AGENDA
OMAK CITY COUNCIL MEETING
Tuesday, September 5, 2023 – 7:00 PM

A. CALL TO ORDER

B. FLAG SALUTE

C. CITIZEN COMMENTS

D. MAYOR'S REPORT

E. CONSENT AGENDA

1. Approval of Minutes from August 21, 2023
2. Approval of 2023 Claims and August '23 Payroll

F. NEW BUSINESS

1. Maurice Goodall, Director of Okanogan County Emergency Management
2. J-U-B Engineers Presentation of Airport Layout Plan - Final Draft ☑
3. Res. 72-2023 – Chg. Order No. 2 – 2022 Water Sewer Improvements ☑
4. Res. 73-2023 – Emergency Condition – Sewer System Repairs ☑
5. Res. 74-2023 – Approve Airport Layout Plan & Gran Closeout ☑
6. Res. 75-2023 – Authorize Grant Application with RCO ☑

G. OTHER BUSINESS

1. Council Committee Reports
2. Staff Reports

☑ Action by City Council

Our Council Meetings are conducted in person in addition to Zoom Meetings. Meeting information is located on our website at omakcity.com. If you need support or accommodations, contact the City Clerk in advance by phone at 509-826-1170 or by e-mail clerk@omakcity.com for assistance.

MEMORANDUM

To: Cindy Gagné, Mayor

From: Wayne Beetchenow, Public Works Director

Date: September 4, 2023

Subject: **Resolution No. 72-2023** Approving change order No. 2 for the 2022 Sewer and Water System Improvement Project G&O #21832

The Attached Resolution**: 72-2023, A RESOLUTION OF THE OMAK CITY COUNCIL, APPROVING CHANGE ORDER NO. 2 OF THE CONTRACT FOR 2022 SEWER AND WATER SYSTEM IMPROVEMENTS PROJECT G&O #21832**
is forwarded for your consideration.

This project upgraded our water and sewer lines in the area of Hemlock St and a water line on Dewberry St.

The project ended up pulling in less 4" HDPE pipe than planned so the contractor is eligible to get paid more per foot on the pipe that was installed. The contractor had pulled in 52% of the bid amount as of the last pay estimate.

The contract provided for a cost adjustment if the work performed is less than 75% of the original bid quantity, and the original bid price for the bid item is 10% or more of the original contract price.

The public works department, engineers and the contractor have discussed and agreed on the amount of the change order.

We are requesting approval of this resolution.

RESOLUTION NO. 72-2023

A RESOLUTION OF THE OMAK CITY COUNCIL APPROVING CHANGE ORDER NO. 2 TO THE CONTRACT BETWEEN BURLY PRODUCTS D.B.A. JR CONSTRUCTION AND THE CITY OF OMAK FOR 2022 SEWER AND WATER SYSTEM IMPROVEMENTS PROJECT G&O #21832

WHEREAS, the City of Omak awarded the contract for the 2022 Sewer and Water System Improvement Project G&O #21832 to Burly Products Inc. dba JR Construction. by Resolution 31-2022; and

WHEREAS, the quantity of 4" HDPE sewer line installed was reduced by 48%; and

WHEREAS, the contract provides for a cost adjustment if the quantity is reduced more than 25%; and

WHEREAS, representatives of the City of Omak, Burly Products Inc. dba JR Construction and the City's consultants, Gray & Osborne, Inc., have negotiated this Change Order to resolve the issue encountered reasonably.

NOW, THEREFORE, BE IT RESOLVED by the Omak City Council, that Change Order No.2 to the contract for 2022 Sewer and Water System Improvement Project, a copy of which is attached hereto as Exhibit "A", is now approved and the Mayor is authorized to execute said Change Order for and on behalf of the City.

PASSED BY THE CITY COUNCIL this ____ day of _____, 2023.

APPROVED:

_____
Cindy Gagné, Mayor

ATTEST:

_____
Connie Thomas, City Clerk

APPROVED AS TO FORM:

_____
Michael D. Howe, City Attorney

CHANGE ORDER

Project Title	2022 Sewer and Water System Improvements		
Owner	City of Omak	**Contractor Name**	Burly Products dba JR Construction
Change Order No.	2	**Contractor Address**	3999 St. Joe Avenue
Change Order Date	August 18, 2023		Post Falls, Idaho 83854
G&O No.	21832.01		

The following changes are hereby made to the Contract Documents:

SCHEDULE A: SEWER SYSTEM IMPROVEMENTS

ITEM 1: Equitable Adjustment for Decreased Quantities – HDPE Side Sewer Pipe and Fittings for Pipe Bursting 4 In. Diam.

Equitable adjustment for the anticipated contribution to unavoidable fixed cost and overhead from the units representing the difference between the adjusted final quantity of 4" HDPE side sewer pipe furnished and installed on the project and 75 percent of the original plan quantity.

The lump sum cost for this work is:.....**$12,000.00**

Justification: The additional work is the result of changed site conditions. The final quantity of 4" HDPE side sewer pipe installed on the project was less than 75 percent of the original bid quantity, and the original bid price for this bid item represented 10 percent or more of the original Contract price. Section 3.04.6 of the General Conditions allows for an equitable adjustment if the adjusted final quantity of Work performed is less than 75 percent of the original bid quantity, if 10 percent or more of the original Contract price.

Working Days: 0 working days are added to the Substantial and Physical Completion Contract Times.

CHANGE TO CONTRACT PRICE

Original Contract Amount (without tax): $2,170,380.00
Current Contract Amount, as adjusted by previous change orders:.....$2,205,230.00
The Contract Amount due to this Change Order will be increased by: $12,000.00
The new Contract Amount (without tax) due to this Change Order will be:.....$2,217,230.00

CHANGE TO CONTRACT TIME

The Substantial Completion Contract Time will be increased by 0 working days, for a total of 138 working days.

The Physical Completion Contract Time will be increased by 0 working days, for a total of 148 working days.

This document will become a supplement to the Contract and all provisions in the Contract will apply hereto. The Contractor acknowledges and agrees that by executing this change order he foregoes all rights and privileges of acquiring any additional compensation for any known or unknown claims of any

type or nature, to include but not be limited to, any additional work, delays, extended office overhead, design omissions, changed site conditions, or any oral directions as of the date of the execution of this change order.

GRAY & OSBORNE, INC.
(RECOMMENDED) _____ Date 8-21-23

BURLEY PRODUCTS DBA
JR CONSTRUCTION
(ACCEPTED) _____ Date 8/21/23

CITY OF OMAK
(ACCEPTED) _____ Date _____

MEMORANDUM

To: Omak City Council
Cindy Gagné, Mayor

From: Wayne Beetchenow
Public Works Director

Date: September 5, 2023

Subject: **Resolution No. 73-2023** Declaration of Emergency for Sewer System Repairs

---

The attached Resolution **73-2023**, **Making a Finding of an Emergency Condition and Authorizing Expedited Purchasing Processes for Services Necessary for Sewer System Repairs, is forwarded for your consideration.**

The Public Works crew has found that the sewer line crossing the river on the north side to the bridge is damaged within the river. Within hours of discovering this the crew made all necessary adjustments to stop any sewer from flowing into the river. At times there is limited use of some restroom facilities. The pool, Triangle restroom, stampede office and RV dump station are out of service.

The attached Resolution makes a finding that an emergency situation exists due to these circumstances and authorizes the mayor to use expedited purchasing processes to get repairs completed as soon as possible.

I support this Resolution and urge its approval.

RESOLUTION NO. 73-2023

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF OMAK, WASHINGTON, MAKING A FINDING OF AN EMERGENCY CONDITION AND AUTHORIZING EXPEDITED PURCHASING PROCESSES FOR SERVICES NECESSARY FOR SEWER SYSTEM REPAIRS

WHEREAS, on August 22, 2023 the City crew responded to the report of a damaged line in the river, to discover that a sewer main had failed, and raw sewage was entering the Okanogan River; and

WHEREAS, the total impact of this incident is unknown and it requires immediate action to mitigate public and environmental risks; and

WHEREAS, future action could range from replacement of the sewer line crossing the river to reconfiguring the sewer system within eastside park.

NOW, THEREFORE BE IT RESOLVED BY THE CITY COUNCIL OF THE CITY OF OMAK, WASHINGTON, that the circumstances recited above constitute an emergency, and the Mayor is authorized to procure the goods and services necessary to make the sewer system repairs using expedited purchasing and competitive processes.

PASSED AND APPROVED this _____ day of _____**,** 2023.

SIGNED:

_____
Cindy Gagné, Mayor

ATTEST:

_____
Connie Thomas, City Clerk

APPROVED AS TO FORM:

_____
Michael D. Howe, City Attorney

MEMORANDUM

To: Omak City Council
Cindy Gagné, Mayor

From: Wayne Beetchenow
Public Works Director

Date: September 5, 2023

Subject: **Resolution 74-2023** Approving Airport Master and Layout plans

The attached Resolution No. 74-2023, Approving Updates to the Omak Airport Master Plan, Airport Layout Plan and Grant Closeouts, is forwarded for your consideration.

J-U-B Engineering has completed the updates to the Airport Master and Layout plans. The information in these updates was gathered from a wide variety of sources, including public and private airport users.

The plans look at the airport's current use and forecast what the needs will be in the next 20 years. This plan will help guide project planning and funding for improvements necessary for the continued operations and useability of the airport.

The complete updated documents are available on the city website at omakcity.com in the September 5, 2023, agenda package.

I support this Resolution and Urge its Adoption.

RESOLUTION NO. 74-2023

A RESOLUTION OF THE OMAK CITY COUNCIL APPROVING UPDATES TO THE OMAK AIRPORT MASTER PLAN, AIRPORT LAYOUT PLAN AND GRANT CLOSEOUTS

WHEREAS, Grants from the Federal Aviation Administration (FAA) and Washington State Department of Transportation (WSDOT), Aviation Division; were secured for updates to the Omak Airport Master and Layout plans; and

WHEREAS, J-U-B Engineering was contracted to provide the services necessary to complete the updated plans; and

WHEREAS, plan updates where coordinated with the FAA, WSDOT Aviation, and city staff; and

WHEREAS, public meetings were held on April 17, 2023, and September 5, 2023, and

WHEREAS, J-U-B has completed plan updates that document current and future, uses and needs.

NOW, THEREFORE, BE IT RESOLVED, by the City Council of the City of Omak, that the 2023 Airport Master Plan and Airport Layout Plan is Approved. The Mayor is authorized to submit the plan to the Federal Aviation Administration on behalf of the City and make all necessary actions to close out grants.

INTRODUCED and passed this _____ day of _____, 2023.

SIGNED:

_____
Cindy Gagne, Mayor

ATTEST:

_____
Connie Thomas, City Clerk

APPROVED AS TO FORM:

_____
Michael Howe, City Attorney

OMAK MUNICIPAL AIRPORT MASTER PLAN

DRAFT PLAN

August 29, 2023

Submitted by:

J-U-B ENGINEERS, INC.

THE LANGDON GROUP a J-U-B Company

GATEWAY MAPPING INC. a J-U-B Company

OTHER J-U-B COMPANIES

TABLE OF CONTENTS

CHAPTER 2 (Continued)

CHAPTER 2 (continued)

CHAPTER 3 (Continued)

APPENDIX A – PUBLIC INVOLVEMENT REPORT

APPENDIX B – SECTION 163 FAA APPROVAL AUTHORITY REVIEW

APPENDIX C – FAA FORECAST APPROVAL LETTER

ACRONYMS

AAC	Airport Approach Category
AAGR	Average Annual Growth Rate
AC	Advisory Circular
ADG	Aircraft Design Group
ADO	Airports District Office
ADO	Associate Development Organization
ADS-B	Automatic Dependent Surveillance-Broadcast
AIP	Airport Improvement Program
AGL	Above Ground Level
AGIS	Airport Geographical Information System
ALP	Airport Layout Plan
AMSL	Above Mean Sea Level
ANM	Northwest Mountain Region
AOCS	Approach and Departure Clearance Surfaces
AOPA	Aircraft Owner's and Pilot Association
ASPM	Aviation System Performance Metrics
ATC	Air Traffic Control
ARC	Airport Reference Code
AWOS	Automated Weather Observation System
BEA	Bureau of Economic Analysis
BMP	Best Management Practices
CARES	Coronavirus Aid, Relief, and Economic Security Act
CAA	Clean Air Act
CAGR	Cumulative Average Growth Rate
CATEX	Categorical Exclusion
CCTV	Closed Camera Circuit Television
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CTAF	Common Traffic Advisory Frequency
CWA	Clean Water Act
CMG	Cockpit to Main Gear
COVID-19	Corona Virus Disease 2019
DAHP	Department of Archaeology and Historic Preservation
DHS	Department of Homeland Security
DME	Distance Measuring Equipment
DNL	Day-Night- Average Sound Level
DWG	Dual Wheel Gear

EA	Environmental Assessment
EASy	Enhanced Avionics System
EDA	Economic Development Administration
EIS	Environmental Impact Study
EJSCREEN	Environmental Justices Screening and Mapping
EPA	Environmental Protection Agency
ESA	Endangered Species Act
ESD	Employment Security Department
GA	General Aviation
GSI	Greater Spokane Incorporated
FAA	Federal Aviation Administration
FBO	Fixed Based Operator
FEMA	Federal Emergency Management Agency
FPPA	Farmland Protection Policy Act
FSS	Flight Service Station
GAMA	General Aviation Manufactures Association
GDP	Gross Domestic Product
GHG	Green House Gas
HELO	Helicopter
IAP	Instrument Approach Procedure
IATA	International Airline Transport Association
ILS	Instrument Landing System
IFR	Instrument Flight Rules
IMC	Instrument Meteorological Conditions
IPaC	Information for Planning and Consultation
ITD	Idaho Department of Transportation
LL	Low Lead
MEP	Multi-Engine Piston
MHz	Mega-Hertz
MIRL	Medium Intensity Runway Lighting
MGW	Main Gear Width
MPU	Master Plan Update
MSL	Mean Sea Level
NAAQS	National Ambient Air Quality Standards
NAS	National Airspace System
NGS	National Geodetic Survey
NDB	Non-Directional Beacon
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NPIAS	National Plan of Integrated Airport Systems

NPE	Non-Primary Entitlements
NRHP	National Register of Historic Places
NRSC	Natural Resources Conservation Science
NWIS	National Water Information System
OBPA	Operations Per Based Aircraft
OFZ	Obstacle Free Zone
PBN	Performance Based Navigation
PI	Personal Income
PAPI	Precision Approach Path Indicator
PCC	Per Capita Consumption
PCPI	Per Capita Personal Income
PHS	Priority Habitats and Species
P/QP	Public Quasi-Public
REIL	Runway End Identifier Lighting
RDC	Runway Design Code
ROFA	Runway Object Free Area
RPZ	Runway Protection Zone
RSA	Runway Safety Area
RVR	Runway Visual Reference
SAF	Sustainable Aviation Fuel
SEP	Single Engine Piston
SHPO	State Historic Preservation Officer
SOP	Standard Operating Procedures
SWG	Single Wheel Gear
SY	Square Yards
TAF	Terminal Area Forecast
TDG	Taxiway Design Group
TFMSC	Traffic Flow Management Control System Counts
THPO	Tribal Historic Preservation Officer
TAC	Technical Advisory Committee
TOFA	Taxiway Object Free Area
TSA	Taxiway Safety Area
UNICOM	Universal Communications
USDA	United States Department of Agriculture
USAF	United States Air Force
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Society
USNWS	United States National Wetland Inventory
VCOA	Visual Climb Over Airport

VGSI	Visual Glide Slope Indicator
VHF	Very High Frequency
VSO	Safety Operating Speed
VREF	Reference Speed
VOR	VHF Omni-Directional Range
WBAN	Wireless Body Area Network
WDOE	Washington State Department of Ecology
WPE	Woods and Poole Economics
WWSBEG	Working Washington Small Business Emergency Grant

CHAPTER 1 INTRODUCTION

An airport master plan provides a framework for short and long-term development at an airport based on the needs identified during a comprehensive evaluation of facilities, conditions, and design standards. The Omak Airport Master Plan is a 20-year vision outlining the improvements necessary to maintain a safe and efficient airport that is economically, environmentally, and socially sustainable.

The FAA recommends sponsors update their airport master plans every 7 to 10 years or as conditions change. The City of Omak, as airport sponsor, initiated the airport planning process in May 2022 to update the 2012 Omak Airport Layout Plan. This particular plan is specifically an Airport Layout Plan (ALP) Update with a simultaneous narrative report, and will not address all aspects of a new Airport Master Plan.

This planning document is produced in full coordination with the Federal Aviation Administration (FAA) and the Washington State Department of Transportation (WSDOT) Aviation Division.

The remainder of this chapter describes the plan's purpose and objectives, concerns to address, phasing, participants, and public involvement.

1.1 PURPOSE AND OBJECTIVES

Assessing airport needs and filing a new plan is beneficial to progressing development but can often be complex and challenging. Some basic questions are:

- What kinds of visitors, users, or companies may be interested in the Airport?
- Which airport services or capabilities are the most attractive to new business and existing users and why?
- What will it cost to get additional airport infrastructure in place?
- What will the basic needs for the Airport be, now and in the future?

Answering these questions will help the community establish an airport plan and program that help achieve community goals.

1.1.1 PURPOSE

The Omak Airport Layout Plan aims to define the short, medium, and long-term projects needed to meet future aviation demand at the Airport. The planning process will evaluate the Airport's role and capabilities, forecast future aviation demand, and consider facility requirements such as planning for the phasing of new hangar development, expanding apron space, as well as planning for utility infrustracture for future firefighting operations.

Recreational and firefighting activity has increased at the Omak Airport (OMK) in recent years and, therefore, the need now exists to update the Airport's Layout Plan to efficiently and cost-effectively to satisfy aviation demand.

The update will provide the Omak City Council with a realistic development program to maintain the Airport's role as an essential link to the regional, state, and national transportation systems. It will also

provide justification to support decisions that direct limited and valuable resources for future airport development.

1.1.2 OBJECTIVES

This Plan will provide the framework needed to guide future development at the Omak Airport by meeting the following objectives:

1. Identifies the issues the plan will address.
2. Provides development solutions that maximize opportunity; meet local, state, and Federal regulations; and are justified from a technical, economic, and environmental standpoint.
3. Develops a plan for project implementation after analyzing physical site assets, economic benefits, job creation and related salaries, fiscal impacts, and contributions to overall FAA objectives.
4. Establishes a flexible approach that accommodates both potential aviation and non-aviation users.

1.2 SPECIAL CONCERNS

The project team used developed methods to objectively evaluate and assess the needs of the Omak Airport from an aviation use, development, and implementation perspective. The special concerns described in this section correlate numerically to the locations identified on the airport map in **Figure 1.1.**

1 Hangar Expansion/Development

Initial feedback from members of the community revealed that there is a group of individuals who are ready to build hangars now. For the Omak Municipal Airport to grow, it is essential that providing adequate and appropriate space for more hangars is included. This effort will focus on making the most use of the existing hangar and apron space. New hangar areas need to be laid out strategically to provide the best access for aviators and to serve potential business needs.

2 Instrument Approach Procedures

The FAA has identified the need to adjust and modernize the Omak Airport Instrument Approach Procedures. This effort includes acquiring new airspace survey data and filing information in the Airport Data and Information Portal, with the FAA and NGS.

3 Apron Expansion/Development

An increase in aircraft operations on the airfield and limited apron space impacts maneuverability and access to airport services. The planning process will assess the need for future apron expansion to ensure facilities accommodate advanced operations at the airfield.

4 Helicopters

During the summer months the Airport sees an increase in helicopter activity. As helicopter activity increases, the parallel taxiway ajacent to the primary tiedown apron, becomes blocked due to limited parking space. The planning process will assess the need for better helicopter maneuverability.

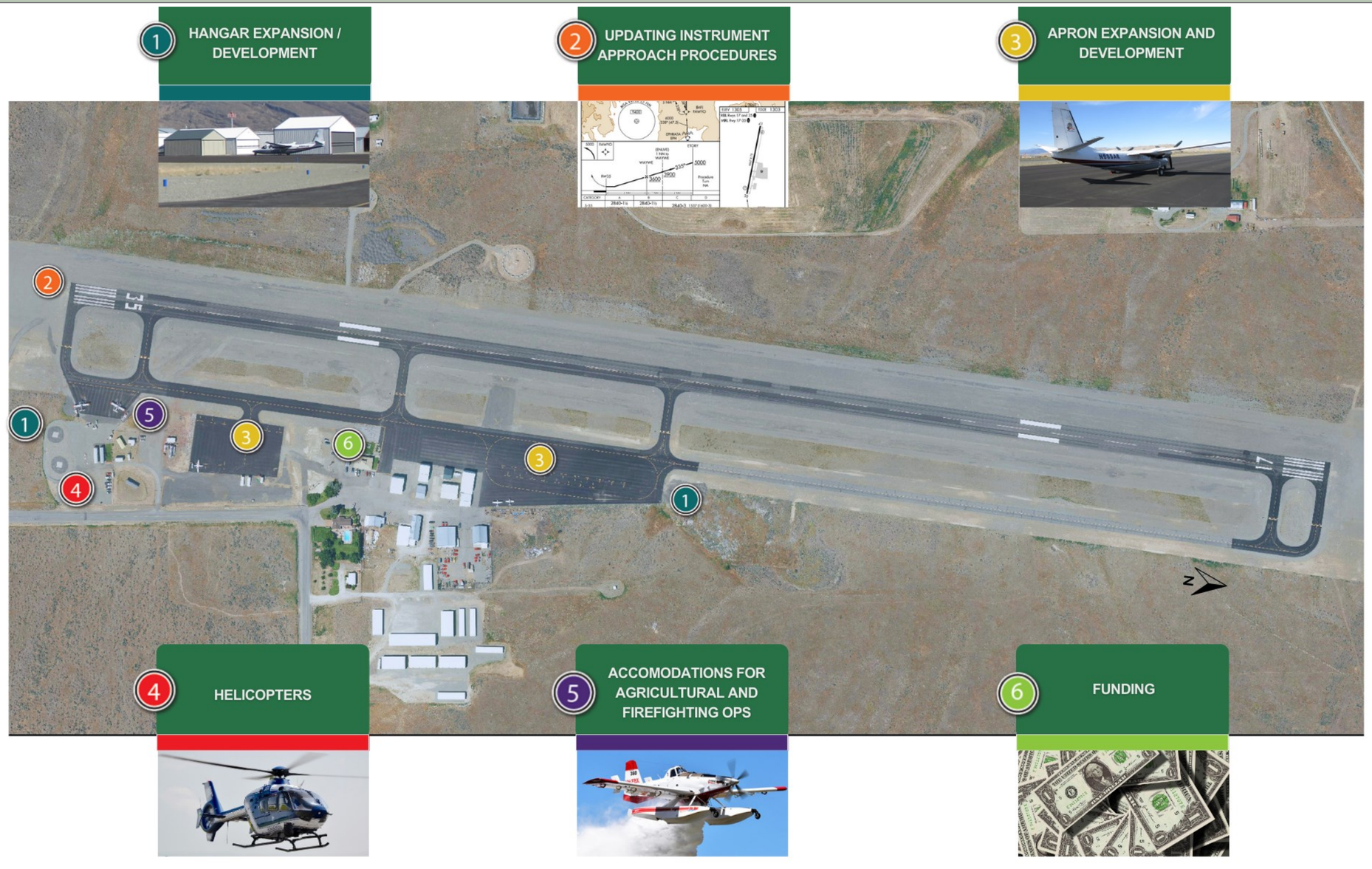
5 Accommodations for Larger Agricultural and Firefighting Aircraft

Given the ever growing agribusiness in the surrounding area, it is reasonable to assume the Omak Municipal Airport will see a significant increase in agricultural spray operations and potentially a few small corporate jets or turboprop traffic. Utility and resource accommodations for firefighting operations will need to be accounted for as future firefighting activity increases.

6 Funding

The FAA will still be the largest funding source for airport projects now and in the future. WSDOT Aviation also participates in supporting airports and the aviation industry in Washington. A financial plan will consider all funding sources needed for each outlined project.

FIGURE 1.1
OMAK AIRPORT SPECIAL CONCERNS



Source: J-U-B

1.3 PLANNING PROCESS

This study of the Omak Airport began with a pre-planning process to develop and approve a detailed scope of work, budget, and schedule.

The airport master plan consultant will work closely with representatives from the City of Omak, FAA, WSDOT Aviation and other federal and state agencies during the planning process. Representatives will be consulted throughout the development of this study and invited to attend progress, public, and other related meetings.

The project workflow for this planning study will include four phases:

Phase 1: Inventory of Existing Conditions and Public Involvement.
Phase 2: FAA Approval of the forecast, assessment of facility requirements, and development of alternative scenarios.
Phase 3: Preferred alternative, leading to a phased development and cost estimating effort.
Phase 4: Narrative review to make sure everything is completed and correct.

The first three phases will involve the initial draft, review, and revision of the plan document, and all phases will conclude with a project milestone. The final Omak Airport Layout Plan will establish a clear recommendation for a responsive course of action and a scheduled plan, complete with current cost estimates and facility improvements, that set the stage for a continuing planning process. **Figure 1.2** depicts the activities associated with each project phase described in this section.

The Omak Airport Layout Plan (ALP) and narrative report will align with FAA guidelines, policies, and procedures and meet all state and federal regulations.

FIGURE 1.2
PROJECT FLOW CHART

Source: J-U-B

1.3.1 PROJECT PARTICIPANTS

The City will make final decisions about the future of the Omak Municipal Airport through the course of this planning process. Various airport constituencies, including the users, nearby homeowners and business owners, and the general public may be consulted through the City's public participation process.

1.3.2 PROJECT PHASE 1

This planning study will begin with a project kickoff meeting and a discussion about issues and concerns. Project activities completed during phase one will include:

- A review of previous reports and associated work
- An inventory of airport facilities and improvements, surveys, land uses, airspace, and navigational aids, in addition to pertinent socioeconomic, and financial data
- Verifying the airport aviation forecast based on analysis of economic and operation projections
- Determining role, service capabilities, and airside and landslide requirements
- An analysis of alternatives

Using information gathered during these activities, the project team will present the findings from the inventory, forecast, and alternatives to the City Council. The FAA approves the aviation forecasts.

1.3.3 PROJECT PHASE 2

After the Omak City Council selects or modifies the preferred alternative(s), the project will progress to Phase 2. Project activities completed during this phase will include:

- Sequencing of recommended improvements for hangar development, apron layout, and firefighting support facilities
- Calculation of costs associated with the recommended improvements
- Update of the ALP and associated drawings

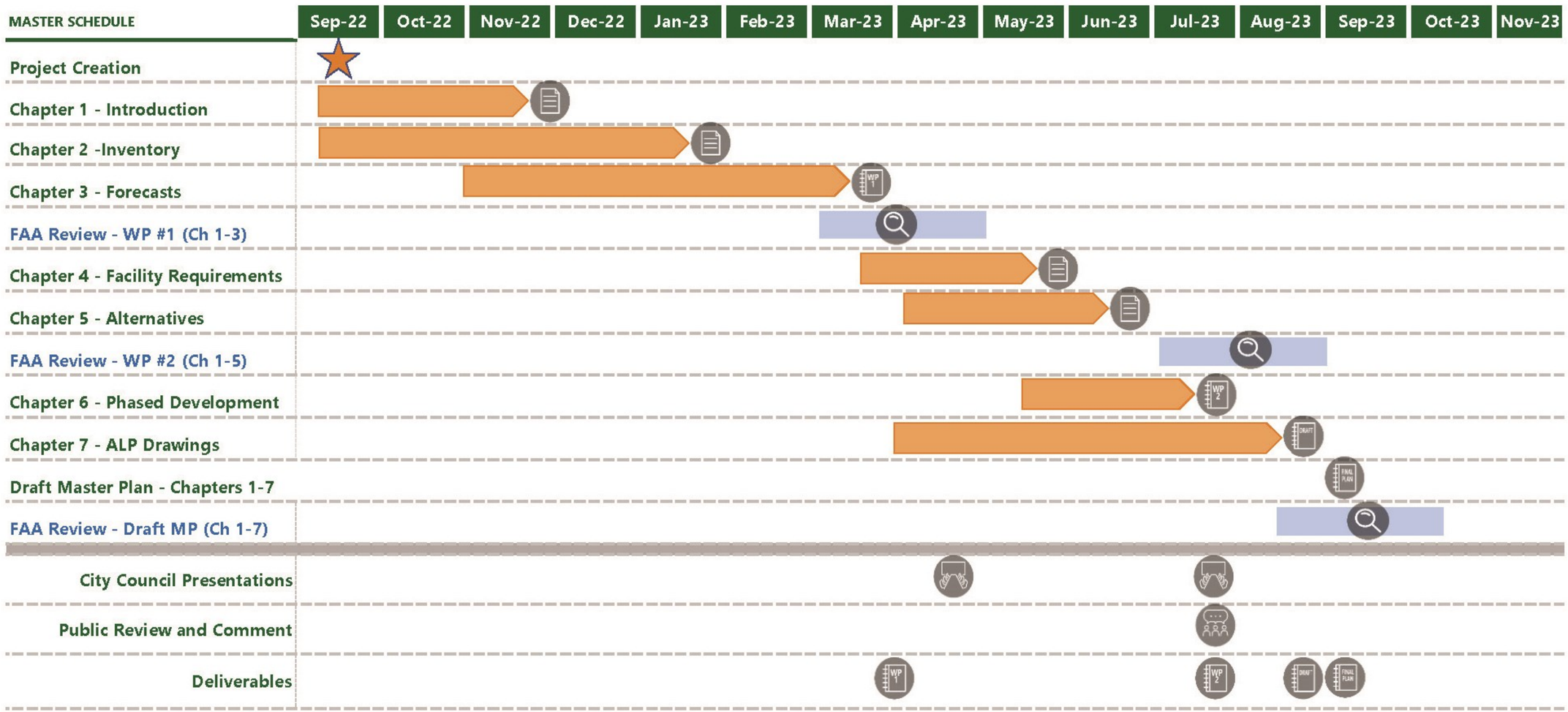
After undergoing a series of reviews and revisions, the project team will create the Draft Airport Layout Plan.

