aeronautical survey was performed in compliance with the guidelines in FAA Advisory Circulars 150/5300-16A, -17C, and -18B, which govern survey and imagery acquisition at airports. Obstruction data was uploaded and accepted onto the FAA AGIS website and transmitted to FAA Flight Procedures for use in future Instrument Approach development.

## 2.13 AIRFIELD

### 2.13.1 RUNWAYS

Rifle Airport has a single runway identified as Runway 8/26, depicted in **Figure 2-8.** The runway consists of grooved asphalt and is 7,000 feet long by 100 feet wide. The pavement is capable of a weight-bearing capacity that allows 90,000 pounds for Single Wheel Gear (SWG) equipped aircraft, 200,000 pounds for Dual Wheel Gear (DWG) equipped aircraft, and 250,000 pounds for Dual Tandem Gear (DTW) equipped aircraft. The runway was realigned in 2010, which included full reconstruction, a 1,000 foot extension, and improvements to the safety area.

FIGURE 2-8 – RUNWAY 8/26


*Sources: Jviation Inc. and Rifle Garfield County Airport*

### 2.13.2 TAXIWAYS

The existing paved taxiway system at RIL, as depicted in **Figure 2-9**, consists of a full parallel taxiway, Taxiway A, located on the south side of Runway 8/26. Taxiway A currently has four runway connector taxiways: A1, A2, A4, A5, and an additional taxiway connector, Taxiway A3, will be constructed in 2014.

Connections from the aprons and aircraft storage areas are provided by Taxiways B1 and B2, which connect to the main apron and hangar area. Taxiway B4 connects to a future hangar storage area on the east airfield. There are also two taxiways, R1 and R2, that provide entry into the existing T-Hangar and GA tiedown apron located south of Taxiway A between Taxiways A2 and A4. Finally, there are two aircraft run-up areas, the first located adjacent to Taxiway A2 and the second located adjacent to the threshold of Runway 26 at Taxiway A5.

The majority of taxiways are 50' wide, meeting ARC D-II criteria, with the exception of Taxiways R1 and R2, which are 25' wide. Taxiways R1 and R2 meet the criteria of the aircraft (ADG I) that utilize that area.

FIGURE 2-9 – TAXIWAY SYSTEM

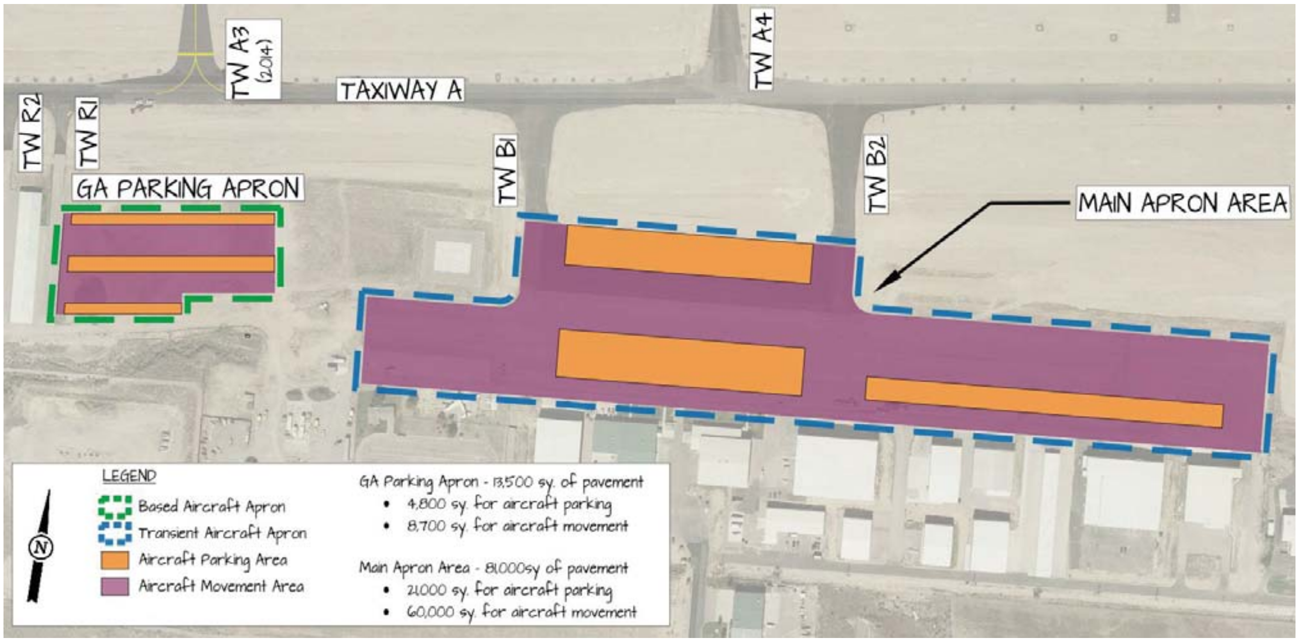

*Sources: Jviation,Inc. and Rifle Garfield County Airport*

## 2.13.3 Aprons

RIL has two primary apron areas: the Main Apron Area and the GA Parking Apron.

The Main Apron Area, depicted **Figure 2-10**, is comprised of 81,000 square yards of asphalt and is located south of Taxiway A, centered adjacent to the midpoint of the runway. The Main Parking Apron has three parking areas, the first located immediately adjacent to the FBO terminal building, the second located on the north edge of the apron between Taxiways B1 and B2, and the third located adjacent to the hangar buildings east of Taxiway B2. The GA Parking Apron, depicted in **Figure 2-10,** is comprised of 13,500 square yards of asphalt and is located west of the Main Apron Area and south of Taxiway A. This apron area has 40 tiedown positions for small piston aircraft.

