

CHAPTER ONE:

INVENTORY

1.1. Introduction

This Master Plan for the Bozeman Yellowstone International Airport (BZN) was undertaken by the Gallatin Airport Authority to outline a long range, orderly direction for airport development which will yield a safe, efficient, economical, and environmentally acceptable air transportation facility. The study was funded jointly by the Federal Aviation Administration and the Gallatin Airport Authority.

This study, an update of the last full Master Plan, completed in 2008, includes a review and revalidation of the information in the 2008 study.

Since the 2008 Master Plan, BZN has:

- Grown to become the busiest airport in the State of Montana
- Expanded the passenger terminal by 125,000 square feet of space, 4 additional gates, an additional baggage claim carousel and expanded food/beverage and gift concessions
- Expanded the passenger terminal parking lot to 1,900 stalls
- Improved airport access with the new I-90 East Belgrade Interchange
- Constructed new paved general aviation Runway 11/29
- Constructed a new 1,100 stall multi-use parking garage
- Expanded general aviation and terminal aprons
- Rehabilitated taxiways and runways
- Opened a US Customs and Border Protection User Fee Airport Office

- Acquired and activated terminal radar approach control
- De-conflicted IFR arrival and departure procedures
- Purchased several parcels of land for protection and future development

This document is organized into seven chapters. This section provides an updated inventory of existing facilities, air traffic activity and background information on the airport and the Bozeman Trade Area. The following six chapters, as shown below, project future demand at the Airport, identify facility requirements, define development concepts, provide strategy for implementing the recommended improvements, analyze funding for the development program and identify environmental issues associated with the recommended development program. An update of the Airport Layout Plan is also included.

- Chapter 1: Inventory
- Chapter 2: Forecasts of Aviation Demand
- Chapter 3: Facility Requirements
- Chapter 4: Airport Improvement Alternatives
- Chapter 5: Recommended Master Plan Concept
- Chapter 6: Financial Analysis
- Chapter 7: Environmental Overview

1.1.1. Goals and Objectives

The Master Plan provides a vision for the airport covering the next 20 years and beyond. With this vision, the sponsor will have advance notice of potential future airport funding needs so that appropriate

steps can be taken to ensure that adequate funds are budgeted and planned. Efforts will also identify trigger points to drive development and prioritize improvement considerations.

Master Plan Goal

The goal of the Master Plan is to provide the community, public officials, and the Sponsor(s) with proper guidance for future development to satisfy regional aviation demands and be wholly compatible with the environment.

Specific objectives of this Master Plan are:

- Develop a plan that preserves public and private investments
- Develop a plan that is reflective of community goals and objectives
- Develop a plan that maintains safety
- Develop a plan that preserves the environment
- Develop a plan that strengthens the economy

1.2. Airport Management

BZN is owned and operated by the Gallatin Airport Authority. The Authority was established in 1972 and is governed by a five-member board of directors. Board members are appointed by the Gallatin County Commission. The Gallatin Airport Authority Board and staff work with members of the community, air travelers, airport tenants, government agencies, and consultants to plan for the orderly development and operation of the airport and to keep it self-sustaining. The Airport Director is hired by the Board and is responsible for the day to day operation and management of the airport.

1.3. Airport History

The following history of the Bozeman Yellowstone International Airport is excerpted from the airport's website and expanded by the airport's consultant reviewing the Airport Authority's historic files:

Bozeman Yellowstone International Airport has gone through many transformations throughout its history. From its origin nearly nine decades ago as Seifert Airport, to serving as the site for the Civilian Pilot Training program at MSU, it has grown into the state's busiest small hub, serving 1.5 million passengers a year.

1920 & 30s

Belgrade's first airport, Seifert Airport, named in recognition of Gallatin County aviation pioneer Wayne Seifert, was built in 1928 near Belgrade, but subsequently relocated because of high-tension wires. Seifert, together with E.R. Kahla, secured land for a second airport through a lease agreement with the State of Montana and the Belgrade Chamber of Commerce. Located one-half mile north of Belgrade near the current site of Gallatin Field, the airport opened in 1929 with six grass runways 100 feet wide and 1,200 to 1,300 feet long.

By 1937, two generations of Americans had grown accustomed to incredible aviation accomplishments. Lindberg and the Wright Brothers were history, "aviators" were now known as "pilots," and "those daring young men in their flying machines" were now flying "airliners." World War II was just around the corner, and the aviation industry was about to revolutionize transportation and the progress of man in unimaginable fashion.

The vision of individuals in Bozeman and the Gallatin Empire was equal to that of men the width and breadth of America. The Bozeman Chamber of Commerce, Bozeman City Commission, Montana State College, and local service clubs began steering towards realization of a major air facility for Gallatin County.

1940s



Airline Terminal 1948

On October 23, 1940, Bozeman City Manager August H. Lake called a meeting to advise those present that they had been appointed to serve on the Bozeman Airport Commission. The new members were: Dean Chaffin, Ernest Anderson, Gardner (Pete) Waite, Eric Therkelsen, and Frank Hoey. There was some discussion regarding the desirability of having an airport for Bozeman. Mr. Lake said that the City of Bozeman had taken a lease from the State of Montana on a small portion of land at the site of the Belgrade Airport and had constructed a hangar on this ground for the benefit of the Civilian Pilot Training (CPT) program currently being offered by Montana State College. Mr. Waite was authorized to check the ownership of adjoining lands and interview the owners to see if additional land might be purchased.

Within the next two weeks, the airport commission met several times. Chaffin, Therkelson, and Waite traveled to Butte for a meeting with Mr. Paul Morris of the Civil Aeronautics Administration where they were informed that some federal funding might be available for their airport if they could finalize the land purchases and airport plans before November 22nd.

Mr. Morris authorized the Army Engineers at Fort Peck to send a crew to Bozeman to survey the site and assist with the necessary drawings. Options to purchase the necessary land were obtained and on November 22, 1940, Mr. Morris traveled to Bozeman to meet with the Airport Commission. Following a luncheon meeting at the Baxter Hotel, the group adjourned to the lounge where maps were spread on the table and Mr. Morris and his associates studied the entire proposal.

After studying the windrose chart, he laid out four prospective runways. He then gave instructions to the Army Engineers present on how to fill out the government application forms. He then left for Spokane.

The Bozeman Airport Commission met the filing deadline and on December 19, 1940, received official word that Bozeman had been allotted \$47,000 in federal funds for construction of the basic airport.

The Civil Aeronautics Administration (CAA) financed construction of Gallatin Field in 1941 in order to provide a training school for pilots just prior to World War II. In 1941, the airport included four runways. John F. Lynch and his brother, Charles offered the initial Fixed Base Operator (FBO) service to the

airport. In late 1941, John Lynch took charge of the fastest growing air school in Montana.

During the spring of 1941, plans for the new airport were progressing well. To help promote the facility, the Bozeman Airport Commission decided to hold an Aviation Week. In addition to promoting the new airport, it was hoped that the event would show the County Commissioners how important the airport was to the community and pave the way for some county funding.

At a meeting held at the Baxter Hotel on May 7, 1941, it was suggested that a name be chosen for the new airport. The name 'Sacajawea Field' was suggested but it was felt that the name "Sacajawea" belonged more or less to Three Forks and that it might be better to choose the name 'Gallatin Field.' After quite a little discussion, it was duly moved and carried that they name the flying field of the Bozeman Airport, Gallatin Field.

The Aviation Week was held June 9 to 15 and was a huge success. Seventy people attended the banquet and nearly 5,000 attended the Field Day program at the Belgrade Airport. Northwest Airlines had a twenty one passenger Douglas Airliner on the field and made several complimentary flights. John Lynch did some aerial acrobatics and there were many planes on the field during the day.

It soon became apparent that the City alone could not maintain the airport. On July 8, 1941, a special meeting was called for the Airport Commission to appear before the County Commission to present a budget for an airport fund. The group went to the Commissioners' office and was given a hearing.

All possible arguments were used in making a request that the Commissioners levy at least a portion of one mill for the purpose of maintaining the Bozeman airport. The County Commission consisted of P.H. Gaffney, Chairman, Wm. Alberda, and Lee Frank. Mr. Gaffney did all of the talking for the Board and he flatly refused to listen to any of their arguments and said that they would refuse to make any levy for airport purposes.

The group returned to Mr. Chaffin's office and decided that the results of this meeting should be given some publicity throughout the county. They further clarified the name on July 23, 1942 and "It was moved and carried that this commission recommend to the new Airport Board to be that these names remain "Bozeman Airport" and "Gallatin Field." Gallatin Field became a city-county airport in 1942. On November 22, 1942, Jim Stradley and his passenger Helen McLain made the first official landing at Gallatin Field. In 1944, Gallatin County purchased one-half interest in the land.

The 1940s heralded the beginning of the airport's major construction era and included 5,200 feet of paved Runway 12-30, 5,100 feet of paved Runway 16-34, turf Runways 3-21 (4,700 feet) and 7-25 (4,700 feet), Taxiways A and B. The apron and lighting on Runways 16-34, 12-30 and Taxiways A and B were also completed during the 1940s. A 35-foot by 75-foot quonset hut was built in 1947 as a temporary "depot" for Northwest Airlines, which began regular commercial service in June of that year.

Airport Directors

Joe Monger (First Director) 1944-57

Key Airline Events

1947

Northwest Airlines' first regularly scheduled commercial air service to BZN with a Martin 202

Northwest begins Douglas DC-3 service to BZN (Billings, Butte)

General Aviation, Cargo, Military & FAA

1949

Bozeman Daily Chronicle delivered on Sunday by Lynch Flying Service pilot Al Newby

1950

Gallatin Flying Service begins

1950s



Airport Administration Building, Circa 1950s

An airport administration building, designed by Fred Willson, was constructed for \$153,000 in 1950-1951. This building, originally funded by a county bond issue, was expanded and remodeled in 2005 with federal funding. It currently houses Aircraft Rescue and Fire Fighting (ARFF) operations and U.S. Customs. Gallatin County levied a 0.9 mill tax for airport construction and maintenance throughout the 1950s.

Airport Directors

Joe Monger 1944 – 1957

Edwin Iverson 1957 - 1970

Key Airline Events

1951

Gallatin Flying Service begins renting the 24' x 60' temporary administration building built in 1947

1952

BZN Airline Terminal designed by Fred Wilson opens (2 Ground level gates)

New airline terminal ramp opens (2 aircraft capacity)

1954

Vice President Nixon visits BZN arriving on a United Air Lines Convair 340

1958

Northwest begins first DC-4 service to BZN

General Aviation, Cargo, Military & FAA

1953

Lt. Thomas Deams lands first F-80 jet fighter at BZN

1956

Newby-Anderson Flight Line begins service

1959

Newby-Anderson Flight Line purchases Lynch Flying Service

1959

National Guard facility constructed and leased

1960s



Frontier Convair 580 1967

New construction, to meet the growth of Gallatin Field, was made possible by an airport bond issue in 1960. The bonds funded a project that consisted of the reconstruction of 150-foot by 5,410-foot Runway 12-30 including new medium-intensity lighting, a new 120-foot by 640-foot general aviation apron, air carrier apron reconstruction and expansion and reconstruction of Taxiway "A". Runway 12-30 was extended to 6,500 feet in 1963, permitting use of the airport by transport aircraft such as the Douglas DC-6 and Lockheed Electra. Taxiways "C" and "D," were constructed in 1965. A number of improvements were made in the late 1960s to accommodate jet service. The main Runway 12-30 was extended to 9,000 feet; Taxiway "C" was widened and strengthened, including new lighting, and the air carrier apron was again expanded and overlaid. The \$606,000 for the improvements was paid for by a bond issue and the Federal Aviation Administration. The Airport was additionally supported by a City and County tax levy for maintenance, operations, and administration.

Airport Directors

Edwin Iverson 1956 - 1970

Key Airline Events

1961

Northwest begins first DC-6 service to BZN.

1964

Northwest begins first Lockheed Electra service to BZN.

1967

Northwest operates first 727 into BZN
Frontier Airlines begins Convair 580 service to BZN (Missoula, Salt Lake City)

1968

Northwest begins regularly scheduled 727 jet service to BZN

General Aviation, Cargo, Military & FAA

1960

Airport closed to aircraft over 12,500 lbs. due to pavement failures (March)

Montana State College Co-op was the first flying club.



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N:\0761\148 - Master Plan 2019\ACAD\Exhibits\0761-148_HISTORICAL-AERIALS (1965-1985).dwg Plotted by jonathan lehman on Dec/12/2019

BELGRADE		BOZEMAN YELLOWSTONE INTERNATIONAL AIRPORT	MT	PROJECT NO. 0761.148
MASTER PLAN 1965 AERIAL EXHIBIT		FIGURE NUMBER 1965		



1970s



New Airline Terminal 1977

A FAA planning grant in 1972 resulted in development of the first Master Plan for Gallatin Field. Runway 16-34, the N-S Runway, was abandoned due to lack of use and cost of maintenance. The Montana Legislature passed legislation authorizing the establishment of Airport Authorities in Montana, and by November 1972, Gallatin Field became an Airport Authority. The Airport Authority sold revenue bonds in 1974 to finance a new FBO building, relocate Federal Aid Secondary (FAS) 290, now known as Dry Creek Road, relocate the existing FBO buildings and construct a new general aviation apron. The turf Runway 3-21 was relocated east of the General Aviation apron to permit closing the old crosswind runway for anticipated construction of a new terminal building. In 1976, the Authority again sold \$2,400,000 of revenue bonds to construct a new 40,000 square foot terminal building; build a new air carrier apron; widen, strengthen, and extend taxiways; construct a new terminal access road; and extend water and sewer utilities to the terminal buildings. The Authority provided land to the Town of Belgrade for construction of a sewage treatment facility (lagoons) and shared in the

cost of a 500,000-gallon water tank with the town. Total cost of the project was \$4,400,000. Gallatin Field was the recipient of a regional award for environmental design presented by the FAA in 1978. M.M. Martin, FAA director stated, "The building is highly functional and an outstanding example of the use of design, art, and architecture to enhance the compatibility of airport structures with their surrounding environment."

Airport Board Members

John Buttleman (1972 – 1973)
Zales Ecton (1972 – 1992)
Gardner "Pete" Waite (1972 – 1979)
Warren Fenno (1973 – 1974)
Howard Nelson (1972 – 1987)
James C. Taylor (1975 – 1993)
William Merrick (1972 – 1991)
Ashley Branning (1975 – 1988)

Airport Directors

Edwin Iverson (1957 – 1970)
Frank Wolcott (1970 – 1981)

Key Airline Events

1973

Frontier begins first Boeing 737 jet service to BZN

Enplanements surpass 25,000 for the first time.

1976

Enplanements surpass 50,000 for the first time.

1977

Northwest operates first DC-10 into BZN to carry MSU Bobcats to Honolulu

New terminal building opens (1 Upper level gate, 1 ground level gate)

New terminal ramp opens (4 aircraft capacity)

Northwest begins first seasonal (Sat. Only) non-stop service to Minneapolis (727)

First Scheduled Overnight Aircraft (Frontier 737)

1978

Frontier begins first non-stop service to Denver (737)

General Aviation, Cargo, Military & FAA **1973**

New Instrument Landing System (ILS) commissioned

1975

Flight Line, Inc. moved into the new airport-owned FBO Building on the new general aviation ramp.

1978

Sunbird Aviation opens an FBO business in their new building on the general aviation ramp.

Sunbird Aviation and Flight Line provide FBO services at the airport

1980s



Airline Terminal 2000

The 1980s were a decade of continued growth for Gallatin Field. The Airport Improvement Program included the FAA providing a maximum of 90 percent of the funding for airport improvements. In addition to runway, taxiway, apron, and access road improvement projects, a 36-foot by 56-foot fire station was built, an addition to the snow removal equipment building was constructed, and a passenger terminal door replacement project was completed. The Gallatin Airport Authority also acquired snow removal equipment and additional land, installed security fencing, upgraded the taxiway lighting system, and purchased a second emergency standby generator to serve the airline terminal.

Airport Board Members

Howard Nelson (1972 – 1987)
Ashley Branning (1975 – 1988)
William Merrick (1972 – 1991)
Sue Leigland (1988 – 2000)
Zales Ecton (1972 – 1992)
Robert Taylor (1989 – 1998)
James C. Taylor (1975 – 1993)

Airport Directors

Frank Wolcott (1970 – 1981)
Ted Mathis (1981 – 2009)



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BELGRADE

BOZEMAN YELLOWSTONE INTERNATIONAL AIRPORT

MT

MASTER PLAN
1979 AERIAL EXHIBIT

PROJECT NO.
0761.148

FIGURE NUMBER
1979

Key Airline Events

1982

Western Air Lines begins service to Salt Lake City (737)

1983

Terminal expands to add a second upper level gate.

1985

Enplanements surpass 75,000 for the first time.

1986

Frontier Airlines declares bankruptcy and ends service

Big Sky Airlines begins service to Billings and Spokane (Fairchild Metro)

Northwest begins first daily non-stop service to Minneapolis (McDonnell Douglas DC-9)

Continental Airlines begins service to Denver (737)

Enplanements surpass 100,000 for the first Time.

Second Passenger Loading Bridge installed by Western Airlines

1987

Western Air Lines merged into Delta Air Lines

1988

SkyWest Airlines begins service to Salt Lake City (Embraer Brasilia)

1989

Big Sky Airlines declares bankruptcy and ends service to BZN

General Aviation, Cargo, Military & FAA

1982

Arlin's Aircraft Service purchases new large west maintenance hangar on GA Apron from Flight Line, Inc.

Flight Line sells business to Sunbird Aviation

1983

Omniflight Helicopters begins helicopter charter

1984

Eagle Flight Service begins operations at BZN

Federal Express begins service at BZN

1985

First car condos storage facilities constructed in Airline Terminal Area

Turf Runway 03/21 lengthened and paved

1986

UPS provides service at BZN

Eagle Flight Aviation discontinues business at the Airport

Ag Wagons Inc. discontinues operations

John's Flying service begins charter service

1987

Al Newby, longtime local aviator killed in tragic crash north of Bozeman

1988

Local pilots and mechanics busy with fires in Yellowstone National Park

1989

First fueling system for rental car servicing constructed

BACO-TDM, Bruce Anderson Technical Design Management Company, relocates to old terminal building

BZN discontinues accepting 2 Mills from Gallatin County

1990s

Population expansion in the Gallatin Valley during the 1990s caused continued growth to Gallatin Field. Major projects included rental car parking lot expansion, Phases I & II of the Terminal Expansion, construction of a holding bay on Taxiway A, employee and pay parking lot expansion, and construction of a deicing fluid storage on the commercial apron. These projects were paid for with Airport Improvement Program (AIP), Passenger Facility Charge (PFC), and local funding. Additionally, the air traffic control tower was constructed in 1997.

Airport Board Members

William Merrick 1972 – 1991

Richard Roehm 1991 – 2011

Zales Ecton 1972 – 1992

Sue Leigland 1988 – 2000

James C. Taylor 1975 – 1993

John McKenna Jr. 1993 – 2013

Tom Nopper 1999 – 2004

Robert Taylor 1989 - 1998

Airport Directors

Ted Mathis 1981 - 2009

Key Airline Events

1990

Horizon Air begins service to Billings and Spokane (Fairchild Metro) Enplanements surpass 125,000 for the first time.

1992

Enplanements surpass 150,000 for the first time.

1993

Enplanements surpass 175,000 for the first time.

1994

Continental ends service to BZN

New Frontier begins service to Denver (737)

Horizon Air begins first seasonal non-stop service to Seattle (Fokker F28)

Phase I expansion of the terminal building is completed - expanding the ticket counter/lobby and relocating the restaurant/lounge to the upper level.

1995

New Frontier ends service to BZN

1996

Horizon ends non-stop service to Spokane

Horizon begins first daily non-stop service to Seattle with Dornier 328

SkyWest begins first Canadair Regional Jet service

BZN ranked 168th busiest passenger airport in nation

FAA Flight Service Station closed leaving Gallatin Field with no air traffic advisory service.

1997

Phase II expansion of the terminal building is completed - expanding the baggage claim and ground transportation areas.

Aspen Mountain Air begins service to Denver (Dornier 328)

Horizon begins daily non-stop F28 service to Seattle

Enplanements surpass 200,000 for the first time.

1998

Aspen Mountain Air declares bankruptcy and ends service

Airport Authority designs, funds, and constructs the first new airport-owned air traffic control tower in the northwest.