1.3.4 PROJECT PHASE 3

After the City Council approves the Draft Airport Layout Plan, the FAA will take the plan, ALP, and additional drawings for internal coordination. Once the FAA completes its review, the Final Omak Airport Layout Plan will be complete and the final documents will be printed and signed by the City Council and the FAA.

Figure 1.3 depicts the initial project schedule.

FIGURE 1.3
INITIAL PROJECT SCHEDULE



Source: J-U-B

1.4 PROJECT PARTICIPANTS

The planning process will include successful coordination, communication, and collaboration among key agencies, airport users, tenants, and the wider Okanogan County community. Input gathered during this process will guide the Omak City Council as they make final decisions about the future of the Omak Airport.

The FAA and WSDOT Aviation will review project progress and evaluate plan elements during each project phase. In the final step, the FAA will approve the master plan forecasts and internally circulate the plan for integration into the national airspace system.

The airport master plan consultant will prepare project documentation, guide progress, solicit guidance, and build consensus from plan participants at key project points.

The airport master plan consultant will work closely with the Omak Airport to develop a public involvement program to guide outreach efforts throughout plan development. The following section further details the program and its participants.

1.5 PUBLIC INVOLVEMENT

The Omak Airport is conducting a Master Plan Update to consider current and future needs and identify improvement alternatives. The project began in June 2022 and is scheduled for completion by December 2023. The master planning process includes analyzing existing airport uses and facilities, forecasting future demands, and considering available land use options. The results of this analysis will produce short, intermediate, and long-term recommendations to the airport, and will effectively update the Airport Layout Plan (ALP). The ALP was last updated in 2008.

Public involvement (PI) is an essential component of the master plan update, as it provides the opportunity to collect key stakeholder and user perspectives at specific points in the process. The public involvement strategy will include:

- Public open house meetings in conjunction with a presentation at City Council meetings. See **Appendix A** for additional information.

The following is a comprehensive summation of feedback collected during the stakeholder interview process, organized by these 3 central themes:

Activities and Usage
Current Facilities
Future Improvements

1.5.1 INITIAL FEEDBACK AND THEMES

Early engagement with key stakeholders helped to create an understanding of the community's relationship with the Airport and potential opportunities for improvements. The themes that emerged from this initial feedback included better hangar development, more apron space, alleviating helicopter parking

concerns, and improving approach procedures. The comments were ultimately used to create the following summary of themes.

Activity and Usage

- Recreational use comes from local pilots seeking to get from point A to B, but occasionally includes back-country fliers.
- Medical transport performs approximately 20 operations per month (10 takeoffs, 10 landings).
- Firefighting operations are key to the region for various public land agencies, such as the USFS, BIA, and State DNR.
- Firefighting activity increases dramatically in the summer season.
- Agricultural operators also have a significant presence in the use of the airport.
- Local and regional freight is by ground and air.

Current Facilities

- Runway width and length are adequate
- Tie downs and lighting are adequate
- During the fire season, the airport lacks the capacity to store enough Jet A fuel
- Asphalt and parking are in fair condition
- Stakeholders agreed that the airport was well maintained for its size and geographic context.
- Initial feedback from members of the community revealed that there is a group of individuals who are ready to build hangars now. The need for at least eight more hangars has been requested.
- Helicopter parking and manueverability becomes congested during the busy fire season. As helicopter activity increases, the parallel taxiway ajacent to the primary tiedown apron, becomes blocked due to limited parking space.

Future Improvements

- Hangar Expansion/ Development - All hangar construction is intended to be developed on an in-demand basis. Initial feedback and demand indicates a need for expanded hangar facilities.
- Apron Expansion / Development - An increase in aircraft operations on the airfield and limited apron space impacts maneuverability and access to airport services. Aviation forecasts indicated a need for future apron expansion to ensure facilities accommodate increasing operations at the airfield.
- More Helicopter Parking – for better maneuverability and improved safety, the need for more helipad parking is essential as operations continue to increase.
- Improving Approach Procedures - The FAA has identified the need to adjust and modernize the Omak Airport Instrument Approach Procedures. This effort includes acquiring new airspace survey data and filing information in the Airport Data and Information Portal, with the FAA and NGS.

Additional analysis of feedback and themes will continue as the project progresses. A comprehensive public involvement summary will accompany the final Omak Airport Layout Plan.

1.6 CONSULTANT AGREEMENT AND STUDY DOCUMENTATION

J-U-B ENGINEERS, Inc. entered into an agreement with the Omak Airport in March of 2022 to conduct this master planning effort and prepare this document.

1.6.1 REFERENCE DOCUMENTS

This study will adhere to the following FAA advisory documents:

Applicable FAA Guidance	
150/5060-5	Airport Capacity and Delay
150/5190-4	A Model Zoning Ordinance to Limit Height of Objects Around Airports
150/5070-6B	Airport Master Plans
150/5190-6	Exclusive Rights at Federally Obligated Airports
150/5190-7	Minimum Standards for Commercial Aeronautical Activities
150/5300-13B	Airport Design
150/5340-1M	Standards for Airport Markings
150/5340-18G	Standards for Airport Sign Systems
150/5300-16B	General Guidance and Specifications for Aeronautical Surveys: Establishment of Geodetic Control and Submission to the National Geodetic Survey
150/5300-17C	Sensing Technologies in Airport Surveys
150/5300-18B	General Guidance and Specifications for Submission of Aeronautical Surveys to NGS: Field Data Collection and Geographic Information System (GIS) Standards
150/5360-13B	Airport Terminal Planning
150/5020-1	Noise Control and Compatibility Planning for Airports
150/5320-5D	Airport Drainage Design
150/5325-4B	Runway Length Requirements for Airport Design
150/5050-4A	Community Involvement in Airport Planning
150/5230-4B	Aircraft Fuel Storage, Handling, Training, and Dispensing on Airports
5100.38D	Airport Improvement Program Handbook
5050.4B	NEPA Implementing Instructions for Airport Actions
1050.1F	Environmental Impacts: Policies and Procedures
	Environmental Desk Reference for Airport Actions

1.6.2 AIRPORT LAYOUT PLAN CONTENT

Chapter 1	Introduction
Chapter 2	Inventory of Existing Conditions
Chapter 3	Aviation Activity Forecasts
Chapter 4	Facility Requirements
Chapter 5	Alternatives Development and Evaluation
Chapter 6	Facilities Implementation Plan and Financial Feasibility Analysis
Chapter 7	Airport Layout Plan

CHAPTER 2 INVENTORY OF EXISTING CONDITIONS

2.1 INTRODUCTION

The inventory of existing conditions describes the current facilities, operations, and community characteristics at and around the Omak Airport (OMK). The information collected from on-site inspections, research, and airport staff during this step of the airport master planning process establishes baseline conditions used in subsequent chapters to forecast and plan for future development at the Airport.

2.1.1 BASIC INFORMATION

The Omak Airport was constructed in 1943 as an alternate military landing field. The facilities were built to accommodate B-17 and B-26 bombers. Today, Omak Airport sits on approximately 153 acres of land and is owned, operated, and managed by the City of Omak.

The Omak Airport is a general aviation (GA) airport that supports emergency medical, firefighting, flight training, and business operations in the Okanogan County area. As of October 2022, *basedaircraft.com* reports **7 based aircraft** at the Airport as validated in the FAA's National Based Aircraft Inventory Program.

2.2 FINANCIAL INFORMATION

2.2.1 NATIONAL ROLE

Omak Municipal Airport is included in the National Airspace System (NAS) and is one of 3,287 existing airports identified in the FAA's National Plan of Integrated Airport Systems (NPIAS) for fiscal years 2023 to 2027. The NPIAS provides an inventory of existing and proposed airports significant to the air national transportation system and the estimated development costs necessary to provide a safe, efficient, and integrated system of public-use airports.

NPIAS airports are categorized as either primary or nonprimary based on enplaned passengers per year, activity type, and level. As a **Nonprimary GA Airport**, Omak Airport has no scheduled air carrier service and less than 2,500 enplanements a year. According to the 2023-2027 NPIAS report, the 2,904 nonprimary airports included in the NPIAS account for 58 percent of the active GA fleet and 68 percent of aircraft operations. The FAA uses current activity measures to classify GA facilities into five categories: national, regional, local, basic, and unclassified. The 2023-2027 NPIAS lists Omak Airport as a publicly owned **Basic Airport**. Basic airports serve local and regional markets and can accommodate flight training, emergency services, and charter passenger service.

Airports listed in the NPIAS are eligible for federal funding through the Airport Improvement Program (AIP). The AIP is a user-fee-based program established by the Airport and Airways Trust Fund in 1971 and amended by the Airport and Airway Improvement Act of 1982. Through the AIP, the FAA provides a maximum of $150,000 in annual aid to each airport sponsor. Airport sponsors can bankroll annual entitlements up to a maximum of $600,000 before the FAA requires an expenditure of funds. Grants

through the AIP typically cover up to 90 percent of total project cost, with the airport sponsor contributing the remainder as match.

As a sponsor of an NPIAS participating airport, The City of Omak is eligible and has received federal grant-in-aid for airport improvements under the AIP.

The 2023-2027 NPIAS estimates $43.6 billion is needed in airport improvements during the five-year planning horizon. Of that total, the NPIAS approximates Omak Airport will require $5,511,110 to meet development needs. This planning effort, along with planning done by the Washington State Department of Transportation (WSDOT) Aviation Division, may be used to consider the actual extent of funding available to the City of Omak.

Table 2.1 indicates various projects at Omak Airport supported by federal funding over the last 30 years.

Table 2.1

FAA Grants for Omak Airport

AIP Number	Year	Project Description	AIP Federal Funds	Federal Stimulus Funds
3-53-0042-001	1991	Install Runway Vertical/Visual Guidance System	$5,000	
3-53-0042-001	1991	Airport Master Plan Study	$0.00	
3-53-0042-001	1991	Construct Taxiway	$421,292	
3-53-0042-001	1991	Rehabilitate Apron	$285,000	
3-53-0042-002	1997	Airport Master Plan Study	$2,000	
3-53-0042-002	1997	Rehabilitate Runway Lighting	$90,000	
3-53-0042-002	1997	Extend Taxiway	$258,639	
3-53-0042-002	1997	Construct Apron	$151,137	
3-53-0042-003	2002	Rehabilitate Runway	$881,478	
3-53-0042-003	2002	Rehabilitate Taxiway	$150,000	
3-53-0042-004	2003	Install Miscellaneous NAVAIDS	$55,976	
3-53-0042-005	2007	Rehabilitate Apron	$75,000	
3-53-0042-005	2007	Rehabilitate Taxiway	$146,895	
3-53-0042-006	2009	Install Airfield Guidance Signs	$3,800	
3-53-0042-006	2009	Install Miscellaneous NAVAIDS	$100,000	
3-53-0042-006	2009	Rehabilitate Apron	$4,750	
3-53-0042-006	2009	Rehabilitate Taxiway	$146,024	
3-53-0042-007	2010	Construct Apron	$138,670	
3-53-0042-007	2010	Install Airfield Guidance Signs	$30,628	

3-53-0042-007	2010	Install Miscellaneous NAVAIDS	$26,600	
3-53-0042-007	2010	Rehabilitate Apron	$50,335	
3-53-0042-007	2010	Rehabilitate Taxiway	$373,681	
3-53-0042-008	2017	Install Runway Vertical/Visual Guidance System	$150,000	
3-53-0042-008	2017	Rehabilitate Runway	$1,324,681	
3-53-0042-008	2017	Rehabilitate Runway Lighting	$450,000	
3-53-0042-009	2019	Rehabilitate Apron	$21,091	
3-53-0042-009	2019	Rehabilitate Taxiway	$47,750	
3-53-0042-010	2020	Rehabilitate Apron	$139,189	
3-53-0042-010	2020	Rehabilitate Taxiway	$123,646	
3-53-0042-011	2020	CARES Act Funds		$20,000
3-53-0042-012	2021	CRRSA Act Funds		$9,000
3-53-0042-013	2021	General (ARPA) Act		$22,000
3-53-0042-014	2022	Update Airport Master Plan Study	$279,827	
		Total	**$5,933,089**	**$51,000**

Source: FAA Grant History Look Up and Grant History Visualization Tools

2.2.2 STATE ROLE

The Omak Airport is also eligible to receive funding through WSDOT and other state agencies. The Airport is one of 136 publicly owned airports selected by WSDOT Aviation. Of those airports, 48 are included in NPIAS and categorized in the *Washington Aviation System Plan* (WASP) according to their NPIAS classification. About 53 percent of the state airports classify as a non-NPIAS, the WASP classified non-NPIAS airports based on existing aviation activities, facilities, and other indicators. The NPIAS lists Omak Airport as a local airport, therefore, its classification remains the same in the WASP.

Aircraft fuel taxes, aircraft registrations, pilot registrations, federal reimbursements, and other sources fund the State Aeronautics Fund, which supports the development of Washington airports. The WSDOT Aviation Grant program distributes the State Aeronautics Fund as a grant aid to airports. For the State's Nonprimary NPIAS airports, the WSDOT Airport Aid Grant Program provides half of the 10 percent local match required for an FAA AIP grant. WSDOT distributes funds once every year.

Table 2.2 shows how WSDOT distributed funds among NPIAS GA, and Non-NPIAS GA airports from 2015-2022.

TABLE 2.2 WSDOT AIRPORT AID GRANT HISTORIES, 2015-2022	
Airport Type	**Average Funds Awarded**
GA – NPIAS	$834,360.30
GA – Non-NPIAS	$42,913.60
Source: 2017 WASP Report	

2.2.3 LOCAL ROLE

The Omak Airport is owned and operated by the City of Omak. The Airport Manager is responsible for airport management and operations. The Airport Board is currently composed of three members of the City Council and tasked to formulate airport policy and direction. The Airport Board recommends actions and policies for final decisions in Omak Airport matters.

Omak Airport has several revenue sources. Some of the main income sources include fuel sales, landing fees, tie-down fees, and rental fees. These fees are set by the Omak City Council. The City charges per gallon over the supplier's cost for aircraft fuel. Landing fees are charged to commercial contract carriers that do not purchase at least 20 gallons of fuel.

Fire retardant tanker aircraft and other commercial operators are also charged a landing fee if they do not purchase at least 20 gallons of fuel. The landing fee for these aircraft is charged on a per landing basis. In all cases, if at least 20 gallons of fuel is purchased, the landing fee is waived. All hangars are privately owned under a ground lease from the City of Omak.

Table 2.3 shows the revenue and expenses for the Omak Airport from 2017-2021.

TABLE 2.3 OMAK AIRPORT REVENUE AND EXPENDITURES			
Year	**Revenue**	**Expenditures**	**Net Revenue or Loss**
2017	$1,334,879	$1,384,732	-$49,853
2018	$1,642,549	$1,527,965	$114,583
2019	$449,429	$514,641	-$65,212
2020	$664,560	$636,759	$27,801
2021	$818,588	$499,385	$319,203
Source: The City of Omak			

2.3 AVIATION ACTIVITY

Various demand indicators can establish the aviation activity at an airport. For this planning effort, the indicators used will include the number of based aircraft and aircraft operations at the Omak Airport.

2.3.1 BASED AIRCRAFT

Aircraft must be "operational and airworthy" and based at an airport for more than six months of the year to be considered a based aircraft. The FAA maintains different records of based aircraft at NPIAS airports, including *basedaircraft.com*. The database is updated by airport staff and maintained by the FAA. As of October 2022, there are 7 validated based aircraft at the Omak Airport.

2.3.2 AIRCRAFT OPERATIONS

An operation at an airport is considered the landing or takeoff of an aircraft and is either local or transient. Local operations include aircraft executing practice instrument approaches, training in local practice areas, and operating in the airport's traffic pattern. Transient operations represent all other aircraft flying from one airport to another.

The exact number of operations can be difficult to determine at an uncontrolled airport because aircraft takeoffs and landings are not routinely recorded. Therefore, the historical data included in this section has been collected from various sources, including the FAA, the FBO, and FlightAware.

The FAA has different tools to provide annual activity estimates, including the Terminal Area Forecast (TAF) and Traffic Flow Management System Counts (TFMSC).

The **TAF** is the official FAA forecast of aviation activity and is a database of based aircraft and aircraft operations. The FAA uses data from the FAA Form 5010 and various sources to estimate historical operations at uncontrolled airports.

Table 2.4 lists activity data for the Omak Airport from 2013 to 2022 from the TAF.

TABLE 2.4 TAF AIRCRAFT OPERATIONS			
Year	**Itinerant**	**Local**	**Total Operations**
2013	18,250	5,500	23,750
2014	18,250	5,500	23,750
2015	18,250	5,500	23,750
2016	18,250	5,500	23,750
2017	18,250	5,500	23,750
2018	18,250	5,500	23,750
2019	18,250	5,500	23,750
2020	18,250	5,500	23,750
2021	18,250	5,500	23,750
2022	18,250	5,500	23,750
Source: FAA TAF Issued May 2021			

The **TFMSC** is another database maintained by the FAA that provides information on traffic counts. The TFMSC reflects operations with filed flight plans and those detected by the National Airspace System (NAS). It has several limitations, however, when counting traffic at an uncontrolled GA airport where pilots do not regularly file flight plans and operations include low-altitude flights that are undetectable by radar. A summary of the TFMSC data for the Omak Airport from 2013 to 2022 is in **Table 2.5**.

TABLE 2.5 TFMSC AIRCRAFT OPERATIONS	
Year	**Total Operations**
2013	535
2014	727
2015	762
2016	908
2017	825
2018	786
2019	679
2020	442
2021	701
2022	478
Source: FAA TFMSC Report	

Table 2.6 lists activity data for the Omak Airport from FlightAware in 2022.

TABLE 2.6
2022 FLIGHTAWARE AIRCRAFT OPERATIONS

ARC	Total Operations
A-I	630
A-II	289
B-I	24
B-II	81
B-III	2
C-I	24
N/A	104
TBD	110
Unknown	20
Total	**1264**

Source: 2022 FlightAware Report

2.4 EXISTING AIRPORT DESIGN CRITERIA

The FAA requires airports included in the NPIAS to use a classification system based on aircraft performance characteristics to determine facility design criteria. This section includes some of the existing design classifications and criteria identified in the 2008 Omak Municipal Airport Layout Plan and other updates that have occurred since the time of its publication.

2.4.1 CRITICAL AIRCRAFT

The critical aircraft ultimately determines the dimensional requirements of an airport. It is the most demanding aircraft type or grouping of aircraft with similar design or performance characteristics, to complete a minimum of 500 annual operations. The 2008 Omak Municipal Airport Layout Plan (ALP) lists the current critical aircraft as a **Cessna Caravan**. Any change to the critical aircraft designation will be based on current operation counts and will be explored in Chapter 3.

2.4.2 AIRCRAFT CLASSIFICATIONS

The approach speeds, wingspan, tail height, weight, and undercarriage dimensions of the critical aircraft defines the design parameters for an airport. Using these characteristics, the FAA classifies aircraft by Aircraft Approach Category (AAC), Airplane Design Group (ADG), and Taxiway Design Group (TDG).

The **AAC** is designated with a letter from A to E and relates to aircraft approach speed (see **Table 2.7**).

TABLE 2.7 AAC CLASSIFICATIONS	
AAC	**Approach Speed (Knots)**
A	Less than 91
B	91 to 121
C	121 to 141
D	141 to 166
E	More than 166
Source: FAA	

The **ADG** is depicted by a Roman numeral and relates to either the aircraft wingspan or tail height, whichever is most restrictive, of the largest aircraft expected to operate the runway (see **Table 2.8**)

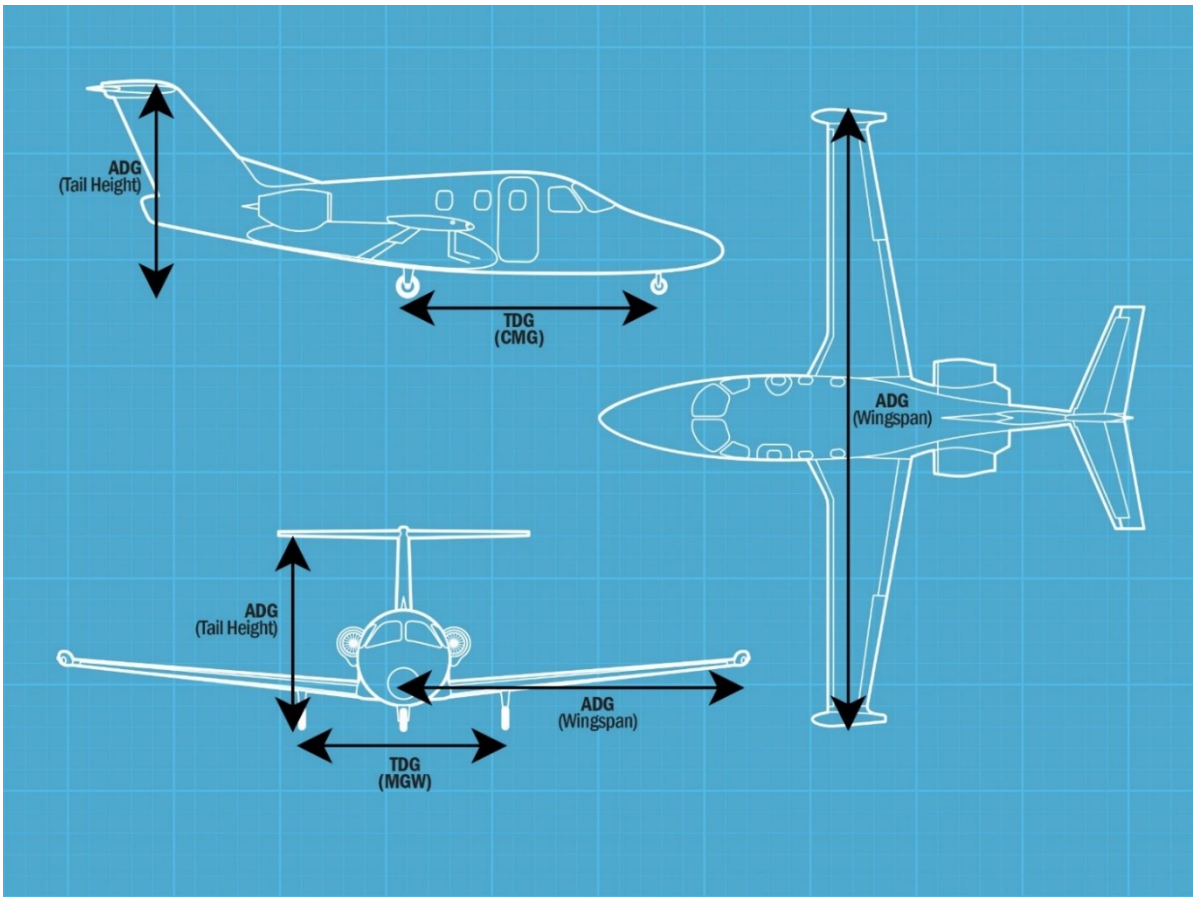
TABLE 2.8 ADG CLASSIFICATIONS		
ADG	**Tail Height (Feet)**	**Wingspan (Feet)**
I	Less than 20	Less than 49
II	20 to 30	49 to 79
III	30 to 45	79 to 118
IV	45 to 60	118 to 171
V	60 to 66	171 to 214
VI	66 to 80	214 to 262
Source: FAA		

The FAA has further classified A/B-II aircraft by maximum takeoff weight (MTOW), providing separate design criteria for those weighting less than 12,500 pounds. Aircraft in this category are classified as A/B-II Small Aircraft, while those weighing more than 12,500 pounds are simply A/B-II standard.

The **TDG** is based on the overall Main Gear Width (MGW) and the Cockpit to Main Gear Distance (CMG) and is designated by numbers 1(A or B) through 7.

Figure 2.1 depicts the physical aircraft characteristics associated with ADG and TDG.

FIGURE 2.1
ADG AND TDG AIRCRAFT CHARACTERISTICS



Source: J-U-B

The Cessna Caravan performance and design classifications are listed in **Table 2.9**.

TABLE 2.9
CESSNA 208 CARAVAN DESIGN CHARACTERISTICS AND CLASSIFICATION

Characteristic	Aircraft Performance	FAA Design Code	Aircraft Classification
Approach Speed	79 Knots	AAC	A
Wingspan	52 Feet	ADG	II
Tail Height	15 Feet		
Max Takeoff Weight (MTOW)	8,000 Pounds	AAC/ADG	A-II
Main Gear Width (MGW)	12 Feet	TDG	1A
Cockpit to Main Gear (CMG)	12 Feet		

Source: FAA Aircraft Characteristics Database

2.4.3 AIRPORT CLASSIFICATIONS

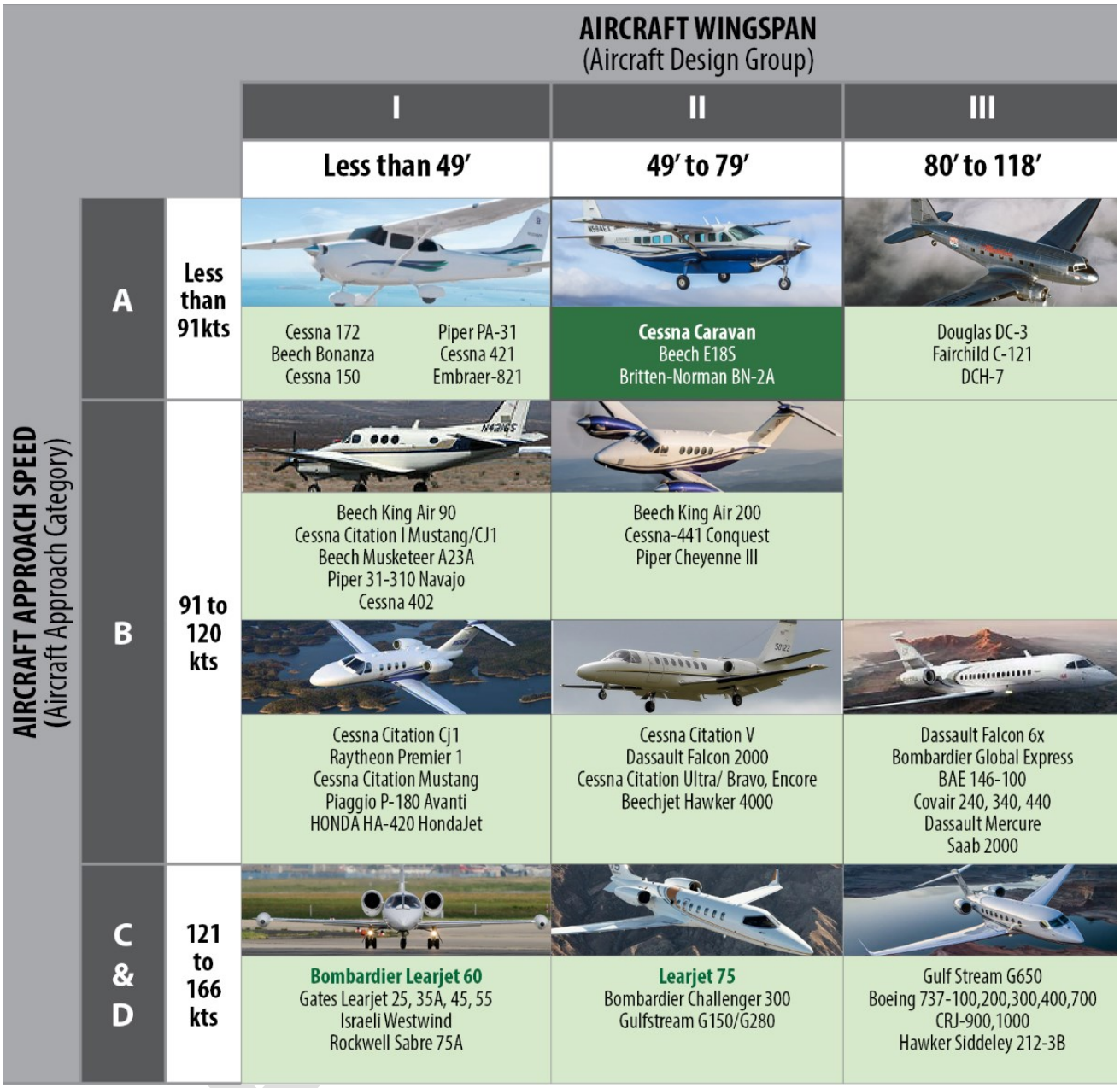
The critical aircraft classifications determine the codes to which the runway and airport are ultimately designed. Different aircraft may define separate elements of airport design; however, in the case of Omak Airport, the **Cessna Caravan** is the critical aircraft for both the Runway Design Code (RDC), and Airport Reference Code (ARC).