FIGURE 2-10 – APRON AREAS

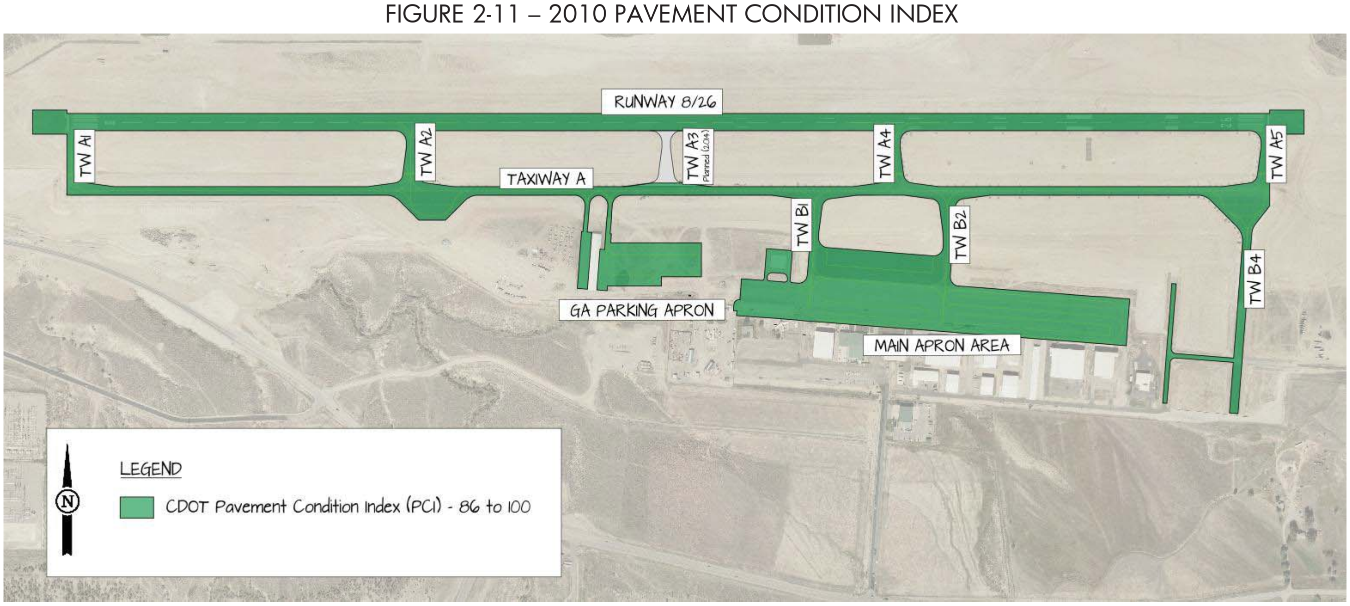



*Sources: Jviation, Inc. and Rifle Garfield County Airport*

## 2.13.4 PAVEMENT CONDITION

The latest Pavement Condition Index (PCI) study conducted by the CDOT Division of Aeronautics was performed on October 13, 2010. The inspection found that all pavement had a PCI of between 86 and 100, as depicted in **Figure 2-11**, requiring only that preventive maintenance be performed as required. This rating is a result of the majority of the pavement being replaced/rehabilitated as part of the realignment and airfield upgrade project completed in 2010.

FIGURE 2-11 – 2010 PAVEMENT CONDITION INDEX




*Sources: Jviation, Inc. and CDOT Aeronautics*

### 2.13.5 Lighting, Marking, and Signage of Runway and Taxiways

Runway 8/26 has High Intensity Runway Lighting (HIRL), with Taxiway A and the associated connector taxiways having Medium Intensity Runway Lights (MIRL). Apron area taxilanes are only lit in those areas where the connector taxiways meet the apron. Additionally, all of the runway and taxiway lights are equipped with pilot controlled lighting, allowing for pilots to activate the lighting through the Common Traffic Advisory Frequency (CTAF) of 122.8 MHz. This allows for lights to remain unlit when the Airport is not in use.

Runway 26 is marked with precision markings, which include centerline, edge stripes, aiming points, threshold, and touchdown zone markings. Runway 8 is marked with non-precision markings, and only includes threshold markings. At the time of this report, the existing Airport Master Record (FAA Form 5010) lists all runway markings as being in fair condition.

RIL is equipped with standard airfield signage, which provides essential guidance information that is used to identify locations on an airport. This signage provides pilots with visual guidance information used for all phases of movement on the airfield. These signs include instruction, location, direction, and informational.

### 2.13.6 Visual and Navigational Airport Aids

Both ends of Runway 8/26 are equipped with Precision Approach Path Indicators (PAPIs), which provide visual decent guidance. A PAPI is a lighting system typically positioned on the left side of the runway and consists of a series of light boxes positioned adjacent to each other at set intervals. For RIL, both PAPIs are a 4-box system, meaning there are 4 boxes spaced proportionally. The lights of the PAPI can be detected up to five miles away during the day and 20 miles during the night. The lights are positioned at an angle to provide a visual cue to pilots that they are approaching the runway at the required approach slope so as to clear any obstructions. For Runway 8, the glide path is 3.00 degrees and for Runway 26 it is 3.60 degrees.