1999

Airport Authority opens, operates, and maintains new air traffic control tower under FAA Contract Tower Program.

Northwest Airlink (Mesaba) operates first AVRO ARJ to Minneapolis/St. Paul (Summer Only)

Terminal Parking Lot expanded to 760 stalls

General Aviation, Cargo, Military & FAA

1990

Pietenpol aircraft restored for Museum of the Rockies

1991

New fuel storage constructed by FBOs

1992

New car wash facilities constructed by individual rental car companies

1993

Iverson Aviation begins charter operations

1995

Video Lottery Technology purchases first jet to be based at BZN

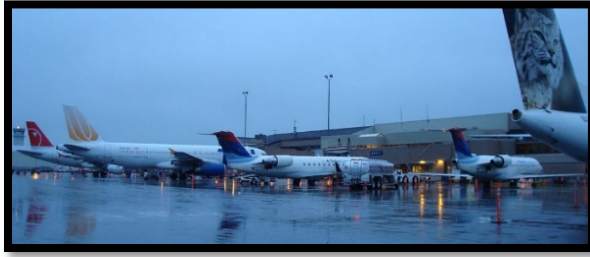
Airborne Express provides first service

1996

FAA Flight Service Station closed leaving Gallatin Field with no air traffic advisory service.



2000s



Rainy Day Ramp 2008

From 2000 to 2007, Gallatin Field continued to grow rapidly. Federal funding under the Airport Improvement Program changed whereby the FAA would provide a maximum of 95% of the funding for airport improvements. Gallatin Field constructed over \$32,500,000 of improvements during this period.

This growth resulted in numerous airside and land side expansions since 2000, including two expansions to the commercial apron, a concourse expansion to the terminal building, a new general aviation tie down apron, and the construction of the East Ramp and a cargo apron. General aviation hangar construction also resulted in several taxilane construction projects including sewer, water and utility construction. The funding for these enhancements was through the Airport Improvement Program, Passenger Facility Charge, and local Airport Authority dollars.

Since the 1993 Master Plan, passenger enplanements increased 92% or 4.7% annually, on average from 175,042 in 1993 to 335,276 in 2007. The total number of aircraft operations increased from 47,100 in 1993 to 80,606 in 2007, an increase of 71% or 3.9% annually. From 1993 to 2007, based aircraft increased 159% from 113 to 293, a 7.1% annual increase.

The 10 year time frame also showed a change in the type of aircraft operated by the commercial airlines. Gallatin Field saw the last Boeing 727 commercial service aircraft in 2002. It marked a shift to the Airbus A319, the A320, and 50 to 70 seat regional jets. Commercial airlines provided non-stop flights from Bozeman to Atlanta, Chicago, Denver, Detroit, Las Vegas, Minneapolis/St. Paul, Salt Lake City, San Francisco and Seattle/Tacoma. Gallatin Field was served by six airline brands, Allegiant, Delta, Frontier, Horizon, Northwest and United. Additionally, FBO service at the airport is provided by Arlin's Aircraft and Yellowstone Jet Center. Gallatin Field has produced a level of service that is respected throughout the northwest by the flying public and the businesses located on the airport.

Airport Board Members

Sue Leigland (1988 – 2000)
Yvonne Jarret (2000 – 2005)
Richard Roehm (1991 – 2011)
Eric Hastings (2004 – 2006)
Steve Williamson (1992 – 2012)
Greg Metzger (2005 – 2010)
John McKenna Jr. (1993 – 2013)
Deborah Deitz (2006 – 2007)
Tom Nopper (1999 – 2004)
Kevin Kelleher (2007 – Present)

Airport Directors

Ted Mathis (1981 – 2009)
Brian Sprenger (2009 – Present)

Key Airline Events

2000

Northwest begins first seasonal (Sun. Only) non-stop to Detroit

Northwest begins first Airbus A320/A319 service to BZN

Big Sky Airlines begins service to Billings and Denver (Fairchild Metro)

Big Sky Airlines ends service to BZN

Terminal concourse expanded to 3 gates (2 upper level, 1 ground level boarding)

United Express (SkyWest) begins service to Denver (Canadair Regional Jet)

Enplanements surpass 225,000 for the first time.

2001

United Express (Air Wisconsin) begins service to Denver (BAe 146) augmenting SkyWest service

Delta begins first Boeing 737-800 service to BZN

Horizon Air begins first Dash 8-400 service to BZN

Terminal concourse expanded to 4 gates (3 upper level, 1 ground level boarding)

Terminal ramp expanded for the first time since new terminal opened in 1977 (6 aircraft capacity)

Events of September 11th shut airport down for 3 days.

Enplanements surpass 250,000 for the first time.

2002

Horizon Air begins first seasonal non-stop to Los Angeles (Also first CRJ700)

Northwest operates last scheduled 727-200 service to BZN

Northwest operates first daily Detroit service during Christmas 2002

Horizon Air operates first CRJ-700 service with non-stop Saturday service to Los Angeles.

Screening checkpoint moved and increased to 2 lanes.

TSA takes over baggage screening, checked baggage screening begins in front of ticket counters

2003

Enplanements surpass 275,000 for the first time.

2004

Terminal concourse expanded to 5 gates (4 upper level, 1 ground level boarding)

Checked baggage screening moves behind ticket counters after counters moved out 8'

Enplanements surpass 300,000 for the first time.

2005

Northwest Jetlink (Pinnacle) begins service to Minneapolis/St. Paul (CRJ) Augmenting Northwest service



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N:\0761\148 - Master Plan 2019\ACAD\Exhibits\0761-148_HISTORICAL-AERIALS (1999-2015).dwg Plotted by jonathan lehman on Dec/12/2019

BELGRADE	BOZEMAN YELLOWSTONE INTERNATIONAL AIRPORT	MT	PROJECT NO. 0761.148
			FIGURE NUMBER 2005
MASTER PLAN 2005 AERIAL EXHIBIT			

Big Sky Airlines begins non-stop service to Boise (Beech 1900)

Terminal ramp expanded for overnight aircraft parking (8 aircraft capacity)

Delta Air Lines begins first non-stop service (seasonal weekends) to Atlanta (737-800)
Delta ends mainline 737 service to SLC

Delta Connection (Atlantic Southeast) begins (CR7) service to SLC replacing Delta mainline service

First Northwest 757 operates into BZN to bring home troops from Iraq

Enplanements surpass 325,000 for the first time.

2006

United Express begins first non-stop service (seasonal daily) to Chicago O'Hare (CR7)

Big Sky Airlines begins Sat, Sun non-stop service to BIL and MSO

Big Sky Airlines begins Sat, Sun one-stop, same plane service to PDX

Summer non-stop service to eleven cities, nine states and four time zones (ATL, BIL, BOI, BTM, DEN, DTW, MSO, MSP, ORD, SEA, SLC)

Delta Connection (SkyWest) operates first CRJ-900 service (SLC)

Delta operates first scheduled 757 service (seasonal to ATL)

2007

United Express begins year round daily service to Chicago O'Hare (CR7)

Big Sky Airlines discontinues Sat, Sun service to BIL, MSO and PDX

United Express begins first non-stop service (seasonal, Sat. Only) to San Francisco (CRJ)

Radar coverage commences at BZN with the commissioning of the first locally purchased radar in the nation

Northwest (Compass) operates first Embraer 175 aircraft to BZN

Horizon begins first daily non-stop service to IDA (DH4) same plane to BOI and PDX

Terminal Ramp expanded for future terminal addition (10 Aircraft Capacity)

BZN ranked 141st busiest passenger airport in nation.

2008

Big Sky Airlines ends service between BZN and BOI and liquidates

United Airlines begins seasonal mainline 737-300 service. (DEN)

Frontier Airlines begins service between BZN and DEN using Lynx (Q400) and Republic (E170)

Screening checkpoint increased to three lanes.

United Express begins seasonal non-stop service (Sat. Only) to Los Angeles (CR7)

United Airlines begins seasonal mainline A320 service. (DEN and ORD)

United Express makes daily service to Chicago O'Hare seasonal (Winter & Summer)

Allegiant Air begins first non-stop service (Thu, Sun) to Las Vegas (MD80)

Terminal Parking Lot expanded to 1,400 stalls

Peak Overnight Aircraft – 9 (December, Saturday nights, 2 UA CRJ, 2 UA CR7, 1 DL CR9, 1 DL CRJ, 1 NW A320, 1 F9 Q400, 1 QX Q400)

Enplanements surpass 350,000 for the first time

2009

Northwest and Delta operations combined into Delta

United Express discontinues seasonal service to Los Angeles

Expansion of the terminal building begins

First 747 to land at BZN as President Obama arrives in Air Force One

BZN welcomes MSU Bobcat themed Horizon Air Q400

United Express announces daily non-stop service to San Francisco for the winter season

BZN ranked 134th busiest passenger airport in the nation

General Aviation, Cargo, Military & FAA **2000**

Yellowstone Jet Center buys Sunbird Aviation

2003

Central Helicopters completes new facilities on east ramp and begins operation.

2004

Flight Line Fractional Ownership completes new hangar/office in south GA commercial area and begins operation.

2005

Pilot shelter constructed by volunteers

Arlin's Aircraft Service installs new self-fueling Av-Gas station

Summit Aviation offers flight instruction

2006

Gallatin Field was first in the nation to partner with the FAA in the construction of a radar station on the airport. The new Airport Traffic Control beacon Interrogator (ATCBI-6) "Beacon-Only" facility provides surveillance support to Salt Lake City Air Route Traffic Control Center (ARTCC). This project was a \$3 million dollar investment split with the FAA.

New FedEx facility constructed on East Ramp

2010s

From 2010 – 2020, the airport continued to grow at a rapid pace. Federal funding by the FAA provided 90% of the cost of allowable airport improvements. Bozeman Yellowstone International Airport constructed over \$138,000,000 of improvements during this period.

The growth included significant airside and landside improvements, including expansion of the commercial apron; new access roads and an interchange from Interstate 90 to access the airport; expansion of the airport's pay parking lots; construction of a concrete East Ramp; construction of a new parallel Runway 11-29 and associated taxiways; rehabilitation of Runway 12-30; a large terminal expansion (growing the facility from 4 gates to 12 gates) and associated TSA baggage system modifications; boarding bridge acquisitions and commercial apron expansion; construction of deicing aprons; Snow Removal Equipment acquisition; the extension of Taxiway "U"; Water/Sewer/Electrical rehabilitation projects; the construction of a 1,100 stall Parking Garage for rental car vendors and pay parking; and construction of East Hangar Area taxilanes.

In the time period of 2010-2019, passenger enplanements increased at a rate of 107% (11.9% average) annually, from 365,210 in 2010 to a projected 756,000 in 2019. Total number of aircraft operations increased from 72,447 in 2010 to a projected 96,000 in 2019 (an increase of 33% or 3.6% annually).

Airport Board Members

Richard Roehm (1991 – 2011)
Steve Williamson (1992 – 2012)
John McKenna Jr. (1993 – 2013)
Greg Metzger (2005 – 2010)
Kevin Kelleher (2007 – Present)
Ted Mathis (2010 – Present)
Carl Lehrkind IV (2011 – Present)
Kendall Switzer (2012 – Present)
Karen Stelmak (2013 – Present)

Airport Directors

Brian Sprenger (2009 – Present)



Bozeman Yellowstone Airport Terminal 2011

Key Airline Events

2010

United Express announces daily non-stop service to San Francisco for the summer and winter

United Express announces daily non-stop service to Los Angeles for the summer

Horizon discontinues non-stop to Great Falls

Horizon operates all non-stop all the time to Seattle/Tacoma

For the first time since airline service began at BZN, there are no direct flights to a city in Montana

BZN has daily non-stops for the summer to Chicago, Denver, Los Angeles, Minneapolis/St. Paul, Salt Lake City, San Francisco and Seattle/Tacoma plus less than daily non-stops to Atlanta, Detroit and Las Vegas

Delta brings first scheduled MD-90 service to BZN (MSP)

Allegiant Air announces twice weekly non-stop service to Phoenix-Mesa (MD-80)

2011

BZN designated a "Small Hub" airport by the FAA

Terminal Expansion opens adding 125,000 square feet of space, 3 additional gates, an additional baggage claim carousel and expanded food/beverage and gift concessions

BZN partners with Montana PBS to broadcast Montana content throughout the terminal building

Horizon brand is retired and is replaced by the Alaska Airlines brand

Frontier operates first Embraer E190 service between Bozeman and Denver

Gallatin Airport Authority Board approves airport name change to Bozeman Yellowstone International Airport at Gallatin Field

BZN partners with the Yellowstone Association and the Yellowstone Park Foundation to open the "Destination Yellowstone" store and educational museum displays

Enplanements surpass 375,000 for the first time

BZN ranked 130th busiest passenger airport in the nation

2012

Allegiant Air announces twice-weekly non-stop service to Oakland, CA. (MD-80)

Alaska Airlines announces seasonal daily non-stop service to Portland, OR. (Q-400)

United Air Lines announces seasonal once weekly non-stop service to New York/Newark. (A319)

Frontier begins A318/A319 service to Denver

Summit Air Ambulance becomes first air ambulance service at BZN

U.S. Customs office opened at BZN on July 1, 2012

First International arrival arrives BZN on July 1, 2012 from Calgary

Peak Overnight Aircraft – 10 (July Saturday night, 2 UA CR7, 1 UA A320, 1 DL CR7, 2 DL CRJ, 2 DL A320, 1 DL 737-700, 1 QX Q400)

United operates first 737-900 into BZN from Denver

BZN partners with Montana State University to bring an MSU mural to the terminal and BZN signage to the Brick Breeden Fieldhouse

Enplanements surpass 425,000 for the first time

BZN ranked 121st busiest passenger airport in nation

2013

Allegiant Air discontinues service to Oakland, Ca.

Delta announces summer Sat. only non-stop service to Los Angeles (CRJ-900)

United expands New York/Newark service to twice weekly for the summer and winter

BZN becomes busiest passenger airport in Montana on May 31, 2013

Pay parking lot expanded to 1,500 parking stalls

Terminal ramp expanded (11 aircraft capacity)

Construction begins on new I-90 Interchange serving BZN

BZN partners with the Museum of the Rockies and opens a new museum display in the terminal

Big Sky Approach (located in Boise) begins handling air traffic control arrivals and departures substantially reducing ATC delays at BZN

Delta announces daily non-stop service to Los Angeles (CRJ-900) and twice daily non-stop service to Atlanta (737-800) for the Christmas/New Year's Holiday season

2014

United expands New York/Newark service to three times weekly for the summer

United announces summer and winter Sat/Sun non-stop service to Houston, TX (CRJ-700)

Alaska adds 3rd non-stop flight to Seattle
Delta expands Atlanta service to daily for the summer

Delta announces Saturday non-stop service to New York LaGuardia (A319)

Environmental analysis for paved runway 11/29 begins

Delta begins winter seasonal service to Seattle (E175)

Delta operates first scheduled 757 service to MSP over the Christmas/New Year's holiday

United operates first "red-eye" departure to Newark on Saturdays over the Christmas/New Year's holiday

Enplanements surpass 450,000 and 475,000 for the first time

BZN ranked 120th busiest passenger airport in the nation

2015

I-90 East Belgrade Interchange opens serving BZN

Alaska extends Portland summer service until October 31

Alaska begins Christmas/New Year's holiday Portland service

Enplanements surpass 500,000 for the first time

Delta begins year-round non-stop service to Seattle

United begins year-round mainline service to Denver



2,000 1,000 0 2,000 4,000
SCALE IN FEET

**Morrison
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DSGN. BY: JW
APPR. BY: MJM
DATE: 12/12/2019

BELGRADE

BOZEMAN YELLOWSTONE INTERNATIONAL AIRPORT

MT

MASTER PLAN
2015 AERIAL EXHIBIT

PROJECT NO.
0761.148

FIGURE NUMBER
2015

N:\0761\148 - Master Plan 2019\ACAD\Exhibits\0761-148_HISTORICAL-AERIALS (1999-2015).dwg Plotted by jonathan lehman on Dec/12/2019

Terminal ramp expanded to facilitate deicing and aircraft movement	Enplanements surpass 525,000 and 550,000 for the first time
East ramp expanded for general aviation	Total passengers (enplaned + deplaned) surpass 1,100,000
Total passengers (enplaned + deplaned) surpass 1,000,000	BZN ranked 114th busiest passenger airport in the nation
BZN ranked 118th busiest passenger airport in the nation	2017 American announces seasonal service to Chicago O'Hare (CR7)
2016 Alaska extends PDX seasonal service from Feb - Nov, Thanksgiving and Christmas/New Years	Yellowstone Club Hangars Opens
American Airlines begins service to BZN (and Montana) with non-stop service to DFW (CR9)	Bridger Aerospace Hangar Opens
Terminal ramp expanded to include a holding bay for aircraft waiting for a gate	American begins mainline service to Dallas/Ft. Worth (A319) Summer
Phase I of Main Taxiway Rehabilitation completed	American announces year-round service to Dallas/Ft. Worth
Re-aligned taxiways C/D into taxiway A3	Pay Parking Lot expanded to 1,900 stalls
Re-named taxiway "O" to taxiway "F"	United announces year-round service to Chicago O'Hare
Delta discontinues year-round non-stop service to Seattle (Seasonal remains)	Alaska begins 2nd daily flight to PDX (Summer seasonal)
Environmental Analysis of paved runway 11/29 is completed with a finding of no significant impacts.	New Bozeman Yellowstone Int'l Airport entry sign installed
Construction begins on paved runway 11/29 and associated taxiways	Phase II of Main Taxiway Rehabilitation completed
	Runway 11-29 (Paved) is opened on October 26, 2017. 5,050' long x 75' wide. Ted Mathis performed the first test flight for the new runway, first official take-off was by Tim Linn in his Cessna 195 and the first official landing

was by Ben Walton of Summit Aviation in one of their DA42 Diamond Twin Stars.

Delta operates first A321 into BZN

FedEx operates first scheduled ATR into BZN
BZN Celebrates 75 years of serving Southwest Montana on November 22, 2017

Construction of a 1,100 stall multi-use parking garage begins December 2017

Enplanements surpass 575,000 and 600,000 for the first time

BZN ranked 109th busiest passenger airport in the nation

2018

United announces daily non-stop service to Newark for summer 2018

Allegiant expands Phoenix/Mesa service to year-round

American announces Saturday non-stop service to Los Angeles for summer 2018

Money Magazine ranks BZN as #5 best airport in U.S.

JetBlue announces twice weekly non-stop service to Long Beach, CA beginning December 13, 2019

Runway 12/30 rehabilitated April 30 - May 19 (runway closed from 12:30 p.m. - 11:00 p.m. each day)

Alaska expands Portland service to daily year-round

Delta operates first Boeing 717 into BZN

United expands San Francisco service to daily year-round

United expands Los Angeles service to daily year-round

Frontier resumes year-round service to Denver (previous year service ended in October 2017, resumed in May 2018)

United announces daily non-stop service to Houston for summer 2019

Delta announces Saturday service to Detroit for March 2019

First passenger boarding bridge installed at BZN in 1977 is replaced with a new passenger boarding bridge

Enplanements surpass 625,000 and 650,000 for the first time

Tower operations surpass 85,000 for the first time with capacity increase of new runway 11/29

BZN ranked 107th busiest passenger airport in the nation

2019

(Summary to be included in final document)

General Aviation, Cargo, Military & FAA

2010

Rocky Mountain Rotors begins service

2012

US Customs established at BZN on July 1

Yellowstone Jet Center transfers holdings to Signature Flight Support (March)

Summit Air Ambulance begins service
(October)

2012

Summit Aviation begins Part 135 Operations
(April)

2016

Cloud Nine constructs commercial hangar
(Feb.)

Bridger Aerospace constructs commercial
hangar (Feb.)

Big sky Jet approved for flight training (July)

Yellowstone Aviation Group begins Part 135
operations (Sept.)

2017

Life Flight air ambulance begins service
(Aug.)

Ridgeline Aviation begins operation (Aug.)

2018

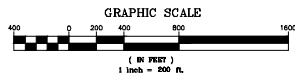
Island LLC & Summit Aviation approved to
construct 120' X 100' commercial hangar
(Dec.)

Cross Harbor Capital Partners to construct 2
220' X 180' commercial hanger with office
space on east ramp

2019

Cross Harbor Capital Partners to construct
another 220' X 180' new commercial hangar
(Jan.)