The **RDC** designates runway design criteria and is composed of the AAC, ADG, and approach visibility minimums.

The **ARC** signifies an airport's highest RDC, but its designation excludes the visibility component. The 2008 Omak Municipal Airport ALP lists the current ARC as A-II Small.

Figure 2.2 depicts different aircraft grouped by ARC designations.

FIGURE 2.2
AIRPORT REFERENCE CODE



Source: J-U-B

Table 2.10 presents the existing Airport design standards (A-II) and the design standards that the Airport should have in order to meet the ARC of B-II standards. The existing facilities at Omak Municipal Airport are discussed in the following paragraphs.

TABLE 2.10
FAA DESIGN STANDARDS

	Future Design Criteria	Current Design Performance
Runway Design		
Runway Design Code	B-II-5000	A-II-5000
Runway Width	75	75
Visibility Minimums	1-Mile	>1-Mile
Runway Protection		
Runway Safety Area (RSA)		
Width	150	435
Length Beyond Departure End	300	1,000
Length Prior to Threshold	300	300
Runway Object Free Area (ROFA)		
Width	500	500
Length Beyond Departure End	300	1,000/1,650
Length Prior to Threshold	300	300
Runway Obstacle Free Zone (ROFZ)		
Width	400	400
Length Beyond End	200	200
Runway 17 End and 35 End Runway Protection Zone (RPZ)		
Length	1,000	1,000
Inner Width	500	500
Outer Width	700	700
Runway Separation		
Runway Centerline to:		
Holding Position	200	200
Parallel Taxiway	240	240
Aircraft Parking Area	302	316
Taxiway Design		
Taxiway Design Group	1B	1A

Taxiway Width	25	35/50
Taxiway Shoulder Width	10	15
Taxiway Protection		
Taxiway Safety Area (TSA)		
Width	79	79
Object Free Area (OFA)		
Taxiway Width	124	131
Taxilane Width	110	115
Source: FAA Advisory Circular 150/5300-13B "Airport Design", 2008 ALP, and J-U-B		

As can be noted in **Table 2.10**, all existing critical area dimensions either meet or exceed ARC A-II (small) standards, as well as meet or exceed the ARC B-II standards.

2.5 AIRFIELD FACILITIES

Airfield facilities are those elements at an airport that enable the safe movement and operation of aircraft between the air and ground. This section describes the facilities inventoried at Omak Airport, which are listed in **Table 2.11.** The number of each depicted facility corresponds to the numbers in the narrative and the inventory list.

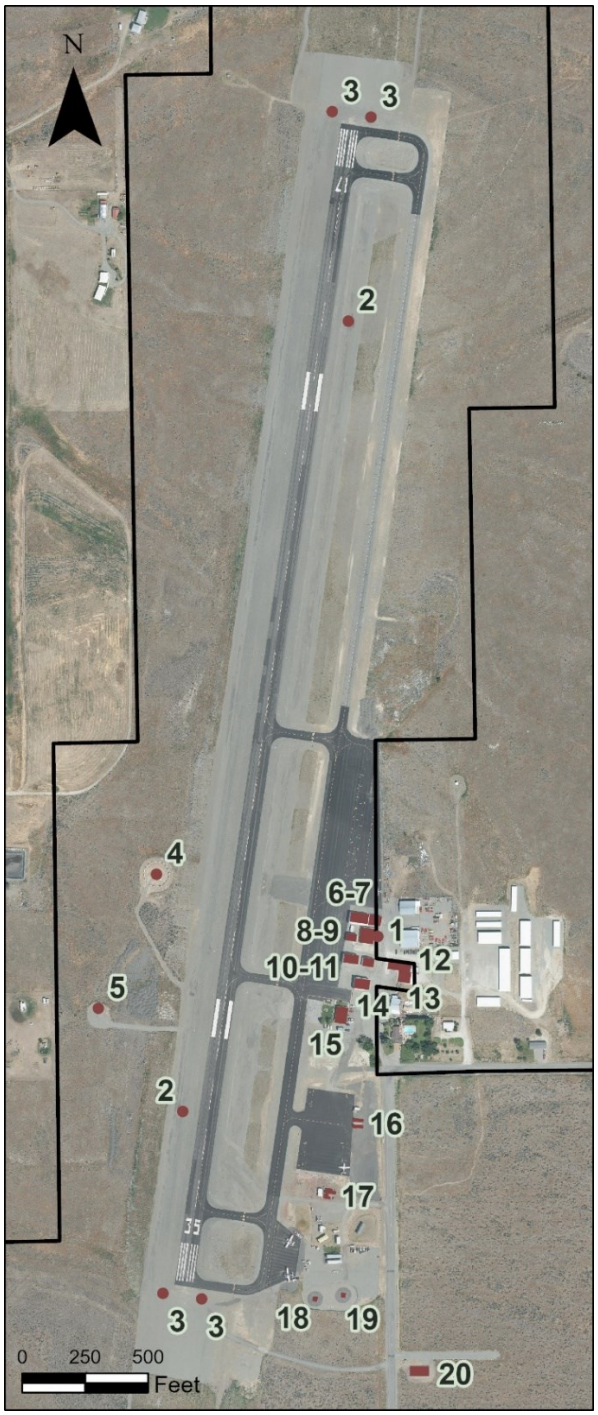
TABLE 2.11
INVENTORY LIST OF OMAK AIRPORT FACILITIES

Number	Facility	Ground Elevation (ft)	Top Elevation (ft)	Approximate Size (sq ft)
1	Airport Beacon	1,298	1,334	--
2	PAPIs	1,300 1,302	1,303 1,304	--
3	REILs	1,305 1,303 1,296 1,298	1,307 1,305 1,298 1,300	--
4	Windsock	1,307	1,328	--
5	ASOS	1,299	1,330	--
6	Hangar	1,299	1,318	3,388
7	Hangar	1,299	1,317	1,791
8	Hangar	1,298	1,317	1,214
9	Hangar	1,298	1,319	3,102
10	Hangar	1,298	1,324	2,173
11	Hangar	1,298	1,317	1,446
12	Hangars	1,297	1,318	3,482
13	FBO	1,297	1,317	3,204
14	Hangar	1,300	1,321	2,561
15	Terminal	1,302	1,322	3,062
16	Fuel Tanks	1,293	1,302	--
17	Fire Retardant Tanks	1,295	1,303	--
18	Helicopter Pad	1,296	NA	395
19	Helicopter Pad	1,296	NA	392
20	Well House	1,294	--	3,075

Source: J-U-B

The facilities inventoried at Omak Airport are also depicted in **Figure 2.3.**

FIGURE 2.3
INVENTORY OF OMAK MUNICIPAL AIRPORT FACILITIES



Source: J-U-B

2.5.1 RUNWAY

Omak Airport has one primary runway. Runway 17/35 is oriented in a north/south direction and is 4,672 long by 75 feet wide. The runway is constructed of asphalt and is in good condition. Runway 17 has non precision markings and Runway 35 has non precision markings, including runway designation markings, and a centerline stripe.

The cross-section of Runway 17/35 is a shed configuration, rather than a typical crown configuration. The west side of the runway is higher than the east side of the runway. The west edge of the runway penetrates the Part 77 primary surface because the primary surface is based on the centerline elevation. This cross-section configuration does not pose any operational concerns for the runway.

Runway designator markings are numbers determined by the approximate magnetic azimuth of the centerline of the runway. At Omak Airport, a 17 designates the north runway end and 35 the south end. The number markings are white and approximately 60 feet in length by 20 feet wide. The runway centerline is a 12-inch-wide white line of uniformly spaced stripes and gaps that provides alignment guidance during takeoff and landings.

The FAA follows the International Civil Aviation Organization (ICAO) Pavement Classification Number (PCN) method for reporting airport pavement strength. The pavement is of asphalt type and the pavement strength for Omak Municipal Airport is 75,000lbs single wheel gear aircraft, 200,000 pounds for dual-wheel gear aircraft, and 400,000 pounds for dual tandem wheel aircraft.

2.5.2 TAXIWAYS AND TAXILANES

There is a full-length parallel taxiway to Runway 17/35 (Taxiway A). It is 50 feet wide and 4,672 feet long with a centerline separated from the runway centerline by 300 feet. There are also several connector taxiways at the Airport. Taxiway B, the north connector, Taxiway C, the midfield connector, Taxiway E, the south connector, and Taxiway D, the south midfield connector. Taxiway A also provides access from Runway 17/35 to the apron area and hangar taxilanes.

The taxiways at Omak Airport have yellow markings to guide aircraft movement and ensure the safe access to Runway 17/35. These markings include centerlines and hold lines. The hold lines also extend the width of each taxiway connector leading to runway 17/35.

Table 2.12 lists the facility service objectives and current performance for Omak Municipal Airport.

TABLE 2.12 FACILITY SERVICE OBJECTIVES AND PERFORMANCE		
Objective Category	**Minimum Airport Objectives**	**Current Performance**
Airside Facilities		
Primary Runway Length	To accommodate 95 percent of small aircraft fleet	4,672 feet
Primary Runway Width	60 feet	75 feet
Primary Runway Strength	Single-wheel landing gear (12,500 pounds)	75,000 pounds
Primary Taxiway	Turnarounds	Full Parallel
Instrument Approach	Visual, Performance-Based Navigation (PBN) desired	Visual, Non-Precision
Visual Aids	Rotating Beacon, Wind Cone	Rotating Beacon, Lighted Wind Cone, Segmented Circle
Runway Lighting	Low Intensity Runway Lights (LIRL)	MIRLs, REILs, PAPIs
Weather Reporting	On-site ASOS or AWOS as required	On-Site ASOS
Source: 2008 ALP		

2.5.3 APRONS AND AIRCRAFT PARKING

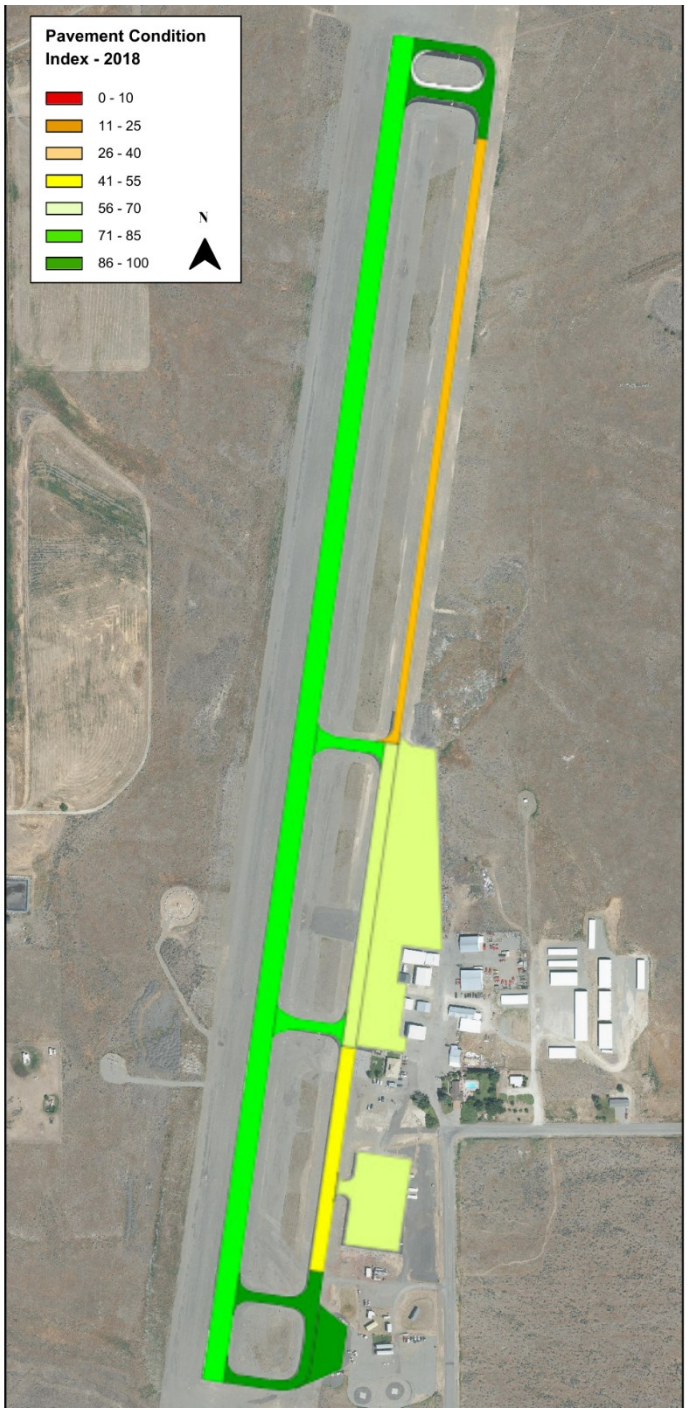
Omak Airport has three aircraft apron areas, all located on the east side of the runway. The transient tie-down and fueling apron is the southern-most apron. It is an asphalt 325 by 200-foot area that includes ten tie-down positions with concrete anchors. The central apron is an asphalt 140 by 200-foot area that contains four tie-down positions with concrete anchors. The northern-most tiedown apron area is asphalt and has dimensions of 195 by 688 feet. This apron contains 19 tiedowns with concrete anchors.

2.5.4 PAVEMENT CONDITIONS

WSDOT Aviation maintains the Airport Pavement Management System (APMS) which regulates the pavement infrastructures and provides information and analytical tools to help identify other pavement-related needs. The APMS serves as a tool to identify system pavement needs, shape programming decisions for federal and State grant aid, provide information for legislative decision making, and assist airport sponsors in making informed planning decisions. The program also helps develop pavement inventories and identify necessary maintenance, repair, rehabilitation, and reconstruction projects. The program conducts a system wide study of the relative condition of the pavements for selected Washington airports every 5 years. The last report was completed in 2018 and APMS assessed the pavement conditions at 95 airports.

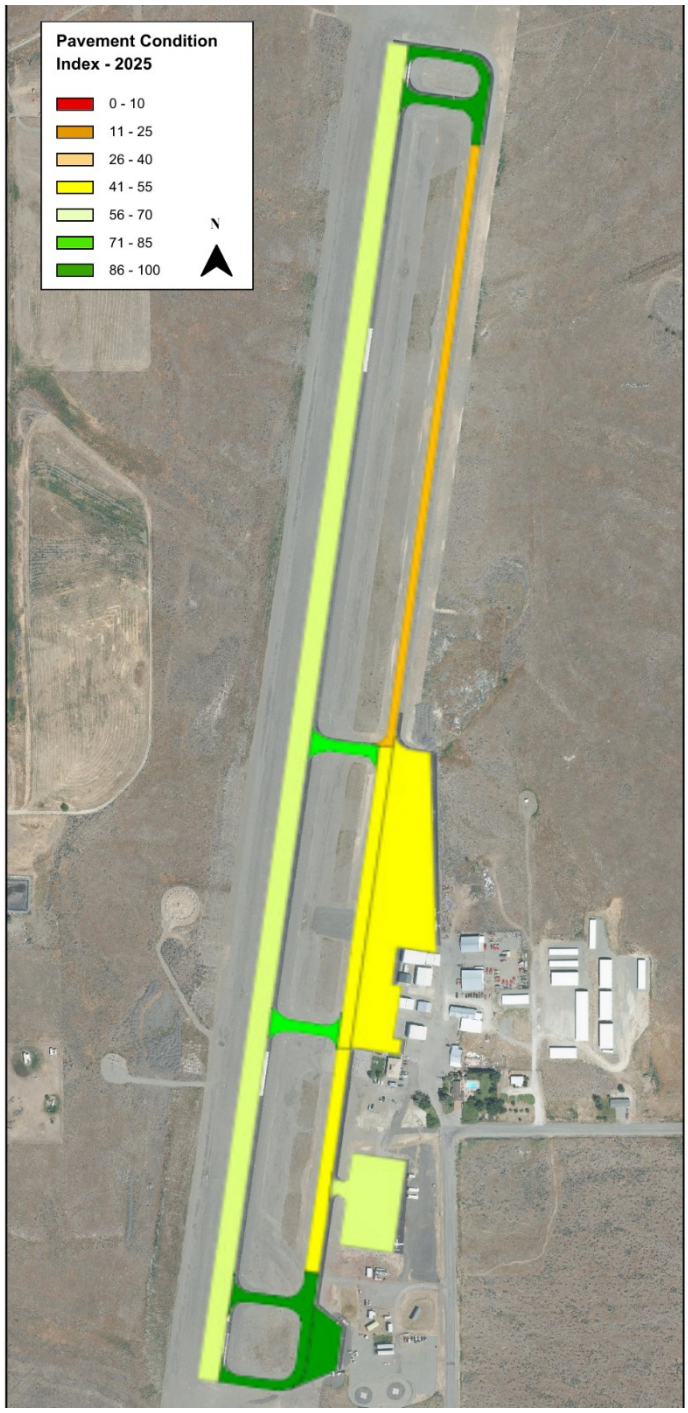
Figure 2.4 shows the Pavement Condition Index map for Omak Airport in 2018 and **Figure 2.5** shows the future estimated conditions Pavement Condition Index map for 2025.

FIGURE 2.4
OMAK AIRPORT PAVEMENT CONDITION MAP (2018)



Source: Washington 2018 IDEA

FIGURE 2.5
OMAK AIRPORT ESTIMATED PAVEMENT CONDITION MAP (2025)



Source: Washington 2018 IDEA

The system identifies current pavement conditions, 5 and 10-year predicted pavement conditions, system inventories, recommended global maintenance treatments, and recommended major rehabilitation at the 98 airports WSDOT Aviation is responsible for maintaining.

It's important to note that pavement maintenance/seal coat projects have been completed at the Omak Airport since 2018, which have increased the Pavement Condition Index and has slowed deterioration.

2.5.5 INSTRUMENT APPROACH PROCEDURES

The Airport currently has a GPS approach to Runway 35, with visibility minimums greater than or equal to 1 mile. There are only visual approaches for Runway 17.

2.5.6 VISUAL APPROACH AIDS

Omak Municipal Airport is equipped with Precision Approach Path Indicators (PAPIs) along Runway 17-35.

2.5.7 AIRPORT LIGHTING AND SIGNING RUNWAY

Runway17-35 is equipped with medium intensity runway lights (MIRL). The Airport also has runway end identifier lights (REILs) on both runway ends. Taxiway edges are not lit but are marked with reflectors.

2.5.8 OTHER NAVAIDS

Omak Municipal Airport has a lighted windsock and a segmented circle.

2.5.9 WEATHER REPORTING

The Airport has an Automated Surface Observation System (ASOS) located on the field. The ASOS provides hourly updates of weather information, such as wind direction and speed, visibility, sky conditions, temperature and dew point, local altimeter, and any relevant remarks.

2.6 LANDSIDE FACILITIES

Landside facilities are those elements that support aviation use at an airport. This section describes the landside facilities inventoried at Omak Airport. The number of each depicted facility corresponds to the numbers in the narrative and the inventory list.

2.6.1 HANGARS AND AIRPORT BUILDINGS

There are a total of nine hangar buildings on Airport property, all on the east side of the airfield. All are privately owned and maintained and have a ground lease with the City of Omak. In addition to hangar buildings, there is a terminal building located between the central and south tie-down aprons. The terminal building contains the Airport Manager's office, restrooms, a pilot's lounge, and telephone. There is also a storage shed located near the fueling station. Both the terminal building and the storage shed are owned and operated by the City of Omak. Off property aviation-related buildings include three hangars located east of the field (through-the fence). Several of the offsite hangars are currently being used for storage purposes.

2.6.2 THROUGH THE FENCE ACCESS

On-airport tenants are paying ground leases, and those individuals who own hangar buildings located on private property near the Airport are charged a fee for through the fence access to the Airport's facilities.

2.6.3 FIXED BASED OPERATORS (FBOS)

A fixed based operator is an individual or a business that offers aviation-related services to Airport users, such as flight instruction, aircraft rental, aircraft maintenance, aircraft fueling, etc. There is no fixed based operator at the Airport.

2.6.4 INTERNAL CIRCULATION, ACCESS, AND AUTO PARKING

Vehicular traffic can access the Airport directly from Highway 97 by using Old Riverside Highway to Omak Airport Road. There are approximately five to six automobile parking spaces located adjacent to the terminal building. The Airport is unfenced and could cause a security issue.

2.6.5 FUELING FACILITIES

There are two aircraft fueling tanks at the Airport, one for 100LL and the other for Jet A fuel. Both tanks are located adjacent to the south tie-down apron area. The Airport has a 24-hour self-service, credit card fueling system available to pilots. Full-service after-hours fueling is available for a $40.00 fee.

In 2015 and 2022, fuel flowages increased dramatically during the busy fire seasons between June – October. Fire suppression aviation involves several activities, including: airtanker/ helicopter/ tactical and smokejumper operations. These operations account for a significant number of seasonal flights and have been supported with aviation fuel purchased from the airport.

See **Table 2.13** for the 2015 and 2022 fuel flowage reports at Omak Airport.

TABLE 2.13 ***2015 FUEL FLOWAGE FOR OMAK AIRPORT****		
Month	**AVGAS**	**JET A**
January	557.90	0.00
February	674.30	38.70
March	741.10	346.90
April	906.30	625.10
May	580.80	514.20
June	1,596.50	3,463.80
July	3,144.10	17,158.20
August	2,808.70	28,814.20
September	3,526.20	13,523.30
October	689.30	2,025.50
November	252.40	481.90
December	146.00	242.0
2022 TOTALS	**15,623.60**	**67,242.80**

TABLE 2.13 continued. ***2022 FUEL FLOWAGE FOR OMAK AIRPORT****		
Month	**AVGAS**	**JET A**
January	0.00	0.00
February	263.40	113.80
March	467.70	832.20
April	241.10	634.70
May	327.60	786.90
June	583.10	2,469.00
July	1,047.80	5,342.10
August	2,154.80	11,887.80
September	2,767.10	10,522.90
October	2,272.60	1,825.10
November	561.80	252.00
December	381.20	483.60
2022 TOTALS	**11,068.20**	**35,150.10**

Source: City, J-U-B
**In gallons*

2.6.6 AIRPORT MAINTENANCE

Airport maintenance is provided by the City of Omak.

2.6.7 UTILITIES

The City of Omak provides limited services to the Airport. A nearby well provides water to the terminal building, while a second well will provide water to the hangars and fire-retardant mixing area soon. The second well is metered, and the City of Omak must pay the local irrigation district for the water used. Sanitary sewer is limited to a septic system in the airport office area. Power is provided to the Airport by the Okanogan County Public Utilities District.

Table 2.14 lists the current landside facility service objectives and performance at Omak Airport.

TABLE 2.14
LANSIDE FACILITY SERVICE OBJECTIVES AND PERFORMANCE

Objective Category	Minimum Airport Objectives	Current Performance
Landside Facilities		
Commercial Terminal	N/A	No
General Aviation Terminal	N/A	Yes
Public Restrooms	Yes	Yes
Conference Rooms	N/A	No
Pilots Lounge	Yes	Yes
Hangar Storage Units	Storage for 50% of Based Aircraft	Yes
Apron Tie-Down Spaces	50% of Based Aircraft and 50% of Transient	Yes
Perimeter Fencing	Partial Perimeter	Yes
Auto Parking	Present On-Site	Yes
Services		
Cell Phone Coverage	Yes	Yes
Wi-Fi	Yes	Yes
Fixed Base Operator	N/A	No
Maintenance Services	N/A	No
Snow Removal Equipment	N/A	Yes
Fuel	AvGas	24/7 Jet A Fuel, 24/7 AvGas
Rental/Courtesy Car Access	Courtesy/Loaner Car	Yes

Source: 2008 ALP

2.7 REGIONAL SETTING

Regional features provide a better understanding of the social, economic, and environmental conditions that could influence GA activity and development at Omak Municipal Airport. This section describes the local geography, land and airspace zoning, climate, and socioeconomic data pertaining directly to or influencing the Airport and the area it serves.

2.7.1 LOCATION AND VICINITY

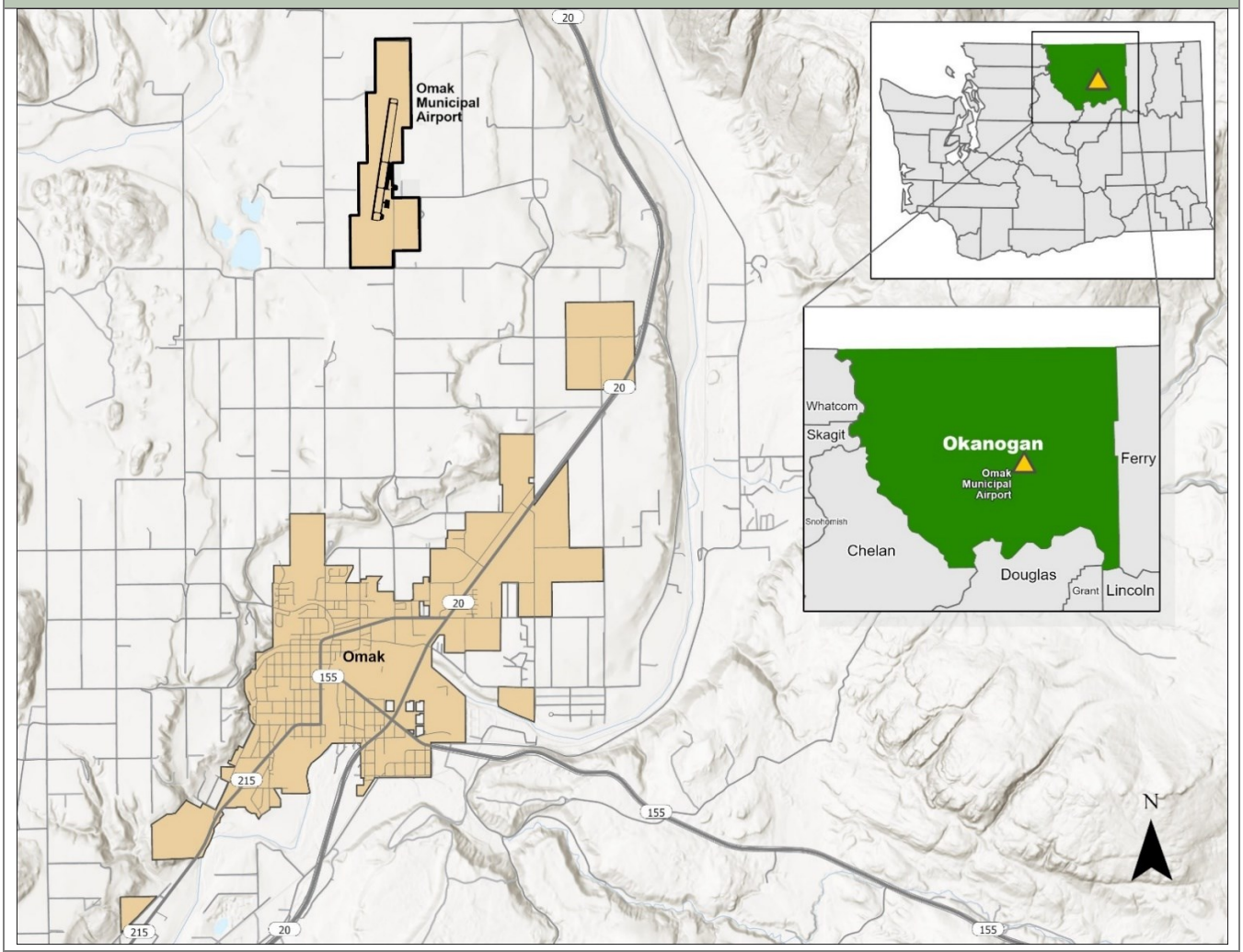
Omak's Airport coordinates are 48° 27' 51.877" N / 119° 31' 4.995" W, which is in northcentral Washington, four miles north of the city center of Omak.

Airport elevation is 1304.5 feet above mean sea level (MSL), with nearby terrain to the northeast and northwest rising to more than 4,000 feet MSL within ten nautical miles. The Airport property approximates 153 acres with rural and agricultural land bordering most of the property boundary.

The primary access road to the Airport is Robinson Canyon Rd, which runs south from Omak Airport Road toward the City of Omak via Riverside Dr to Main St.

Figure 2.6 depicts the Airport's location in relation to Okanogan County, and Washington.

FIGURE 2.6
LOCATION AND VICINITY MAP



Source: J-U-B

2.7.2 CLIMATE CONDITIONS

Weather conditions are integral to the planning and development of an airport. Elements such as temperature, precipitation, and wind can impact runways' recommended length and orientation, and in low visibility conditions, influence navigational aids and lighting requirements at airports.