Both runway ends are also equipped with Runway End Identifier Lights (REILs). REILs provide rapid positive identification of a runway end through the use of synchronized flashing lights on either side of the runway. The lights face approaching aircraft and are used to aid pilots in identifying the beginning of the runway in areas that have a significant amount of surrounding light noise, blend into surrounding terrain, or during periods of reduced visibility. These lights can be seen up to three miles away during the day and 20 miles during the night.

Other visual aids include the rotating beacon, located directly west of the Main Apron Area; it flashes green and white, the standard color pattern identifying a civilian use airport. A segmented circle is located north of Runway 8/26, which consists of a lighted wind cone located at the center of a visual pattern identifying the proper direction to land and which traffic pattern to use given the current winds. Finally, the approach end of Runway 26 is equipped with an Omni-Directional Approach Lighting System (ODALS). ODALS are sequenced flashing approach lights installed to aid pilots in locating the Airport and primary runway approach.

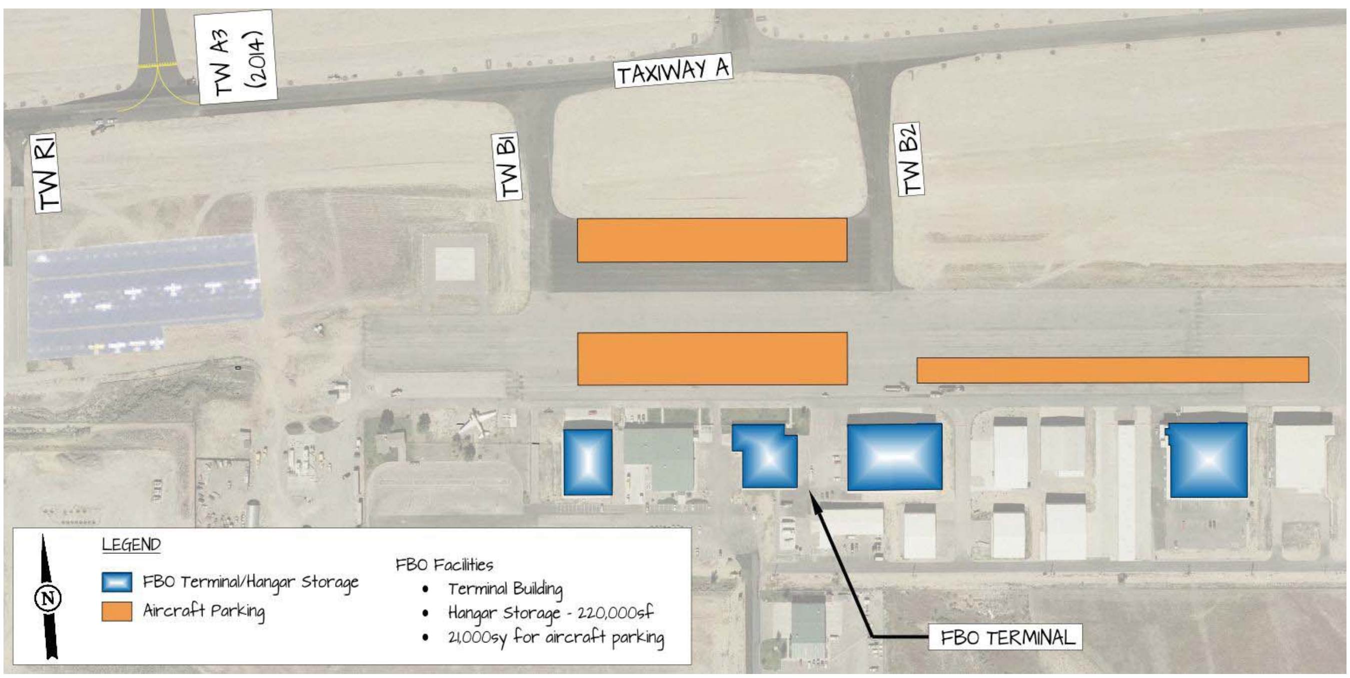
RIL is also equipped with radio navigational aids through the use of a VOR transmitter combined with DME. This system allows pilots to determine their position relative to the Airport by receiving radio signals transmitted from the VOR. Distance from RIL is also provided through a signal transmitted by the DME. Combined use of the VOR/DME permits pilots to navigate until they are capable of visually identifying the airport environment.

## 2.14 GENERAL AVIATION FACILITIES

### 2.14.1 Fixed Base Operator

At the time of this report, RIL has one full-service FBO, located on the south end of the Main Apron Area and east of the Airport Administration building, depicted in **Figure 2-12**. The FBO is owned and operated by Atlantic Aviation, and currently sells 100 Low Lead (AvGas) and Jet-A Fuel. Atlantic also operates the single AvGas self-serve fuel pump operated on the airfield. Other services include oxygen service, aircraft parking and tiedown, aircraft de-ice, hangar storage, pilot lounge, crew and rental car, flight planning, pilot supplies, and lavatory service.