The Airport use, character, and environment
has changed markedly since the time of the
last Master Plan update in 2008. For a
complete list of projects constructed from
2008 to 2019, see **Table 1-1**.



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CHK'D BY: MM
APPR'D BY: STB
DATE: 09/20/19

BOZEMAN YELLOWSTONE INTERNATIONAL AIRPORT
BELGRADE **MONTANA**
2020 CURRENT CONDITIONS

PROJECT NO.
781.000
FIGURE NUMBER
1111

10/07/19-148 - Master Plan 2019ACADEL08060781-148 AERIAL CURRENT.jpg Plotted by Jonathan Ibram on Dec 2, 2019

Table 1-1: Airport Development Projects 2008-2019
Major Projects Including AIP & Non-AIP

Year	Project	FAA Project No.	Cost
2008	Parking Lot Design	Non-AIP	\$ 128,500
2008	Improvements Construction	Non-AIP	\$ 1,716,949
2008	Terminal Access Roads and Utilities for 2011 Expansion	3-30-0010-035-2010	\$ 2,073,892
2009	108 PFC Application	PFC	\$ 7,500
2009	Pavement Condition Index 2009	Non-AIP	\$ 35,600
2008	Design and Construction of Airline Sewage Dump Station	Non-AIP	\$ 32,000
2009	Gallatin Field 09 PFC	PFC	\$ 7,500
2009 - 2010	Car Wash Facility Design and Construction	CFC	\$ 2,622,578
2010	2010 Pavement Maintenance - Design and Construction		\$ 222,366
2011	Terminal Expansion (Design and Construction)	3-30-0010-033-2009 3-30-0010-034-2009 3-30-0010-036-2010 3-30-0010-037-2011 3-30-0010-039-2011 3-30-0010-040-2012 3-30-0010-041-2013	\$ 46,098,386
2011	TSA Grant Management and Administration for Baggage System		\$ 98,275
2011 - 2012	2011 Access Rd & Parking Lot Design and Construction Engineering		\$ 923,837
2011 - 2012	Car Condo Improvements Design and Construction		\$ 15,500
2013	BZN Wildlife Hazard Assessment	3-30-0010-038-2011	\$ 128,000
2013	BZN Annexation & Zoning		\$ 39,900
2012 - 2013	Passenger Boarding Bridges Gates 5& 6		\$ 708,857
2013	Land Acquisition for East Belgrade Interchange	Non-AIP	\$ 222,445
2013	East Belgrade Interchange Utility Relocations	Non-AIP	\$ 2,700,000

**Bozeman Yellowstone International Airport
Master Plan Update**

2016	Parallel RW 11-29 Environmental Assessment	3-30-0010-043-2014	\$ 294,750
2013	Land Acquisition		\$ 192,948
2014 - 2015	Terminal Access Roads - East Belgrade Interchange	3-30-0010-042-2014 Non-AIP	\$ 4,877,167
2014	Commercial Apron Expansion AIP Design & Construction; Pay Parking Expansion Design and Construction ALP	3-30-0010-042-2014	\$ 1,590,747
2014	TSA Baggage Modification		\$ 6,500
2015 - 2016	De-Icing & Stormwater Management Design and Construction and ALP Update	3-30-0010-044-2015	\$ 2,225,086
2015 - 2017	East Ramp Expansion Design, Construction, and ALP Update	3-30-0010-044-2015	\$ 1,866,969
2017	Snow Removal Equipment (Plow and Broom)	3-30-0010-046-2014	\$ 916,970
2017 -2019	Taxiway Rehabilitation Phase 1	3-30-0010-045-2016	\$ 3,940,278
2015 - 2016	Commercial Apron 2016 Design and Construction, ALP Update		\$ 660,540
2016 - 2017	Runway 11-29 Design and Construction	3-30-0010-046-2016 3-30-0010-048-2018	\$ 6,424,179
2017 - 2018	BZN Pay Parking Lot Design & Construction (Including employee parking lot construction)		\$ 660,061
2017 - 2018	Taxiways U & V Design & Construction	3-30-0010-045-2017	\$ 155,103
2017-2019	Multi-Use Parking Garage - Design & Construction	CFC	\$ 31,269,043
2017 - 2018	Taxiway Rehabilitaation Phase 2, Rehabilitate Runway 3-21	3-30-0010-047-2018 3-30-0010-050-2018	\$ 2,061,321
2017 -2018	Rehabilitation of Runway 12-30, Rehabilitate Runway 3-21	3-30-0010-049-2017 3-30-0010-050-2018	\$ 3,680,682
2018 - 2019	Commercial Apron Design & Construction (Gates 1-5)	3-30-0010-051-2019	\$ 1,567,724
2018 - 2019	Water & Sewer Main Extension and SRE Building Electrical Rehabilitation		\$ 109,190

2018	Passenger Boarding Bridges Removal and Replacement (Gates 1, 2, and 3)		\$ 1,643,267
2019 - 2020	East Hangar Area Design & Construction		\$ 2,455,874
2020	ARFF Truck Acquisition		\$ 780,000
2019	Pavement Condition Index		\$ 62,800
2019 - 2020	Terminal Expansion Design & Construction		\$ 24,125,963
2019	Commercial Apron Gates 9-12		\$ 4,088,541
2019	Baggage System Mods and Expansion		
2019	Boarding Bridges Gates 8-12 Design		\$ 26,000
2020	Master Plan	Future AIP	\$ 690,794
Total 2008 - 2020			\$ 155,105,813

1.4. Airport Setting

Figure 1-1 depicts the location of the airport in its regional setting. As shown, BZN is located in Gallatin County in the southwest part of the state. Gallatin County is the most populated and fastest growing county in scenic southwest Montana. The County Seat of Bozeman has become the #1 fastest growing city of its size in the nation, with a population approaching 50,000 people. The Airport is located close to downhill skiing, blue ribbon trout streams, Yellowstone National Park, and a multitude of other outdoor activities in the pristine nearby wilderness areas. These qualities draw new residents and tourists alike. Nearly half of all the land in Gallatin County is under public ownership by the Gallatin National Forest, State of Montana, Bureau of Land Management or the National Park Service. Gallatin County is large and diverse, featuring everything from the spectacular scenery of Yellowstone National Park to lush farmland, and a growing economy of high-tech industries.

BZN is one of two commercial service airports in the county, and one of only 15 in the state. This makes the Airport an important factor in the county's economy. Business travel will increase as more businesses find that, with the advent of technology, they can operate competitively in a national and world wide economy from Gallatin County. This is also helping grow the economy in the county through a diverse arrangement of businesses.

The airfield lies within the Gallatin Valley off of Frontage Road, State Highway 10, adjacent to the City of Belgrade and approximately 7 miles northwest of the City of Bozeman as shown in **Figure 1-2**. The Bridger Mountains are located approximately 6.5 miles east of airport property and rise to an elevation of roughly 5,000 feet above the valley floor to 9,600 feet above mean sea level. The airport is situated on 2,787 acres of sponsor owned property and is surrounded by an additional 3,458 acres of land controlled through clear zone easements, development rights and leases. It lies at an elevation of 4473 feet above mean sea level (MSL).

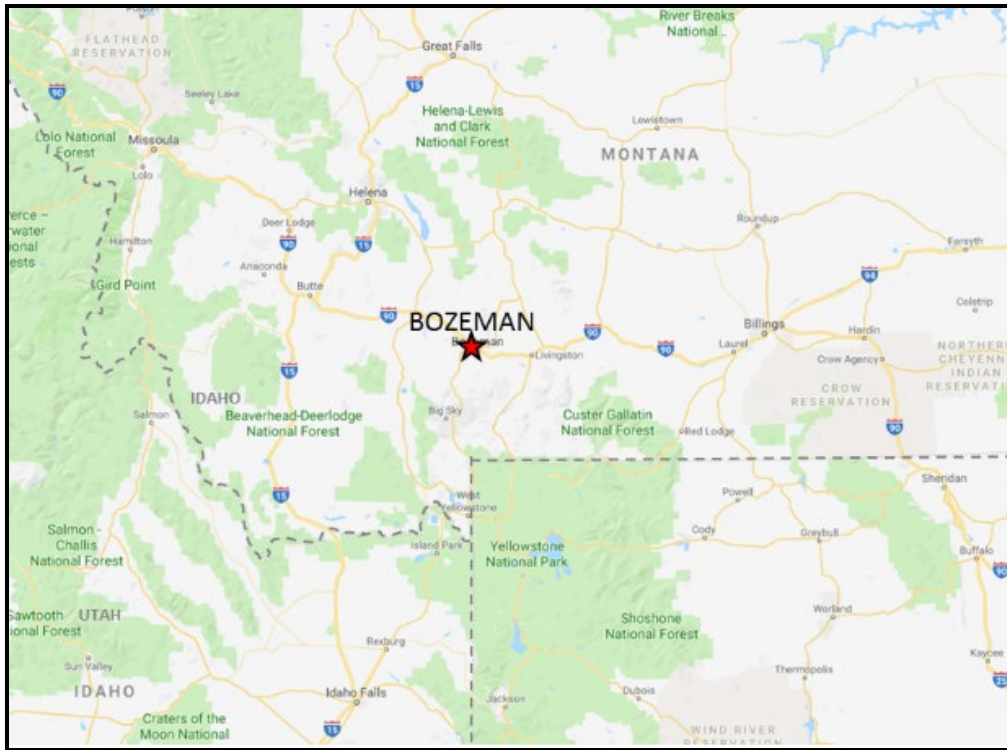


Figure 1-1 Location

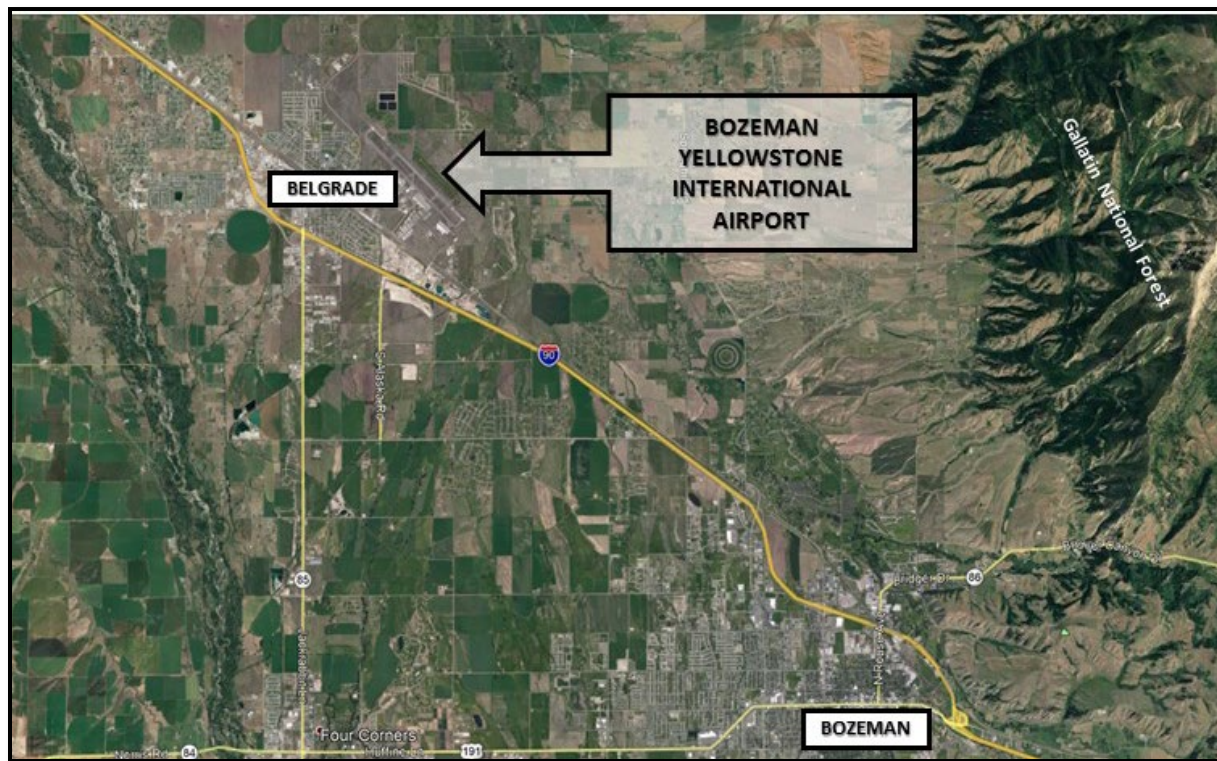


Figure 1-2 Vicinity

1.5. Climate

Local weather conditions affect the daily operations of an airport and must be considered in planning future facilities. Most importantly, temperature and wind patterns must be considered in determining runway length and orientation requirements.

Bozeman's climate is characterized by mildly warm summers, and winter months that are

typically cold with occasional extremes of below zero temperatures. The fall and spring months are transition periods between the two extremes with variable weather conditions. Climate data taken from the Bozeman Gallatin Field climate station, spanning a period from 1941 to 2016 and accessible from the Western Regional Climate Center web site is shown in **Table 1-2**.

Table 1-2: Bozeman Climate Data

Annual Average	
Annual Average Precipitation	13.92 in
Average Annual Snowfall	47.0 in
Summer Averages	
Average High Temperature in July	84.75 °F
Average Low Temperature in July	49.02 °F
Record High in July	106 °F
Record Low in July	30 °F
Average Precipitation in July	1.09 in
Winter Averages	
Average High Temperature in January	30.11 °F
Average Low Temperature in January	6.60 °F
Record High in January	60 °F
Record Low in January	-46 °F
Average Precipitation in January	0.56 in
Average Snowfall in January	8.22 in

Source: <http://www.wrcc.dri.edu/>

1.6. Airport System Planning Role

Airport system planning is an integrated process that occurs at a number of levels, local, regional, state and national. Local level airport planning is accomplished through the airport master plan process. Local planning data and recommendations are incorporated into regional and state planning. BZN is included in the Montana State Aviation System Plan (SASP), updated in 2015. BZN is classified in the SASP as a 'Primary Commercial Service Airport.

The National Plan of Integrated Airport Systems (NPIAS) is a federal planning document which defines the service level and role of all airports in the federal airport system. The FAA updates its NPIAS every other year. State system plans, are used to develop NPIAS recommendations. The FAA draws money for eligible airport development projects from the Airport Improvement Program (AIP). AIP funding is derived from the Aviation Trust Fund; the source for this trust fund is a dedicated stream that is derived from taxes on the aviation fuel and commercial airline tickets. Airports must be included in the NPIAS for their projects to be eligible for AIP funding. While there are a variety of criteria that are considered for an airport to be included in the NPIAS, generally speaking, to be in the NPIAS, an airport must:

- Serve a community more than 30 miles from the closest NPIAS airport
- Have at least 10 based aircraft
- Have a willing public sponsor

BZN is categorized for current and future use in the NPIAS as a Small Hub Primary

Commercial Service Airport and meets all three criteria noted.

1.7. Airport Facilities

An essential element of the master planning process is identifying existing aviation facilities, noting the location of these facilities and analyzing the ability of these facilities to meet the airport's needs. The inventory of existing facilities at BZN was accomplished through physical inspection of the airport, discussion with airport staff, and review of existing airport layout drawings and related studies. An overview of the Airport layout is provided on **Figure 1-3**.

1.8.1 Airside Facilities

Airside facilities consist of runways, taxiways and apron areas along with associated markings, lighting systems and instrumentation. The airport reference point, which defines the midpoint of the airfield is located at latitude 45°46'39.26" N and longitude 111°09'07.28" W. The airport elevation, the highest point on the airfield pavement is 4473.50' above Mean Sea Level (MSL).

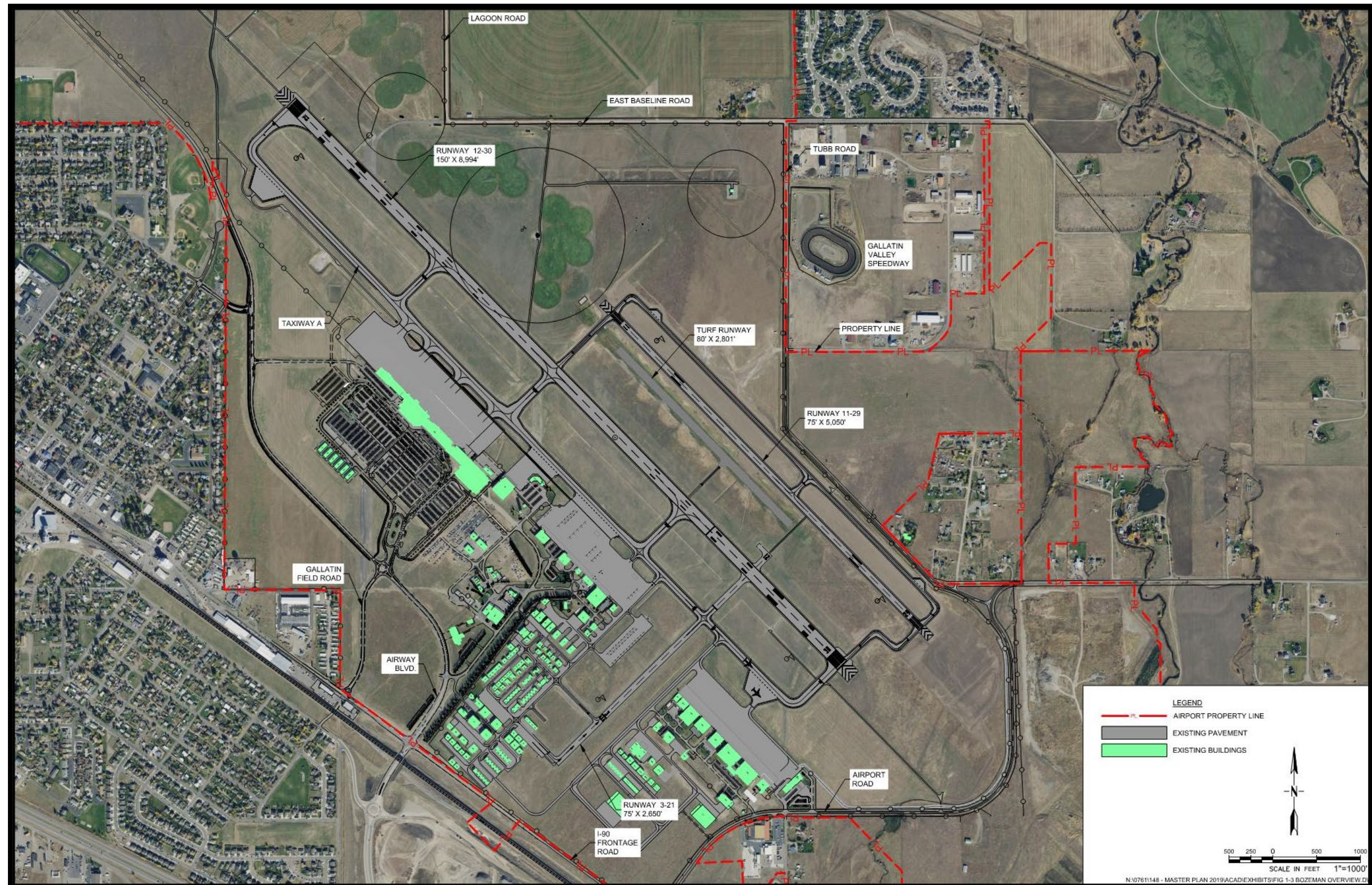


Figure 1-3: Airport Layout

Runways



Ribbon Cutting for the Opening of the New 11-29 Paved Runway on Oct. 26, 2017

The existing runway configuration consists of three active runways, Runway 12-30, 3-21 and 11-29.

Runway 12-30 is 8,994 by 150 feet with a grooved asphalt surface. It is designed to accommodate aircraft within the Runway Design Code (RDC) of C-III. This category includes aircraft with a wingspan of up to 118 feet and an approach speed of up to 141 knots. (RDC categories are discussed in detail in Chapter 3 Facility Requirements.) The runway elevation slopes up from 4425.1 feet above MSL at the Runway 12 end to a high point of 4462.4 feet above MSL at the Runway 30 end (a 0.41% effective gradient). The load bearing capacity of the runway is 120,000 pounds single wheel loading,

250,000 + pounds dual wheel loading, 550,000 pounds dual wheel tandem loading.