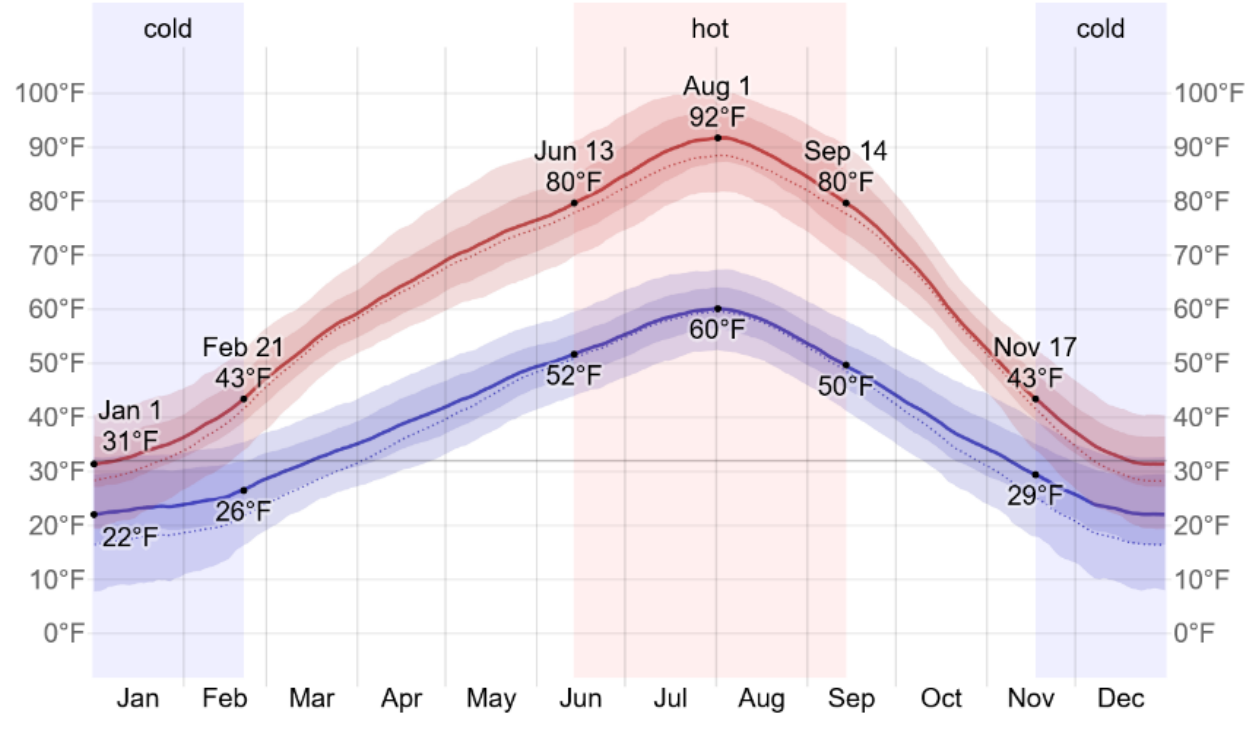
2.7.2.1 Local Climate Analysis

Northern Washington, east of the Cascade Mountain Range, has a climate that varies with warmer fruit producing valleys and wetter highlands along the Okanogan River. The area has relatively warm summers and freezing temperatures in winter. The temperature at Omak Airport varies between 22°F and 89°F throughout the year, with the highest temperatures reported in July and the lowest in January.

The average annual rainfall is 13.2 inches and snowfalls typically occur between November and February, averaging 33 inches annually.

Figure 2.7 depicts the annual average temperatures at Omak Airport, with the red line marking daily average highs and the blue line daily average lows.

FIGURE 2.7
OMAK AIRPORT AVERAGE TEMPERATURES



Source: Weatherspark.com
https://weatherspark.com/y/145325/Average-Weather-at-Omak-Airport-Washington-United-States-Year-Round#Figures-Temperature

2.7.2.2 Wind Analysis

The higher the wind coverage and lower the crosswind components, the more desirable a runway orientation is. The amount of time crosswind components are below an acceptable velocity determines the percent of wind coverage. The acceptable velocities vary depending on aircraft size; the allowable crosswind component for small aircraft is 10.5 knots, 13 knots for large GA aircraft, 16 knots for larger turboprop and commercial aircraft, and 20 knots for the largest turbine aircraft. The desirable wind coverage at the Omak Airport, with an A-II Runway Design Code (RDC), is 95 percent at the 13-knot component based on the total number of weather observations.

The FAA's Airport Data and Information Portal (ADIP) provided wind observations from the Automated Surface Observing System (ASOS) at the Omak Airport from 2011 to 2020. **Table 2.15** lists the percent wind coverage at the Airport for each allowable crosswind component during all-weather, visual flight rule (VFR), and instrument flight rule (IFR) conditions.

TABLE 2.15
OMAK AIRPORT WIND COVERAGE 2011-2020

Crosswind Component	All-Weather	VFR	IFR
10.5	98.79%	98.88%	99.69%
13	99.46%	99.55%	99.86%
16	99.88%	99.89%	99.95%
20	99.98%	99.90%	99.99%
Total No. of Observations	103,578	86,429	17,464

Source: ADIP

2.7.3 AREA LAND USE

Effective compatible land use planning around airports addresses airspace, safety, and noise considerations.

The land surrounding Omak Municipal Airport is primarily governed by Okanogan County and is designated rural and agricultural. At the south end of the Airport Airspace the City of Omak has some medium density housing and light industrial land use designations and to the north is the small community of Riverside, Washington.

These land uses are generally acceptable in relation to their proximity to the Omak Municipal Airport. Section 2.7.4 evaluates the future land use designations with the recommendations for compatibility from WSDOT.

2.7.4 AREA ZONING

The implementation of zoning ensures compatible land uses around an airport. Developing an overlay is an effective way of establishing airport land use zoning and should include land use compatibility zones and airspace protection zones. Chapter 18 of the City of Omak Municipal Code and Chapter 17 of Okanogan County Code describe their respective zoning designations.

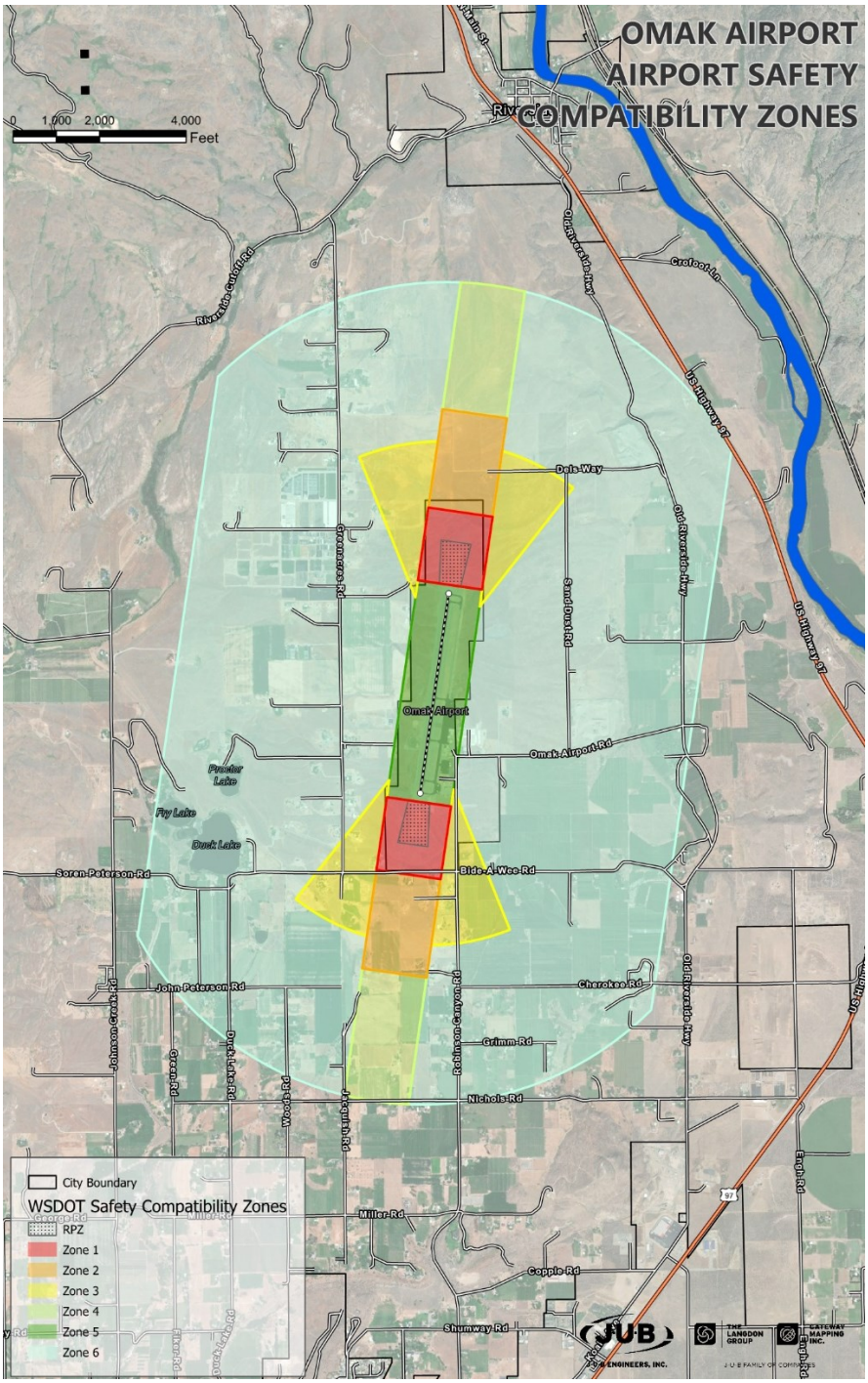
2.7.4.1 Okanogan County Zoning

The Omak Airport is located within Okanogan County's minimum requirement district. This district maintains broad controls in preserving the rural character of the area and its natural resources. Minimum density requirements and building height restrictions are the main concerns addressed here.

Okanogan County also has an Airport Safety Overlay District which applies to lands classified by the FAA as visual, utility, non-precision, and precision runways. This overlay district serves as a protection for the lives and property who are within the transition and approach zone surrounding the airport, as well as serve to prevent airspace obstructions through height restrictions. The heights of building or structures within this overlay zone are limited by Part 77 Regulations.

Figure 2.8 shows the airport safety compatibility zones for Omak Airport.

FIGURE 2.8
OMAK AIRPORT SAFETY COMPATIBILITY ZONES



Source: WSDOT and J-U-B

2.7.4.2 City of Omak Zoning

The Airport is located within the City's Airport Industrial (AI) District. The purpose of this district is to allow for the development of uses that are compatible with airports and to provide uses that complement the airport and protect major residential areas from noise and traffic impacts. Uses permitted in this zone are restricted to any operations, sales, or storage intended for aircraft purposes. Buildings and other height limitations are controlled by two overlay zones – 1) FAA Notification Overlay and 2) Flight Pattern Overlay.

The FAA Notification Overlay requires property owners to notify the FAA of any proposed construction or alteration that may penetrate the notification surface, which is defined as a surface extending outward and upward from the runway edges at a slope of 100:1 for a horizontal distance of twenty thousand feet. The Flight Pattern Overlay prohibits structures and objects within the boundaries of the Part 77 primary, approach, transitional, horizontal, and conical surfaces.

2.7.4.3 Airspace Protection Zones

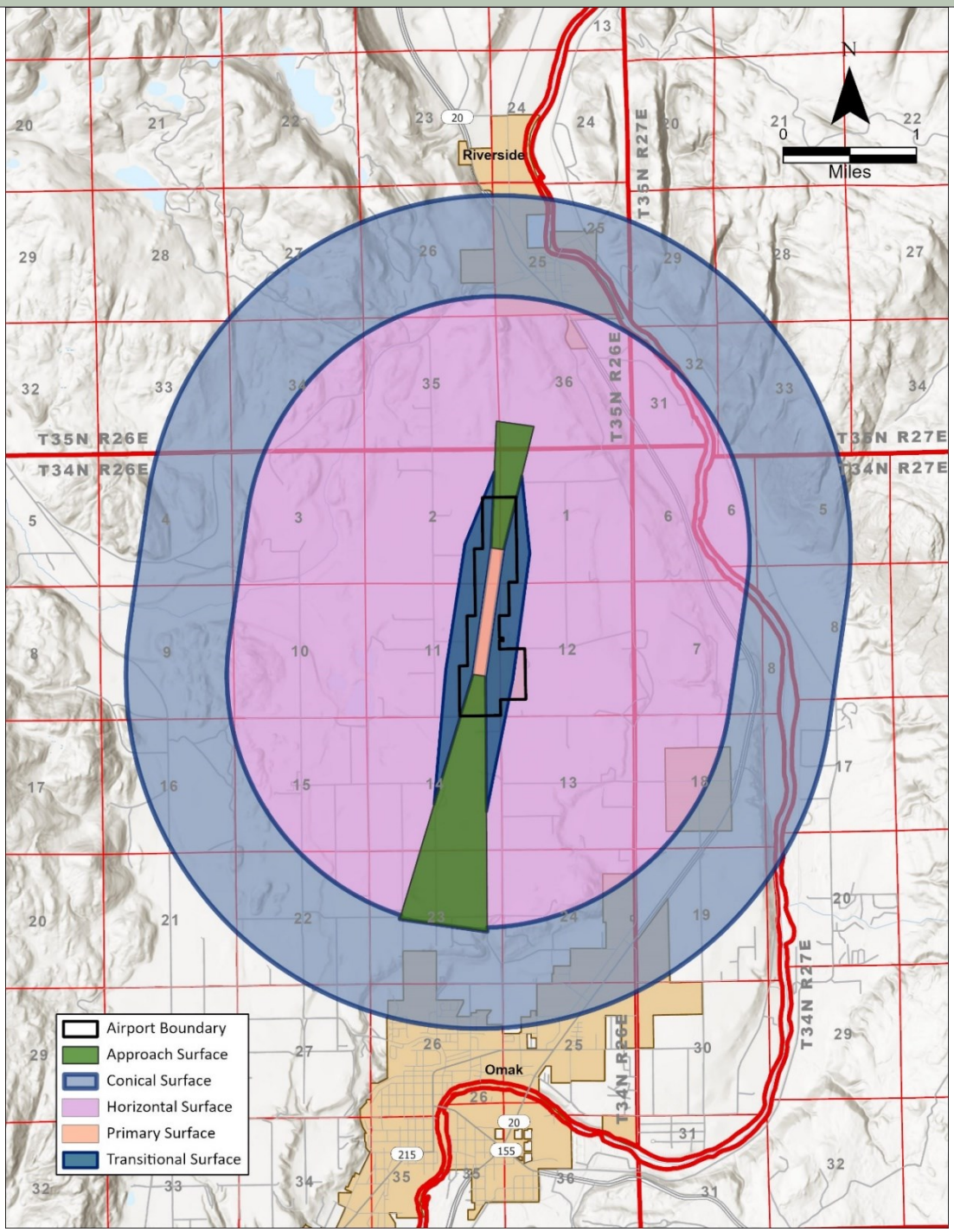
Title 14 of the Code of Federal Regulations Part 77, *Safe, Efficient Use, and Preservation of the Navigable Airspace* (FAR Part 77), establishes standards and notification requirements for objects affecting navigable airspace. The standards regulate the following "imaginary" airspace surfaces for non-precision instrument runways:

- The **Primary Surface** is a rectangular surface longitudinally centered on the runway that is 500 feet wide and extends 200 feet beyond each runway end for paved runways.
- The **Approach Surface** is a surface centered on the extended runway centerline, starting at each end of the primary surface (200 feet beyond each end of the runway), at a width equal to that of the primary surface and an elevation equal to that of the end of the runway. The approach surfaces at Omak Municipal Airport reflect the most precise approach available at the Airport, which is a non-precision instrument approach (GPS on Runway 35). The surface extends at a horizontal distance of 5,000 feet to a width of 2,000 feet at a slope of 20:1.
- The **Transitional Surface** extends outward and upward from the runway centerline and its extension at a right angle. There is a seven to one (7:1) slope from the primary and approach surface sides to the height of the horizontal surface.
- The **Horizontal Surface** is a plane 150 feet above the established airport elevation. The surface perimeter is constructed by swinging arcs of a 10,000-foot radius from the center of each runway end and connecting the adjacent arcs with lines of tangency.
- The **Conical Surface** extends outward and upward from the horizontal surface's periphery at a slope of 20 to one (20:1) for a total horizontal distance of 4,000 feet.

The size of aircraft using an airport and the type of approaches at each runway end determine the scope and placement of these airspace surfaces.

Figure 2.9 shows the airport runway protection zones for Omak Airport.

FIGURE 2.9
OMAK AIRPORT FAR PART 77 AIRSPACE PROTECTION ZONES



Source: J-U-B

2.8 SECTION 163

Recent changes in federal law have required the FAA to revisit whether FAA approval is needed for certain types of airport projects throughout the nation. In October 2018, the *FAA Reauthorization Act of 2018* was signed into law.

Section 163 (*a-d*) under the *Act* provides guidelines and restrictions for the FAA's authority to *"directly or indirectly regulate an airport operator's transfer or disposal of certain types of airport land."*

As of April 6, 2021, the FAA has determined that the proposed water reservoir project that would provide domestic water supply and fire protection for the Omak Airport, as well as support the Department of Natural Resources (DNR) aerial firefighting activity, would have no material impact on aircraft operations and would not adversely affect the safety of people or property on the ground adjacent to the airport.

The FAA has also determined that the proposed project would not have an adverse effect on the value of prior Federal investments (to a significant extent). Therefore, the FAA lacks the legal authority to approve or disapprove changes to the ALP to reflect the proposed project.

See **Appendix B** for the FAA Approval Authority Review.

2.9 COMMUNITY SOCIOECONOMIC DATA

Historical socioeconomic trends are used in aviation forecasting to establish a region's growth dynamics, economic strength, and ability to sustain a strong economic base over time. Understanding the population, employment, and income trends for the Omak Airport primary service area will help determine future aviation demand and service level requirements.

The primary service area of an airport is a generalized geographical area, typically an existing political boundary, where an airport can expect most of its based users and business. The City of Omak and Okanogan County have been used to define the Omak Airport service area. The most populous areas lie within a reasonable travel distance of the Airport and are likely to have the greatest impact on its aviation activities.

Historical population data is sourced from the U.S. Census Bureau and additional demographic information from the U.S. Bureau of Economic Analysis (BEA) and Woods and Poole Economics Inc. (WPE).

2.9.1 POPULATION

The State of Washington and the region surrounding Omak Airport have undergone consistent population growth in each census year since 1990. Over the three decades, the State of Washington has seen the greatest increase in its compound annual growth rate (CAGR) of 2.2 percent, compared to the compound annual growth rates of Okanogan County and the City of Omak.

Table 2.16 compares historical population data for Washington, Okanogan County, and the City of Omak.

TABLE 2.16
HISTORIC POPULATION

	1991	2001	2011	2021	CAGR* (1991-2021)
Washington	5,013,443	5,985,722	6,827,479	7,740,745	**2.2%**
Okanogan County	33,398	39,126	41,325	42,634	**1.2%**
City of Omak	4,165	4,782	4,790	4,975	**0.9%**

Source: U.S. Census Bureau
**CAGR: Compound annual growth rate*

2.9.2 AREA DEMOGRAPHICS

The city of Omak is the largest city in Okanogan County. Agricultural production in Omak and the wider Okanogan County has a considerable influence on the region's economy. According to 2017 USDA Census of Agriculture, there were approximately 1,200 farms in Okanogan County. Fruits, tree nuts, wheat, and berry crops are the primary producers in the area, with beef and dairy farms as the secondary producers.

As of 2018, the U.S. Census Bureau states that agriculture in Okanogan County accounts for 28.3 percent total employment. Okanogan County is also growing as a tourist destination and has seen a large increase in tourism-based jobs for several years. This sector includes casinos, ski and summer resorts, golf courses, rodeos, and many festivals. Between 2012 and 2022, employment in Okanogan County grew at a CAGR of 0.24 percent.

Table 2.17 summarizes the employment and per capita personal income data for Washington, Okanogan Count from 2012 to 2022.

TABLE 2.17
HISTORIC SOCIOECONOMIC DATA

Year	Washington		Okanogan County	
	Employment	Income**	Employment	Income**
2012	3,129,397	$47,768	22,643	$33,286
2013	3,196,913	$48,304	23,046	$33,834
2014	3,281,055	$51,518	23,496	$35,106
2015	3,361,724	$53,840	23,669	$37,315
2016	3,448,412	$55,884	23,986	$38,245
2017	3,525,480	$58,550	23,775	$38,409
2018	3,613,897	$62,026	23,743	$37,822
2019	3,686,545	$65,530	23,485	$38,053
2020	3,496,277	$68,322	23,423	$43,247
2021	3,637,177	$71,889	23,320	$40,456
2022	4,036,300	$84,247	23,766	$40,592
CAGR* (2012-2022)	**1.3%**	**0.29%**	**0.24%**	**1.0%**

Source: BEA and WPE
**CAGR: Compound Annual Growth Rate*
***PCPI: Per Capita Personal Income in 2012 dollars*

2.10 CHAPTER SUMMARY

The Omak Airport plays an important role as a Local Nonprimary GA Airport in the National Airspace System (NAS) and in the State of Washington. The existing conditions and findings reported in this chapter will be used to support subsequent studies and recommendations throughout the development of the airport master plan. These findings include:

- Land use and airspace zoning ordinances that support future development and growth at the Airport.
- Socioeconomic growth trends that strengthen the role of the Airport, both regionally and nationally.
- Facilities that support the operations of a publicly owned GA airport.
- Based aircraft and aviation activity records that indicate:
  - 7 validated based aircraft.
  - 1,330 observed operations in 2022.
- Any change to the current A-II ARC critical aircraft designation will be based on current operation counts and will be explored in Chapter 3.
- Omak Airport has several revenue sources. Some of the main income sources include fuel sales, landing fees, tie-down fees, and rental fees. The Airport reported $319,203 in net revenue in 2021.

CHAPTER 3 AVIATION ACTIVITY FORECASTS

3.1 INTRODUCTION

Forecasts of future aviation activity form a basis for the 20-year vision outlined in the Omak Airport Layout Plan. These projections estimate the nature and magnitude of aviation demand expected at the Airport during the planning period and provide justification for new or expanded facilities.

The forecasts for this study use a base year of 2022 and a long-range forecast year of 2042.

Each aviation activity forecast consists of three periods. The first period is a five-year short-term forecast (2022-2027) used for near-term development, operational planning support, and environmental evaluation. The medium-term forecast spans the next five-years (2027-2032) and is typically used in planning capital improvements. The third period is a long-term forecast (2031-2042) used for more general planning over the next 20 years and beyond.

Aeronautical forecasts prepared to determine airport facility requirements for Omak Airport include:

- Based Aircraft
- Based Aircraft Fleet Mix
- Aircraft Operations
- Aircraft Operations Fleet Mix
- Itinerant and Local Aircraft Operations
- Peak Period Activity
- Critical Aircraft

Each forecast has been selected after careful consideration of the aviation and socioeconomic trends most likely to influence future activity at the Omak Airport. This chapter presents the forecasts of future aviation activity and describes the evaluation process, statistical logic, and rationale behind their selection.

While most local airport users reside in or near the City of Omak, the Airport also attracts users from the wider Okanogan region. The primary service area of Omak Airport is, therefore, comprised of the city of Omak and Okanogan County for the purpose of this planning effort.

3.2 FORECASTING PROCESS

The FAA provides guidance in Advisory Circular (AC) 150/5070-6B, Airport Master Plans, for aviation forecasting with a seven-step process:

1. **Identify Aviation Activity Measures:** The level and type of aviation activities likely to impact facility needs. For GA, this typically includes based aircraft and operations.
2. **Review Previous Airport Forecasts:** This may include the FAA Terminal Area Forecast (TAF), state or regional system plans, and previous master plans.
3. **Gather Data:** Determine what data is required to prepare the forecasts, identify data sources, and collect historical and forecast data.

4. **Select Forecast Methods:** There are several appropriate methodologies and techniques available, including regression analysis, trend analysis, market share or ratio analysis, exponential smoothing, econometric modeling, comparison with other airports, survey techniques, cohort analysis, choice and distribution models, range projections, and professional judgement.
5. **Apply Forecast Methods and Evaluate Results:** Prepare the actual forecasts and evaluate for reasonableness.
6. **Summarize and Document Results:** Provide supporting text and data tables as necessary.
7. **Compare Forecast Results with the FAA's TAF:** For GA airports such as Omak Airport, forecasts for based aircraft and total operations are consistent with the TAF if they meet the following criteria:
   a. Forecasts differ by less than 10 percent in the 5-year forecast period and 15 percent in the 10-year forecast period, or
   b. Forecasts do not affect the timing or scale of an airport project, or
   c. Forecasts do not affect the role of the airport as defined in the current version of FAA Order 5090.3, *Field Formulation of the National Plan of Integrated Airport Systems (NPIAS).*

3.3 AVIATION TRENDS

Preparing forecasts for aviation-related demand requires a general understating of recent and anticipated local, state, and national trends in the aviation industry. Both the FAA's National Plan of Integrated Airport Systems (NPIAS) and the Washington State Department of Transportation identified Omak Airport as being important to their systems. This section focuses on the GA industry trends identified in the latest FAA and Washington Aviation System Plan (WASP) reports, as well as local trends that impact the Airport's activity.

3.3.1 NATIONAL

The FAA publishes an updated National Aviation Forecast annually to support their budget and planning needs. The report considers emerging trends within different segments of the aviation industry, including U.S. airline traffic and capacity, FAA workload, and GA activity.

The latest trends used to develop the estimates in the *FAA Aerospace Forecast 2022-2042* fluctuated greatly in response to the ongoing COVID-19 pandemic. Since the FAA published the report, the outlook on economic growth shifted again in response to the pandemic, suggesting a potential pace of aviation travel recovery that is faster than indicated in the 2021 forecasts.

The 2022-2042 FAA Aerospace Forecast reports that, while the commercial air carrier industry did experience an unprecedented level of disruption to aviation demand at the onset of the pandemic, the GA sector was less affected by the crisis. The FAA estimates a steady growth in Gross Domestic Product (GDP) and corporate profits over the next 20 years will increase the fixed wing turbine and helicopter fleets. However, the largest segment of the fleet, fixed wing piston aircraft, is expected to decline as a result of unfavorable pilot demographics, overall increasing cost of aircraft ownership, and availability of lower cost alternatives for recreational usage.

The FAA forecasts the total active GA fleet mix to increase by 0.1 percent between 2022 and 2042 as growth in turbine fixed wing aircraft and helicopters offset the decline in fixed wing piston aircraft. An aircraft is considered active by the FAA if it flies at least one hour during the year.

Much like the GA fleet mix forecast, the FAA anticipates future economic growth and corporate profits will return GA sector activity levels to pre-pandemic levels sooner than the air carrier industry. GA operations accounted for 57 percent of national operations in 2021 and are forecasted to increase 0.6 percent between 2021 and 2041.

3.3.2 STATE OF WASHINGTON

Washington State Department of Transportation (WSDOT) Aviation conducted a statewide Aviation Economic Impact Study for the Washington Aviation System. The study shows that the state's 134 public-use airport system contributes 407,042 jobs and $107 billion in total economic impact (business revenues) for the state of Washington's economy.

The 2017 Washington Aviation System Plan (WASP) includes the current and future demands of the state airport system and outlines a plan ensuring its role in the statewide transportation system is effective, recognized, and supported.

In the 2017 WASP Update, the Washington State Department of Transportation (WSDOT) Aviation identified approximately 7,209 aircraft based at Washington's public use airports in 2014. Over the 20-year planning period, the plan forecasts total based aircraft in the State will grow to 9,010 in 2034 at an average annual growth rate (AAGR) of 1.1 percent.

The Washington State Department of Revenue reports that the state collected $3.18 million in aircraft fuel and aircraft excise taxes. Additionally, the state's airport system, including SeaTac, generated over $913 million in total statewide tax impacts (2018).

General Aviation has a long history performing critical access, emergency response, and economic roles in Washington and accounts for most of the activity at all airports in the state. The 2017 WASP Update projects non-commercial aircraft operations in the State will grow at a AAGR of 0.7 percent over the 20-year planning period, from 2.7 million operations in 2014 to 3.3 million in 2034.

3.3.3 LOCAL

According to the WSDOT Aviation Economic Impact Study, Omak Airport is responsible for 45 jobs and has a total business revenue of $9.8 million annually.

While the Traffic Flow Management System Counts (TFMSC) database is unable to capture many of the flights operating in and out of an uncontrolled airport, it can indicate a jump in activity when additional operations have filed flight plans. The TFMSC operations has estimated close to 1,700 A-II aircraft operations and 724 B-II aircraft operations in the last 10 years (2013-2022).

According to the U.S. Census Bureau, agriculture, forestry, and firefighting operations hold considerable economic influence in the Okanogan region, as mentioned in previous chapters. These industries create a strong demand for aviation due to their aerial applications.

3.4 BASED AIRCRAFT FORECASTS

As of October 2022, there are 7 validated based aircraft at Omak Airport reported on *basedaircraft.com*. The based aircraft fleet includes 7 single-engine piston-driven airplanes. These numbers are the baseline values for the forecasts of based aircraft described in this section.

3.4.1 SOCIOECONOMIC INDICATORS

Socioeconomic conditions provide an important baseline for preparing aviation demand forecasts. Local demographic variables can indicate the pace and progress of economic development in the region, and in turn its potential impact on aviation activity at the Omak Airport. The variables considered for this analysis include population, employment, and per capita personal income.

The socioeconomic projections were sourced from Woods and Poole Economics, Inc. (WPE), a nationally recognized firm specializing in long-term economic and demographic projections. Their data is widely used by governments and businesses.

Table 3.1 lists the socioeconomic projections for Okanogan County, which comprises the airport service area. Of the variables analyzed, per capita personal income is projected to grow the fastest from 2022 to 2042 with a compound annual growth rate (CAGR) of 4.79 percent. It is followed by employment at 0.71 percent and by population at 0.35 percent.