FIGURE 2-12 – FBO FACILITIES

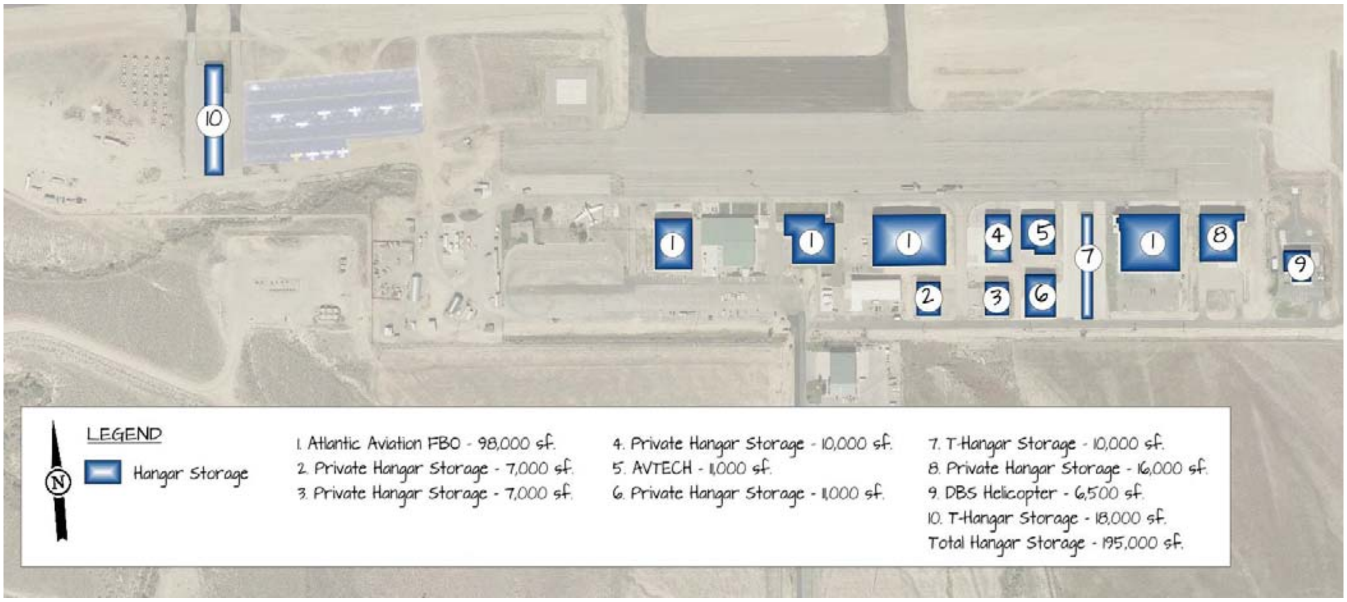



*Sources: Jviation, Inc. and Rifle Garfield County Airport*

### 2.14.2 Airport Hangars

The hangars at RIL, as shown in **Figure 2-13**, include two T-hangar units, seven privately owned box hangar units, and four FBO hangar units. This equates to 28,000 square feet of T-hangar storage, 70,000 square feet of privately owned box hangar storage, and 98,000 square feet of FBO operated hangar storage, totaling 195,000 square feet of hangar space on the Airport.

FIGURE 2-13 – AIRPORT HANGARS

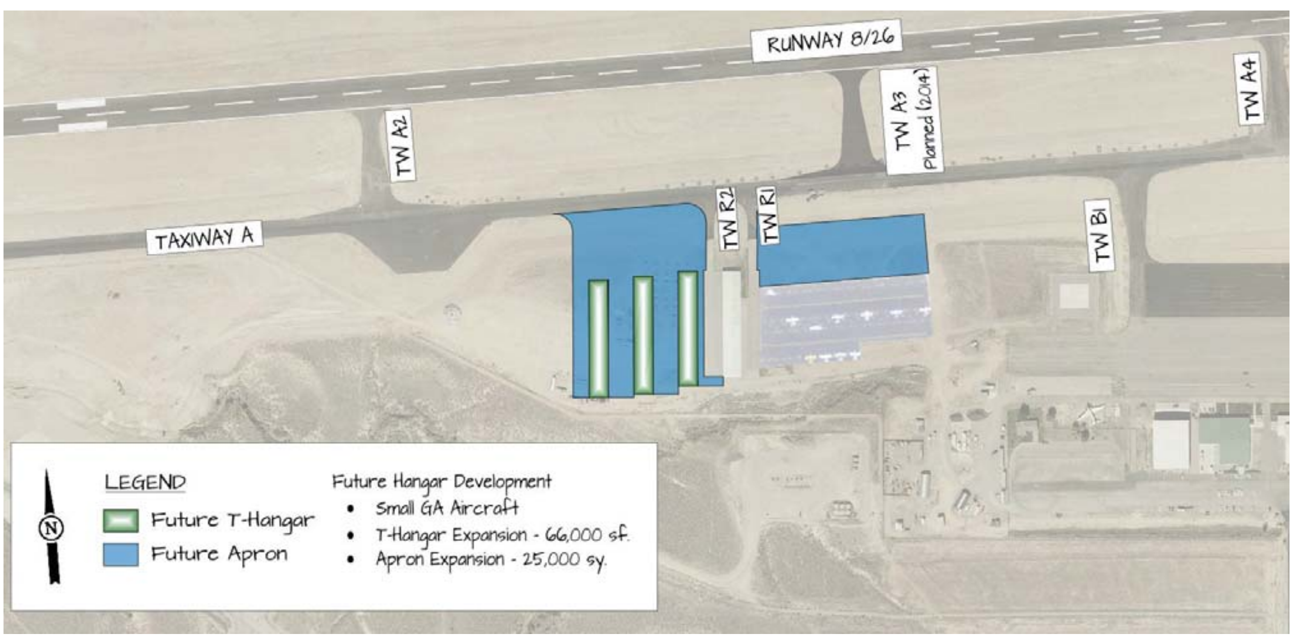



*Sources: Jviation, Inc. and Rifle Garfield County Airport*

### 2.14.3 Development Areas

There is additional space reserved for future hangar development located directly west of the Main Apron Area, as depicted in **Figure 2-14**. This development is intended for single engine aircraft and smaller multi-engine aircraft weighing less than 12,000 pounds. This development has the potential for an additional 66,000 square feet of T-hangar storage and an additional 25,000 square yards of apron expansion to be used for aircraft tiedown and movement.