The Pavement Classification Number (PCN) is an International Civil Aviation Organization standard used to indicate the strength of a runway, taxiway or airport apron. The PCN is expressed as a five-part code, separated by forward slashes, describing the piece of pavement concerned. The first part is the PCN numerical value, indicating the load-carrying capacity of the pavement. The second part is a letter: either an R or an F, depending on whether the pavement itself is of a rigid (most typically concrete) or a flexible (most typically asphalt) design. The third part is another letter from A to D expressing the strength of what is underneath the pavement section, known as

the subgrade. The PCN for Runway 12-30 is 123 F/A/X/T.

Runway 12-30 is equipped with High Intensity Runway lights (HIRL) and is marked as a precision instrument (PI) runway. The runway was rehabilitated in 2018 with an asphalt pavement overlay.

Published approaches to Runway 12 and Runway 30 are discussed in Section 1.13 *Airspace*.

Runway 3-21 is 2,650 by 75 feet with a grooved asphalt surface. It is designed to accommodate aircraft within the Runway Design Code (RDC) of B-I. This category includes aircraft with a wingspan of up to 49 feet and an approach speed of up to 121 knots. Runway 3-21 is positioned perpendicular to Runway 12-30 and serves as a crosswind runway for general aviation aircraft. The runway elevation slopes down from 4473.5 feet above MSL at the Runway 03 to 4455.0 feet above MSL at the Runway 21 end (a 0.70% effective gradient). The load bearing capacity of the runway is 12,500 pounds single wheel loading. The PCN for Runway 3-21 is 90/F/A/X/T. Runway 3-21 is not equipped with runway lights and is marked as a basic runway. There are currently no published approaches to Runway 3 or Runway 21.

Runway 11-29, newly constructed in 2017, is 5,050 by 75 feet with a grooved asphalt surface. It is designed to accommodate aircraft within the Runway Design Code (RDC) of B-II. This category includes aircraft with a wingspan of up to 79 feet and an approach speed of up to 121 knots. The runway elevation slopes up from 4441.8 feet above MSL at the Runway 11 end to 4461.4 feet above MSL at the Runway 29 end (a

0.40% effective gradient). The load bearing capacity of the runway is 12,500 pounds single wheel loading. The PCN for Runway 11-29 is 26 F/A/X/U. Runway 11-29 is equipped with medium intensity runway lights (MIRL) and is marked as a Non Precision Instrument (NPI) runway. There are currently no published approaches to Runway 11 or Runway 29.

A 3197 foot long by 80 feet wide turf runway runs generally parallel to Runway 11-29 and Runway 12-30 and provides a grass landing surface for pilots approaching Runway 11-29. Operationally, Runway 11-29 and the turf runway act as one runway where either the turf or paved surface may be used as Runway 11-29, but they may not both be used for simultaneous approaches and departures. It is designed to accommodate aircraft within the Runway Design Code (RDC) of B-I. The runway elevation slopes up from 4442.2 feet above MSL at the northwest end to 4453.5 feet above MSL at the southeast end (a 0.40% effective gradient). There are no published approaches to the turf runway.

Table 1-3 provides an overview of runway characteristics at BZN.

Table 1-3: Runway Characteristics

Runway Data	12-30		3-21		11-29		NW-SE Turf	
Length (feet)	8,994		2,650		5,049		2,801	
Width (feet)	150		75		75		80	
Pavement Type	Asphalt (Grooved)		Asphalt (Grooved)		Asphalt (Grooved)		Turf	
Pavement Strength (lbs.)								
Single Wheel	120,000		12,500		12,500		NA	
Dual Wheel	250,000+							
Dual Wheel Tandem	550,000							
Dual Wheel Tandem in Double Tandem	1,120,000							
Pavement Classification Number (PCN)	123 F/A/X/T		90/F/A/X/T		26 F/A/X/U			
Marking	PI		Basic		NPI		None	
	RW 12	RW 30	RW 3	RW 21	RW 11	RW 29	NW	SE
Lighting								
Runway	HIRL	HIRL	None	None	MIRL	MIRL	None	None
Runway end/approach	MALSR	REIL	None	None	None	None	None	None
Centerline	None	None	None	None	None	None	None	None
Touchdown Zone	None	None	None	None	None	None	None	None
Approach Aids								
Visual	PAPI-4	PAPI-4			PAPI-4	PAPI-4		
Electronic	MALSR							
	VOR/DME	VOR/DME						
	ILS							
Approach Visibility Minimums	1/2 Mi	1 Mi	Visual	Visual	Visual	Visual	Visual	Visual
FAR Part 77 Category	PIR	NPI	Visual	Visual	Visual	Visual	Visual	Visual
			Utility	Utility	Utility	Utility	Utility	Utility
FAR Part 77 Approach Slope	50:1	34:1	20:1	20:1	20:1	20:1	20:1	20:1

PI = Precision Instrument
NPI = Non-precision Instrument
HIRL= High Intensity Runway Lights

MIRL = Medium Intensity Runway Lights
REIL = Runway End Identifier Lights
PAPI = Precision Approach Path Indicator

Taxiways



Taxiway A

As shown on **Figure 1-3** the taxiway system at the airport is comprised of parallel taxiway system aligned with primary Runway 12-30 and parallel Runway 11-29 together with connecting taxiways.

Taxiway A is a full length parallel taxiway to Runway 12-30 with a centerline-to-centerline spacing of 750 feet from the runway. Taxiway A is 75 feet wide with connecting taxiways A1, A2, A3, A4 and A5, of varying widths. Taxiways are constructed of asphalt pavement, have centerline, lead-in lines and aircraft holdlines, and are marked with blue LED Medium Intensity Taxiway Lights (MITL). There are holding bays on the northwest and southeast ends of Taxiway A. The holding bays are designed to allow aircraft deicing as well as run-up operations prior to takeoff.

Taxiway C is a full length parallel taxiway to Runway 11-29 with a centerline-to-centerline spacing of 307.5 feet from the runway. Taxiway C is 35 feet wide with connecting taxiways C1, C2 and C3 also 35 feet wide. Taxiways are constructed of asphalt pavement, have centerline, lead-in lines and aircraft holdlines, and are marked with blue LED Medium Intensity Taxiway Lights (MITL).

Taxiway H is a partial parallel taxiway serving crosswind Runway 3-21 and the main general aviation apron and hangar area. It is 35 feet wide with connecting Taxiways J and M. Taxiways are constructed of asphalt pavement, have centerline, lead-in lines and aircraft holdlines, and are marked with blue Medium Intensity Taxiway Lights (MITL).

Parallel Taxiway A, all connectors to Runway 12-30, and Taxiway H, J and M were rehabilitated in 2016 and 2017.

In addition to the parallel taxiway system, BZN serves the general aviation fleet with several taxilanes. These taxilanes serve as access routes to the hangar areas located south of the runway. The characteristics of the taxiway and taxilane system are described in **Table 1-4**.

Apron Areas

BZN has four separate aprons for commercial activity and general aviation.

The commercial apron includes a concrete parking apron for passenger boarding and an asphalt apron for aircraft to taxi as well as

be parked when not loading or unloading passengers. Deicing materials and equipment are stored at the east end of the commercial apron. While most aircraft conduct deicing operations on the commercial apron, some deicing is conducted on the holding bay at the east and west ends of Taxiway A and on the general aviation aprons. A building for airline storage of equipment is also located on the commercial apron. Originally constructed in 1977, the commercial apron has been expanded four times since the last airport master plan in 2009. It was expanded in 2013 to accommodate 11 commercial aircraft, again in 2015 to facilitate deicing and aircraft movement and again in 2016 to include a holding bay for aircraft waiting for a gate. A 2019 expansion was completed to accommodate aircraft parking spaces for the expansion of the terminal to 12 gates.

The General Aviation (GA) apron has parking areas for small to large fixed wing aircraft and helicopters. The GA apron has two concrete hard stands designed to park large aircraft such as the Boeing Business Jet or the Global Express. It has 33 tie down locations for small planes as well as medium sized multi-engine aircraft. The apron consists of 547,000 square feet of asphalt apron, 55,300 square feet of concrete apron, and two 2,350 square foot hard stands.

An additional tie-down apron, primarily for based aircraft, is located at the east end of the GA apron. It has tie-down locations for 32 small aircraft. At the north end of this tie-down apron is a self-fueling station with two dispensing units. The self-fueling station provides AvGas and is operated by Arlin's Aircraft Service. The tie down apron has 126,000 square feet of space available for parking and fueling aircraft.

In 2001, the Airport constructed an additional apron east of Runway 3-21 known as the East Ramp. The East Ramp was designed and constructed to provide a location for larger size hangars and aircraft. It was expanded in 2005 to serve the new FedEx building. It was again expanded in 2015 filling in gap between the main apron and the FedEx apron.

Aircraft parking aprons at BZN are shown on **Figures 1-4, 1-5 and 1-6** and described in **Table 1-5**.

Table 1-4: Taxiway & Taxilane Characteristics

Taxiway	Width (in feet)	Design Group (ADG/TDG)	Surface	Single Wheel (lbs)	Dual Wheel (Lbs)	Dual Tandem (lbs)	PCN
A, A4	75	III / 5	Asphalt	75,000	200,000	345,000	44 F/A/X/T
A1, A2, A3, A5	90	III / 5	Asphalt	75,000	200,000	345,000	44 F/A/X/T
C, C1, C2, C3	35	II/2	Asphalt	60,000	110,000	185,000	26 F/A/X/U
F	50	III/4	Asphalt	75,000	200,000	400,000	45 F/A/X/T
Unnamed	40	I/1B	Asphalt	27,000			79 F/A/X/T
G	25	I/1B	Asphalt	30,000			108 F/A/X/T
H	35	II/2	Asphalt	50,000			50 F/A/XT
J	25-35	I/1B	Asphalt	26,000			69 F/A/X/T
K, L, M, N	25	I/1B	Asphalt	26,000			42 F/A/X/T
P, Q, R, S, T	25	I/1B	Asphalt	75,000			83 F/A/X/T
U	35	II/2	Asphalt	75,000	200,000	400,000	41 F/A/X/T

*Note: taxiways are comprised of multiple sections. The section with lowest PCN was reported for the entire pavement

Table 1-5 Apron Areas

Description	Width	Length	Surface	Single Wheel (lbs)	Dual Wheel (lbs)	Dual Tandem (lbs)	*PCN
Commercial	294-500	2025	Asphalt	75,000	200,000+	400,000	47 F/A/X/T
Commercial - East	200	725	Concrete	75,000	160,000	350,000	60 R/A/X/T
Commercial - West	163	885	Concrete	75,000	200,000+	400,000	62 R/A/X/T
Commercial Apron Area = 978,000 Square Feet / 108,650 Square Yards							
General Aviation	395	1,384	Asphalt	75,000	180,000	300,000	49 F/A/X/T
General Aviation	50	1,106	Concrete	55,000	75,000	400,000	60 R/A/X/T
GA Concrete Pads	37.5	62.5	Concrete	75,000	180,000	380,000	59 R/A/X/T
General Aviation Apron Area = 602,000 Square Feet / 67,000 Square Yards							
Based Aircraft Tie Down Apron	185	681	Asphalt	75,000			35 F/A/X/T
Based Aircraft Tie Down Apron Area = 126,000 Square Feet / 14,000 Square Yards							
East Ramp	275	1613	Asphalt	75,000	200,000	400,000	47 F/A/X/T
East Ramp	125	1500	Concrete	75,000	180,000	380,000	62 F/A/X/T
East Ramp Apron Area = 631,000 Square Feet / 70,000 Square Yards							

*Note: aprons are comprised of multiple sections. The section with lowest PCN was reported for the entire pavement.



Figure 1-4: Commercial Apron

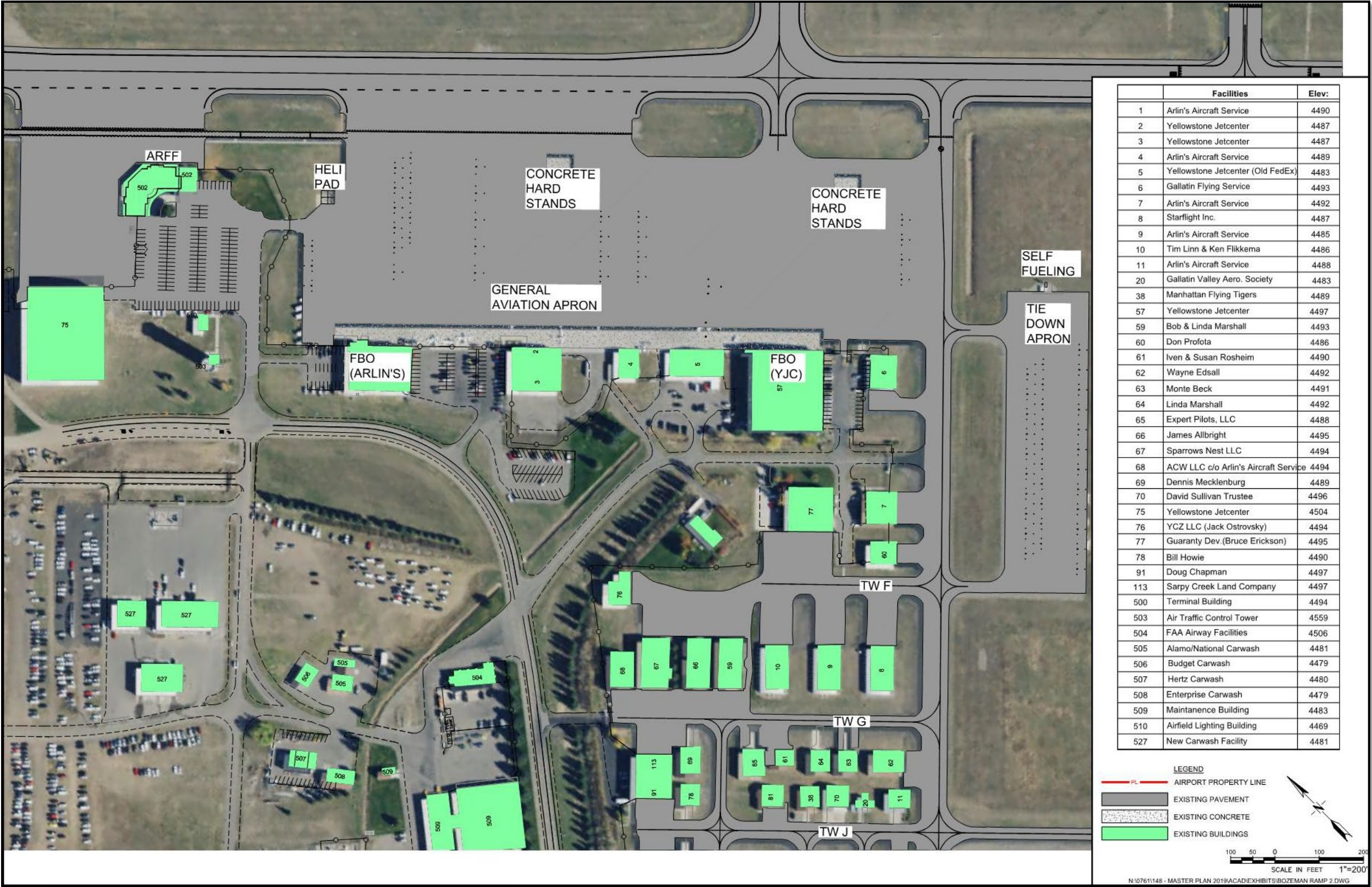


Figure 1-5: General Aviation Aprons



Figure 1-6: East Ramp

1.8. Landside Facilities

BZN currently covers approximately 2,787 acres. Landside facilities at the airport include all areas not considered part of the previously discussed airfield system. Existing landside facilities include the terminal building, automobile parking and vehicular access, general aviation, airport support, and non-aviation related commercial and industrial tenants.

full service restaurants and bars, one fast serve restaurant, two gifts shops and a snack bar for passengers' convenience. Layouts of the first and second floors of the terminal building are shown in **Figures 1-8** and **1-9**.

1.8.1. Passenger Terminal Area

The passenger terminal and associated parking facilities are shown on **Figure 1-7**. Services associated with the terminal complex include passenger processing, baggage claim, concessions and support functions. **Figure 1-7** identifies the general space allocation of the terminal complex.

1.8.2. Terminal Building

The Terminal contains operating space for airport administration, airlines, rental car companies, gift shop, ground transportation, restaurant and lounge, and TSA.

Airport administration, airline ticketing and baggage handling, rental car facilities, restaurant gift shop and convenience store are all located on the first (ground) floor of the Terminal building. The second floor contains passenger waiting areas, two restaurants, two lounges, two gift shops and a pet relief area. Security personnel operate checked baggage screening on the first floor at the airline ticket counters. Passenger and carry-on luggage screening is conducted on the second floor.

Airline boarding gates are located on the second floor. There are 12 passenger gates located on the second level. All passenger waiting areas are located on the second floor. In the passenger waiting area, there are two