TABLE 3.1
OKANOGAN COUNTY SOCIOECONOMIC PROJECTIONS

Year	Population	Employment	Per Capita Personal Income*
Existing			
2023	43,033	24,216	$52,008
Projected			
2026	43,790	24,985	$62,548
2032	44,645	25,912	$79,058
2043	46,112	27,885	$132,501
CAGR 2022-2042	**0.35%**	**0.71%**	**4.79%**

Source: WPE and J-U-B
** PCPI: Per Capita Personal Income in current dollars*

3.4.2 MARKET SHARE ANALYSIS

The relationship between Omak Airport and its larger surrounding markets is important to consider when formulating the forecasts of future aviation demand. A market share analysis evaluates an individual component as a percentage, or share, of a larger market. In the case of based aircraft, the analysis considers the Airport's share of the state and regional markets. Once the share is determined for the 7 aircraft based at Omak Airport in 2022, the resulting percent is multiplied by the forecasts of the larger geographical areas to determine the Airport's corresponding number of based aircraft and projected CAGR.

In 2022, the FAA Terminal Area Forecast (TAF) reported 5,153 based aircraft in the State of Washington, of which, the 7 based aircraft at Omak Airport represents 0.1 percent of the state market share. A constant market share projection results in a CAGR of 1.0 percent in the next 20 years.

In the larger FAA Northwest Mountain Region, the Airport accounts for just 0.03 percent of the overall 21,729 based aircraft. A constant market share projection results in a CAGR of 0.89 percent in the number of aircraft based at Omak Airport by 2042.

Table 3.2 lists the Airport's share of based aircraft in the state and region and the short, medium, and long-term market share projections.

TABLE 3.2 OMAK AIRPORT MARKET SHARE OF STATE AND REGIONAL BASED AIRCRAFT				
Year	Omak Market Share	Washington Based Aircraft	Omak Market Share	FAA NW Mountain Region Based Aircraft
2022	0.1%	5,153	0.03%	21,729
2027	0.1%	5,451	0.03%	22,765
2032	0.1%	5,746	0.03%	23,771
2042	0.1%	6,409	0.03%	25,923
CAGR 2021-2041		**1.0%**		**0.89%**
Source: FAA TAF and J-U-B				

3.4.3 GROWTH RATE ANALYSIS

To arrive at a reasonable forecast, it is important to consider the potential impact various local, regional, and national growth metrics will have on an airport's aviation activity. A growth rate analysis is one way to compare the effects different external factors have on aviation demand. In this analysis, CAGRs are calculated for various metrics and applied to baseline values. A CAGR measures the constant annual growth rate of a data series over a specified period.

The metrics considered in this growth rate analysis include GA based aircraft projections from the 2017 WASP Update and from Omak Airport's TAF issued by the FAA in 2022. The 2017 WASP Update projects the number of GA based aircraft in Washington will grow by 1.12 percent between 2014 and 2034 (see **Table 3.3**).

TABLE 3.3 WASP GA BASED AIRCRAFT FORECAST FOR THE STATE OF WASHINGTON	
Year	Number of Based Aircraft
Existing	
2014	7,209
Projected	
2019	7,608
2024	8,081
2034	9,010
CAGR 2014-2034	**1.12%**
Source: 2017 WASP Update	

The FAA's TAF estimates the number of based aircraft at Omak Airport will remain the same from 2022 to 2042. This zero-growth forecast does not align with current trends. It has been included in this analysis as a point of comparison in addition to an adjusted TAF forecast that applies the 0 percent CAGR to the Airport's 2022 baseline value of 7 based aircraft.

Other metrics used to project different based aircraft outcomes at the Airport include the CAGRs from the socioeconomic and market shares analyses.

The based aircraft projections, calculated by applying each CAGR to the Airport's 2022 baseline of 7 based aircraft, are summarized in **Table 3.4** and depicted in **Figure 3.1**.

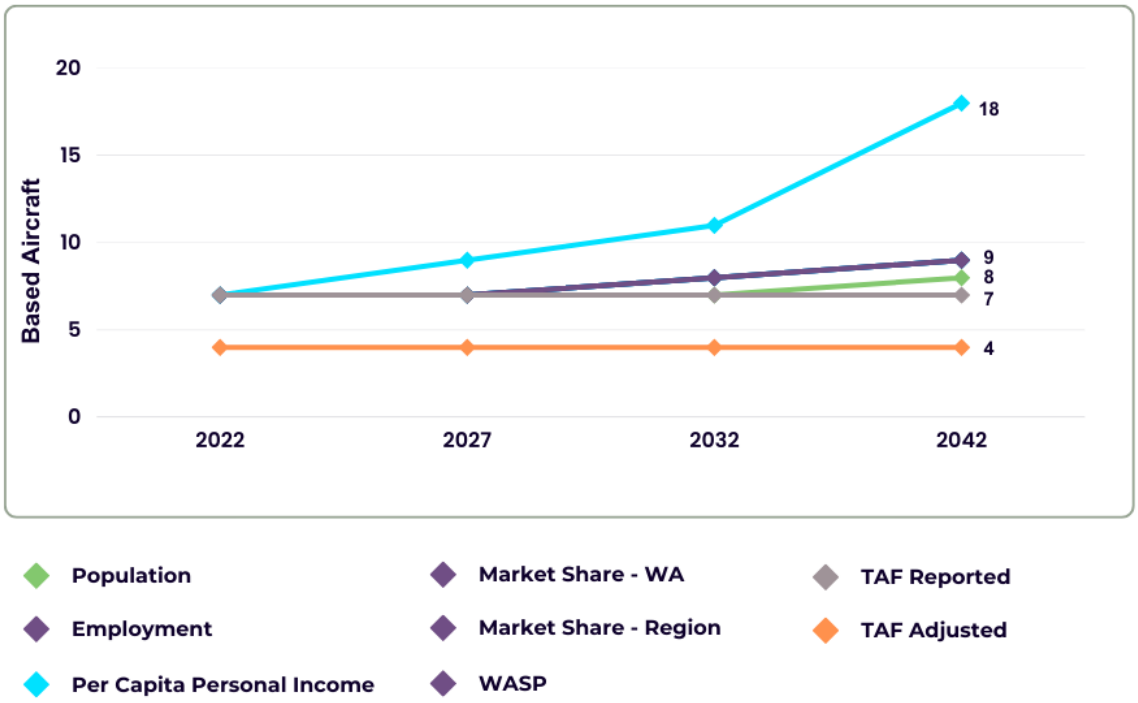
Of the metrics considered in this analysis, WASP's forecast of Washington's GA based aircraft in the 2017 WASP Update is most indicative of the based aircraft trends at Omak Airport and will be incorporated into the recommended forecast.

TABLE 3.4
BASED AIRCRAFT GROWTH RATE COMPARISON

		Existing Based Aircraft	Projected Based Aircraft		
Metric	**CAGR 2022-2042**	**2022**	**2027**	**2032**	**2042**
Socioeconomic: Population	0.35%	7	7	7	8
Socioeconomic: Employment	0.71%	7	7	8	9
Socioeconomic: Per Capita Personal Income	4.79%	7	9	11	18
Market Share of State Based Aircraft	1.0%	7	7	8	9
Market Share of Region Based Aircraft	0.89%	7	7	8	9
WASP GA Based Aircraft	1.12%*	7	7	8	9
2022 FAA TAF: Omak Airport	0.00%	4	4	4	4
2022 FAA TAF: Adjusted	0.00%	7	7	7	7

Source: FAA TAF, WPE, 2020 WASP Update, and J-U-B

FIGURE 3.1
BASED AIRCRAFT GROWTH RATE COMPARISON



Source: FAA TAF, WPE, 2020 WASP Update, and J-U-B

3.4.4 BASED AIRCRAFT FLEET MIX ANALYSIS

The design standards of an airport are largely determined by the characteristics of the most demanding aircraft to complete 500 annual operations. At a GA airport, most of these operations are attributed to based aircraft. Aircraft grouped by type typically have similar characteristics, therefore, knowing the aircraft fleet mix expected to use the Omak Airport helps to properly plan for facilities that will best serve the level and type of activities occurring at the Airport.

The based aircraft fleet mix forecast was developed using the CAGRs from the *FAA Aerospace Forecast 2022-2042*. **Table 3.5** presents the FAA's active GA fleet forecast, including the CAGR of each aircraft type from 2022 to 2042.

TABLE 3.5
FAA ACTIVE GA FLEET FORECAST

	Existing Based Aircraft	Forecasted Based Aircraft			
Aircraft Type	**2022**	**2027**	**2032**	**2042**	**CAGR 2022-2042**
Single-Engine Piston	122,020	116,225	110,560	101,860	**-0.9%**
Multi-Engine Piston	11,795	11,795	11,285	11,055	**-0.30%**
Turboprop	10,250	10,245	10,460	11,455	**0.6%**
Jet	16,230	21,535	21,535	27,000	**2.6%**
Rotorcraft	9,955	10,675	11,585	13,500	**1.5%**
Experimental	27,495	29,455	30,985	33,785	**1.0%**
Light Sport	2,905	3,600	4,295	5,655	**3.4%**
Other	3,940	4,405	4,490	4,565	**0.7%**
Total GA Fleet	**204,590**	**204,925**	**205,195**	**208,905**	**0.1%**

Source: FAA Aerospace Forecast 2022-2042

The FAA forecasts a decline of 0.9 percent annually in single-engine piston aircraft between 2022 and 2042; however, this aircraft type is still expected to represent the largest portion of the national active GA fleet during that time. Currently, the single-engine piston makes up 100% percent of the based aircraft at Omak Airport. The forecasted growth over the next twenty years at the Omak Airport is still expected to be primarily single-engine piston aircraft.

3.4.5 BASED AIRCRAFT FORECAST

The recommended based aircraft forecast for Omak Airport applied the *FAA Aerospace Forecast 2022-2042* to the baseline numbers for each aircraft type, except for single and multi-engine piston, based at the Airport. Based on local users and operations currently carried out by based aircraft at the Airport, the FAA's negative growth projections for single and multi-engine piston aircraft were substituted for the 1 percent forecasted growth in the 2017 WASP Update for statewide GA based aircraft.

The number of each aircraft type based at Omak Airport was projected for the short, medium, and long-term planning periods. The resulting total number of based aircraft for each planning period constitutes the based aircraft forecast for the Airport. **Table 3.6** summarizes the recommended forecasts.

Initial feedback from members of the community revealed that there is a group of individuals who are ready to build hangars now. Local pilots have requested for at least eight more hangars to be built as soon as possible. For the Omak Municipal Airport to grow, it is essential that providing adequate and appropriate space for more hangars is included.

TABLE 3.6
BASED AIRCRAFT FORECAST

		Existing Based Aircraft	Forecasted Based Aircraft		
Aircraft Type	**CAGR 2022-2042**	**2022**	**2027**	**2032**	**2042**
Single-Engine Piston	1.00%	7	7	8	9
Multi-Engine	1.00%	0	0	0	0
Helicopters (Rotorcraft)	2.0%	0	0	0	0
Total GA Fleet		**7**	**7**	**8**	**9**

Source: J-U-B

3.5 AIRCRAFT OPERATIONS FORECASTS

The Omak Airport is an uncontrolled airport with no air traffic control tower to track and record aircraft operations. It can, therefore, be difficult to establish an accurate measurement of aviation activity. To develop a baseline of aircraft operations for 2022, an operations count was pulled from FlightAware between January 2022 through December 2022 which revealed 1,284 operations. More aircraft operations data was collected from local firefighting organizations, which revealed another 406 firefighting operations for the 2022 season. In total, the count from these two sources estimated 1,330 baseline operations for the Omak Airport.

The FAA's TAF has estimated a much higher operation count in 2022 at 23,750 operations. The data that was collected from local sources are a more reasonable representation of activity at the Airport. Therefore, the numbers from the observed operations form the baseline value of 1,330 for the aircraft operations forecasts described in this section.

3.5.1 SOCIOECONOMIC INDICATORS

The socioeconomic indicators included in this analysis were selected to gauge the overall health of the local economy and the potential type of aircraft activity that may occur at the airport. Those variables include Gross Regional Product (GRP) and agricultural market projections. The GRP data is sourced from WPE, while the agricultural market projections were reported in the U.S. Department of Agriculture's (USDA) 2017 Census of Agriculture.

The GRP projections for the airport service area are summarized in **Table 3.7**. In 2022, Okanogan County had a GRP of $1,521,542 that is projected to grow at a CAGR of 1.27 percent over the 20-year planning period.

TABLE 3.7
OKANOGAN COUNTY GROSS REGIONAL PRODUCT PROJECTIONS

Year	Gross Regional Product
Existing	
2022	$1,521,542
Projected	
2027	$1,612,069
2032	$1,716,443
2042	$1,948,961
CAGR 2022-2042	**1.27%**

Source: WPE and J-U-B
**In 2012 dollars*

The surrounding Okanogan County provides more than 5,700 agricultural jobs. Aviation has a significant role in supporting the Okanogan County agricultural industry.

Every five years, the USDA conducts a Census of Agriculture to gather information on the status of U.S. farms and ranches in each state and county. The variables considered by this analysis that best indicate the health of agricultural businesses in the region include the average market value of agricultural products sold and the average market value of livestock, poultry, and their products. **Table 3.8** summarizes the results from the 2012 and 2017 USDA Census of Agriculture.

TABLE 3.8
OKANOGAN COUNTY AGRICULTURE MARKET PROJECTIONS

County	Average Market Value of Agricultural Products Sold	Avg. Market Value of Livestock, Poultry, & Their Products
2012		
Okanogan County	$277,232,160	$39,217,000
2017		
Okanogan County	$338,088,000	$40,416,000
CAGR 2012-2017	**4.0%**	**6.0%**

Source: USDA 2017 Census of Agriculture and J-U-B

3.5.2 AVIATION INDICATORS

In the *Aerospace Forecast 2022-2042*, the FAA considers the growth trends of different aviation indicators to determine the current and future status of the national aviation industry. Fuel consumption, the number of hours flown, and annual operations at airports with FAA and traffic control service are three of the variables the FAA includes in their analysis of the GA sector.

The FAA forecasts the 1.8 million gallons of total GA aircraft fuel consumed in 2022 will increase to 2.9 million gallons in 2042 at a CAGR of 2.2 percent. Over the twenty years, a 2.4 percent growth in jet fuel consumption is forecasted to offset the -0.3 percent decline in Avgas consumption.

The total number of GA hours flown is projected to grow at a CAGR of 1 percent from 2022 to 2042. The FAA estimates that GA fuel consumption will grow at a CAGR of 2.7 percent over the same twenty-year period. The FAA's GA fuel consumption and hours flown forecasts are summarized in **Table 3.9**

TABLE 3.9 FAA FORECAST PROJECTIONS		
Year	**Total FAA Hours Flown****	**FAA Fuel Consumption***
Existing		
2022	24,211	20,661
Projected		
2027	26,024	27,242
2032	26,994	29,634
2042	29,563	35,357
CAGR 2022-2042	**1.0%**	**2.7%**

Source: FAA Aerospace Forecast 2022-2042
**Millions of gallons | **In thousands and at airports with FAA and Contract Traffic Control Service*

3.5.3 MARKET SHARE ANALYSIS

In 2022, the FAA TAF reported 2,916,493 total annual operations in the State of Washington, of which, the 23,750 annual operations observed at the Omak Airport represent 0.81 percent. Keeping this market share constant, the number of statewide annual operations is projected to grow at a CAGR of 1.37 percent by 2042. In the larger FAA Northwest Mountain Region, the Omak Airport accounts for just 0.22 percent of the existing 10,452,533 aircraft operations. A constant market share projection of annual NW Mountain Regional operations produces a CAGR of 1.22 percent.

Table 3.10 lists the Airport's share of aircraft operations in the state and region and the short, medium, and long-term market share projections.

TABLE 3.10 OMAK AIRPORT MARKET SHARE OF STATE AND REGIONAL GA OPERATIONS						
Year	**Omak Market Share**	**Washington Operations**	**Omak Operations**	**Omak Market Share**	**FAA NW Mountain Region Operations**	**Omak Operations**
2022	0.81%	2,916,493	23,750	0.22%	10,452,533	23,750
2027	0.81%	3,226,030	26,260	0.22%	11,339,872	25,741
2032	0.81%	3,416,300	27,809	0.22%	11,959,738	27,148
2042	0.81%	3,830,825	31,183	0.22%	13,338,508	30,278
CAGR 2022-2042		**1.37%**			**1.22%**	

Source: FAA TAF and J-U-B

3.5.4 GROWTH RATE ANALYSIS

The metrics considered in this growth rate analysis include the 2017 WASP Update GA (Non-commercial) operations forecast and the Omak's Airport's TAF issued by the FAA in 2022. The 2017 WASP Update projects the number of GA annual operations in Washington will grow by 0.9 percent between 2014 and 2034 (see **Table 3.11**).

TABLE 3.11
WASP NON-COMMERCIAL OPERATIONS FORECAST

Year	Number of Operations
Existing	
2014	2,770,273
Projected	
2019	2,896,993
2024	3,029,460
2034	3,335,224
CAGR 2014-2034	**0.90%**

Source: 2017 WASP Update

The FAA's TAF estimates the aircraft operations at Omak Airport will not increase from 2022 to 2042 (see **Table 3.12**).

TABLE 3.12
TAF FORECASTED AIRCRAFT OPERATIONS FOR OMAK AIRPORT

Year	Number of Operations
Existing	
2022	23,750
Projected	
2027	23,750
2032	23,750
2042	23,750
CAGR 2022-2042	**0%**

Source: FAA TAF and J-U-B

Other metrics used to project different aircraft aviation outcomes at the Airport include the CAGRs from the GRP, agricultural market, national aviation trends, and market shares analyses.

The aircraft operations projections, calculated by applying each CAGR from the analyses in Sections 3.5.1-3.5.4 to the Airport's 2022 baseline of 1,330 operations, are summarized in **Table 3.13** and depicted in **Figure 3.2**.

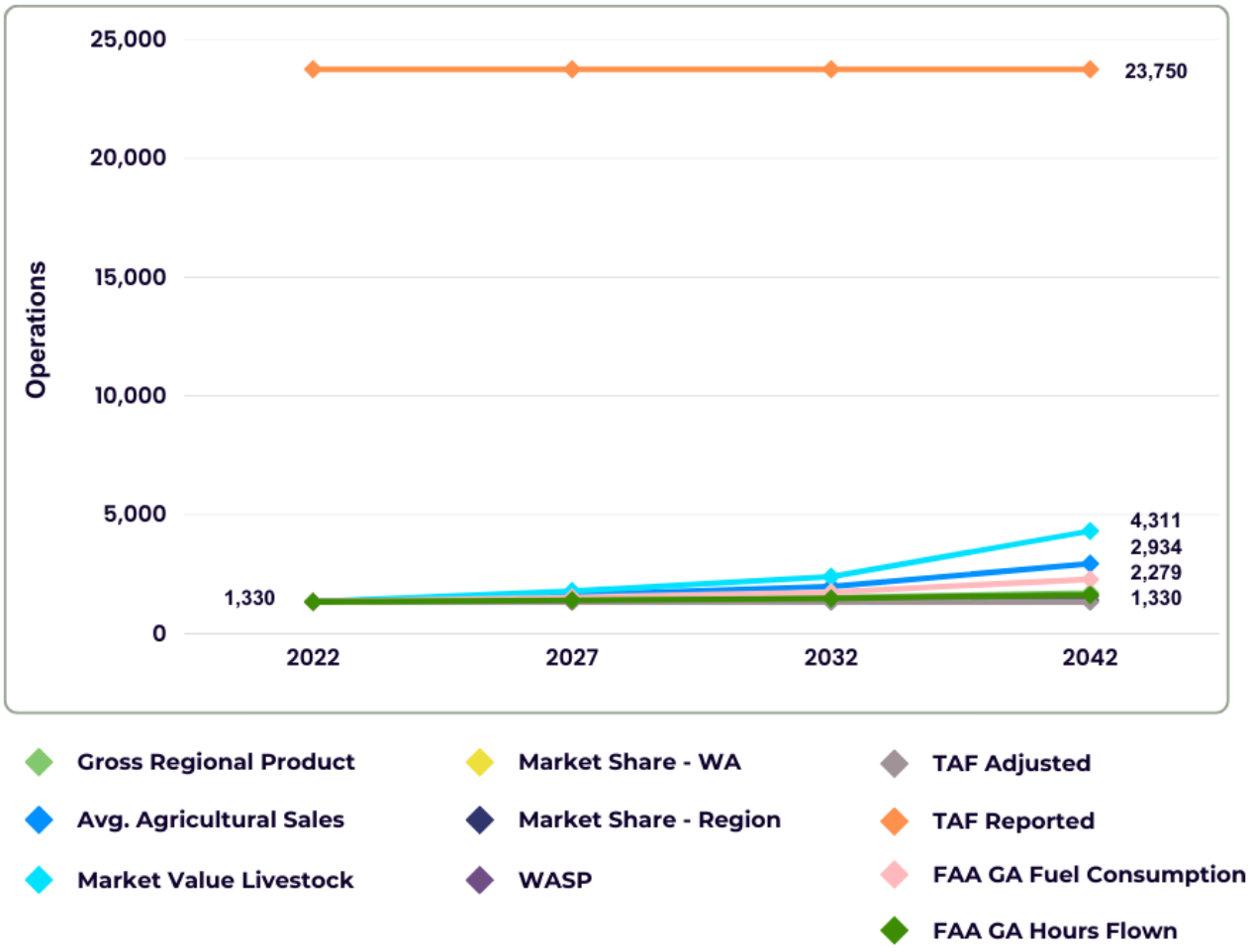
TABLE 3.13
AIRCRAFT OPERATIONS GROWTH RATE COMPARISON

		Current Operations	Projected Operations		
Metric	**CAGR 2022-2042**	**2022**	**2027**	**2032**	**2042**
Socioeconomic: Gross Regional Product	1.27%	1,330	1,417	1,509	1,712
Socioeconomic: Average Agricultural Product Sales	4.0%	1,330	1,619	1,976	2,934
Socioeconomic: Market Value of Livestock, Poultry, and Their Products	6.0%	1,330	1,783	2,393	4,311
Aviation: FAA GA Fuel Consumption	2.7%	1,330	1,520	1,739	2,279
Aviation: FAA GA Hours Flown	1.0%	1,330	1,398	1,472	1,623
Market Share of State GA Operations	0.81%	1,330	1,385	1,442	1,564
Market Share of Region GA Operations	0.22%	1,330	1,345	1,360	1,390
WASP GA Operations	0.90%	1,330	1,391	1,455	1,592
2022 FAA TAF: Omak Airport	0%	23,750	23,750	23,750	23,750
2022 FAA TAF: Adjusted	0%	1,330	1,330	1,330	1,330

Source: FAA TAF, WPE, 2017 WASP Update, USDA, and J-U-B

The recommended forecast will incorporate the average of all resulting growth rates as a reasonable representation of aircraft activity at the Omak Airport.

FIGURE 3.2
AIRCRAFT OPERATIONS GROWTH RATE COMPARISON



Source: FAA TAF, WPE, 2020 IASP Update, USDA, and J-U-B

3.5.5 AIRCRAFT OPERATIONS FLEET MIX ANALYSIS

Operational fleet mix projections identify the type of aircraft that currently operate and are anticipated to operate at Omak Airport. The forecast is based on operations logged from Flight Aware and from local firefighting operations at the Airport between January 2022 and December 2022.

The aircraft operations fleet mix forecast referenced the national GA hours flown growth trends reported in the *FAA Aerospace Forecast 2022-2042* to calculate the projected growth of each aircraft type operating out of Omak Airport. **Table 3.14** presents the FAA's GA hours flown forecast, including the CAGR for each aircraft type from 2022 to 2042.

The FAA forecasts a decline of 0.8 percent annually in hours flown for single-engine piston aircraft between 2022 and 2042 and a growth of 0.34 in multi-engine piston aircraft.

TABLE 3.14
FAA GA HOURS FLOWN FORECAST (IN THOUSANDS)

	Current GA Hours Flown	Forecasted GA Hours Flown			
Aircraft Type	**2022**	**2027**	**2032**	**2042**	**CAGR 2022-2042**
Single-Engine Piston	11,478	10,903	10,903	9,742	**-0.8%**
Multi-Engine Piston	1,464	1,502	1,496	1,552	**0.3%**
Turboprop	2,618	2,880	2,946	3,229	**1.1%**
Jet	4,403	5,809	6,739	8,513	**3.4%**
Rotocraft	2,702	3,072	3,434	4,129	**2.1%**
Experimental	1,198	1,416	1,543	1,758	**1.9%**
Other	348	442	507	640	**1.3%**
Total GA Fleet	**24,211**	**26,024**	**26,994**	**29,563**	**1.00%**

Source: FAA Aerospace Forecast 2022-2042

3.5.6 AIRCRAFT OPERATIONS FORECAST

The recommended aircraft operations forecast for Omak Airport applied average of all the CAGR from factors that could affect the operations to baseline numbers for each aircraft type, except for single and multi-engine piston, operating at the Airport.

Single-engine aircraft account for most of the annual operations at Omak Airport at 75 percent and are not anticipated to decline at the rate forecasted by the FAA. The single and multi-engine operations were instead forecasted using an average of the FAA's single-engine piston aircraft operations CAGR and the CAGRs from the aircraft operations growth analysis, which equated to 0.46 percent.

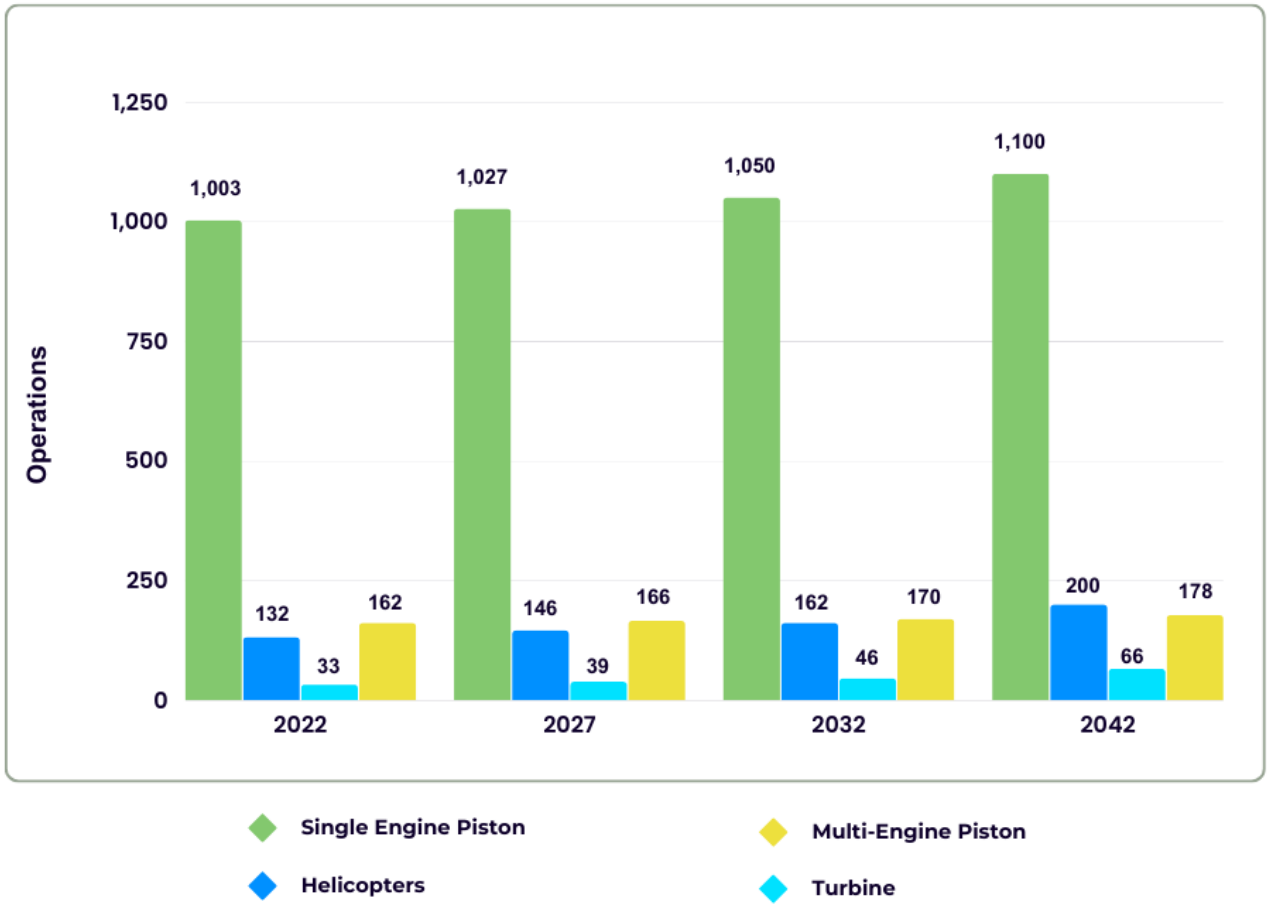
Like the based aircraft forecast, the annual operations for each aircraft type based at Omak Airport was projected for the short, medium, and long-term planning periods. The resulting total number of operations for each planning period constitutes the aircraft operations forecast for the Airport. **Table 3.15** and **Figure 3.3** summarize the recommended forecasts.