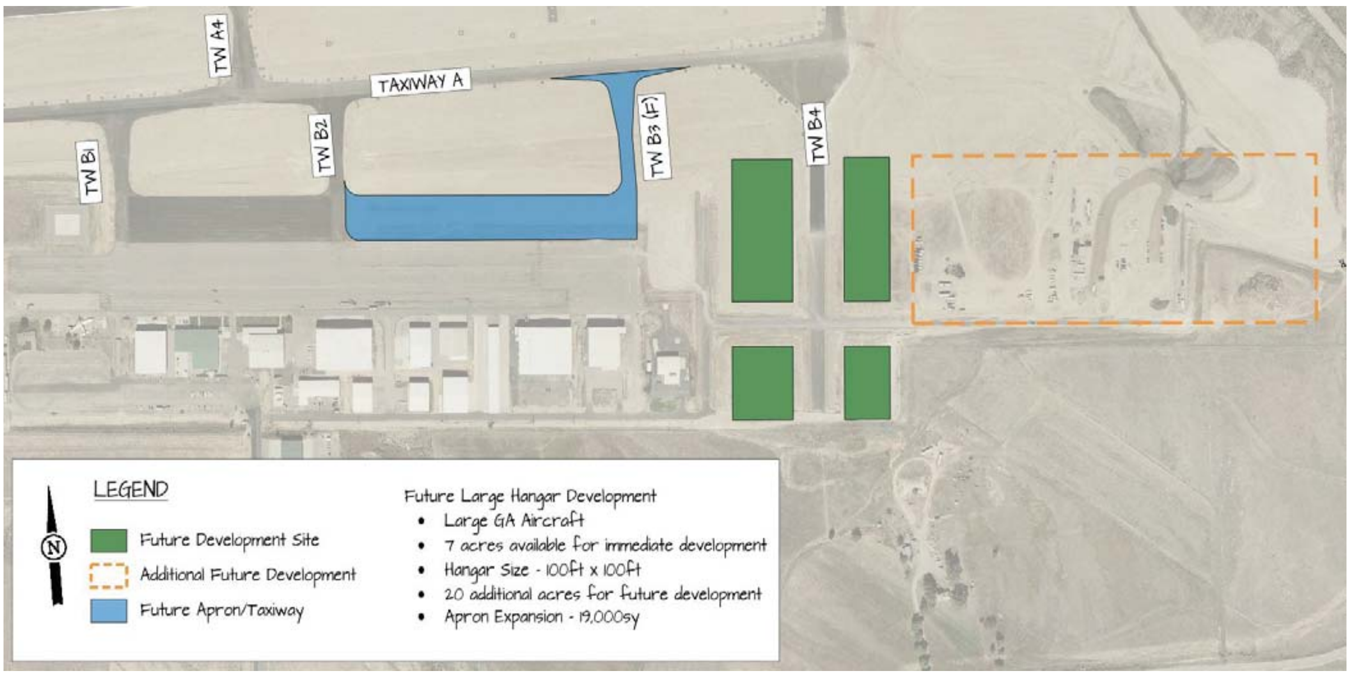
FIGURE 2-14 – FUTURE SMALL AIRCRAFT HANGAR & APRON DEVELOPMENT




*Sources: Jviation, Inc. and Rifle Garfield County Airport*

A development area reserved for large hangar development, as shown in **Figure 2-15**, is intended to provide hangar storage for large GA aircraft. Aircraft that would park in this area include corporate jets and larger multi-engine airplanes. Nine parcels are available for large hangar development, and planned for 100' x 100' or larger box hangar structures. Infrastructure is already in place for these nine parcels, which includes a new taxiway (B4), roadway access, as well as basic utilities (water, sewer, and electrical). Future expansion to the north end of the main apron, east of Taxiway B2, is also proposed. This expansion provides an additional 19,000 square yards of apron for aircraft parking and proposes to add a new taxiway connector from Taxiway A to ensure that adequate aircraft circulation is maintained. Finally, an additional 20 acres of land east of the planned development parcels has been reserved for additional large hangar development to accommodate future growth.