Figure 1-7: Terminal Area

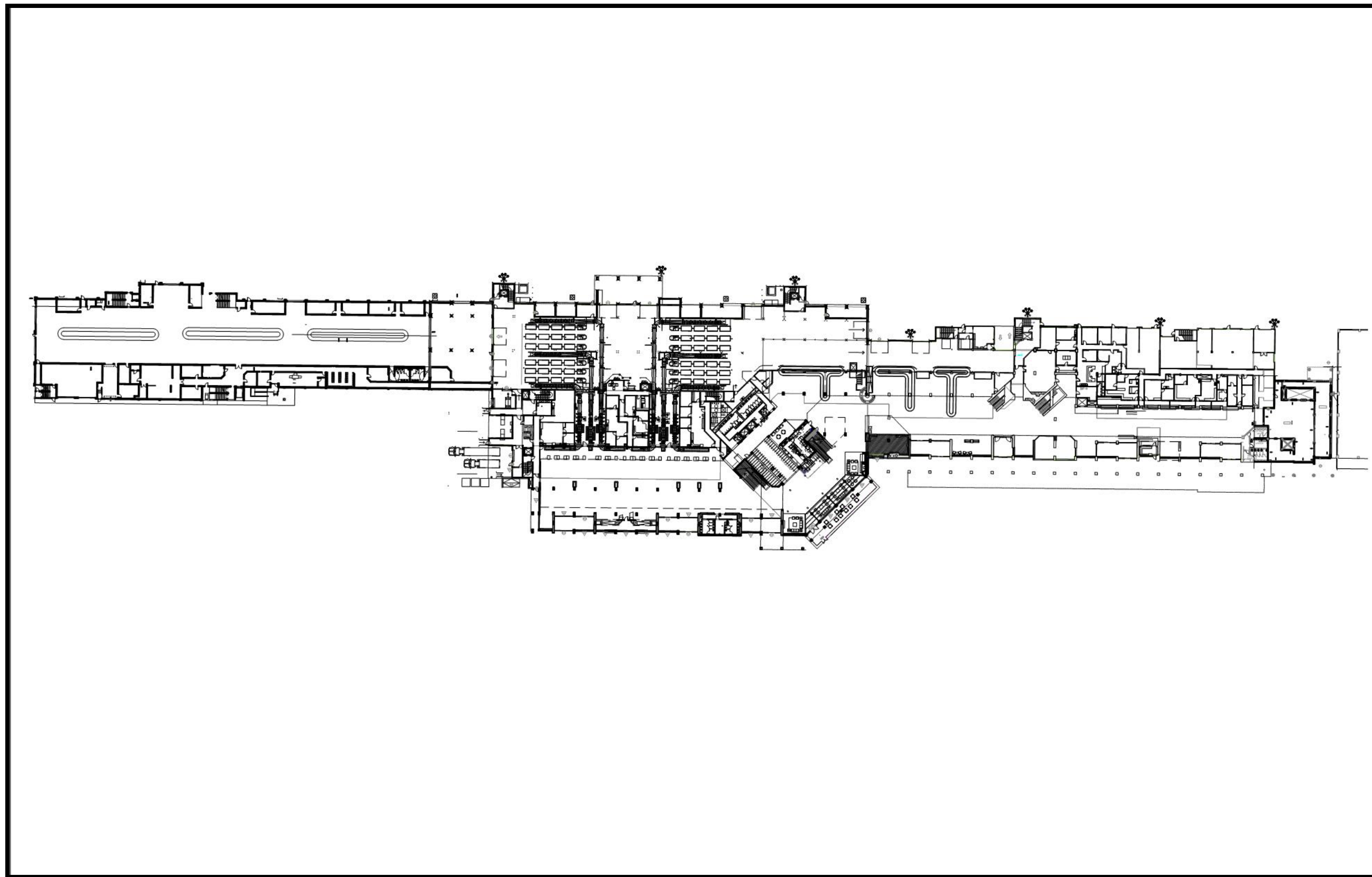


Figure 1-8, Terminal Floor Plan – First Level

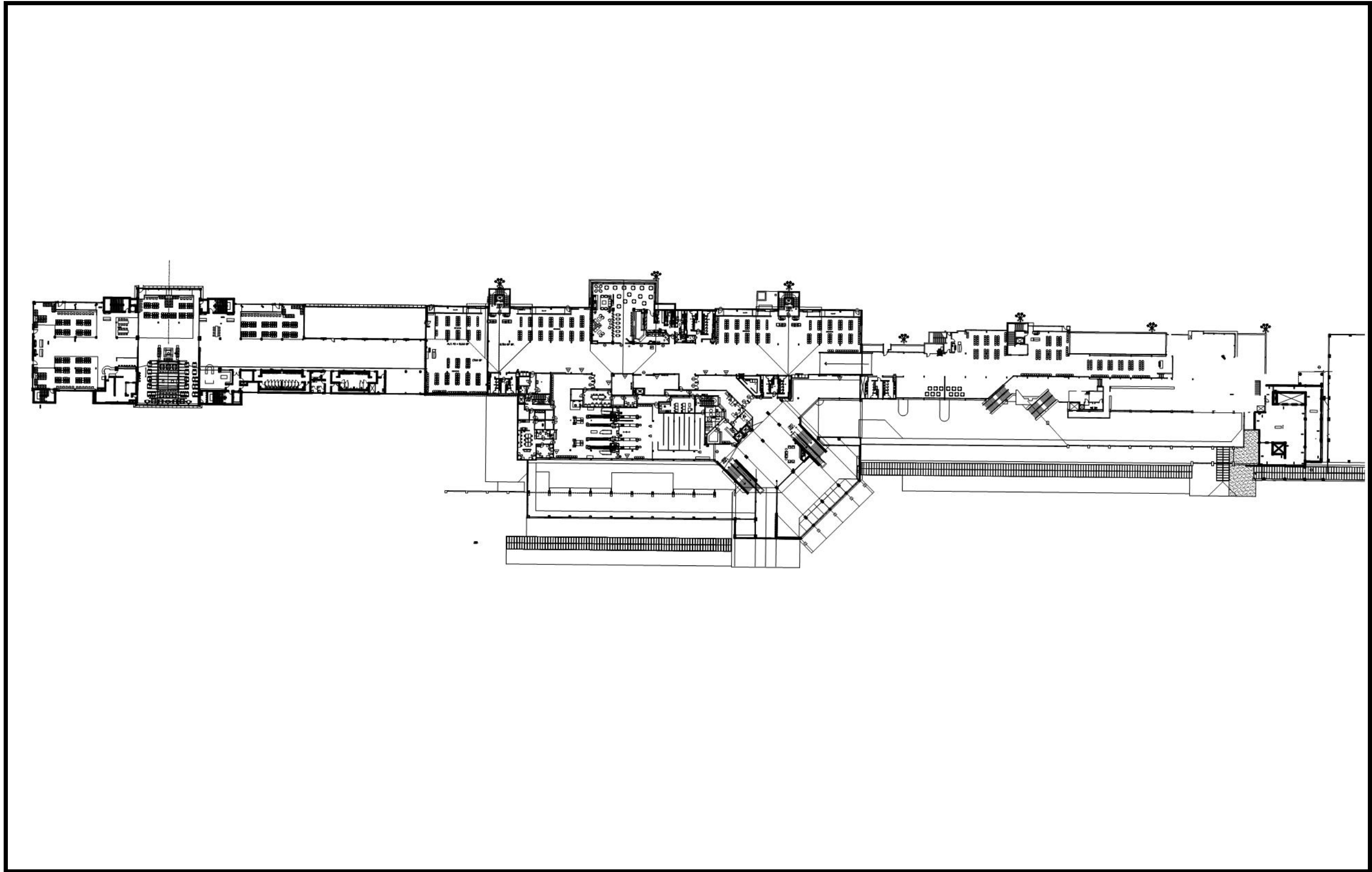


Figure 1-9, Terminal Floor Plan – Second Level

1.9. Terminal Access, Circulation and Parking

Access to the airport was greatly improved with the addition of the new I-90 East Belgrade Interchange. The new interchange provides direct access to the terminal from I-90 via Airway Boulevard, Wings Way and Gallatin Field Road. Adjacent to the Terminal, is parking for the public, employees, and rental cars. The access road runs past the Terminal building and then circles the pay parking lot. The configuration allows for passengers to be dropped off at the front of the Terminal and then for vehicles to leave the airport or move to the parking lot. **Figure 1-7** shows the loop road and terminal area parking lots.

The pay parking lot is located south of the Terminal. Between the terminal and the pay parking lot are three lanes, an arrivals lane, a bus lane and a lane for taxis, shuttles, shared rides and departures. The pay parking lot is operated by Republic Parking. The parking lot was expanded to its current size in 2017. It now covers 304,000 square feet and has parking stalls for 2,060 vehicles. An overflow lot is located across the loop road to the east of the pay lot and is shared with employee parking.

A newly constructed four-level parking garage located on the east end of the terminal building provides approximately 1100 spaces. 95 spaces on the ground level

are paid public parking and the remainder are rental car ready and return parking spaces.

Immediately west of the Terminal is the employee parking lot. This lot has 441 parking stalls for employees working at the Terminal.

South of the pay parking lot are six "car condominium" buildings. The car condominiums are each 125 feet by 45 feet. Each unit is privately owned and has individual parking for twenty vehicles.

Table 1-6 shows ground vehicle parking allocation at BZN.

Table 1-6: Parking Space Allocation

Parking Area	Spaces
Premium Covered Public Parking (Garage)	95
Short Term Premium Parking (Ground Level)	350
Long Term Economy Parking (Ground Level)	1490
Long Term Economy Parking (Ground Level- Credit Card Only)	220
Employee	441
Rental Car Garage	1000
Cell Phone Lot	91
Total Spaces	3687



Terminal Parking

1.10. Rental Car Facilities

Eight rental car companies and one RV rental company currently operate at the airport (Alamo, Avis, Blacksford (RV), Budget, Dollar, Enterprise, Hertz, National and Thrifty). In addition to the seven branded counters and three offices in the terminal, the car rental

companies, utilize a shared car wash facility just east of the terminal area. Ready and return parking for approximately 1,000 rental cars is provided in the parking garage immediately west of the terminal.



Rental Car Wash Facilities

1.11. General Aviation Facilities



General Aviation Ramp and East Ramp

General aviation (ga) facilities are located on the southeast side of the Airfield. Existing general aviation apron flightline facilities are depicted on **Figure 1-5** and **1-6**.

The west side GA aprons have seven (7) front line hangar buildings. Five of the hangars are operated by the FBOs for storage, maintenance and passenger facilities. One hangar is operated by a flight school and one hangar is operated by a limited service FBO.

The East Ramp was designed and constructed to provide a location for larger size hangars and aircraft. There are currently eight buildings on the East Ramp, six storage hangars, one office building and a FedEx cargo sorting facility.

Two full service fixed base operators (FBO), Arlin's Aircraft Service and Signature Yellowstone Jetcenter, operate at BZN. And are located at opposite ends of the general

aviation apron. Both FBOs sell jet fuel and AvGas, delivered by fuel trucks from the fuel farm. In addition, a self serve AvGas fueling station located at the north end of the based aircraft tie-down apron is operated by Arlin's Aircraft Service.

Services offered by Arlin's Aircraft Service include:

- Pilot's lounge / briefing facilities
- Aviation fuel (AvGas and Jet A)
- Hangar storage
- Aircraft towing and pushback
- GPU (Mobile AC and DC)
- Baggage Handling
- Lavatory service
- Delce (Heated Type I)
- TKS/Alcohol
- Oxygen/Nitrogen
- Aircraft parking and tiedowns
- Aircraft grooming
- Planeside vehicle pickup
- Aircraft maintenance

Arlin's Aircraft Service currently occupies two hangars in the west side general aviation area and one hangar in the east ramp area.

Services offered by Signature Yellowstone Jet Center include:

- Pilot's lounge / briefing facilities
- Aviation fuel sales (AvGas and Jet A)
- Hangar storage
- Fuel system icing inhibitor
- Aircraft detailing
- Aircraft maintenance
- Airstairs
- Belt loader
- Catering
- Deicing / Anti-ice
- Flight Planning
- GPU VDC
- Lavatory service
- Oxygen / Nitrogen
- Transport category handling
- Aircraft parking and tiedowns

Yellowstone Jet Center currently occupies two hangars and an office building in the east ramp area.

Hangars

There are currently 202 hangar units in two hangar development areas on the airport. This is comprised of a total of 89 conventional hangars and 113 hangar units within 19 multi-unit structures.

Fronting the main general aviation apron are seven FBO hangars. Situated south of the general aviation apron is a development area with private general aviation hangars that range in size from 1,200 to 12,000 square feet. The general aviation apron and hangar development area contains 64 conventional hangars and 88 hangar units within 16 multi-unit structures.

The East Ramp apron on the east side of the airfield is fronted by seven large executive hangars. The area to the south is quickly developing with a variety of conventional and multi-unit hangars. Currently the East Ramp development area has 25 conventional hangars and 25 hangar units within three multi-unit structures.

Hangar development areas are depicted on **Figure 1-10** and **Figure 1-11**.



General Aviation Hangars

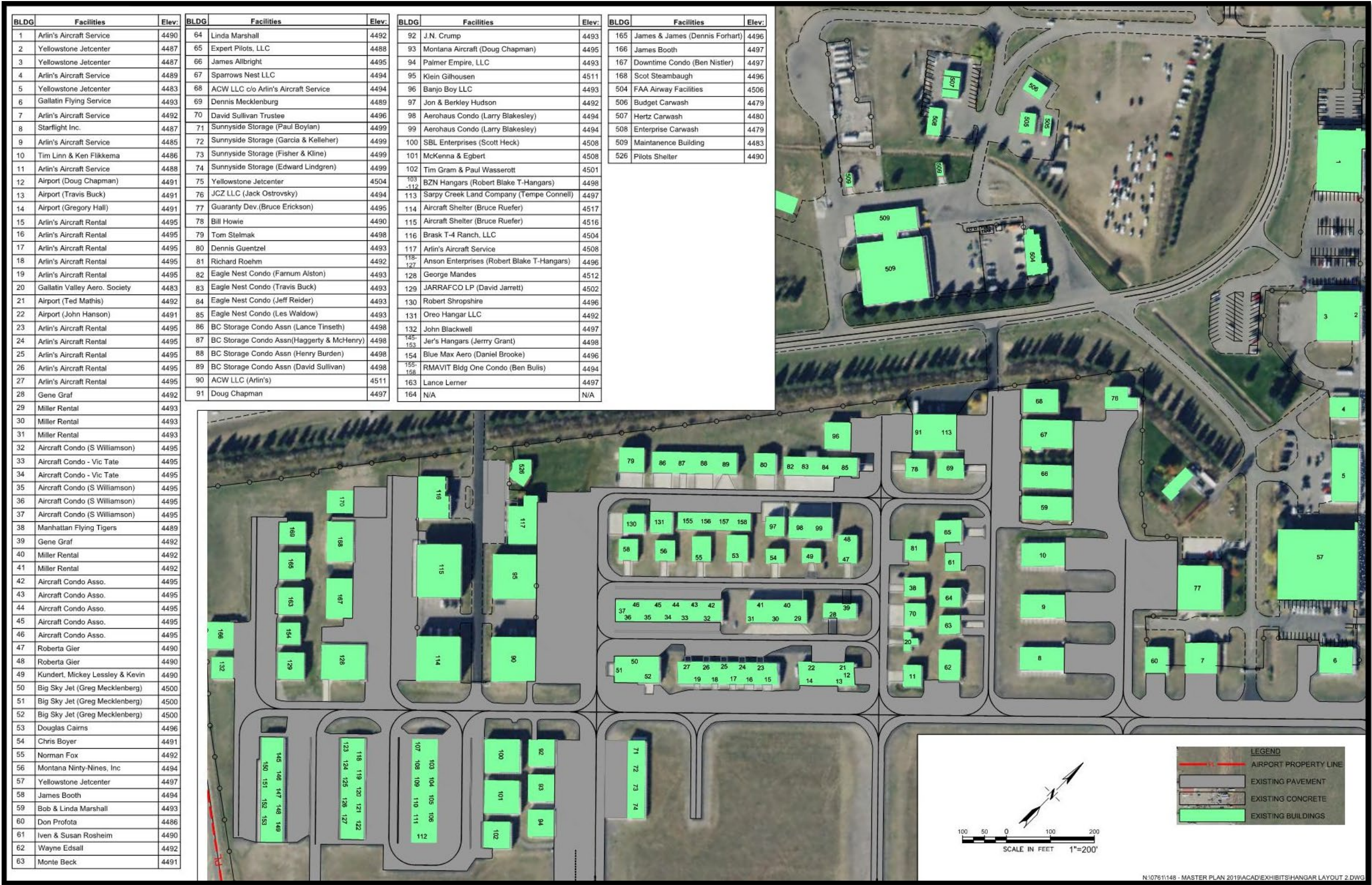


Figure 1-10: General Aviation Area Hangars



Figure 1-11: East Ramp Area Hangars

1.12. Support Facilities

Support facilities on the airport include Aircraft Rescue and Fire Fighting (ARFF), airport maintenance, and fuel storage.

Airport Rescue & Fire Fighting

Airport Rescue and Fire Fighting (ARFF) operations are carried out under Part 139 certification. ARFF operations are located in the Airport Safety Building (ASB) Building, located east of the commercial apron. This location is nearly centered on Runway 12-30 and adjacent to Taxiway A, providing optimal response times to the east side of the airport. A 56' x 39' ARFF truck storage building houses two fire trucks. The older truck, manufactured by Oshkosh, was purchased in 1990. The second truck was purchased in 2005 from E-One. Both trucks have 1,500 usable gallons of water and 200 gallons of Aqueous Film Forming Foam (AFFF) to meet Part 139 requirements.

The ASB also serves as office space for US Customs which occupies 1,500 square feet of the 6,490 square foot main floor of the building. The remaining areas are used by ARFF and maintenance personnel.

ARFF equipment is listed in **Table 1-7**.

Airport Maintenance Facilities

Airport maintenance facilities are located near the access road to the airport. The maintenance buildings are comprised of a maintenance shop, equipment storage building, storage garage, and two sand sheds. The 4,350 square foot maintenance shop has 1,700 square feet for office space, a locker room, and a lunch room. The remainder of the building contains a wash bay, equipment maintenance bay, and project room.

Airfield maintenance equipment is listed in **Table 1-7**.

Snow Removal Facilities

Snow removal equipment (SRE) is stored in a dedicated building adjacent to the maintenance shop. The 21,000 square foot building, constructed in 2000 houses all snow removal and maintenance equipment. It also serves as storage for a variety of supplies. The SRE building also contains a large wash bay to clean the vehicles used by Airport maintenance personnel. Outside the SRE Building there is a diesel tank for fueling equipment as well as a 300-gallon tank for pavement deicing fluid.

The airport's snow removal equipment is listed in **Table 1-7**.



SRE Equipment Storage Building



SRE Equipment

Table 1-7: Airport Support Equipment

Vehicle Make	Vehicle Year	Vehicle Description
Oshkosh	1991	ARFF Truck
E-One	2005	ARFF Truck
Gator	2015	ATV
Dodge	1998	Minivan
Ford	2001	Minivan
Dodge	1998	Minivan
Whoopy		Open Bed Lift
Chevrolet	1983	Pickup
GMC	2001	Pickup
Chevrolet	2002	Pickup
Chevrolet	2005	Pickup
Dodge	2006	Pickup
Ford	2014	Pickup
John Deere F932	2000	Small Broom/Mower
Oshkosh	1991	Snow Thrower
Oshkosh	1983	Snowplow 20'
Oshkosh	2002	Snowplow 20'
Oshkosh	2002	Snowplow 20'
MB	2016	Snowplow 14'
Oshkosh	2000	Sweeper Broom - 20'
Oshkosh	2008	Sweeper Broom - 20'
Massey Fergusson	1996	Tractor
Case 570	2002	Tractor
Volvo L120	2017	4 CY Loader with snowblower
Volvo L70	2018	4 CY Loader
John Deere 1545	2013	5' Broom/Plow
Case 120	2010	Tractor
Batts		Liquid Deice Trailer (40' boom)
Ford F250	2008	ARFF Support Vehical
Ford F350	2015	Plow Truck w/ Sander
Ford F350	2009	Plow Truck w/ Sander
Metal Plus		MaxxPro 36' Articulating Plow
Metal Plus		MaxxPro 24' Articulating Plow
Graco	2013	Road Liner - Traffic Striper
Tenant	2006	Street Sweeper
Craftco	1991	Pavement Crack Seal Equipment

Fueling Facilities

The airport has 100-octane low lead (100LL) aviation gasoline (AvGas) and jet fuel (Jet-A) available through the local FBOs. Each FBO has storage tanks for Jet A and AvGas fuel. There are 13 fuel tanks, both above and below ground, having a total available capacity of 165,500 gallons of fuel available. As noted 24-hour credit card payment system is available for self fueling **Table 1-8** lists the fuel storage on the Airport.

Table 1-8: Fuel Farm Storage (Gallons)

Type	Above Grade	Below Grade
AvGas	12,000	
AvGas		12,000
AvGas	1,500	
Jet A	24,000	
Jet A	20000	
Jet A		12,000
Jet A		12,000
Jet A		12,000
Jet A		12,000
Jet A		12000
Jet A	12,000	
Jet A	12000	
Total AvGas		25,500
Total Jet A		140,000
Total		165,500

1.13. Airspace and Air Traffic Control

The Gallatin Airport Authority has made significant investments in the air traffic control system over the years at BZN. These efforts have included locally funding air traffic control equipment and services

normally paid for by FAA. Over the past twenty years, the Gallatin Airport Authority has invested over \$7 million in air traffic control equipment and services normally paid for by the FAA. These locally funded investments have included the construction, equipping, operation and maintenance of the air traffic control tower, the first airport funded radar in the nation, a Stars Radar Display in the VFR tower and locally funding additional air traffic control personnel hours in order to increase the operational hours of the tower. In addition, the Authority worked with FAA to de-conflict arrival and departure procedures on June 30, 2010 and establish additional approach and departure procedures to maximize the utility of the airfield in all weather conditions. On October 22, 2013, Big Sky Approach, remotely located at the TRACON facility in Boise, Idaho, began monitoring and controlling the air space between Salt Lake Center and the BZN tower greatly improving the safety and efficiency of air traffic throughout the valley.

Aircraft operating to or from an airport do so under either Visual Flight Rules (VFR) or Instrument Flight Rules (IFR). VFR governs the procedures for flying under visual conditions, when a pilot is able to safely control and navigate an aircraft by visual reference to the environment outside of the cockpit. Meteorological conditions that meet the minimum requirements for VFR flight are called visual meteorological conditions (VMC)¹ Conditions that do not meet the minimum requirements for VFR flight are called instrument meteorological conditions (IMC), under which a flight may only operate under IFR. IFR are a set of regulations and procedures for flying aircraft whereby navigation and obstacle clearance is

¹ AC 150/5060, Airport Capacity and Delay, defines VMC as a cloud ceiling height of at least 1,000 feet above ground level (AGL) and

visibility greater than three nautical miles (nm). IMC is defined as a ceiling height less than 1,000 feet AGL and visibility less than three nm.

maintained with reference to aircraft instruments only, while separation from other aircraft is provided by the air traffic control.

1.14. Airspace Structure

Airspace in the United States is classified as controlled, uncontrolled, or special use. Controlled airspace encompasses those areas where there are specific certification, communication and navigation equipment requirements that pilots and aircraft must meet to operate in that airspace. Airspace is classified as Class A, B, C, D, E, G or special use airspace. These are depicted on **Figure 1-12** and described below.