TABLE 3.15
AIRCRAFT OPERATIONS FORECAST

		Current Operations	Forecasted Operations		
Aircraft Type	**CAGR 2022-2042**	**2022**	**2027**	**2032**	**2042**
Single-Engine Piston	0.46%	1,003	1,027	1,050	1,100
Multi-Engine Piston	0.46%	162	166	170	178
Turbine	3.50%	33	39	46	66
Helicopters (Rotorcraft)	2.0%	132	146	162	200
Total GA Fleet		**1,330**	**1,378**	**1,428**	**1,544**

Source Flight Aware, FAA TAF, and J-U-B

FIGURE 3.3
AIRCRAFT OPERATIONS FORECAST



Source: J-U-B

3.6 ITINERANT AND LOCAL AIRCRAFT OPERATIONS FORECAST

GA operations are classified as either local or itinerant. The FAA defines local operations as those conducted by aircraft that operate in the local traffic pattern or within sight of the airport; are known to be departing for, or arriving from, flight in local practice areas located within a 20-mile radius of the airport; or execute simulated instrument approaches or low passes at the airport.

The FAA TAF estimates 77 percent of aircraft operations at Omak Airport were itinerant and 23 percent local. This is assumed to be the most accurate data available to determine the local and itinerant aircraft operations split at the Airport.

The FAA TAF percentage estimates are then used to determine an initial local and itinerant operations split. In 2022, 306 of the 1,330 operations were local and 1,024 were itinerants.

Generally, local operations are characterized by training operations. Itinerant operations are those performed by aircraft with a specific origin or destination away from the airport.

The local and itinerant split of the aircraft operations forecast is based on this adjusted figure. The resulting forecast is summarized in **Table 3.16** and **Figure 3.4**.

TABLE 3.16
ITINERANT AND LOCAL AIRCRAFT OPERATIONS FORECAST

		Current Operations	Forecasted Operations		
Operation Type	**Percent of Total Operations**	**2022**	**2027**	**2032**	**2042**
Itinerant	77%	1,024	1,048	1,072	1,124
Local	23%	306	313	321	336
Total GA Operations	**100%**	**1,330**	**1,361**	**1,393**	**1,460**

Source: J-U-B

FIGURE 3.4
ITINERANT AND LOCAL AIRCRAFT OPERATIONS FORECAST

Source: J-U-B

3.7 PEAK PERIOD FORECASTS

A forecast of peak demand helps to determine if existing airport facilities will adequately meet demand during the airport's busiest month, day, and hour. They can also help estimate the appropriate size of facilities during the planning process. The following planning definitions apply to the peak periods:

- **Peak Month** – The calendar month when peak aircraft operations occur
- **Design Day** – The average day in the peak month
- **Design Hour** – The peak hour within the design day

The Omak Airport FlightAware data shows that 18.8 percent of total annual operations occurs during the peak month. The peak month is projected to reach 290 operations by 2042. The design day is estimated by dividing the peak month by its number of days (31). The design hour is calculated at 15 percent of the design day. A summary of aviation peak activity for Omak Airport is presented in **Table 3.17**.

TABLE 3.17
PEAK PERIOD FORECASTS

	2022	2027	2032	2042
Annual Operations	1,330	1,378	1,428	1,544
Peak Month	250	259	268	290
Design Day	8	9	9	10
Design Hour	2	2	2	2

Source: J-U-B

3.8 CRITICAL AIRCRAFT FORECAST

As previously mentioned in Chapter 2, the FAA has established several aircraft classification systems that group aircraft types based on their performance and design characteristics. These design classification systems are used to determine the appropriate airport design standards for specific airport elements.

The Airport Reference Code (ARC) identifies the overall planning and design criteria for an airport. The ARC is assigned based on the most demanding aircraft type, or grouping of aircraft with similar characteristics, to complete a minimum of 500 annual operations; this is known as the critical aircraft. The Aircraft Approach Category (AAC) and Airplane Design Group (ADG) of the critical aircraft comprise the ARC code of the Airport.

The primary method for determining the critical aircraft at non-towered airports is to examine the FAA's Traffic Flow Management System Counts (TFMSC) database or FlightAware. The TFMSC and FlightAware captures an operation when a pilot files a flight plan or when flights are detected by the National Airspace System, usually by radar. TFMSC does not account for all the operations at Omak Airport, since it only calculates operations where flight plans were completed by pilots. Operators of high-performance aircraft, such as turboprops and jets, tend to file flight plans at a higher rate than those of smaller aircraft types.

Based on the TFMSC counts, none of the aircraft categories had more than 500 operations at the Omak Airport in 2022. These records are summarized in **Table 3.18**.

TABLE 3.18
OMAK MUNICIPAL AIRPORT TFMSC AIRCRAFT OPERATIONS

Year	A-I	A-II	B-I	B-II
2013	53	117	243	84
2014	48	108	314	190
2015	28	103	519	62
2016	55	121	596	64
2017	70	100	525	57
2018	37	111	555	36
2019	61	171	344	40
2020	82	217	46	50
2021	82	388	69	98
2022	87	260	31	43

Source: FAA TFMSC Report

Historical counts from the TFMSC do not suggest aircraft greater than an A-II classification will exceed 500 annual operations over the 20-year planning period. However, because the TFMSC does not report a complete picture of activity at the Omak Airport, data was also collected from FlightAware, the Department of Natural Resources (DNR), and the Bureau of Indian Affairs (BIA) to get a more accurate picture.

After analyzing the flight operations from FlightAware, DNR, and the BIA, the data shows that there is a significant amount of aerial firefighting activity at the Omak Airport that is not reported in the TFMSC. **Table 3.19** shows the DNR operations from 2018-2022.

The Air Tractor 802F Fire Boss is commonly used at the Omak Airport for aerial firefighting applications (shown in **Table 3.19**). This aircraft is a B-II category aircraft. These aerial firefighting operations are not usually recorded in the FAA's TFMSC.

TABLE 3.19
OMAK MUNICIPAL AIRPORT DNR AERIAL FIREFIGHTING OPERATIONS

Year	Rotocraft Type 1	Rotocraft Type 2	Air Attack	Air Tanker	Fireboss
2018	0	126	100	4	160
2019	0	60	60	0	136
2020	80	74	56	0	150
2021	62	60	116	0	232
2022	2	50	54	0	82

Source: DNR

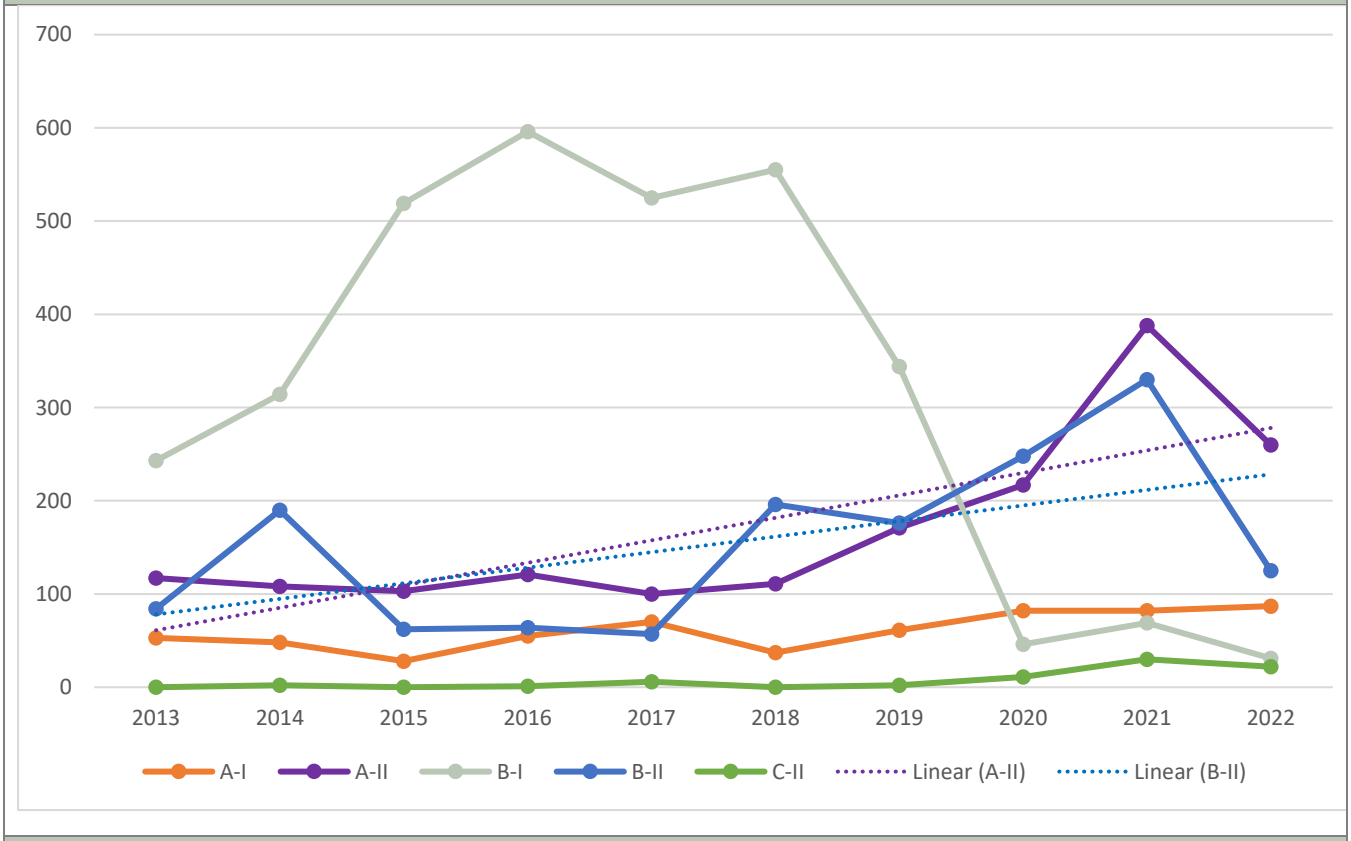
It's important to note that continued development is planned in upcoming years by the Department of Natural Resources (DNR) at the Omak Airport. Aerial firefighting operations are expected to increase because of this.

After analyzing the flight operations at the Omak Airport from several sources, the data shows that the current critical aircraft, A-II ARC designation, will change to a B-II designation in the future. For this reason, the critical aircraft forecast analysis focuses on B-II aircraft operations.

Two different forecasting methods were used to establish growth trends at Omak Airport: triple exponential smoothing and linear regression. Both methods used historical values to predict present and future values. A triple exponential smoothing analysis creates a projection from an average of historical values. This method includes a lower and upper confidence bound to determine the accuracy of the prediction. The linear regression model uses the same data to calculate a trendline.

The graph in **Figure 3.5** shows the combined operations reported from TFMSC and DNR for each aircraft group between 2013 and 2022 and both the A-II and B-II trendlines.

FIGURE 3.5
COMBINED TFMSC AND DNR OPERATIONS LINEAR REGRESSION ANALYSIS

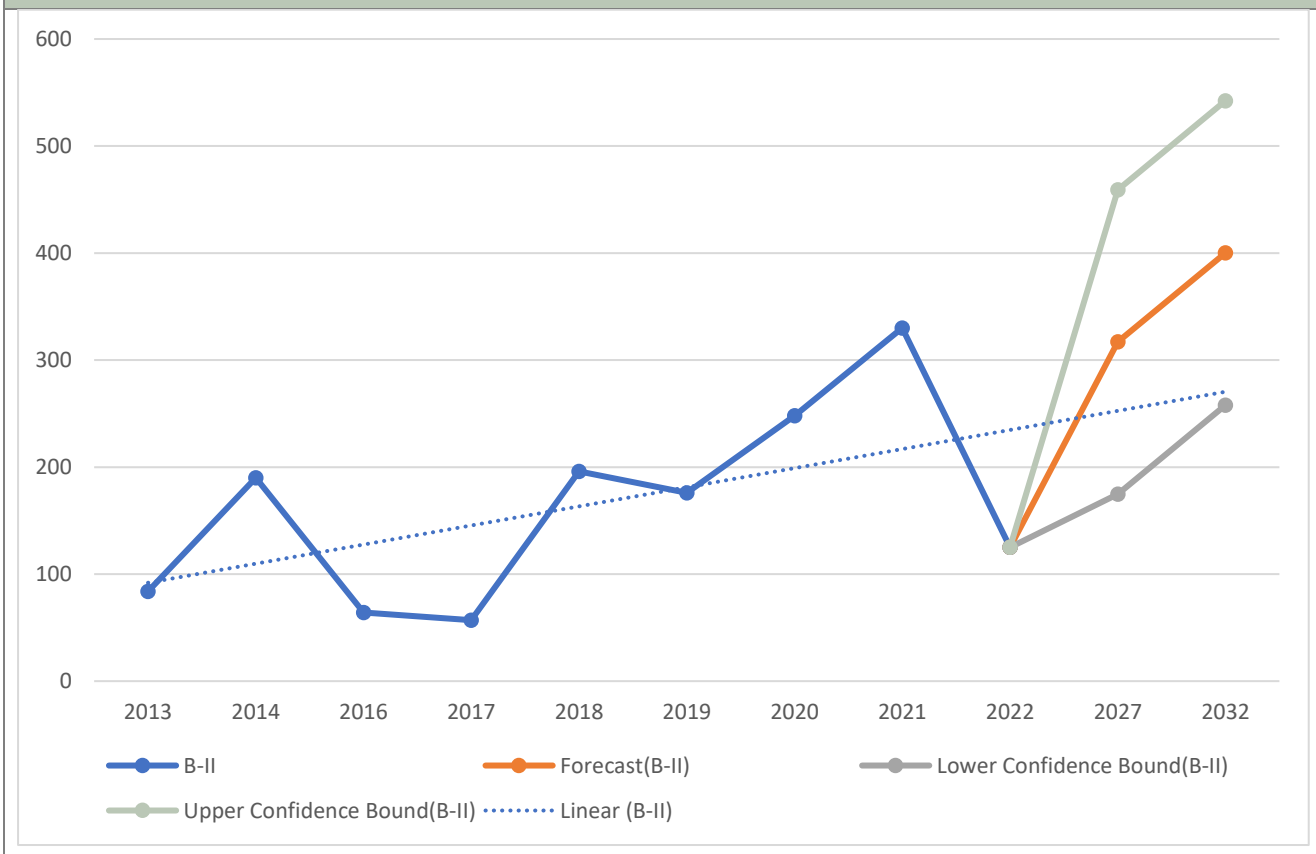


Source: TFMSC, DNR, and J-U-B

The linear forecast shows an upward projection of future operations for both A-II and B-II aircraft.

The baseline of the lower confidence bound, forecast, and upper confidence bound projections were formulated using the triple exponential smoothing analysis. The linear regression model is used to determine a trend. The results of both methods are depicted in **Figure 3.6**.

FIGURE 3.6
LINEAR GROWTH ANALYSIS: B-II AIRCRAFT



Source: TFMSC, DNR, FlightAware, and J-U-B

The CAGRs of each plot line were calculated and compared to determine the most reasonable rate of growth for the 20-year planning period. The results of this analysis are summarized in **Table 3.20**.

TABLE 3.20
COMBINED GROWTH ANALYSIS: B-II AIRCRAFT

Year	Triple Exponential Smoothing Analysis		
	Lower Confidence Bound	Forecast	Upper Confidence Bound
Starting Value			
2022	125	125	125
Projected			
2027	175	317	459
2032	258	400	542
2042	424	566	708
CAGR 2022-2042	**6.30%**	**7.84%**	**9.05%**

Source: TFMSC and J-U-B

The lower confidence bound CAGR projection was chosen as the selected preferred growth rate from the triple exponential smoothing analysis rate to project future B-II aircraft operations at Omak Airport. Both the lower confidence bound projection and linear regression trend result in a similar forecast.

The current critical aircraft at Omak Airport is the A-II Cessna Caravan with a Taxiway Design Group (TDG) of 1A. The future critical aircraft is forecasted to change to the Air Tractor 802F Fire Boss, which is a B-II category aircraft with a TDG of 1B. Therefore, Omak Airport's TDG will change from 1A to 1B during the 20-year planning period.

Tables 3.21 and 3.22 show the comparison of design characteristics between the current critical aircraft and the forecasted critical aircraft.

TABLE 3.21

EXISTING (A-II) AND FUTURE (B-II) CRITICAL AIRCRAFT

Existing (A-II) Cessna Caravan	Future (B-II) Air Tractor 802F Fire Boss
	

Source: J-U-B

TABLE 3.22

EXISTING (A-II) AND FUTURE (B-II) CRITICAL AIRCRAFT DESIGN CHARACTERISTICS

Characteristic	Cessna Caravan Aircraft Performance (A-II)	Air Tractor 802F Aircraft Performance (B-II)
Approach Speed	79 Knots	103 Knots
Wingspan	52 Feet	53 Feet
Tail Height	15 Feet	12 Feet
Max Takeoff Weight (MTOW)	8,000 Pounds	16,000 Pounds
Main Gear Width (MGW)	12 Feet	24 Feet
Cockpit to Main Gear (CMG)	12 Feet	24 Feet
# Engines	1	1

Source: FAA Aircraft Characteristics Database

It should be noted that the current Airport Layout Plan shows airside facilities that largely meet the requirements for B-II operations. A change in the Airport Reference Code should not create a need for large redevelopment projects or changes.

3.9 FORECAST AND TAF COMPARISON

While the recommended forecasts and projections differ from the FAA's TAF by more than 10 percent, it is believed that the activity projected at the Airport is reasonable given the number of operations observed in 2022.

The FAA TAF reports show that the based aircraft at Omak Airport have historically experienced zero growth and are projected to maintain static growth in the future. The number of total operations forecasted by the TAF also seem unreasonable given the data compiled from FlightAware and the local aerial firefighting companies. While fewer operations are forecasted at Omak Airport versus the TAF, the rate of growth is more reasonable than those predicted by the TAF.

A comparison of forecasts of aviation compared with the TAF forecasts are presented in **Table 3.23**.

TABLE 3.23
OMAK AIRPORT FORECASTS COMPARED TO THE FAA TAF

Forecast Period	Year	Omak Airport Forecast	FAA TAF	% Difference
Based Aircraft				
Base Year	2022	7	4	75%
Base Year +5	2027	7	4	75%
Base Year +10	2032	8	4	100%
Base Year +20	2042	9	4	103%
Itinerant Operations				
Base Year	2022	1,024	18,250	-82%
Base Year +5	2027	1,048	18,250	-83%
Base Year +10	2032	1,072	18,250	-83%
Base Year +20	2042	1,124	18,250	-84%
Local Operations				
Base Year	2022	306	5,500	-82%
Base Year +5	2027	313	5,500	-82%
Base Year +10	2032	321	5,500	-83%
Base Year +20	2042	336	5,500	-84%
Total Operations				
Base Year	2022	1,330	23,750	-82%
Base Year +5	2027	1,378	23,750	-83%
Base Year +10	2032	1,428	23,750	-83%
Base Year +20	2042	1,544	23,750	-85%

Source FAA TAF and J-U-B

3.10 CHAPTER SUMMARY

The forecasts of aviation demand presented in this chapter used recognized methods of forecasting and sound aviation planning judgements. These forecasts were based on the most recent data available and adequately outline the future aviation activity expected at Omak Airport.

Table 3.24 summarizes the recommended forecasts and the corresponding growth rates selected for the Airport.

TABLE 3.24
OMAK AIRPORT FORECAST LEVELS COMPARED TO THE TAF

	Base Year	Base Year +5	Base Year +10	Base Year +20	Base Year to +5	Base Year to +10	Base Year to +20
Based Aircraft							
Single-Engine	7	7	8	9	1.0%	1.0%	1.0%
Multi-Engine	0	0	0	0	0%	0%	0%
Helicopters	0	0	0	0	0%	0%	0%
Total	**7**	**7**	**8**	**9**	**0.0%**	**1.3%**	**1.1%**
Operations							
Single-Engine	1,033	1,027	1,050	1,100	0.46%	0.46%	0.46%
Multi-Engine	162	166	170	178	0.46%	0.46%	0.46%
Turbine	33	39	46	66	3.50%	3.50%	3.50%
Helicopters	132	146	162	200	2.0%	2.0%	2.0%
Total	**1,330**	**1,378**	**1,428**	**1,544**	**0.71%**	**0.71%**	**0.75%**
Itinerant	1,024	1,048	1,072	1,124	0.46%	0.46%	0.46%
Local	306	313	321	336	0.46%	0.46%	0.46%
Peak Hour	2	2	2	2	0.0%	0.0%	0.0%

Source: J-U-B

CHAPTER 4 –FACILITY REQUIREMENTS

Given that future aviation activity levels are established in Chapter 3, the ability of existing facilities to satisfy this demand is evaluated herein. Deficiencies determine airport needs throughout the 20-year planning period. This chapter examines impacts to the airport due to the forecasts of aviation demand, focusing on three distinct elements:

- Airport Role and Service Level
- Airside Requirements
- Landside Requirements

Any inadequacies in the ability to serve existing and future demand are highlighted, and recommendations will be made regarding physical improvements or administrative modifications that might need to be corrected. Recommendations may also come from the sponsor's desires and/or from the airport users.

4.1 AIRPORT ROLE AND SERVICE LEVEL

The Omak Airport is currently classified in the FAA's National Plan of Integrated Airport Systems (NPIAS) and functions as a general aviation facility within the nation's system of airports. Omak Airport is currently classified in the State of Washington's Aviation System Plan as a Basic Service airport within the state system of airports. No change in role over the 20-year planning period is expected or planned by either.

For purposes of this narrative, a Basic Service General Aviation airport accommodates mostly small and large aircraft with approach speeds limited to 91 -121 knots or A and B category speeds. As described in the previous chapter, Omak Airport is not currently accommodating, nor is expected to accommodate, the threshold number of aircraft operations (500) which exceed these speed thresholds.

4.1.1 DESIGN STANDARDS

FAA guidance notes that the most demanding aircraft or group of aircraft with similar characteristics that use the airport on a regular basis, conducting at least 500 annual takeoffs and landings, is termed the critical/design aircraft. This aircraft/group determines design standards such as runway width, pavement strength and runway to taxiway separation criteria.

The critical/design aircraft within the short (0-5 years hence), intermediate (5-10 years hence), and long-term (10-20 years hence) development periods are characterized by the various aircraft which have:

- Approach speeds not exceeding 121 knots, or up to a Category B aircraft;
- Wingspans not exceeding 79 feet, or up to Group II; and
- Undercarriage design within TDG-1B limits.

The types of aircraft in this classification, and those that visit the Omak Airport include single-engine personal, business, and recreational aircraft, along with most helicopters and ultralight and light-sport aircraft.

Note that not all parts of the airfield require design based upon this aircraft grouping. For example, T-hangar design and construction for smaller general aviation aircraft could be made for smaller (or larger) aircraft wingspans, given that many T-hangar doors are narrower (or wider) than 49 feet.

In summary, the following design standards are anticipated for these portions of the field within the 20-years planning horizon:

- Runway 17-35: B-II standard;
- Taxiway A/Connectors: B-II standard, TDG-1B;
- Apron: B-II standard, TDG-1B; and
- Other Portions of Apron, Taxiways, and Taxilanes: maintain B-II standard separation where pavement is already constructed at this separation, TDG-1B.

Note that Airplanes larger (and heavier) than the forecasted B-II standard classification visit the Omak Airport and will continue to visit the airport in the future. It is important to have responsive pavement strength and parking areas designed for the weight and wingspan of these larger airplanes. Pavement strength will be discussed in section 4.2.6.

4.2 AIRSIDE RECOMMENDATIONS

A review of the airfield requirements generated from the previous chapter herein include an analysis of wind data, instrument approach capability, navigable airspace, runway, taxiway and apron dimensions, pavement strengths and airfield design standards. Further analysis of alternatives to address these airfield requirements will be addressed in the next chapter in the context of alternatives.

4.2.1 WIND ANALYSIS

FAA details the objectives of a wind analysis noting that the desirable wind coverage is 95 percent. That is, a runway, or runways, at a given alignment(s) should have a crosswind component less than a given threshold 95 percent of the time to meet FAA standards.

The inventory portion of this narrative has a wind record created from the Automated Surface Observation System (ASOS) at the Omak Airport from 2011 to 2020. Three wind roses were created as applicable to Runway 17/35:

- All-Weather (all cloud ceiling heights and all visibilities),

- VFR (occurrence of cloud ceiling heights greater than 1,000 feet above ground level and visibilities greater than three statute miles visibility), and
- IFR (occurrence of cloud ceiling heights less than 1,000 feet but greater than 200 feet above ground level and visibilities less than three statute miles but greater than one-half mile).

Table 4.1 lists the percent wind coverage from 2011 -2020 at the Airport for each allowable crosswind component during all-weather, visual flight rule (VFR) and instrument flight rule (IFR) conditions.

TABLE 4.1
OMAK AIRPORT WIND COVERAGE 2011-2020

Crosswind Component	All-Weather	VFR	IFR
10.5	98.79%	98.88%	99.69%
13	99.46%	99.55%	99.86%
16	99.88%	99.89%	99.95%
20	99.98%	99.90%	99.99%

Source: ADIP

4.2.2 INSTRUMENT APPROACH CAPABILITY

Instrument approach capability is defined based upon the ability of the airport's navigational equipment and/or GPS technology to safely accommodate aircraft operations during periods of inclement weather. FAA categorizes three types of instrument approach capability: precision, non-precision and visual. A runway end with precision instrument approach capability is equipped with either ground-based navigational equipment or satellite-based technology that provides vertical and horizontal guidance to a runway end. A runway end with non-precision instrument approach capability is equipped with either ground-based navigational equipment or satellite technology that provides only horizontal guidance to a runway end.

Horizontal guidance allows the aircraft to be piloted in poorer conditions still. A runway end with visual instrument approach capability is equipped with no navigation technology and requires relatively clear weather for aircraft operation. The Omak Airport currently has a GPS approach to Runway 35. There are only visual approaches for Runway 17.

The FAA has identified the need to update the Legacy Approach at the Omak Airport and will be publishing a new approach in October of 2023. It is recommended that the Omak Airport should file a request with the FAA for an instrument approach procedure for Runway 17.

4.2.3 RUNWAY LENGTH

Runway length requirements can be determined based on guidance in FAA Advisory Circular 150/5325-4B; and, for projects receiving federal funding, use of the advisory circular is mandatory. Per the advisory circular, the recommended runway length is a function of airport elevation (noted in feet above mean sea level), mean maximum temperature of the hottest month, (degrees Fahrenheit), aircraft weight (in

pounds, maximum certificated takeoff weight), number of passenger seats, aircraft engine performance, wet/dry condition of the runway and the maximum difference in runway elevation on centerline.

The required runway length for Runway 17-35, calculated using FAA's guidance was determined through the steps identified below.

The existing and future critical aircraft typified by the Cessna Caravan 208 (existing) and the Air Tractor 802F Fire Boss (Future) were approved by the FAA in the Forecasts of Aviation Demand. Following Advisory Circular 150/5325-4B, the recommended runway length using the critical design airplane family is as follows:

Step #1: Records of instrument aircraft operations by type from January 2022 to December 2022 reveal several types that frequent the airport:

- Cessna Caravan 208
- Air Tractor 802F Fire Boss
- Pilatus PC-12
- Bell UH-1H Iroquois (Helicopter)

Note that these aircraft are all less than or equal to 16,000-pound maximum gross certificated weight.

Step #2: Of those above, the aircraft that requires the longest take-off run is the Air Tractor 802F Fire Boss with a maximum gross certificated take-off weight of 16,000 pounds.

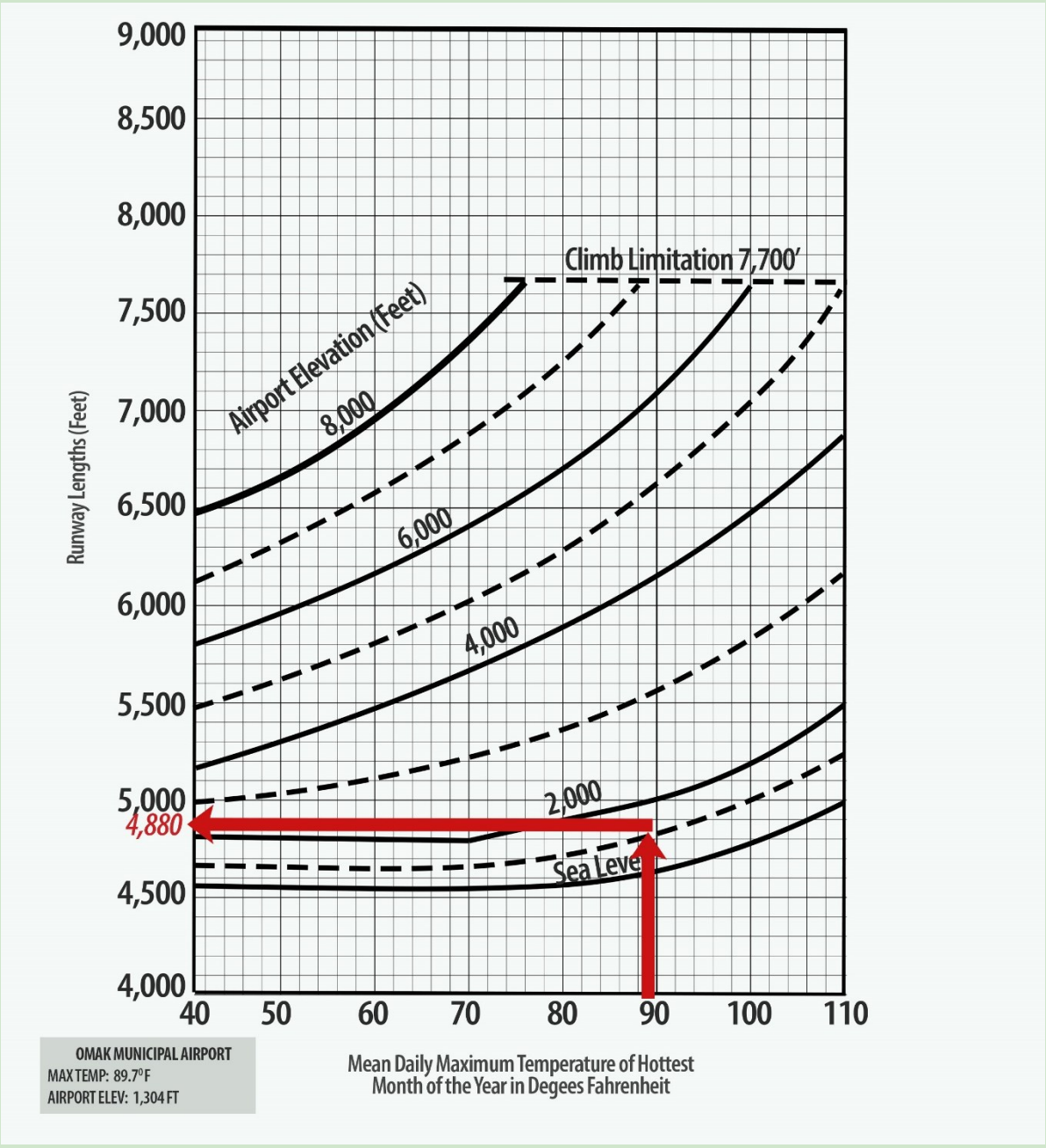
Step #3: Based upon this information, FAA guidance specifies use of the performance chart found as Figure 3-2 within Advisory Circular 150/5325-4B for Airplanes Within a Max Certificated Takeoff Weight of More Than 12,500 Pounds Up to And Including 60,000 pounds, recreated as **Figure 4.1** on the following page.