FIGURE 2-15 – FUTURE LARGE AIRCRAFT HANGAR & APRON DEVELOPMENT




*Source: Rifle Garfield County Airport*

## 2.15 SURFACE TRANSPORTATION

### 2.15.1 Airport Access Road Network

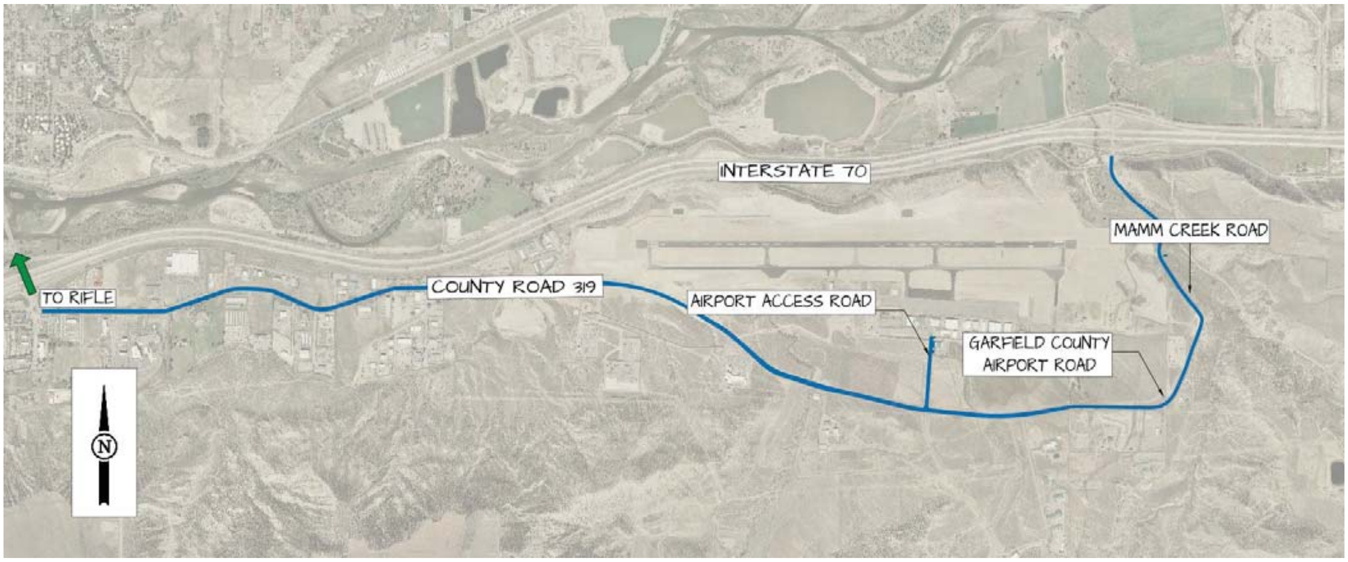
Adequate vehicular access to facilities at RIL, including parking, is necessary for the effective operation of the Airport. The following summarizes the existing road and parking conditions found at the Airport.

### 2.15.2 Access Roads

Access to the Airport is served by the one of Colorado's main interstate highways, I-70. This is the main artery for vehicles traveling east to west across the state. Additionally, this highway serves as the main access point to the majority of the mountain ski resorts. There are two access points to the Airport, as shown in **Figure 2-16**. Access from the City of Rifle is from the west at the interchange of I-70 and County Road 346.

The second access point is from the east at the interchange of Mamm Creek Road and I-70. Both roadway systems access the south end of the Airport and the main hangar complex via Airport Road.

FIGURE 2-16 – AIRPORT ACCESS ROADS

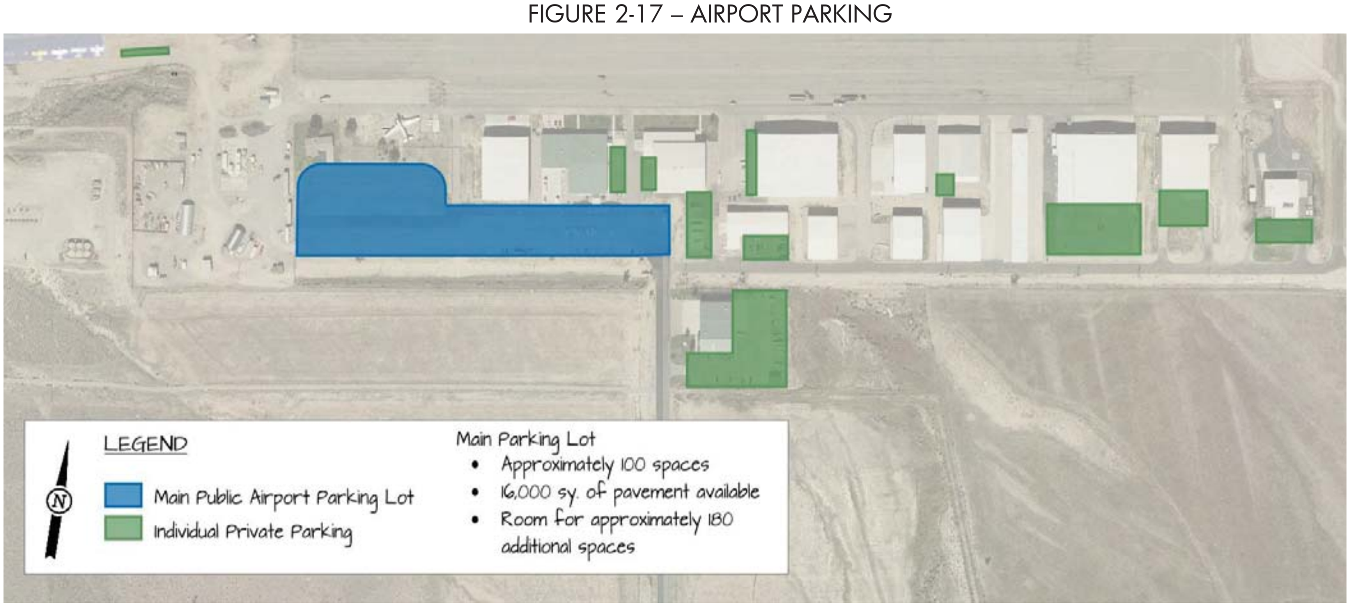



*Source: Jviation, Inc*

### 2.15.3 Parking Areas

The main parking lot for the Airport is a large paved parking lot, located directly west of the main airport entrance at Airport Road. This main lot provides approximately 100 parking spaces and 16,600 square yards of pavement. The size of the existing lot is large enough that it can accommodate approximately 180 additional parking spaces. Parking for the FBO and hangar storage buildings is provided through individual parking lots adjacent to each facility. The parking lots are depicted in **Figure 2-17**.