Class A airspace includes all airspace at and above Level 18 (approximately 18,000 feet MSL) to Flight Level 600 (approximately 60,000 feet MSL). Class B airspace is controlled airspace established around the nation's highest activity commercial service airports. Class C airspace is controlled airspace around commercial airports with a moderate traffic level and some military airports. Class D airspace is controlled airspace surrounding other airports with an air traffic control tower. All aircraft operating within Class A, B, C, and D airspace must be in contact with the air traffic control facility responsible for the airspace. Class E airspace is controlled airspace that encompasses all instrument approach procedures and low altitude federal airways. At some non-towered airports, Class E airspace goes all the way to the ground. Only aircraft conducting instrument flights are required to be in contact with air traffic control when operating in Class E airspace. Class G airspace is uncontrolled airspace. The airspace in the vicinity of BZN is depicted on **Figure 1-13**.

BZN is considered in Class D airspace when the air traffic control tower (ATCT) is open

(5am – 1am). The Class D airspace extends outward from the airport to a radius of five nautical miles, and from the ground surface up to 2,500 feet AGL. In addition, Class E airspace (from the surface to Class A) extends outward from the radius for the precision approach to Runway 12 and the approach to Runway 30.

For aircraft enroute or departing the area, there are several low altitude Victor airways available. Victor Airways are corridors of airspace eight miles wide that extend upward from 1,200 feet above the ground and extend upward to 18,000 feet MSL. The airways run between Very-High-Frequency Omnidirectional Equipment (VOR) navigational aids. The BZN VOR is the converging point for federal airways in the Bozeman area.

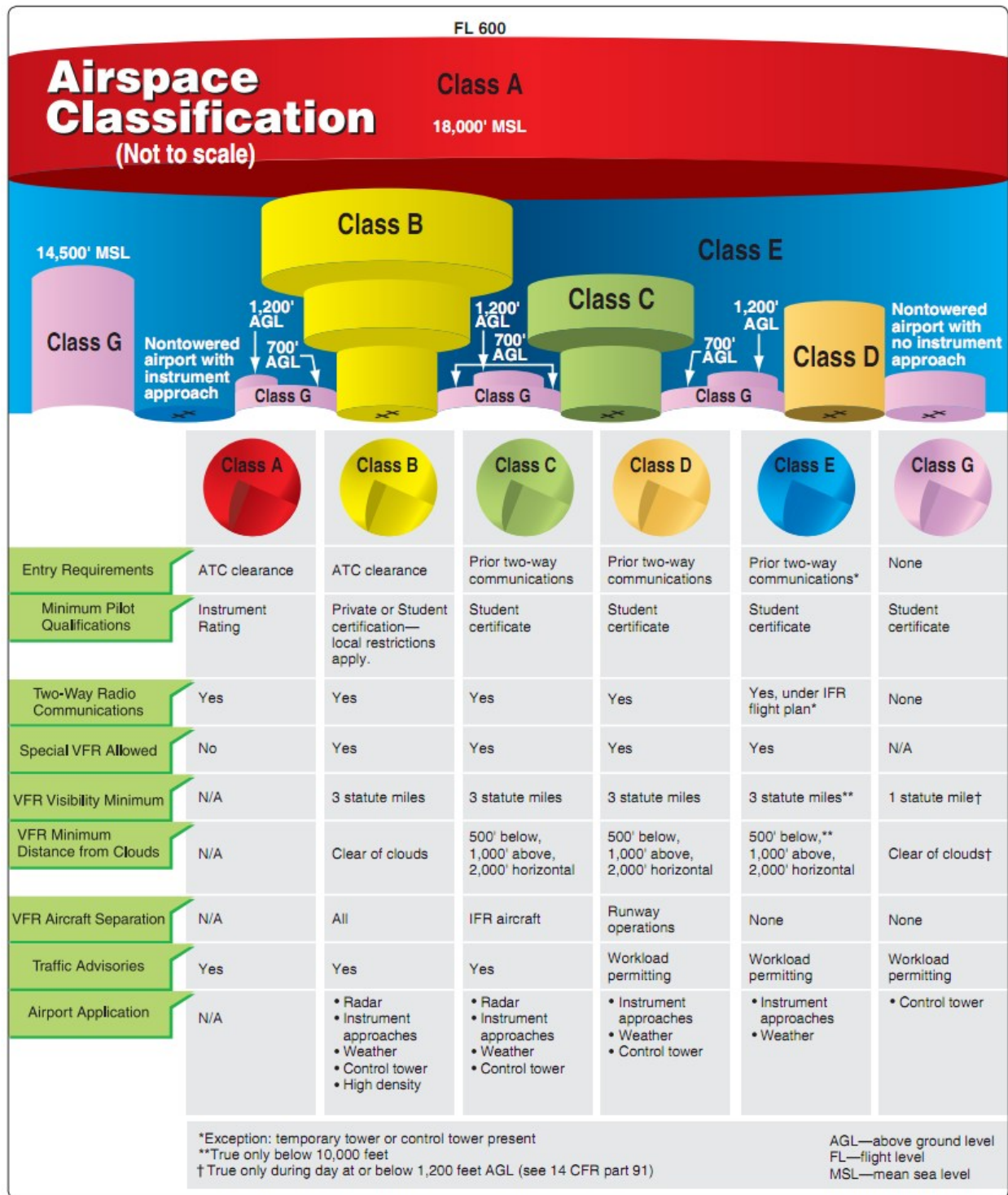


Figure 1-12 Airspace Classification



Figure 1-13 Sectional Chart

1.15. Enroute Navigational Aids

Several types of navigational aids are available for aircraft enroute to the Airport: Very High Frequency Omnidirectional Range beacons (VOR), area navigation, (RNAV), and the global positioning system (GPS).

As noted above, the airport and terminal area navigational aids include Very-High-Frequency Omnidirectional Equipment (VOR). The BZN VOR includes VHF Omnidirectional/Range Distance Measuring Equipment (DME), operates on the frequency 112.4. This ground based, electronic navigation system, provides both azimuth (directional) and distance information usable by both civilian and military aircraft.

The BZN VOR-DME also serves as an enroute navigational aid which is used by pilots when flying from one airport to another. Other types of enroute electronic navigational aids include RNAV and Global Positioning Systems (GPS).

RNAV is a method of navigation which permits aircraft operation on any desired flight path within a network of navigation beacons. Special equipment installed in the aircraft permits direct flights and eliminates the need to fly directly to or from the VOR beacon.

GPS is an additional navigational aid for pilots enroute to the airport. GPS was initially developed by the United States Department of Defense for military navigation around the world. Increasingly, over the last several years, GPS has been utilized more in civilian aircraft. GPS uses satellites placed in orbit around the globe to transmit electronic signals which properly equipped aircraft use to determine altitude, speed, and

navigational information. With GPS, pilots can directly navigate to any airport in the country and are not required to navigate using a specific navigational facility. The FAA is proceeding with a program to gradually replace all traditional enroute navigational aids with GPS. A wide area augmentation system (WAAS) has been developed to meet navigation performance requirements for domestic enroute, terminal, non-precision approach and precision approach flight phases. WAAS is designed to enhance the accuracy, integrity, and availability of GPS signals, contributing to increased aviation system capacity and efficiency. The augmentation improves signal accuracy from 100 meters to less than 10 meters and provides the availability and integrity needed to use GPS signals as the primary means of navigation.

1.16. Instrument Approaches

Runway 12 is classified as a precision approach category I (CAT I) runway. Runway 12 is served by an Instrument Landing System (ILS) consisting of a glide-slope, localizer and a Medium-intensity Approach Lighting System with Runway alignment indicator (MALSR). A CAT I runway is defined as being a runway with an instrument approach procedure which provides for approaches to a decision height of not less than 200 feet and visibility of not less than ½ mile. The decision height for ILS Runway 12 is 200 feet with a visibility minimum of ½ statute mile.

Runway 12 currently has four published approaches and Runway 30 has two. These approaches are published in the Terminal Procedures Publications produced by the National Aeronautical Charting Office. These approaches are:

- ILS or LOC Approach Runway 12

- RNAV (RNP) Z Runway 12
- RNAV (GPS) Y Runway 12
- VOR Approach Runway 12

- RNAV (RNP) Runway 30
- RNAV (GPS)-A Runway 30.

Runway 11-29 Runway 3-21 and the turf strip do not have a published approach at this time.

The FAA has developed Instrument Flight Rules (IFR) Takeoff Minimums and (Obstacle) Departure Procedures for BZN. Departure Procedures (DP) are designed for obstacle avoidance during the aircraft climb to minimum enroute altitude. The three graphic DPs noted below were designed primarily to assist Air Traffic Control (ATC) in providing air traffic separation as well as obstacle clearance.

The graphic instrument departures developed for BZN are identified as:

- BOBKT FOUR (RNAV) Departure
- TEERX FOUR (RNAV) Departure
- WHITEHALL FIVE Departure
- BOZEMAN SIX (Obstacle)

Copies of the Terminal Procedures publications depicting published approach and departure procedures at BZN are shown in **Figures 1-14** through **1-23**.