Step #4: The final step to determine the required runway length is to follow the red line to arrive at a runway length as identified on the left-hand side of **Figure 4.1**. The mean maximum temperature of the hottest month in Omak, WA, as reported by the Western Regional Climate Center (WRCC), is 89.7° Fahrenheit. This is the beginning point on the bottom of the chart. From there the line rises to meet the airport elevation (1304.5 feet) curve, then to the left to arrive at the runway length. The red arrow is the visualization.

The recommended runway length based on the existing and future critical aircraft at Omak Airport is approximately 4,880 feet at the 75 percent of fleet and 60 percent useful load value. **See Figure 4.1**. The Airport's current runway length is 4,672 feet.

The current runway length of 4,672 feet accommodates 100% of the small aircraft operating at Omak Municipal Airport. Ideally, the airport sponsor would be able to accommodate all of the recommended runway length for the future critical aircraft, but the runway length is also dependent on the availability of land, funds, and environmental concerns.

FIGURE 4.1
REQUIRED RUNWAY 17/35 LENGTH (CHART VISUALIZATION)



Source: JUB/FAA AC150/5325-4B

4.2.4 RUNWAY DESIGN STANDARDS

Select airport design standards are noted in **Table 4.2**. The Forecasts of Aviation Demand indicate B-II aircraft operational activity at the Omak Airport now and throughout the forecasted planning periods. The *Existing* column describes the conditions that exist at the airport today. It is worth noting that these standards are generally intended as a minimum; that is, it is permissible to exceed a given standard width or dimension; however, not all may be eligible for grant-in-aid funding.

The PAPI and REIL units are adequate for the planning period but should be relocated with any runway extension. Similarly, the Medium Intensity Runway Edge Lighting System (MIRL) should be extended if the runway is lengthened.

Although the current published runway strength is adequate for the planning period, occasional rehabilitation will be necessary. Rehabilitation in this context relates to a rejuvenating seal coat and crack seal. This should occur at regular intervals to maximize pavement life cycle. No major near-term rehabilitation is planned as pavements are identified for on-going maintenance by WSDOT Aviation condition indexing.

TABLE 4.2
SELECT AIRPORT DESIGN STANDARDS

Standard	Future (B-II Standard)	Existing
Runway Width	75’	75’
Runway Length	*4,880*	4,672
Runway Pavement Strength (Pounds)	75,000 SWG	75,000 SWG
Runway Protection Zones (RPZ)	1,000x500x700’	1,000x500x700’
Runway Safety Area Width/Beyond End	150/300’	435/1,000’
Runway Object Free Area Width/Beyond End	500/300‘	500/1,000‘
Taxiway Width	25’	35/50’
Taxiway Safety Area Width	79’	79’
Taxiway/Taxilane Object Free Area Width	110’/124’	115/131’
Runway to Parallel Taxiway (A)	240’	240’
Runway to Holdline	200’	200’
Runway to Aircraft Parking	302’	316’
Runway OFZ Width/Beyond End	400/200’	400/200’
Approach Surfaces (Table 3-2 from AC 150/5300-13B)	Rows 1-2	Rows 1-2
Part 77 Primary Surface Width/Beyond End	250’/200’	500’/200’
Part 77 Approach Dimension	250’x1,250’,5,000	500’x1,250’x5,000’

Source: FAA/J-U-B

4.2.5 NAVIGABLE AIRSPACE

Navigable airspace for purposes herein relates to 14 CFR Part 77 surfaces. Select surfaces are described in the Inventory and within **Table 4.2.**

While the FAA does not have the statutory authority to regulate local land use, airport sponsors like the City must adhere to grant assurances, which include #20 Hazard Removal and Mitigation and #21 Compatible Land Use. Airport sponsors that have accepted Federal funds are obligated under Federal grant assurances to take appropriate action, to the extent reasonable, including the adoption of zoning laws, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations. WSDOT Aviation has also promoted advisory guidance to effect grant assurance compliance. City code and comprehensive planning should include language to that end.

An obstruction to navigable airspace is any object which penetrates a surface meaningful to aircraft operations. Not all obstructions are consequential to maintenance of compatible land use. For example, an obstruction that is properly lit and marked in compliance with FAA guidance is not necessarily considered incompatible.

A list of current obstructions can be found in **Table 4.3** and **Figure 4.2**. There are some significant obstruction occurrences that have been identified, which are land masses (terrain). It is impractical to mitigate these obstructions. Some obstructions will be considered for removal or lighting.

A controlling obstacle and other obstructions to navigable airspace with proposed dispositions and other objects in the vicinity of the airport, for both the existing and future airfield, are identified on the various drawings in upcoming chapters and appendices.

Given that the community will likely continue to grow around the Airport, future applications for changes in land use, or other sensitive development activities around the airport, should be received by the City. Potential incompatibilities should be sited/moved to avoid airspace conflicts, and jurisdictional coordination should occur per the WSDOT Aviation guidance.

Washington State Code (RCW) specifies that a sponsor's effort to protect compatible land use is appropriate and should be considered within an overall comprehensive plan with assistance from WSDOT Aviation in the form of technical and general assistance and a best practices handbook. WSDOT Aviation guidance focuses on height restriction, safety, and noise mitigation to establish and maintain compatible land use in the airport vicinity.

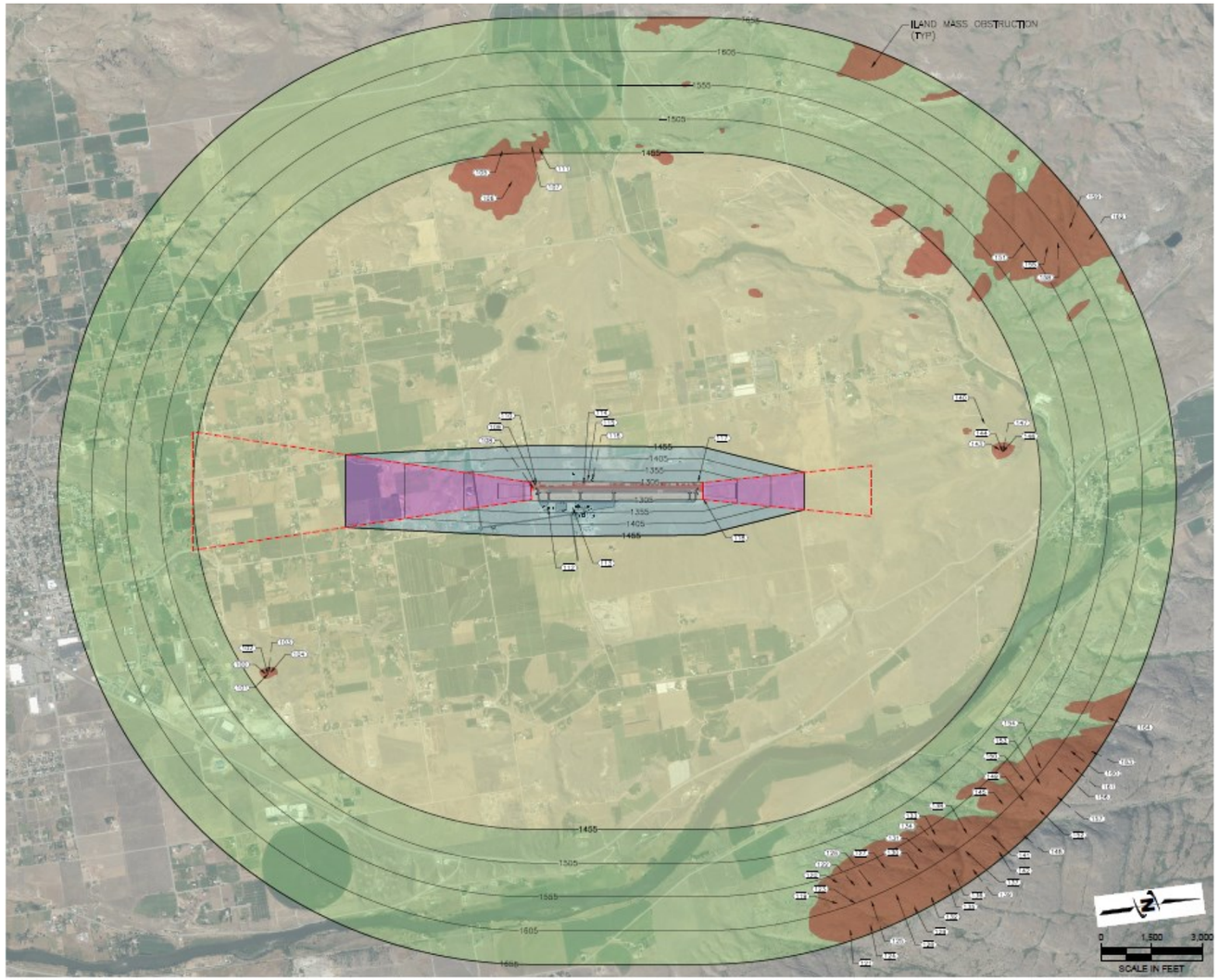
TABLE 4.3
IDENTIFIED OBSTRUCTIONS

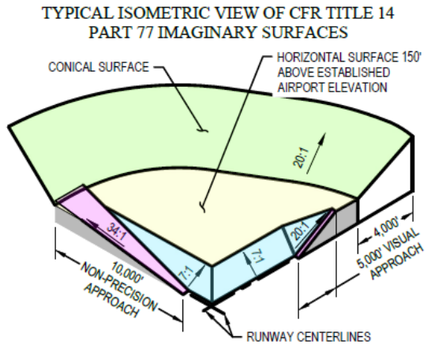
ITEM NO.	DESCRIPTION	HEIGHT ABOVE GROUND (FT)	OBJECT TOP ELEV (FT)	SURFACE ELEV (FT)	PENETRATION VALUE (FT)	SURFACE PENETRATED	PROPOSED ACTION
100	TOWER 53-097884	26	1531	1455	76	INNER HORIZONTAL	NONE
101	TOWER 53-022178	65	1567	1455	112	INNER HORIZONTAL	NONE
102	POLE 53-025064	65	1567	1455	112	INNER HORIZONTAL	NONE
103	TOWER 53-021580	56	1565	1455	110	INNER HORIZONTAL	NONE
104	TOWER 53-066354	89	1589	1455	134	INNER HORIZONTAL	NONE
105	TERRAIN 53-025066	0	1561	1460	101	CONICAL	NONE
106	TERRAIN 53-025067	0	1672	1455	217	INNER HORIZONTAL	NONE
107	TERRAIN 53-111680	0	1543	1464	79	CONICAL	NONE
108	TERRAIN 53-111411	0	1299	1298	1	PRIMARY	NONE
109	VEGETATION 53-026457	4	1302	1298	4	PRIMARY	CLEAR
110	VEGETATION 53-024493	7	1305	1298	7	PRIMARY	CLEAR
111	TERRAIN 53-111459	0	1525	1461	64	CONICAL	NONE
112	POLE 53-111006	45	1341	1339	2	TRANSITIONAL	LIGHT
113	ANTENNA 53-111134	42	1342	1335	7	TRANSITIONAL	LIGHT
114	VEGETATION 53-110968	6	1308	1300	8	PRIMARY	CLEAR
115	VEGETATION 53-111392	5	1312	1310	2	TRANSITIONAL	CLEAR
116	WIND_INDICATOR 53-111476	21	1328	1314	14	TRANSITIONAL	LIGHT
117	VEGETATION 53-111197	4	1309	1307	2	TRANSITIONAL	CLEAR
118	VEGETATION 53-111019	5	1307	1306	1	APPROACH	CLEAR
119	TREE 53-111412	61	1889	1597	292	CONICAL	NONE
120	TREE 53-111106	87	1824	1568	256	CONICAL	NONE
121	TREE 53-110981	46	2026	1640	386	CONICAL	NONE
122	TERRAIN 53-111315	0	1978	1580	398	CONICAL	NONE
123	TREE 53-111536	52	2109	1604	505	CONICAL	NONE
124	TREE 53-111407	74	2143	1644	499	CONICAL	NONE
125	TERRAIN 53-111416	0	2246	1611	635	CONICAL	NONE
126	TERRAIN 53-111376	0	2158	1591	567	CONICAL	NONE
127	TREE 53-111507	44	2055	1574	481	CONICAL	NONE
128	TREE 53-111168	54	2385	1617	768	CONICAL	NONE
129	TREE 53-111596	70	2386	1645	741	CONICAL	NONE
130	TREE 53-111483	51	2222	1599	623	CONICAL	NONE
131	TERRAIN 53-111436	0	2035	1581	454	CONICAL	NONE
132	TREE 53-025065	77	2488	1644	844	CONICAL	NONE

133	TREE 53-111465	78	1882	1569	313	CONICAL	NONE
134	TERRAIN 53-111529	0	2101	1598	503	CONICAL	NONE
135	TREE 53-111160	85	2455	1641	814	CONICAL	NONE
136	TREE 53-111496	73	2327	1626	701	CONICAL	NONE
137	TREE 53-111001	68	2103	1615	488	CONICAL	NONE
138	TREE 53-111319	59	1918	1594	324	CONICAL	NONE
139	TERRAIN 53-111381	0	2344	1643	701	CONICAL	NONE
140	POLE 53-111111	38	1484	1455	29	INNER HORIZONTAL	NONE
141	TREE 53-111447	65	2004	1620	384	CONICAL	NONE
142	TREE 53-110924	76	2255	1645	610	CONICAL	NONE
143	TERRAIN 53-111371	0	1551	1455	96	INNER HORIZONTAL	NONE
144	ANTENNA 53-111290	56	1579	1455	124	INNER HORIZONTAL	NONE
145	TREE 53-111349	62	1870	1596	274	CONICAL	NONE
146	POLE 53-025068	26	1551	1455	96	INNER HORIZONTAL	NONE
147	TERRAIN 53-020922	0	1575	1455	120	INNER HORIZONTAL	NONE
148	TERRAIN 53-111353	0	2040	1651	389	CONICAL	NONE
149	TREE 53-111426	72	1987	1615	372	CONICAL	NONE
150	TREE 53-111648	54	1870	1594	276	CONICAL	NONE
151	TERRAIN 53-111460	0	1838	1556	282	CONICAL	NONE
152	TREE 53-110952	52	2180	1642	538	CONICAL	NONE
153	TREE 53-111649	54	2054	1615	439	CONICAL	NONE
154	TERRAIN 53-111422	0	1878	1601	277	CONICAL	NONE
155	POLE 53-022179	32	1923	1579	344	CONICAL	NONE
156	TERRAIN 53-111147	0	2084	1620	464	CONICAL	NONE
157	TERRAIN 53-111166	0	2297	1648	649	CONICAL	NONE
158	TERRAIN 53-111084	0	1912	1596	316	CONICAL	NONE
159	TERRAIN 53-111524	0	1838	1623	215	CONICAL	NONE
160	TERRAIN 53-111071	0	1931	1622	309	CONICAL	NONE
161	TERRAIN 53-111142	0	2225	1640	585	CONICAL	NONE
162	TERRAIN 53-111080	0	1941	1637	304	CONICAL	NONE
163	TERRAIN 53-111671	0	1971	1646	325	CONICAL	NONE
164	TERRAIN 53-111003	0	1888	1642	246	CONICAL	NONE

Source: FAA/J-U-B

FIGURE 4.2
OBSTRUCTIONS IDENTIFICATION





Obstructions

Identification

Source: J-U-B

4.2.6 PAVEMENT STRENGTHS

The FAA follows the International Civil Aviation Organization (ICAO) Pavement Classification Number (PCN) method for reporting airport pavement strength. The pavement is of asphalt type and the pavement strength for Omak Municipal Airport is 75,000 pounds single wheel gear aircraft, 200,000 pounds for dual-wheel gear aircraft, and 400,000 pounds for dual tandem wheel aircraft.

The pavement strength at the Omak Airport is more than sufficient to accommodate the future critical design airplane family who will be using the airport for the 20-year planning period.

4.3 LANDSIDE RECOMMENDATIONS

Landside area requirements are generated based upon the Forecasts of Aviation Demand. These relate to apron/ramp aircraft parking and circulation area, terminal/FBO building and aircraft hangar area, aircraft fueling and fueling area, automobile access and parking area. Landside facilities are those portions of the airfield which are not directly related to the landing and take-off of aircraft but support it.

4.3.1 BASED AIRCRAFT APRON AREA

Based aircraft apron area is and will continue to be beneficial. Based aircraft parking area is foremost for tenants although a given aircraft owner may well choose to hangar their aircraft due to personal choice and weather. There are currently 3 based aircraft that are not in hangars at the Omak Airport.

The aprons are currently sited to accommodate 6 larger aircraft and 26 smaller aircraft parking positions. Radius clearance, markings and surface grades on these aprons comply with current design standards.

Omak Airport's apron and aircraft parking area (including based aircraft and itinerant aircraft parking) approximates **33,160 square yards in total**. The north and middle aprons account for 30,634 square yards and the south aprons account for 2,526 square yards.

The based aircraft parking area accounts for 20,079 square yards and the itinerant aircraft parking accounts for 10,081 square yards of the total 33,160 square yards of aircraft parking area.

As the Department of Natural Resources (DNR) operations increase and as they develop a home base at the Omak Airport, based aircraft parking will continue to grow.

Table 4.4 shows recommendations for a based aircraft apron using an FAA guideline of 960 square yards per each single-engine, and 1,385 square yards for each multi-engine/helicopter aircraft.

Additional based aircraft apron area is not required for the 20-year term of the planning.

TABLE 4.4 *BASED AIRCRAFT APRON RECOMMENDATIONS*					
	2022	**2027**	**2032**	**2042**	**Existing**
Forecast Single-Engine Based Aircraft	7	7	8	9	
Single-Engine Based Aircraft not Hangared	3	3	4	5	
Based Aircraft Apron Area (Single-Engine) (Sq Yds)	±960	960	960	960	
Forecast Multi-Engine and Helicopter Based Aircraft	0	1	2	4	
Multi-Engine Based Aircraft and Helicopter not Hangared	0	1	2	4	
Based Aircraft Apron Area (Multi-Engine/Helo) (Sq Yds)	1,385	1,385	1,385	1,385	
Total Based Aircraft Apron Area Recommendation (Sq Yds)	**2,880**	**4,265**	**6,610**	**10,340**	**±20,079**
Source: FAA/J-U-B *Note: All numbers except for the area values are rounded*					

4.3.2 ITINERANT AIRCRAFT APRON AREA

Apron area recommendations for itinerant aircraft activity are estimated differently, as described below and as shown in **Table 4.6**. Predicated upon the long-term Forecasts of Aviation Demand, approximately 36 percent of aircraft are expected to be in a larger aircraft category, corresponding to the 1,385 square yards area standard, while 64 percent of aircraft are expected to be in a small aircraft category, corresponding to the 960 square yard area standard. Note that the larger aircraft category includes multi-engine, jet, and helicopter aircraft.

A basis for itinerant apron area required can then be calculated: 64 percent (for smaller aircraft) multiplied by 960 square yards per smaller aircraft plus the quantity of 36 percent (for larger aircraft) multiplied by 1,385 square yards per larger aircraft is equal to 1,113 square yards per aircraft {(960 x 64%) +(1,385 x 36%) =1,113}. See **Table 4.5** below.

TABLE 4.5 *ITINERANT AREA OPERATIONS FAA STANDARD*	
Small Aircraft (64% of 960 SY)	614.4
Larger Aircraft (36% of 1,385 SY)	498.6
Small & Large Itinerant Operations Total Apron Area Needed Per Aircraft (SY)	**1,113**
Source: FAA/J-U-B	

FAA guidance for estimating peak activity originates via FAA guidance. Peak day is defined as the average number of operations per day during the most active month. At Omak Airport, FlightAware shows that the most active month accounts for approximately 18.8 percent of total annual operations. The following is assumed for the calculations in **Table 4.6** per FAA estimating guidelines: (1) Peak Day itinerant activity constitutes 77 percent of peak day operations, (2) half of these aircraft will require apron parking at some point during the peak day, and (3) approximately 75 percent of peak day transient aircraft are to be simultaneously accommodated.

The year 2022 calculation is as follows: 8 peak day operations multiplied by 77 percent (peak day itinerant operations) rounded to 7, divided by 2 (for those that require parking area) is equal to 3.5, and is rounded to 4 since there cannot be a "half" parking space.

This product of 4 is then multiplied by 75 percent (itinerant aircraft that are expected to be accommodated at the same time) is equal to 3, and 3 multiplied by 1,113 square yards per aircraft is equal to **3,339 square yards**. This calculated value includes taxiway/taxilane clearance areas.

Based on the calculations determined by current itinerant operations, FAA estimating guidelines, and existing apron parking area at Omak Airport; the current itinerant aircraft apron area is sufficient for the current planning period. *However, peak seasonal helicopter demand will determine a different outcome for future development recommendations*. See **Section 4.3.3** for those recommendations.

TABLE 4.6
ITINERANT AIRCRAFT PARKING AREA (NOT HELICOPTER) RECOMMENDATIONS

	2022	2027	2032	2042	Existing
Peak Day Operations	8	9	9	10	
Peak Day Itinerant Operations	7	7	7	8	
Itinerant Aircraft Positions Required	4	4	4	4	
Simultaneous Itinerant Aircraft Positions Required	3	3	3	3	
Total Itinerant Parking Area Required (Square Yards)	**3,339**	**3,339**	**3,339**	**3,339**	**±10,081**

Source: FAA/J-U-B

4.3.3 ITINERANT HELICOPTERS

Like the based aircraft forecast, the annual operations for each aircraft type were projected for the short, medium, and long-term planning periods. A combination of data collected from FlightAware and DNR reported 132 annual operations for the rotorcraft (helicopter) aircraft type at the Omak Airport. Since there are no helicopters based at the Omak Airport, we can assume that 100% of their operations are itinerant in nature. They also account for only 10% of the total annual operations at the Airport.

Currently, there are two helicopter pads located at the southeast side of Runway 35. As mentioned earlier, the busy fire season creates a surge in simultaneous helicopter activity that causes a significant amount of congestion on the aprons, as well as on the adjacent taxiways and taxilanes. It is recommended that additional helipads are constructed near the existing helipads to help clear up congestion on the taxiways, taxilanes, and aprons for the future planning periods.

It's also important to note that itinerant helicopter activity surges in the summertime due to the busy fire seasons and completely fills up the north apron parking areas. *Future apron development should be based on actual demand, rather than on forecasting alone.* During the fire season in the summer, there are 10 itinerant rotorcraft (helicopters) that use the taxiway and aprons simultaneously. There are also 6 seasonal peak day helicopter operations during this time.

The FAA design guidelines require 800 square yards of apron area per itinerant rotorcraft (helicopter).

The following is calculated for seasonal itinerant helicopter apron space in **Table 4.7** per FAA estimating guidelines and current demand.

TABLE 4.7 ITINERANT HELICOPTER APRON AREA RECOMMENDATIONS (SEASONAL)					
	2022	**2027**	**2032**	**2042**	**Existing**
Seasonal Peak Day Helicopter Operations	6	7	8	10	
Simultaneous Itinerant Aircraft Positions Required	10	11	12	14	
Total Itinerant Helicopter Parking Area Required (SY)	**8,000**	**8,800**	**10,400**	**11,200**	**±10,081**
Recommended Additional Apron Area (SY)	None	None	319	1,119	
Source: FAA/J-U-B					

Additional seasonal itinerant helicopter apron area will be required for the 20-year term of the planning period. It is recommended that additional apron development is constructed, as demand materializes.

Demand fluctuates with firefighting activity. As this activity increases, space for helicopter parking could be needed sooner than forecasted.

- An additional 319 square yards of apron space is recommended by 2032 or possibly sooner.
- An additional 1,119 square yards of apron space is recommended by 2042 or possibly sooner.

4.3.4 TERMINAL/FBO BUILDING AREA

A basic general aviation terminal/FBO building should ideally provide office space, a waiting room for pilots and passengers, an area for food and beverage vending, a public telephone, and restrooms.

FAA does not have current advisory guidance for general aviation area recommendations by use or in total, yet generalized recommendations remain valuable if considered in the context of FBO perspective and overall airport lease area needs.

Terminal/FBO area recommendations are a function of the anticipated number of peak-hour operations and airport users. Peak hour operations are estimated at 15 percent of peak day operations. There are an estimated 2 peak hour users at the Omak Municipal Airport each day.

Typical floor space requirements for general aviation terminal facilities, expressed in square feet for 1-10 peak hour users, are as follows: Waiting Area and Breakroom/Kitchen; 550, Office Space; 100, Restrooms; 150, Storage/Circulation/HVAC; 200. A total of 1,000 square feet is adequate to accommodate Omak's current operations.

The FAA very rarely provides funding for terminal-related improvements at local general aviation airports like the Omak Airport. The existing Airport terminal has 3,050 square feet, which means that additional terminal square footage is not required for the current planning period.

4.3.4.1 Fixed Based Operator

A full-time FBO will be almost essential to make the Omak Municipal Airport a true asset to the region. The City should make a concerted effort to attract business to the Airport and help it become more self-sustaining. The Airport should promote and be ready to accommodate any growth and opportunities that present themselves. The benefit of having an FBO at the airport include providing services and amenities such as fuel, maintenance, storage, pilot supplies, flight planning services, and rental cars, as well as arranging for repairs and providing planes a place to park.

4.3.4.2 Virtower

Installing a Virtower at the Omak Airport is recommended to track future airport operations. Virtower monitors key airport operational parameters including takeoffs, landings, touch and go's, pavement utilization and based aircraft operations. As operations increase at the Airport, a Virtower will provide value in making more informed decisions when planning for the future of the airport.

4.3.5 AIRCRAFT HANGAR AREA

The Omak Airport currently accommodates 9 leased hangars that are located on airport property, totaling approximately **19,157 square feet**. Three additional hangars are located "through-the-fence" off the airport property and are not included in these calculations. It is presumed that 95 percent of future based aircraft owners will desire hangar space given current owner preferences.

Hangar area recommendations found within **Table 4.8** are based upon: 1,620 square feet for single-engine piston aircraft; 2,970 square feet for multi-engine piston and twin-turbo prop aircraft, 5,400 square feet for smaller jet aircraft, 16,200 square feet for larger jet aircraft, and 2,025 square feet for helicopters.

Note that aircraft may be located in T-hangar units, in more conventional small box hangars, or collocated with other aircraft in a larger hangar. A single aircraft, perhaps only requiring 1,620 square feet, may be located in a 10,000 square foot hangar. It is not meaningful to infer from the Table that a given quantity of future hangars units is recommended. The Table merely demonstrates minimum hangar square footage needed.

To demonstrate the calculation, year 2022 is as follows: 7 single-engine based aircraft x 1,620 square feet needed for single-engine aircraft hangar space = 11,340 square feet of hangar space needed.

Per the Forecasts of Aviation Demand, the projected growth of the Omak Airport reports a much slower growth than the current demand for hangar space. However, hangar development should be based upon actual demand trends and financial investment conditions, not solely on forecasts. Local sources (pilots who currently use the airport) have indicated the immediate need for at least 8-10 additional hangars. *Even though there is a large discrepancy in forecasted growth versus immediate demand, it is recommended that additional hangar development is constructed for each of the 5-year periods over the 20-year planning term, as demand materializes.*

- An additional 7,168 square feet of hangar space is recommended by 2027.

- An additional 17,293 square feet of hangar space is recommended by 2032.
- An additional 37,543 square feet of hangar space is recommended by 2042.

Hangar recommendations at the Omak Airport can be found in **Table 4.8**.