FIGURE 2-17 – AIRPORT PARKING



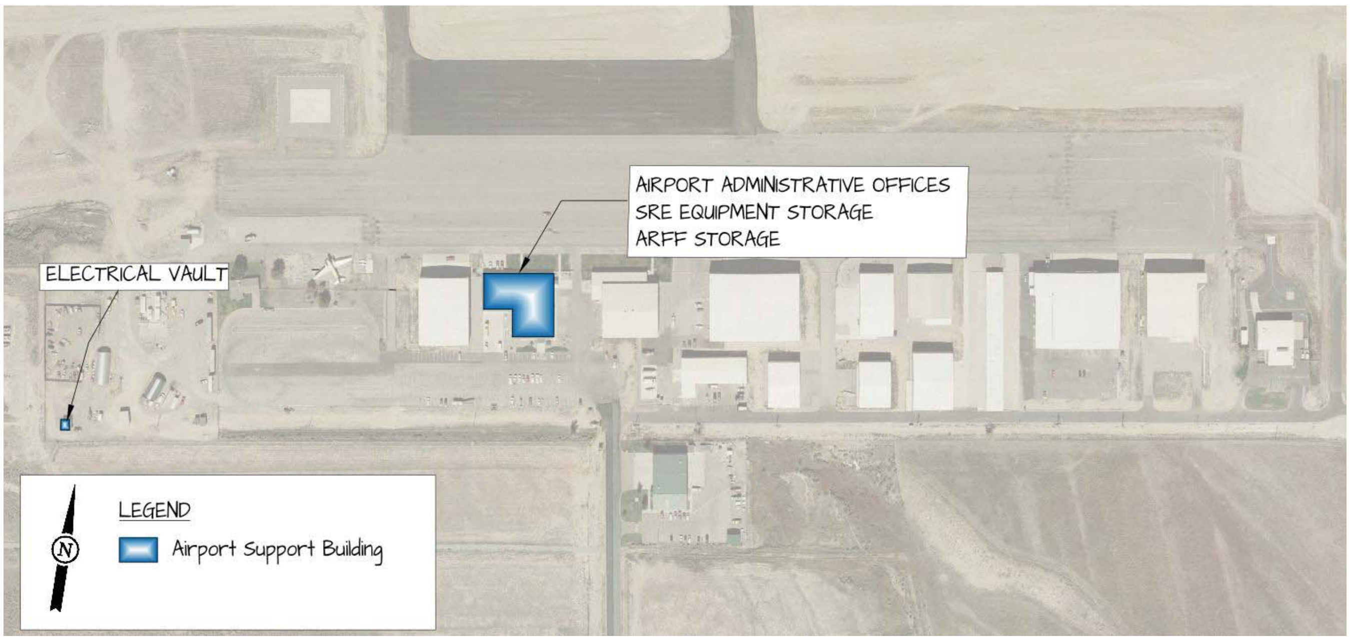

*Sources: Jviation, Inc. and Rifle Garfield County Airport*

## 2.16 SUPPORT FACILITIES

### 2.16.1 AIRPORT ADMINISTRATION ARFF/SRE/MAINTENANCE BUILDING

The airport administrative building is located on the south airfield to the east of Atlantic Aviation and northeast from the airport entrance road, as shown in **Figure 2-18**. The building has two vehicle bays that is use for Snow Removal Equipment (SRE) and general maintenance storage. This building also houses Garfield County Administration and the Rifle Interagency Helitak offices. There is additional Aircraft Rescue and Fire Fighting (ARFF) equipment storage adjacent to the fuel farm east of the main parking apron.