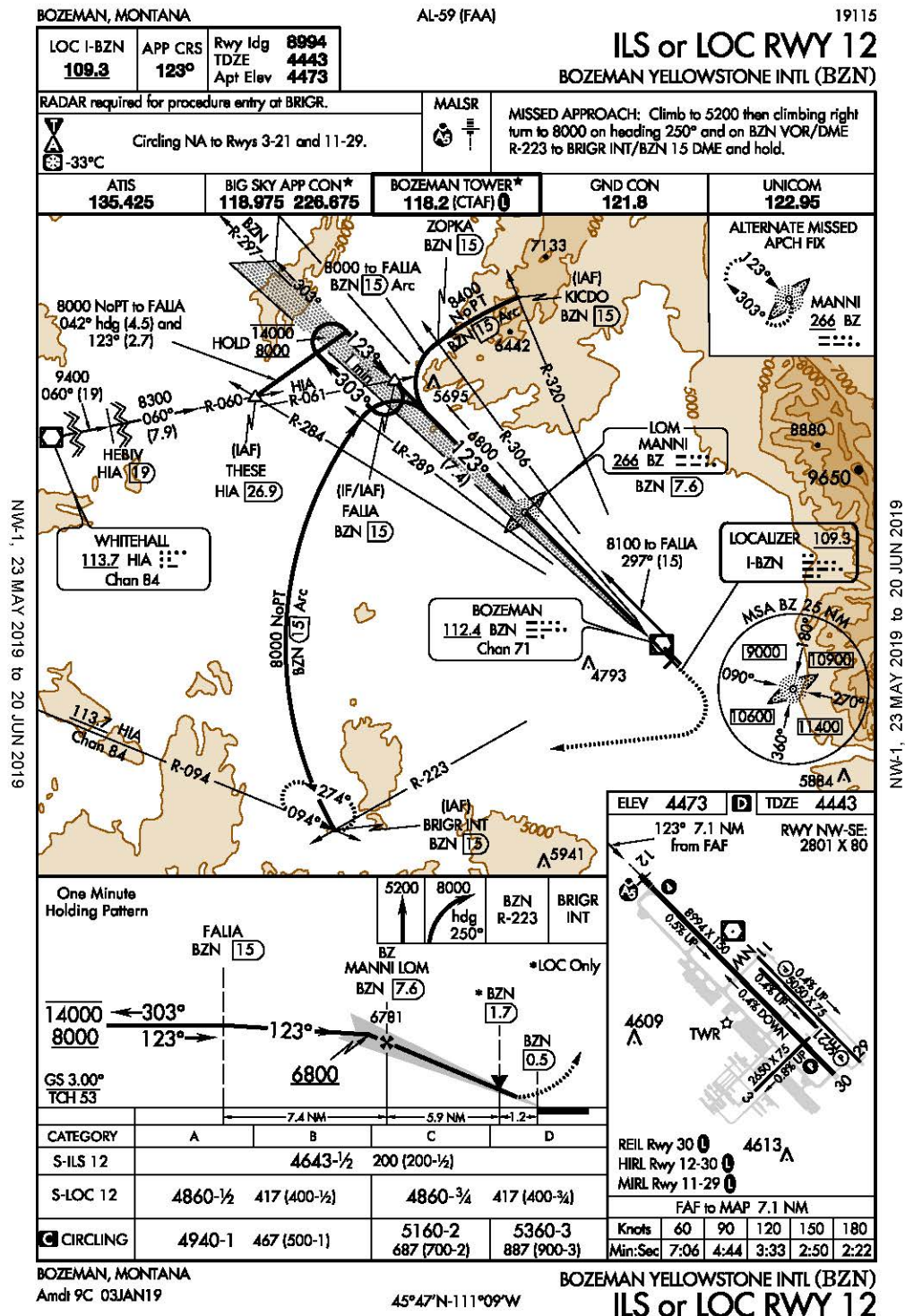


Figure 1-14: ILS or LOC Approach Runway 12

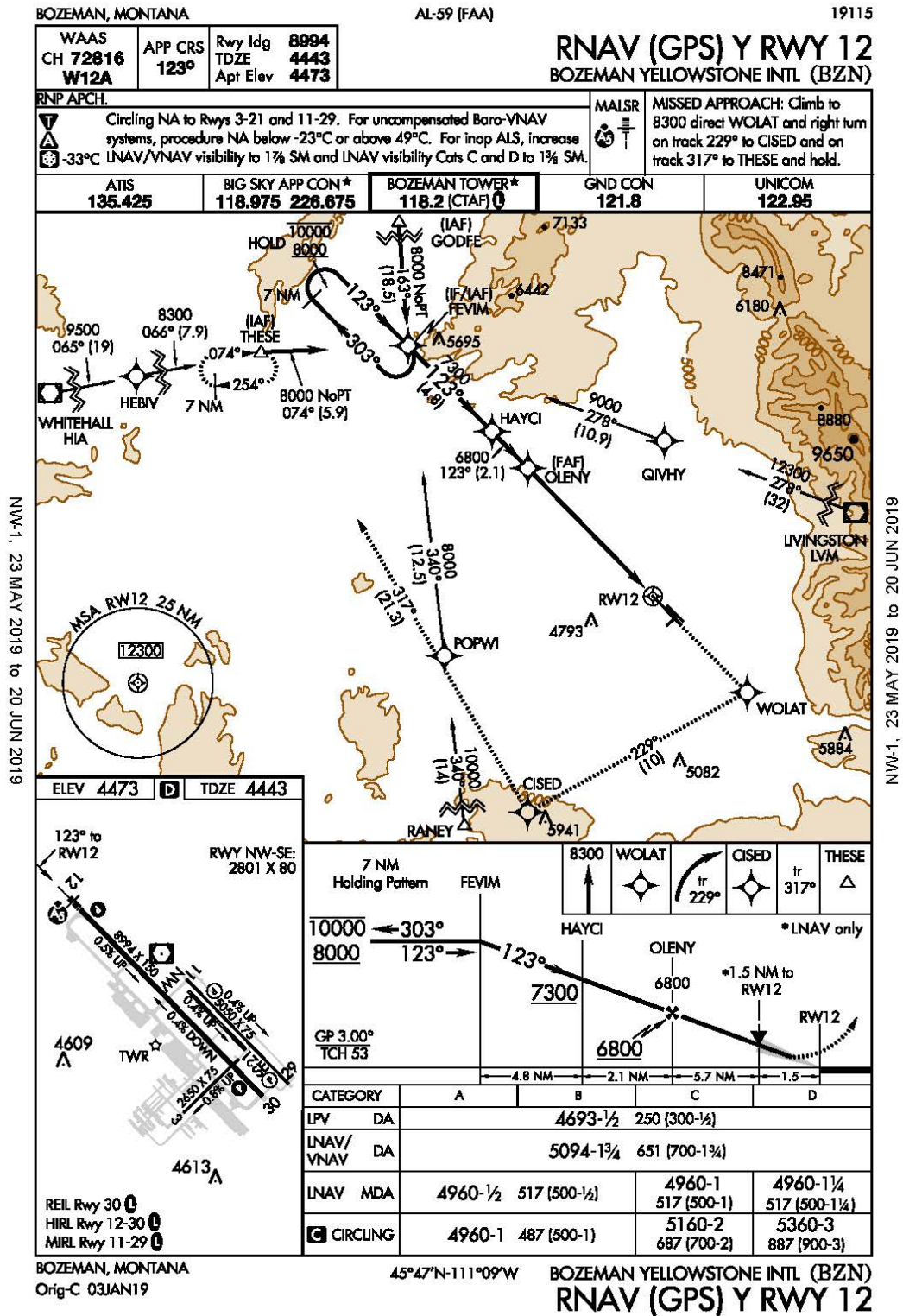


Figure 1-16: RNAV (GPS) Y Runway 12

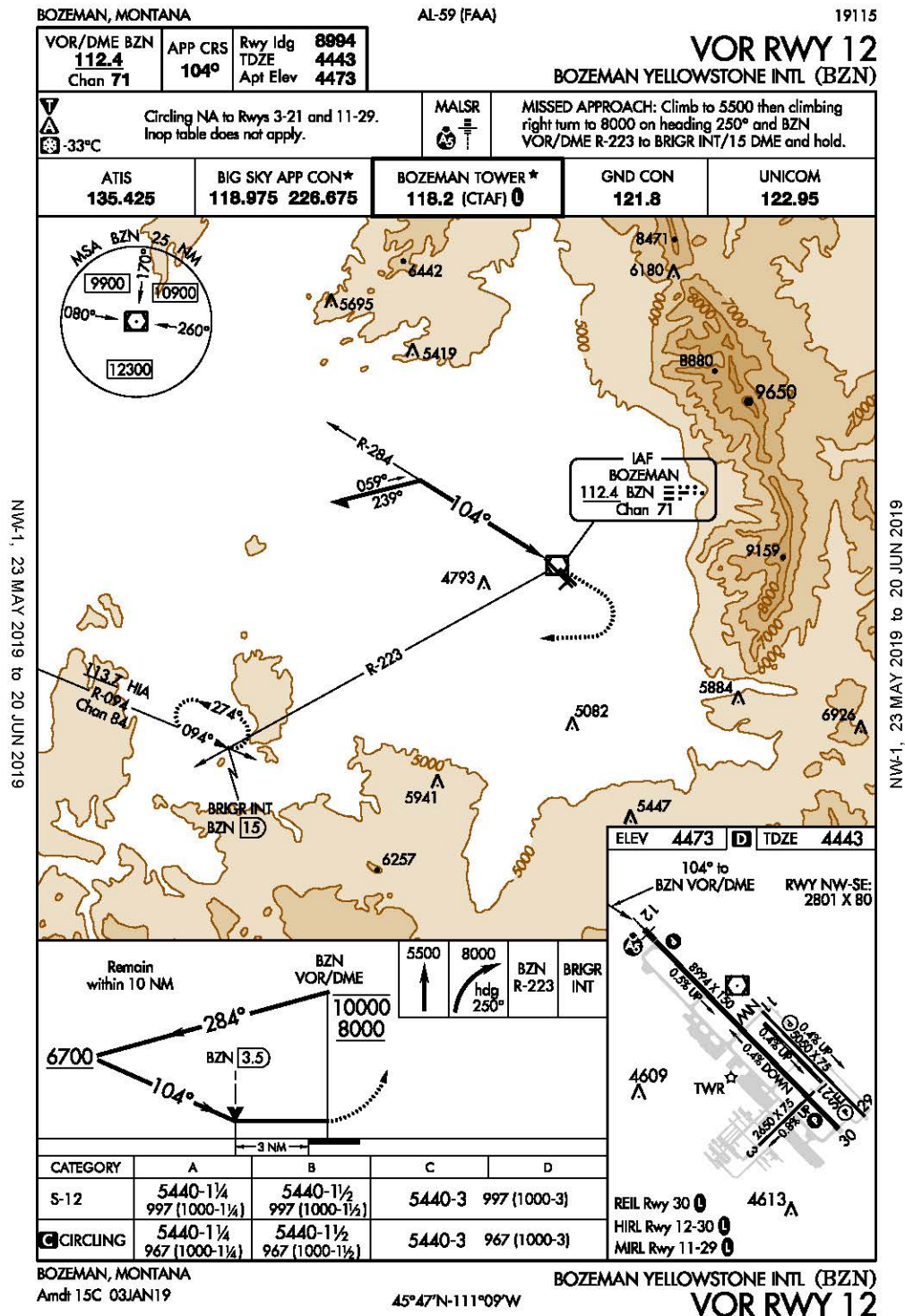


Figure 1-17: VOR Approach Runway 12

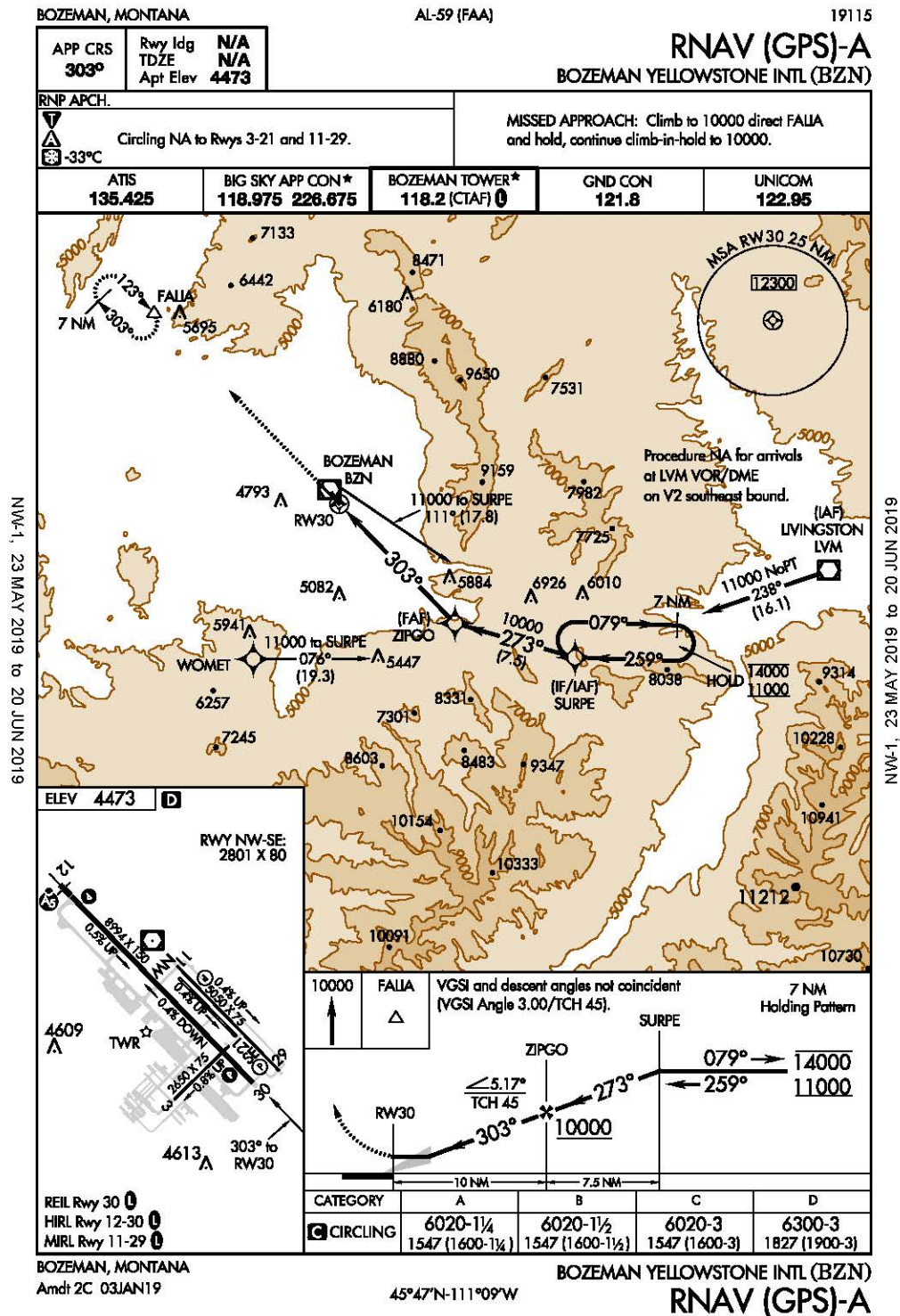


Figure 1-19: RNAV (GPS) - A

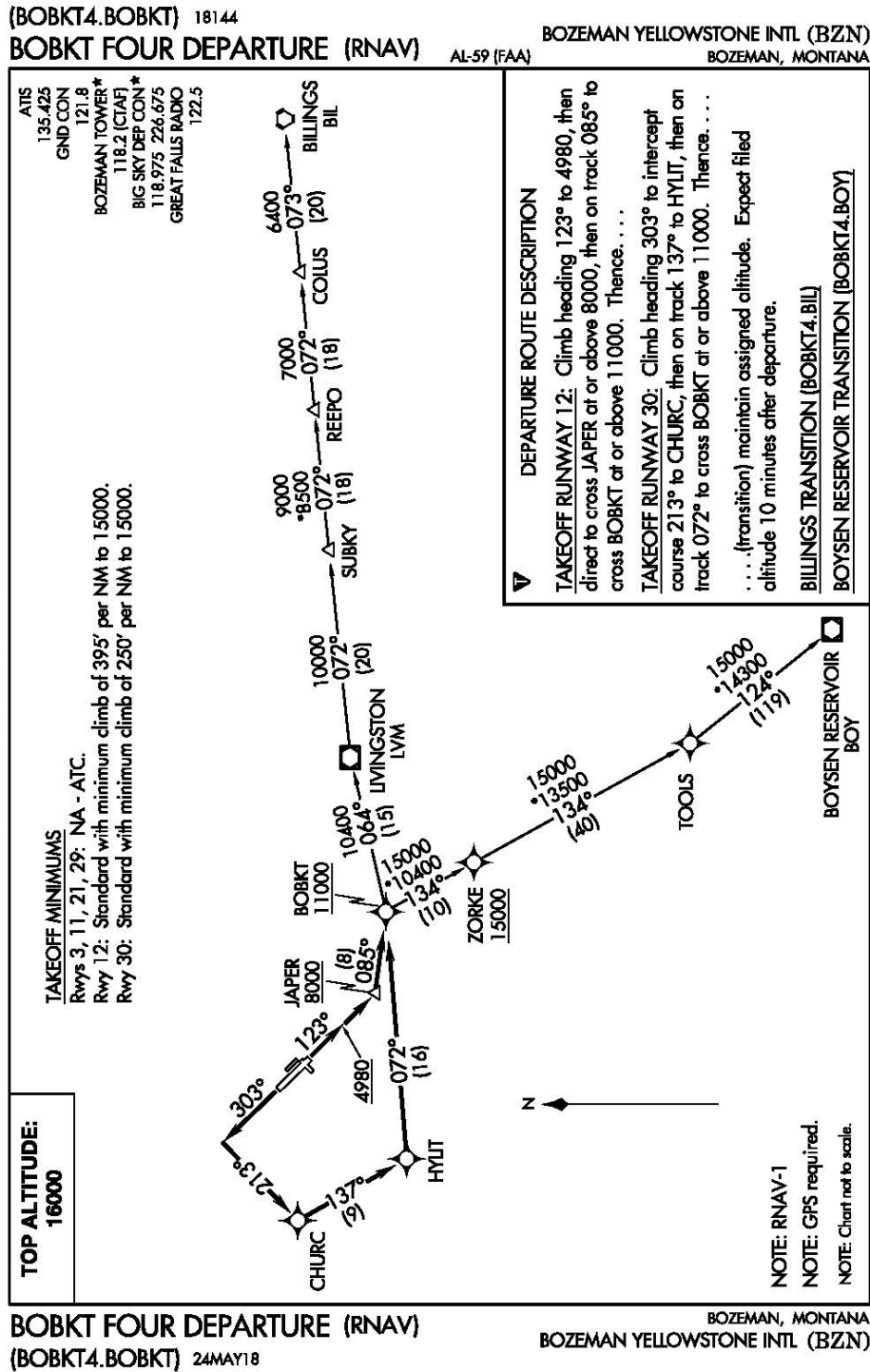


Figure 1-20: BOBKT FOUR (RNAV) Departure

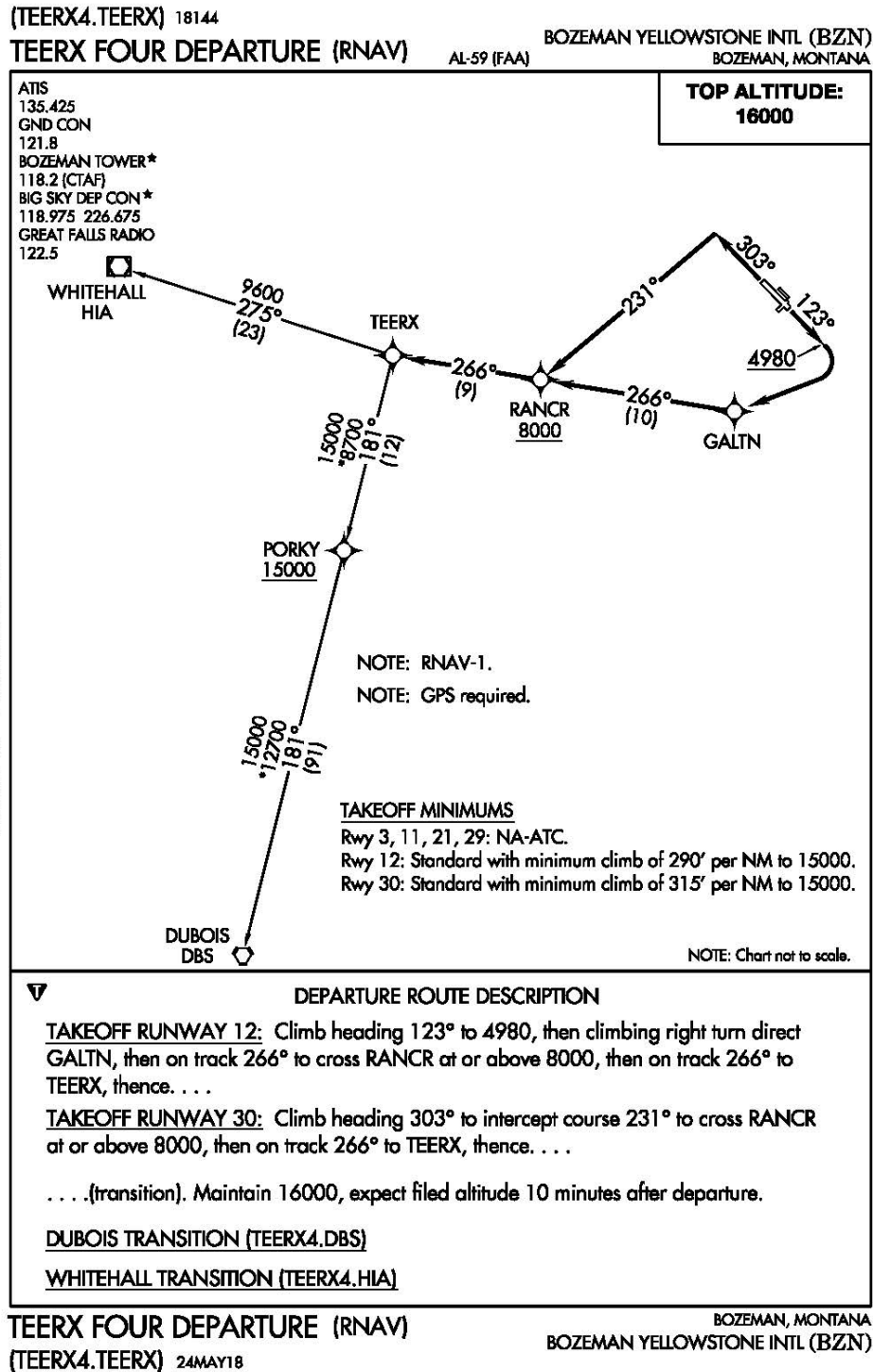


Figure 1-21: TEERX FOUR (RNAV) Departure

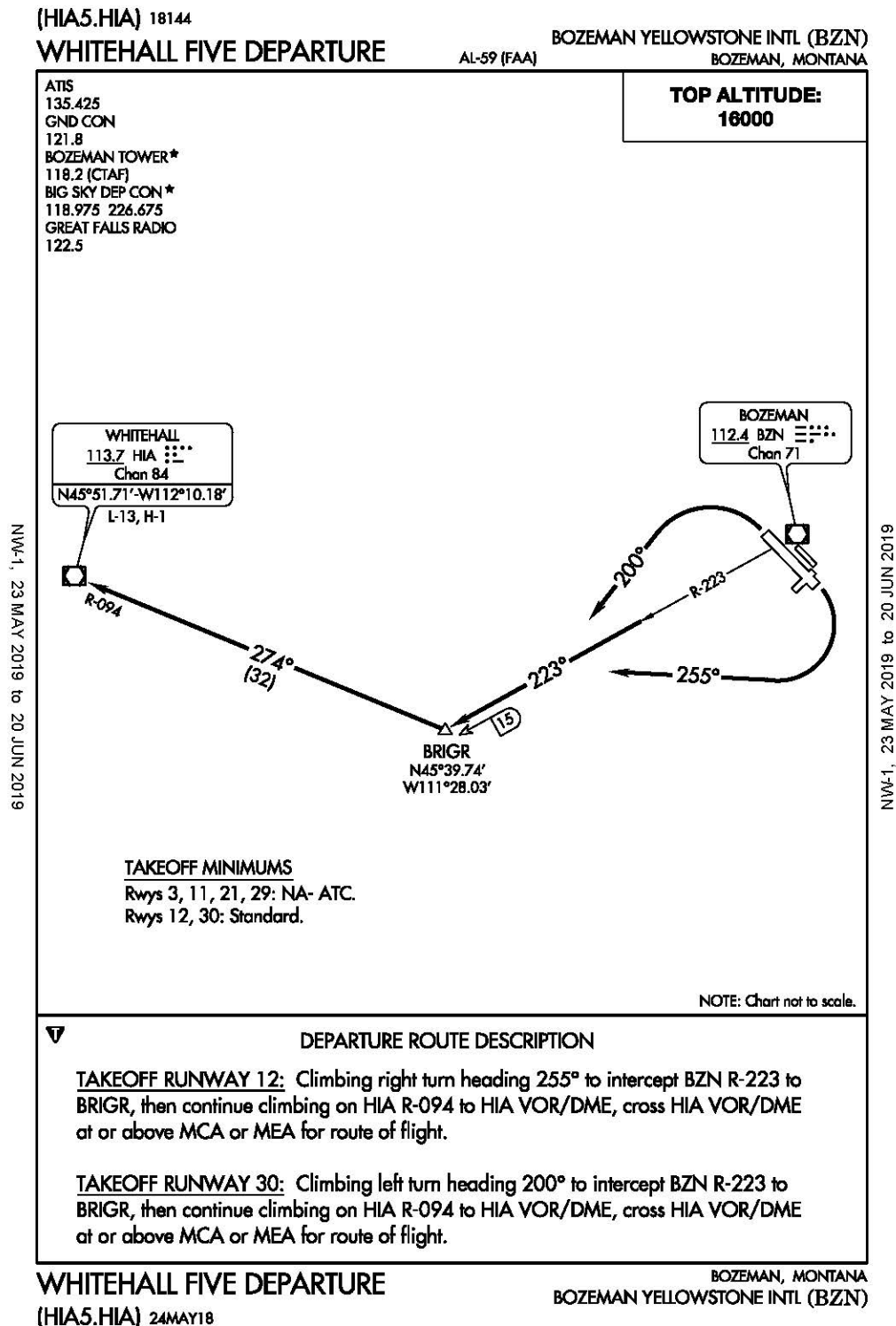


Figure 1-22: WHITEHALL FIVE Departure

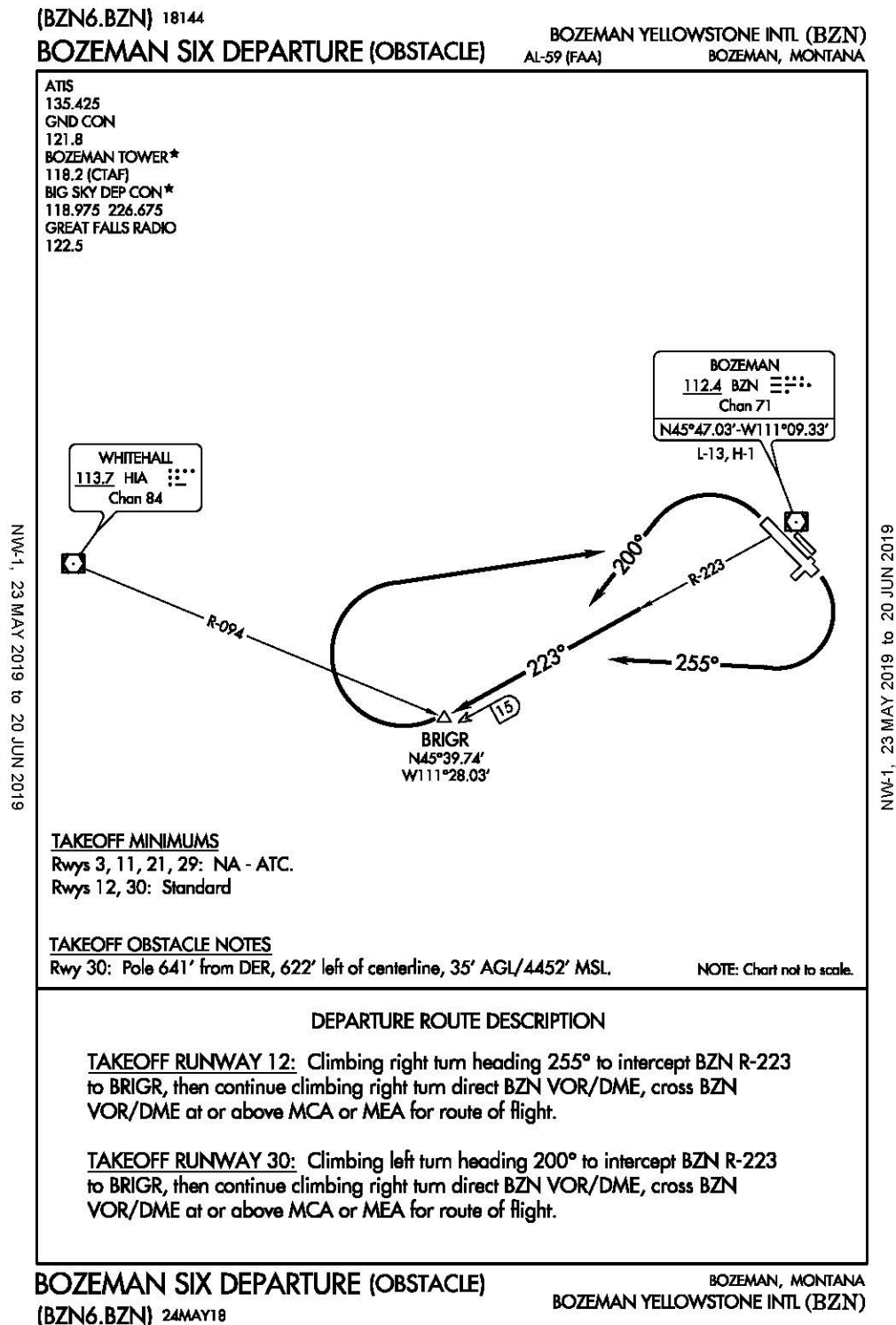


Figure 1-23: BOZEMAN SIX (OBSTACLE) Departure

Weather Observation

Weather information is provided to pilots through an Automated Surface Observing System (ASOS) on site at frequency 135.425, phone 406-388-4882.



ASOS

Instrument and Visual Approach Aids

Visual navigational aids are also provided at the airport. Runway 12-30 is equipped with High Intensity Runway Lights (HIRL) which outline the edges of the runway during periods of darkness or restricted visibility conditions. In addition to HIRL, Runway 12-30 has 4-box Precision Approach Path Indicators (PAPI) at both the Runway 12 and 30 approaches and a Medium Intensity Approach Lighting System With Runway Alignment Indicator Lights (MALSR) on the approach to Runway 12. Runway 11-29 is equipped with Medium Intensity Runway Lights (MIRL) and 4 box PAPIs installed at both ends.



MALSR



Glide Slope Antenna and PAPI

Airfield Marking and Lighting

Runway 12-30 is marked as a precision instrument runway. Runways 11-29 is marked as a non-precision instrument runway and 3-21 has basic markings.

The airport also provides a white and green rotating beacon and a lighted windcone.

1.17. Air Traffic Control Facilities

Currently, BZN has an air traffic control (ATC) tower (ground frequency 121.8), which is operational from 5:00 am to 1:00 am. Big Sky TRACON, located in Boise, ID provides air traffic control arrival and departure services during the tower's open hours on frequency 118.975. When the tower is closed, pilot communication is managed using a Common Traffic Advisory Frequency (CTAF

frequency 118.2). The Salt Lake Center is responsible for approach and departure control when the tower is closed on frequencies 118.975 and 226.675.