FIGURE 2-18 – AIRPORT SUPPORT BUILDINGS




*Sources: Jviation, Inc. and Rifle Garfield County Airport*

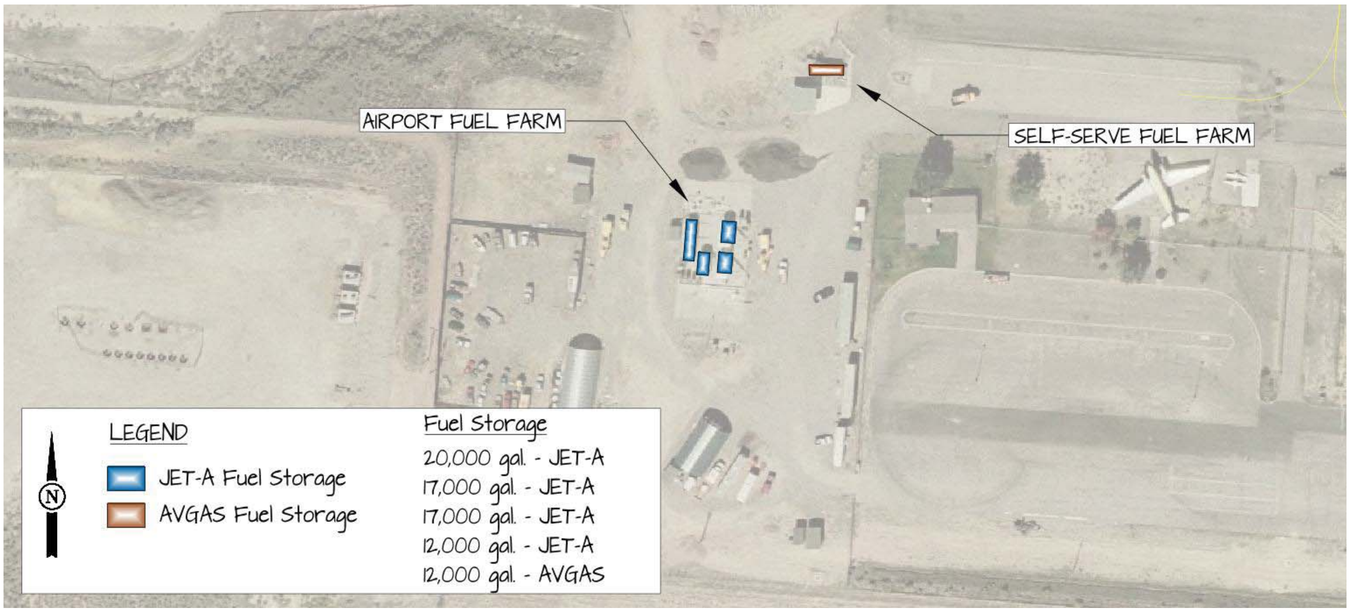
### 2.16.2 AIRCRAFT FUEL STORAGE

Aircraft typically use two fuel types, Avgas and Jet-A. Avgas, also referred to as Aviation Gasoline, is used by aircraft with reciprocating piston engines. These are typically found in single engine and some smaller multi-engine aircraft. The fuel grade for Avgas is 100 Low Lead (LL). Jet-A is kerosene based fuel that contains no lead and is used to power turboprop and jet powered aircraft.

The Airport has five above ground storage tanks (ASTs) which include one 12,000 gallon Jet-A tank, two 17,000 gallon Jet-A tanks, one 20,000 gallon Jet-A tank, and one 12,000 gallon Avgas tank. Four of the fuel tanks are in a fuel farm located adjacent to the east end of the Main Parking Apron. One 12,000 gallon Avgas tank is located north of the fuel farm on the east edge of the Main Parking Apron and serves as a self-serve fuel dispenser. The location of both fuel tank areas are shown in **Figure 2-19**, and the tank type and storage is summarized in **Table 2-10**.

Given the historical monthly fuel volume reported by the FBO, as detailed in **Table 2-7**, there is enough storage capacity for 24 days of fuel. The fuel storage system was upgraded as part of the overall airfield improvement project that was completed in 2010.

FIGURE 2-19 – AIRCRAFT FUEL STORAGE




*Sources: Jviation, Inc. and Rifle Garfield County Airport*

TABLE 2-10 – AIRPORT FUEL STORAGE

| Capacity (gallons) | Content | Tank Type |
|---|---|---|
| 17,000 | Jet-A | Single-wall Above Ground |
| 17,000 | Jet-A | Single-wall Above Ground |
| 12,000 | Jet-A | Single-wall Above Ground |
| 20,000 | Jet-A | Single-wall Above Ground |
| 12,000 | 100LL Avgas | Double-wall Above Ground |

*Source: Rifle Garfield County Airport*

## 2.17 AIRPORT EQUIPMENT

### 2.17.1 Aircraft Rescue and Fire Fighting Equipment (ARFF)

In 2001, the Airport purchased a 1986 Oshkosh P-19 fire truck. Airport staff is ARFF certified and uses the P-19 to respond to emergencies that occur on airport property. The Airport also receives regular flights from Europe, which airport staff provides dignitary standby ARFF support to. Airport Emergency response is also provided 24 hours per day, seven days per week, through the Colorado River Fire Rescue Authority.

### 2.17.2 Snow Removal Equipment (SRE)

Snow removal is currently performed by airport staff. The Airport owns and maintains several pieces of equipment which includes snow plows, snow blowers, and brooms. Make, models, and manufacture years for all pieces of equipment can be found in **Table 2-11.**

TABLE 2-11 – AIRPORT SNOW REMOVAL EQUIPMENT

| Year | Make | Model | Function |
|---|---|---|---|
| 1975 | RAHS-300A | Snowblast | Snow Blowing |
| 1982 | International | DT-466 | Snow Plow |
| 1992 | Ford | -- | Snow Plow |
| 1999 | MB | -- | Pull Behind Broom |
| 2002 | International | NavStar 5000i | Snow Plow |

*Source: Rifle Garfield County Airport*

## 2.18 UTILITIES

Airport infrastructure was upgraded as part of the overall airfield upgrade completed in 2010. This included the installation of new airfield electrical back-up generators, water system improvements, and infrastructure for future aviation development. **Table 2-12** summarizes the utility service and providers for RIL.

TABLE 2-12 – AIRPORT UTILITY SERVICES

| Utility | Provider |
|---|---|
| Electric | Holy Cross Energy |
| Natural Gas | Excel Energy |
| Phone & Internet | CenturyLink |
| Water | City of Rifle |

*Source: Rifle Garfield County Airport*

In addition to the above listed utilities, a new five-acre solar array was opened in June 2011. In total, 3,575 solar panels were installed in a community owned solar farm, allowing members of Holy Cross Energy to benefit from the use of solar energy without installing panels on their property. This is achieved through purchase of electrical power directly from the solar farm.

The solar farm was built by Clean Energy Collective and is located on the east end of the airfield, south of the newly constructed extension of parallel Taxiway A. The hillside where the solar farm is located was constructed as part of the airport runway improvement project and allows for land to be used that otherwise would not have been developed.