BZN Air Traffic Control Tower

The Airport Traffic Control Beacon Interrogator (ATCBI-6) "Beacon-Only" facility was constructed in 2006 and is located north of Runway 12-30. It provides surveillance support to Big Sky Approach located in Boise, ID.

The ATCBI-6 allows Big Sky Approach to see aircraft below 12,000 feet that were previously not visible by the existing radar due to terrain obstructing the radar's line of sight. Previously, while an aircraft was on the ILS approach to Runway 12 and below 12,000 feet, no other aircraft can occupy the airspace. The ATCBI-6 allows Big Sky Approach to see approaching aircraft in the local airspace and provide proper separation. Big Sky Approach's ability to see aircraft with the aid of the Bozeman radar increases the capacity of Runway 12 during IFR conditions.



BZN Radar

1.18. Regional Planning and Development

BZN is located approximately 7 miles northwest of the City of Bozeman adjacent to the town of Belgrade in Gallatin County, Montana. Gallatin County is the most populated and fastest growing county in southwest Montana. In fact, the Bozeman area is currently the fastest growing micropolitan area in the country.

BZN and surrounding areas fall under multiple land use and zoning jurisdictions. Responsible entities include the City of Belgrade and Gallatin County.

Planning & Zoning

The Belgrade City-County Planning Board, established by the Belgrade City Council and the Gallatin County Commission, has jurisdiction of a 4.5 mile area surrounding the city. **Figure 1-24** displays the Belgrade City County Planning Jurisdiction and Future Land Use map, which was adopted in June of 2006. The Planning Board is currently in the process of updating its growth policy for land within its jurisdiction.

Airport property is not annexed to the City of Belgrade, however, it is within the Belgrade Planning Jurisdiction area, and portions of it

are zoned PLI (Public Lands and Institutions). Airports and customary accessory uses required for their operation are permitted uses under the PLI designation. The underlying zoning does not present obstacles to the operation and orderly growth of the airport. **Figure 1-25** shows the City of Belgrade zoning map which includes the airport area.

Land Ownership

The Gallatin Airport Authority currently owns 2,787 acres of land in fee title. The Authority also controls 1,279 acres of land through clear zone easements, development rights and leases. In total, the Authority controls 4,066 acres of land surrounding BZN. The lands owned and controlled by the Sponsor are displayed on **Figure 1-26, Exhibit A Property Map**.

Airport Influence Area (AIA)

In 1979, the Airport, Belgrade City-County Planning Board, the Aeronautics Division of the Montana Department of Community Affairs, and the FAA sponsored the Gallatin Field Airport Noise – Land Use Study. Out of the study, an Airport Influence Area (AIA) was developed, which established noise, height and land use regulations for the area in the vicinity of BZN. The AIA was approved by the Gallatin County Commissioners as Resolution #381 on June 28, 1979. The resolution has since been amended on August 15, 1979, September 9, 1997 and September 30, 2003.

The noise contours developed in the study identified noise sensitive Districts A and B. These are the areas where “significant exposure” (District B) and “severe exposure” (District A) to noise is expected. District B being “normally unacceptable” for residences because the decibels range between 65 and 75, and the classification of “clearly unacceptable” is placed on District A

which is 75 decibels and higher. The classification of the two districts is to limit residences and their exposure to excessive noise located in those areas. The study made specific recommendations on land acquisition and the securing of development rights and certain restrictions within the noise contours. The AIA and noise contours are displayed on **Figure 1-27**. The Authority has completed the acquisition of all of the property recommended in the Airport Noise – Land Use Study from 1979.

The AIA limits the height of structures and objects of natural growth based on Federal Aviation Regulations (FAR) Part 77.

Subdivision Regulations / Aviation Easement Area

In cooperation with the Airport Authority, Gallatin County and the City of Belgrade amended their subdivision regulations to create an aviation easement area that covers 107 square miles of land, or approximately 246,528 acres. The City of Belgrade and Gallatin County require an aviation easement to be granted to the Airport Authority on any new subdivision of land within this area.

These easements inform landowners that they live in an area adjacent to the Airport and the easement grants the Sponsor “the right of flight for the passage of aircraft for the use and benefit of the public in the airspace above the Grantor’s property, together with the continuing right to cause in said airspace such noise, vibration, dust, fumes, smoke, vapor, and other effects as may be inherent for navigation of or flight in air, using said airspace, or landing at, taking off from, or operating at Gallatin Field.” The easement also limits the height of any structure, tree or other vegetation as required by Federal Aviation Regulations

(FAR) Part 77, "Objects affecting Navigational Airspace" for BZN.

The easement further restricts property around BZN from interference with radio communications, navigational aids or devices such as instrument landing system, by generators, motors, and artificial lighting devices that can cause interference. The easement prevents the installation of any structure, business or tree which is dangerous or hazardous to the safety of aircraft using BZN or to the property or persons using BZN or flying in the vicinity thereof. The aviation easement area boundary and easements granted to date are shown on **Figure 1-28**.

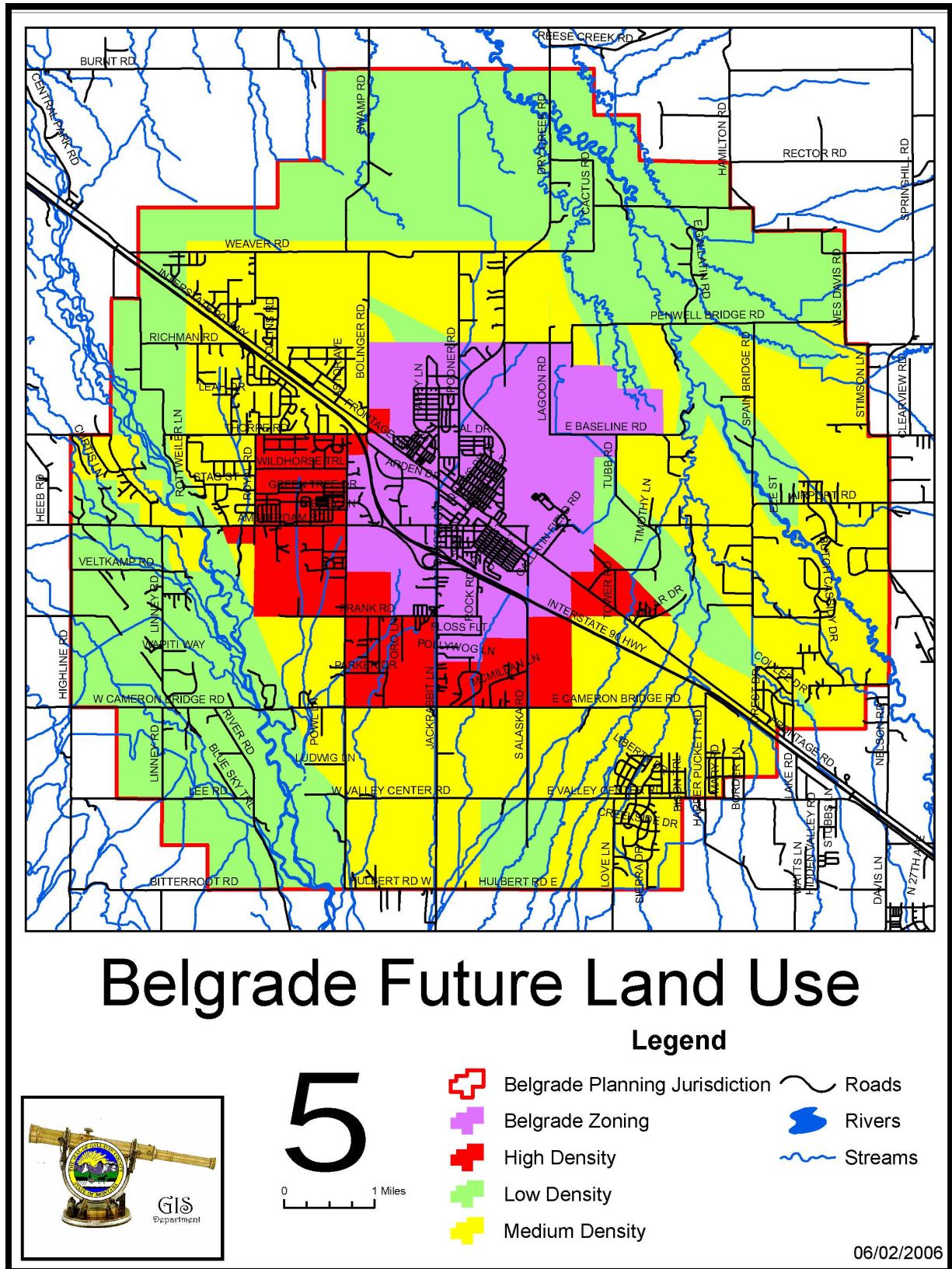


Figure 1-24: City of Belgrade Planning Jurisdiction

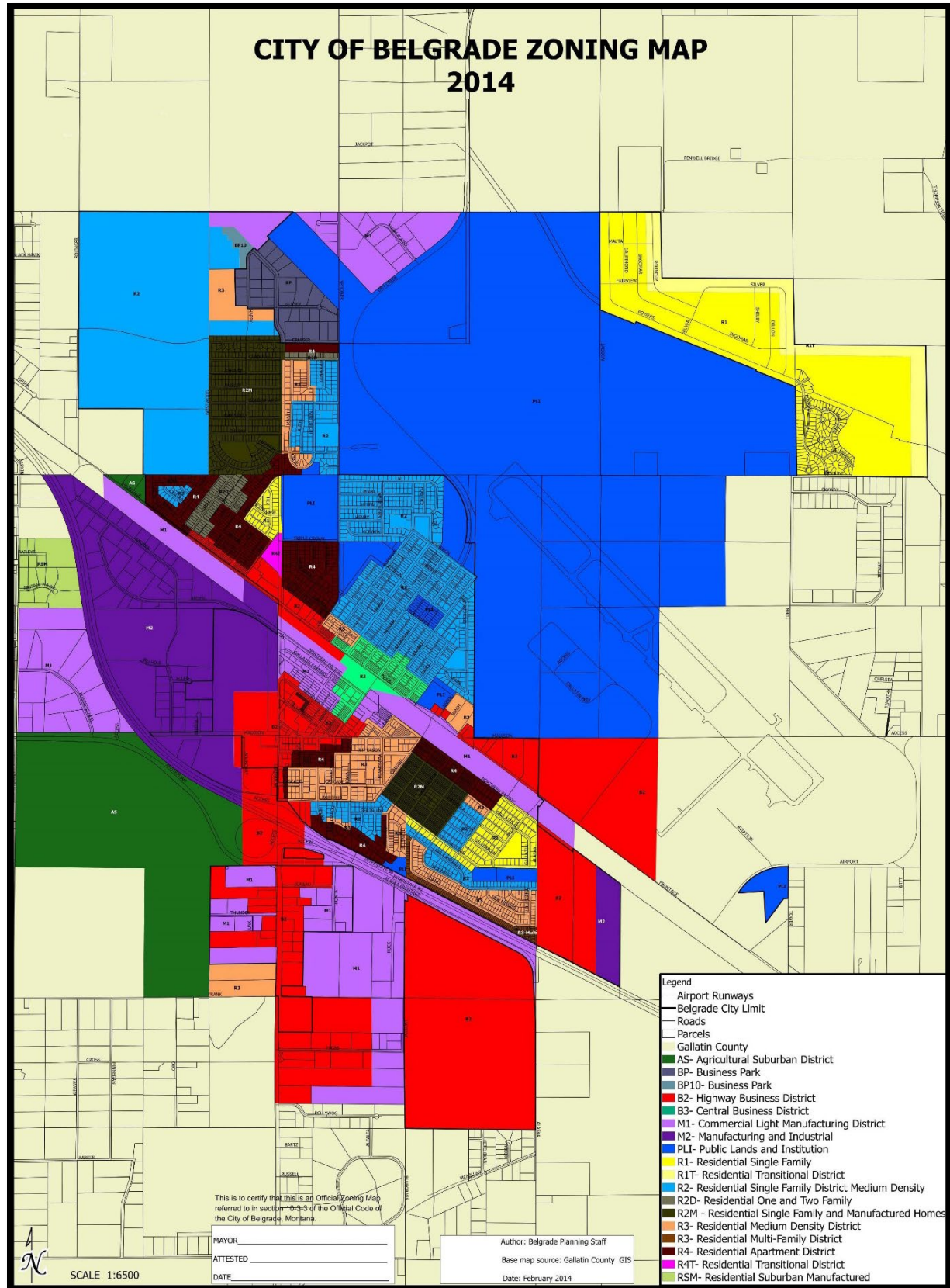


Figure 1-25: City of Belgrade Zoning



Figure 1-26: Exhibit A Property Map

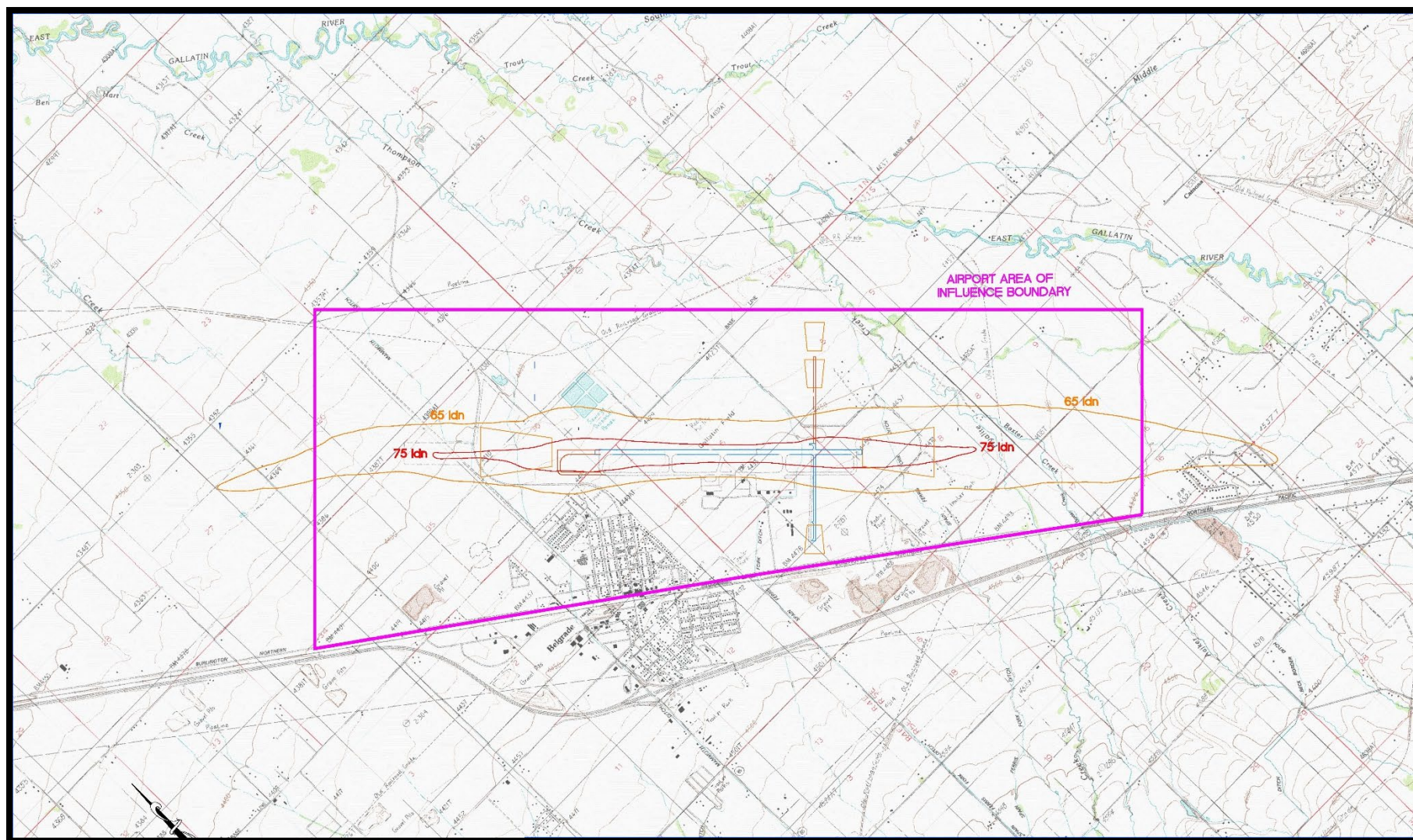


Figure 1-27: AIA and Existing Noise Contours

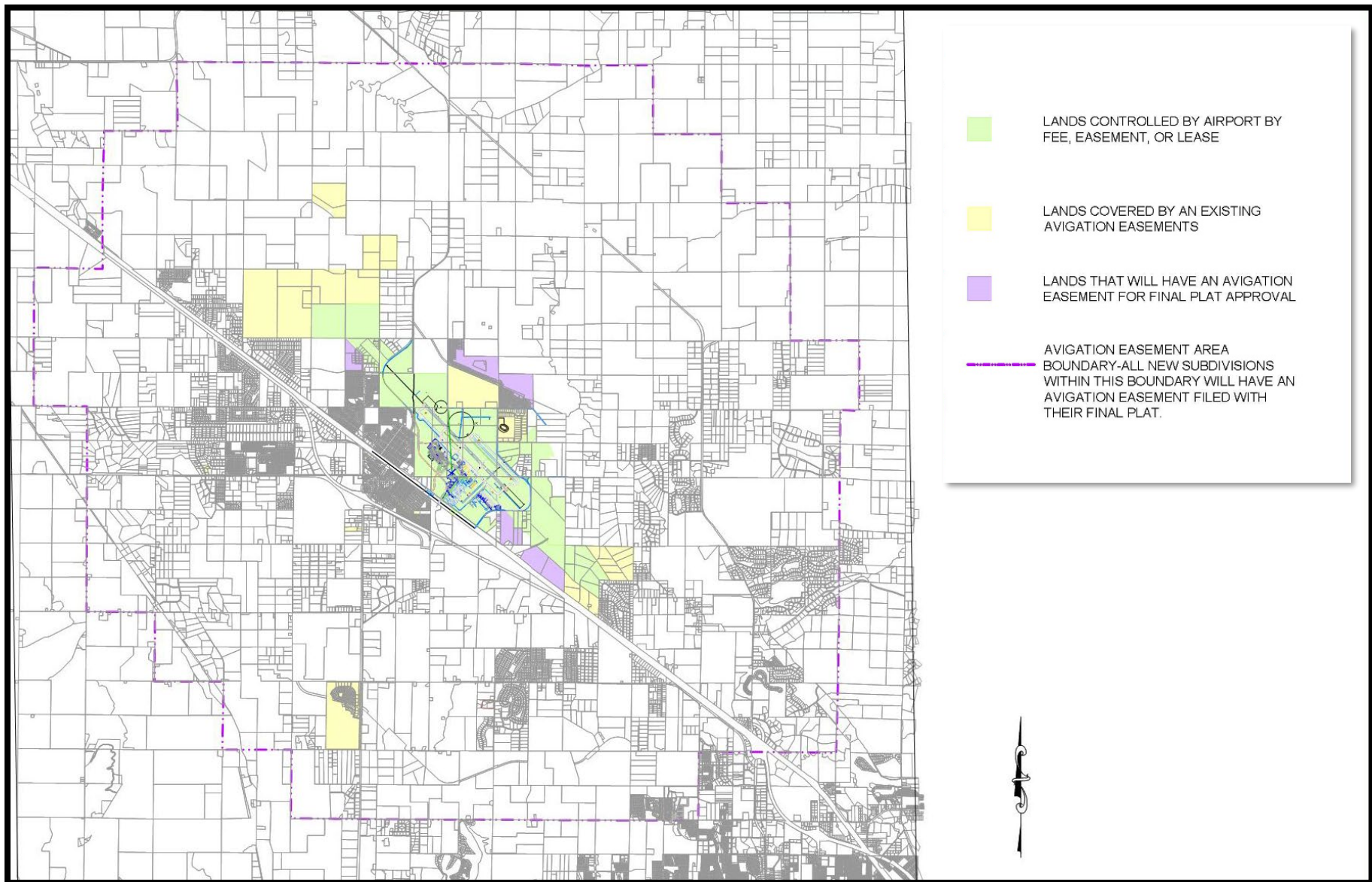


Figure 1-28: Aviation Easement Area