TABLE 4.8
HANGAR AREA RECOMMENDATIONS BASED ON CURRENT DEMAND

	2022	2027	2032	2042	Existing
Single-Engine Based Aircraft	7	15	20	30	
-On-Airport Single-Engine Hangar Area (SF)	11,340	24,300	32,400	48,600	
Multi-Engine/Twin Based Aircraft (Not On Ramp)	0	0	0	0	
-Multi-Engine/Twin-Turbo Prop Hangar Area	0	0	0	0	
Jet (Small) Based Aircraft	0	0	0	0	
-Jet (Small) Hangar Area	0	0	0	0	
Jet (Large) Based Aircraft	0	0	0	0	
-Jet (Large) Hangar Area	0	0	0	0	
Helicopter Based Aircraft	0	1	2	4	
-Helicopter Hangar Area	0	2,025	4,050	8,100	
Total Hangar Area Recommended (Square Feet)	**11,340**	**26,325**	**36,450**	**56,700**	**±19,157**
Recommended Additional Hangar Area (SF)	None	7,168	17,293	37,543	

Source: FAA/J-U-B

4.3.6 SECURITY

General aviation security requirements do not currently specify access procedures. Aviation industry groups have endorsed various airport watch security programs to protect the airport and its aircraft from terrorist incidents. These programs focus on informal surveillance procedures and airport user monitoring of activities, not necessarily security-related capital improvements.

Occasionally, formal airfield inspections are recommended. Such inspection procedures should be formalized, and airport emergency and security plans should be drafted as necessary.

The Transportation Security Administration (TSA) is charged with security at commercial service and general aviation airports. TSA has no requirements of the City but has created recommendations based upon threat and the local and regional aviation environment.

Per TSA's 2004 Security Guidelines for General Aviation Airports, WSDOT recommends a medium security level and that the following actions be considered:

- Install strategically located security-related signage
- Formalize and document security procedures;
- Established procedures to ensure all aircraft are secured
- Formalize community watch program
- Create security-related contact list
- Formalize law enforcement support
- Formalize a security committee
- Formalize transient pilot sign-in/out procedures
- Install access control infrastructure and formalize procedures
- Formalize personnel identification system
- Establish vehicle identification protocol for airfield access
- Establish and reinforce challenge procedures

TSA and WSDOT stop short of recommending security-related fencing. TSA has worked extensively to ensure that a meaningful security apparatus is provided for the general aviation community while being responsive to its constituents. It would be appropriate to occasionally, perhaps every year, coordinate with TSA representatives. In the event of a threat or perhaps resulting from a commercial or general aviation incident, TSA may elect to regulate rather than recommend various security infrastructure or procedures. A security plan addressing these, and other issues, is recommended.

4.4 CHAPTER SUMMARY

A summary of recommended improvements and actions are in **Table 4.9**.

Through the course of master planning consultations and public involvement, the City of Omak has received feedback from users that the airport is in demand for an additional 8-10 hangars and the need for more apron space as operations continue to increase. The relocation or addition of more helicopter pads to clear up congestion on the taxiways and north apron. The lack of an instrument approach to Runway 17 end may be restricting access to Omak Airport as well.

There are some significant obstruction occurrences that have been identified, which are land masses. It is impractical to mitigate these obstructions. Other obstructions will be considered for removal or lighting.

TABLE 4.9
SUMMARY OF RECOMMENDATIONS

Airport Role	**Existing**	**Future**	**Ultimate**
Design Standards	A-II/TDG1A, Small, ≥1 Mile	B-II/TDG1B, Standard, ≥1 Mile	B-II/TDG1B, Standard, ≥1 Mile
Airside	**Existing**	**Future**	**Ultimate**
Instrument Approach	Visual/Non-Precision	Non-Precision	Non-Precision
Runway Length (17/35)	4,672 feet	≥4,880 feet	≥4,880 feet
Runway Width	75’	75’	75’
Taxiway Width	35/50’	25’	25’
Runway Protection Zones	1,000x500x700	1,000x500x700	1,000x500x700
Runway Safety Area	435 wide/1,000’ ends	150’ wide/300’ ends	150’ wide/300’ ends
Runway Object Free Area	500’ wide/1000’ ends	500’ wide/300’ ends	500’ wide/300’ ends
Runway Obstacle Free Zone	400’ wide/200’ ends	400’ wide/200’ ends	400’ wide/200’ ends
Taxiway Safety Area Width	79’	79’	79’
Taxiway/Taxilane OFA Width	115’/131’	110’/124’	115’/131’
Runway to Parallel Taxiway (A)	240’	240’	240’
Runway to Holdline	200’	200’	200’
Runway Aircraft Parking	316’	302’	302’

TABLE 4.9
SUMMARY OF RECOMMENDATIONS (Continued)

Airside	Existing	Future	Ultimate
Runway and Taxiway Pavements	Occasional Rehabilitation		
Runway Lighting (MIRL, PAPI, REIL)	Occasional Rehabilitation		
Navigable Airspace	Clear/Mitigate Obstructions		

Landside	Existing	2022	2027	2032	2042
Based Aircraft Apron Area (SY)	±20,079	2,880	4,265	6,610	10,340
Recommended Additional Apron Area (SY)	None				
Itinerant Aircraft Apron Area (SY)	±10,081	3,339	3,339	3,339	3,339
Recommended Additional Apron Area (SY)	None				
On-Airport Hangar Area (SF)	±19,157	11,340	26,325	36,450	56,700
Recommended Additional Hangar Area (SF)	--	None	7,168	17,293	37,543
Seasonal Itinerant Helicopter Parking Area (SY)	±10,081	8,000	8,800	10,400	11,200
Recommended Additional Apron Area (SY)	--	None	None	319	1,119

Security and Compliance	
Security	Monitor
Compliance; Through-the-Fence	Monitor
Compliance; Update Overlay District Zoning/Comprehensive Plan	Monitor
Compliance; Airport Rules and Regulations	Update as Necessary
Compliance; Minimum Standards	Update as Necessary
Compliance; Development Standards	Update as Necessary

Source: FAA/J-U-B

CHAPTER 5 ALTERNATIVES ANALYSIS

This chapter describes development alternatives and configurations that should be considered to meet the facility requirements and accommodate demand in the short and long-term. Several issues are at hand and are carried forward from the previous chapter.

- Locate Future Hangar and Taxilane Development Locations
- Locate Future Helipad Locations

These correspond to the issues described in the introduction of this planning effort. Although distinct, the above issues are related, and impact each other in both obvious and in more subtle ways. Initial feedback from members of the community revealed that there is a group of individuals who are ready to build hangars now and this is the most pressing issue at the Airport. Additionally, helicopter maneuverability during the peak summer season has also become a major issue at the Airport. For the Omak Airport to grow, it is essential that both issues be addressed.

5.1 ALTERNATIVES INTRODUCTION

It is important for grant assurance compliance that this overall planning effort conforms to FAA design standards. There is an ever-increasing expanse between aviation infrastructure needs and federal and state funding at local, regional, and national levels, particularly for general aviation airports. A result of this, at least for Omak Municipal Airport, is that an improvement or series of improvements necessary for FAA design standards compliance may not be funded in the short-term or perhaps even in the intermediate term if the improvements are substantial. Consequently, improvements for the selected projects are likely to occur over a 20-year period.

5.2 ALTERNATIVES DEVELOPMENT PROCESS

The FAA provides guidance in Advisory Circular (AC) 150/5070-6B, *Airport Master Plans*, to identify and evaluate alternative development options. The key elements of this process include:

1. **Alternatives Identification:** Find feasible ways to address facility requirements previously identified in Chapter 4.
2. **Alternatives Analysis**: Apply best planning tenets to determine the operational performance and fiscal restraints of the identified alternatives.
3. **Alternative Selection:** Determine a preferred alternative based on the alternatives analysis, stakeholder input, and sponsor preferences.

The alternatives analysis presents viable solutions to specific problems or challenges identified through this airport planning process.

The following alternative configurations are introduced below and described within Section 5.3.

The concepts depicted in the following sections are based on the input that was collected by City Staff, airport advisory board members, and local pilots from a public open house event and an initial kick-off meeting.

Two landside development configurations will consider accommodations for new hangar and taxilane development. The previous chapter demonstrated the need for additional aviation facilities, especially at peak times, and the landside development configurations below show increasing levels of demand accommodation. These are not meant to be mutually exclusive depictions. Facilities on more than one configuration can, and perhaps should be, combined to create the 20-year preferred program.

Alternative Landside Configuration No. 1:
This alternative proposes more hangar space and additional taxilanes to be developed on the northeast side of the runway and taxiway. The advantage of this alternative is that there is ample space to allow for a large development of hangars in this location.

Alternative Landside Configuration No. 2:
This alternative proposes more hangar space and additional taxilanes to be developed on the southeast side of the runway and taxiway, near the access road and existing tie-down space. The advantage of this alternative is that existing utilities and access roads are already in place at this location.

5.3 LANDSIDE CONFIGURATIONS

The landside alternatives analysis includes future hangars, apron, and taxilane development while also considering auto access and future generalized landside configuration. ‘Landside’ in this context and for this planning effort, refers to these facilities.

Short-term, long-term, and reserve development areas for aviation and non-aviation purposes are planned for each alternative. This is done in the context of the site and permitted land uses given municipal and/or City code and grant assurance requirements.

Examples of compatible aviation-related land uses include:

- General Aviation Terminal/Ramp,
- Corporate Aviation Terminal/Ramp,
- Air Cargo, Aircraft Maintenance and Support,
- Aircraft Rescue and Structural Firefighting,
- On-Field Agricultural/Agricultural Lease,
- Aviation-Related Light Industrial,
- Parts Manufacturing and Sale,
- Flight Simulator,
- Defense Contractor,
- Aerial Photography/Photogrammetry,
- Aerial Spray,
- Fixed Base Operation (FBO),
- Aircraft Charter, Storage, Sales,

- Aircraft Repair and Wash,
- Pilot Supplies Sale,
- Pilot Lounge, Flight Planning, Flight Training, Food Services/Catering,
- Aviation Office/Overnight Accommodations, Restrooms,
- Aircraft Storage (T-Hangar, Executive Hangar, Mixed-Use Hangar, T-Shade),
- US Government, Military,
- Air Traffic Control,
- Navigational Aids,
- Homeland Security,
- Public Safety and Emergency Facilities,
- Weather Collection and Dissemination,
- Satellite Communications.

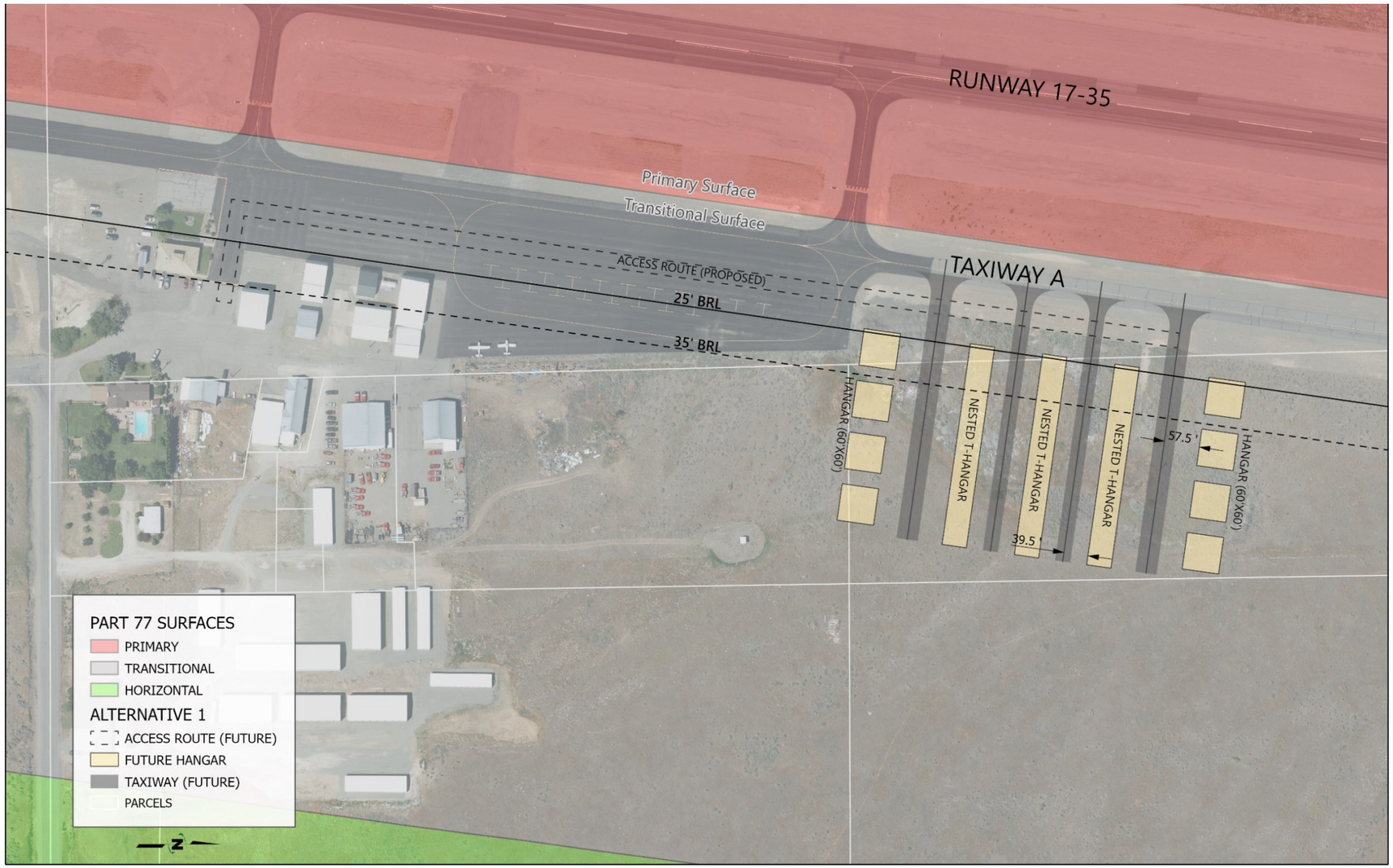
Examples of non-aviation related land uses which are generally compatible off-airport, and at a distance from the airport vicinity include:

- Postal Annex,
- Telecommunications Facilities,
- Greenhouses,
- Auto Mall/Large-Scale Retail,
- Rental Car Ready Return/Storage,
- Auto/Boat Storage and Mini-Storage,
- Light and Heavy Manufacturing,
- Warehousing/Storage,
- Data Storage,
- Recreational; Fields and Golf Course,
- Hotel/Motel, and
- Support/Regional Businesses including Bank, Convenience, Restaurant, and Coffee/Snack.

Although the 20-year period of this planning is the primary focus with respect to limits of time for planned development, the FAA permits master planning to cover up to 50 years' worth of development. In short, landside facilities to accommodate demand that is anticipated in the forecasting portion of this planning will be shown.

A specific aim for this landside configuration planning includes planning land use and proposed facilities which will meet anticipated demand, and which will also allow for continued demand accommodation in case economic activity is more robust than anticipated. Two configurations are explored on the following pages.

FIGURE 5.1
ALTERNATIVE CONFIGURATION NO. 1 – HANGAR DEVELOPMENT ON THE NORTHEAST SIDE OF TAXIWAY A



Source: J-U-B

5.3.1 ALTERNATIVE LANDSIDE CONFIGURATION NO. 1

This configuration (see **Figure 5.1**) shows future hangar and taxilane development on the northeast side of the current runway and taxiway. The advantage of this alternative is that there is ample space to allow for a large development of hangars in this location.

This configuration is a more streamlined layout, but also similar to what the existing ALP shows for future hangar development.

This build-out shows an area for hangars of various sizes. Approximate hangar counts include three rows of nested T-Hangars in the middle of the development area with a group of four recreational box hangars on each side of the T-hangars.

This hangar configuration does not accommodate robust apron expansion on the northeast side, but it would accommodate current apron traffic due to its immediate proximity and could alleviate congestion quite significantly.

Utilities and an access road will need to be constructed in conjunction with this hangar/taxilane plan.

FIGURE 5.2
ALTERNATIVE LANDSIDE CONFIGURATION NO. 2 - HANGAR DEVELOPMENT ON THE SOUTHEAST SIDE OF TAXIWAY A

Source: J-U-B

5.3.2 ALTERNATIVE LANDSIDE CONFIGURATION NO. 2

This configuration (see **Figure 5.2**) shows future hangar and taxilane development on the southeast side of the runway and taxiway with new vehicle access, plus two additional helipads, near the existing access road and tie-down space.

This build-out shows an area for hangars of various sizes. Approximate hangar counts include three rows of nested T-Hangars in the middle of the development area with a group of four to five recreational box hangars on each side of the T-hangars. *Actual layout type and other details will be determined by those who develop on these lots.*

This hangar configuration does not accommodate apron expansion on the southeast side, but it would accommodate current helicopter traffic due to its immediate proximity and could alleviate helicopter congestion quite significantly during the busy fire season.

The meaningful difference between Configuration No. 1 and No. 2 is that there are existing utilities and access roads that are already in place at configuration No. 2.

This entire development area could shift even further south for the possible addition of more helicopter parking pads, adjacent to the existing ones (if needed).

5.4 ALTERNATIVES ANALYSIS SUMMARY

The development objectives outlined in the introduction of this chapter were used to guide the identification, evaluation, and selection of alternatives at the Omak Municipal Airport. To ensure the objectives were met and adequate consideration given to each development option, the alternatives were evaluated using the following criteria:

- **Safety:** All alternatives were crafted to be compliant with FAA design standards.
    - Both Configurations are equal in meeting design standards compliant with relative ease of obstruction disposition.
- **Cost:** Planning-level cost estimates were created for the evaluation of alternatives; a more detailed cost analysis will be completed in the upcoming chapter for the selected improvements.
    - The cost advantage of Configuration No. 2 is that there are existing utilities and access roads that are already in direct proximity to the area that will be developed on the southeast end. This will save on development costs.
    - The disadvantage of Configuration No. 1 would be the significant development costs associated with having to construct an access road to the development area and bringing in utilities. This will likely result in an avigation easement or land acquisition for this access, which will be costly.
- **Operational Effectiveness:** The alternatives were evaluated for their ability to meet forecasted growth throughout the planning period and beyond. Future demand, at least for purposes of forecasted values herein, is not constrained with any alternative, as the available land envelope is sufficient. Planning for a 50-year demand, with growth trends continuing as they are, may result in the need for land acquisition to provide for additional hangar and apron area.
    - The advantage of Configuration No. 2 is the proximity in which the hangar and taxilane development is placed. This will likely alleviate congestion during the summer months when peak firefighting operations spike and there is a tremendous amount of simultaneous itinerant aircraft activity on the taxiways and aprons.
    - The disadvantage of Configuration No. 1 is that access to this area will be awkward.
- **Revenue Generation:** Opportunities considered in this evaluation include revenue generated by hangar pad leasing availability. On-airport hangar ground leasing is an important part of the airport's financial future. Sufficient land in various on-airport locations exists to accommodate some demand. It is for this reason that demand accommodation is considered critical. Hangar ground lease revenue is often a large component of revenue for a given general aviation airport. Box hangars can continue to be built. Upfront costs for these box hangars are relatively small in comparison to the construction of T-hangars.

- The advantage of Configuration No. 2 is that there is plenty of space for growth potential (meaning more hangars and more revenue) because the Airport already owns the land and there are opportunities to expand development even further to the south in the future.
- The disadvantage of Configuration No. 1 is that there is limited growth (and revenue) potential here because the land that is available would have to be acquired to the east in order to maximize usable space and to build more hangars. There isn't a guarantee that the property owners to the east of the airport will even want to sell their land.

- **Environmental Considerations:** Any disturbance beyond existing built infrastructure on or off airport property has the potential to impact environmental resources in the vicinity of the airport. All alternatives would need to be evaluated for environmental impacts. Specific considerations would include, but are not limited to, the following:
  - Potential noise impacts resulting from an increased number of operations due to the additional hangar space and helipads.

Selection by City leadership of a preferred set of alternatives would be the basis for an updated Airport Layout Plan within the overall master planning context. It is important to note at this point that the selection of an alternative(s) does not necessarily mean it will happen. The intent is to create a visionary, 20-year 'road' map.

The map then becomes a plan, and plans may change. A plan which has remained unchanged over a given 10-year period has perhaps not been responsive to 10 years' worth of community or economic growth. The City may elect to update or change the Airport Layout Plan at any time, but FAA currently funds a more comprehensive Airport Master Plan Update every 7-10 years or so.

FAA/State funding decisions for improvements are not made exclusively based upon analyses herein or the City leadership's decision to adopt alternative(s) from this Master Plan. Funding decisions are made during the annual Capital Improvement Plan (CIP) process, with dialogue between the FAA, the State, and the City. Generally, for funding participation, a given improvement or series of improvements must:

1. Be found on the approved Airport Layout Plan; that is, officially sanctioned by the City Council and FAA.
2. Be eligible/justified for funds per FAA advisory circular or supplemental guidance.
3. Be environmentally cleared.
4. Be funded, in an increasingly competitive general aviation funding environment.

More about these prerequisites is covered in the next chapters.

5.4 PREFERRED ALTERNATIVE SELECTION

The alternatives developed in this chapter address specific issues identified through the facility requirement analyses and public involvement process. The concepts depicted in the preferred alternative were derived from those alternatives and selected based on input collected from a public open house event and kick-off meeting.

The preferred alternative (Configuration No. 2), depicted in **Figure 5.3** shows future hangar and taxilane development on the southeast side of the runway and taxiway with new vehicle access, plus two additional helipads, near the existing access road and tie-down space.

This build-out shows an area for approximately 75,000 square feet of additional hangar space. Approximate hangar counts include three rows of nested T-Hangars in the middle of the development area with a group of four to five recreational box hangars on each side of the T-hangars.

This hangar configuration could alleviate helicopter congestion quite significantly during the busy fire season because of its immediate proximity.

The meaningful difference between Configuration No. 1 and No. 2 is that there are existing utilities and an access road that are already in place at Configuration No. 2. The City would like to keep Configuration No. 1 in their long-term future development plans, which will be addressed in greater detail in the next chapter.

Chapter 6 will address phased development, including financial feasibility.

Implementation of this plan and elements of the plan are primarily reliant on funding from the FAA and other sources. To move forward with any specific project will depend upon trigger-point thresholds for specific projects and justification from the FAA.

FIGURE 5.3
PREFERRED ALTERNATIVE: LANDSIDE CONFIGURATION NO. 2

Source: J-U-B

CHAPTER 6 PHASED DEVELOPMENT

6.1 INTRODUCTION

Capital improvements and preventive maintenance at the Omak Airport are scheduled for three successive time periods: Short Term – 2022–2027; Intermediate Term - 2028–2032; and Long Term - 2033–2042. The following sections describe and depict the various improvements, by phase, along with an estimated cost for each item. Development items are shown on three exhibits within the chapter. The recommended phasing is not set in stone and changes in aviation demand, City perspective, grant funding or area economics may alter proposed improvement timing or composition.

Each figure represents an estimate of total project cost. Estimates were developed using historical year (2020) costs. Estimates include construction, engineering, administration, testing, surveying, and legal expenses. It should be noted that these estimates are order of magnitude, accurate for planning purposes, based upon area bid tabulations. A 25% contingency amount is added to anticipate unforeseen circumstances. This approach reduces the chance of budget surprises when a more detailed investigation and design is initiated. Cost estimates should be reviewed and updated as necessary to account for technological improvements, changes in the economy, future construction innovations, and/or changes in local conditions. These costs constitute an unconstrained, yet reasonable, estimate of future airport needs.

The project cost tables found in each figure, identify funds from FAA AIP Non-Primary Entitlement (NPE) and Bipartisan Infrastructure Law (BIL), the Washington State Department of Transportation (WSDOT), and the City of Omak. The tables also identify any remaining unfunded costs.

The Airport Improvement Program (AIP) NPE funding approximates the current FAA entitlement funding for the airport of up to $150,000 annually. The City of Omak, as sponsor of the Omak Airport is assigned this entitlement funding, given the activity levels at the airport, and its participation in FAA's National Plan of Integrated Airport Systems (NPIAS). The FAA funding level for approved airport projects is currently 90%.

The FAA Unfunded column shows the desired level of capital improvement and necessary funding for the unconstrained demand identified by the planning process. The planning process has revealed the sponsor's desire for capital improvements beyond that which can be accommodated by current FAA entitlement funding for the airport. The purpose of this column is to identify financially unconstrained capital improvements and highlight the improvements that exceed the $150,000 annual entitlement.

FAA grant funds available for this unfunded amount can come from primarily two sources within AIP funding formulae: FAA State Apportionment (SA) and FAA Discretionary. FAA SA grant funds are those funds assigned to states for airports large and small according to a priority ranking. The National Priority Ranking (NPR) methodology assigns value to airports based upon activity and type of capital improvement. FAA Discretionary funding is more often distributed to those airports with airline service via this NPR.

The Washington State Department of Transportation (WSDOT) offers a partial grant program, often used

to supplement, and match (generally 2.5 to 5 percent) FAA funding. WSDOT grant funding has a similar priority ranking mechanism for project evaluation. WSDOT requires the City of Omak to match the remaining percentage for a total project funding; thus, FAA may provide 90 percent, WSDOT provides 5 percent, and the final 5 percent of typical capital improvement project funding comes from the City's budget.

The City of Omak's participation column may be revenues that originate from the operation of the airport or from other sources. This column identifies the ±5 percent matching funds and the additional funds required for larger, generally revenue producing capital improvements or maintenance projects that do not meaningfully compete for FAA or WSDOT grant dollars.

6.2 SHORT-TERM IMPROVEMENTS

During the Short-Term phase, several development and improvement items are planned to provide for safe and efficient airport operations and to kick-off planned development. The Short-Term Improvements listed should be roughly in line with the Airport Capital Improvement Plan (ACIP). The following descriptions in **Table 6.1** accompany **Figure 6.1**.

TABLE 6.1
PHASED DEVELOPMENT PLAN

No	Description	Total Cost	Funding			
			FAA	WSDOT	Local	Unfunded
Short-Term Improvements (Years 2022-2027)						
1	North End Taxiway Reconstruction – Design Phase	**$200,000**	$180,000	$10,000	$10,000	$0
2	Establish Instrument Approach to Runway 17 End	**$0**	$0	$0	$0	$0
3	Fuel System Expansion	**$300,000**	$0	$0	$300,000	$0
4	North End Taxiway Reconstruction - Construction Phase	**$972,000**	$874,800	$48,600	$48,600	$0
5	Runway and Taxiway Connector Pavement Maintenance	**$300,000**	$270,000	$15,000	$15,000	$0
6	South End Hangar and Taxilanes Development - Design Phase	**$150,000**	$135,000	$7,500	$7,500	$0
7	DNR SEAT Base	**TBD**	$0	$0	$0	TBD
8	South End Hangar and Taxilanes Development – Construction Phase	**$750,000**	$675,000	$37,500	$37,500	$0
	Years 1-5 Total Cost	**$2,672,000**	**$2,134,800**	**$118,600**	**$418,600**	$0

Source: J-U-B

SHORT-TERM PROJECT NO. 1 (YEAR 2023)

North End Taxiway Reconstruction - Design Phase

The design process for future reconstruction of the north end taxiway should begin at this point.

Cost Estimate: $200,000

SHORT-TERM ITEM NO. 2 (YEAR 2023)

Establishing an Instrument Approach Procedure to Runway 17 End

The FAA Flight Procedures Office identified the Omak Airport's instrument approach procedures as being out of date and in need of improving to meet current standards. This planning project includes establishing an instrument approach procedure to Runway 17 End.

Cost Estimate: $0

SHORT-TERM PROJECT NO. 3 (YEAR 2024)

Fuel System Expansion

A new 12,000 gallon above ground fuel tank for Jet A will be installed with connectivity to the existing Jet A fuel tank. This will include a skid mounted pump system which will have the ability to offload fuel to dispensing vehicles, a concrete pad, and connectivity to the existing credit card reader system.

Cost Estimate: $300,000

SHORT-TERM PROJECT NO. 4 (YEAR 2024)

North End Taxiway Reconstruction - Construction Phase

The reconstruction of the north side taxiway will help accommodate future development and additional airport traffic.

Cost Estimate: $972,000

SHORT-TERM ITEM NO. 5 (YEAR 2025)

Runway and Taxiway Connector Pavement Maintenance

FAA grant assurances require that a pavement maintenance plan be established to maximize the airfield's life cycle. At this point in the planning process Runway 17/35 and the Taxiway connectors would benefit from crack sealing and a seal coat with re-marking. This preventative maintenance is planned on a 4–6-year cycle over the course of the 20-year planning period.

Cost Estimate: $300,000

SHORT-TERM PROJECT NO. 6 (YEAR 2025)

South End Hangar and Taxilane - Design Phase

The design process for future hangars and hangar taxilanes should begin at this point. Space for this project has already been identified for a variety of hangar sizes. The timing of future development will be determined by outside funding availability. Hangar development could happen sooner than 2025 if private users (other than the airport) wish to provide funding for their own hangars to be built.

Cost Estimate: $150,000

SHORT-TERM ITEM NO. 7 (YEAR 2025)

DNR SEAT Base

East landside facility improvements were configured to accommodate a relocation and expansion of the DNR SEAT base. While there are no associated capital costs, this improvement has been included to preserve the area for the DNR space and guide surrounding future development.

Cost Estimate: TBD

SHORT-TERM PROJECT NO. 8 (YEAR 2026)

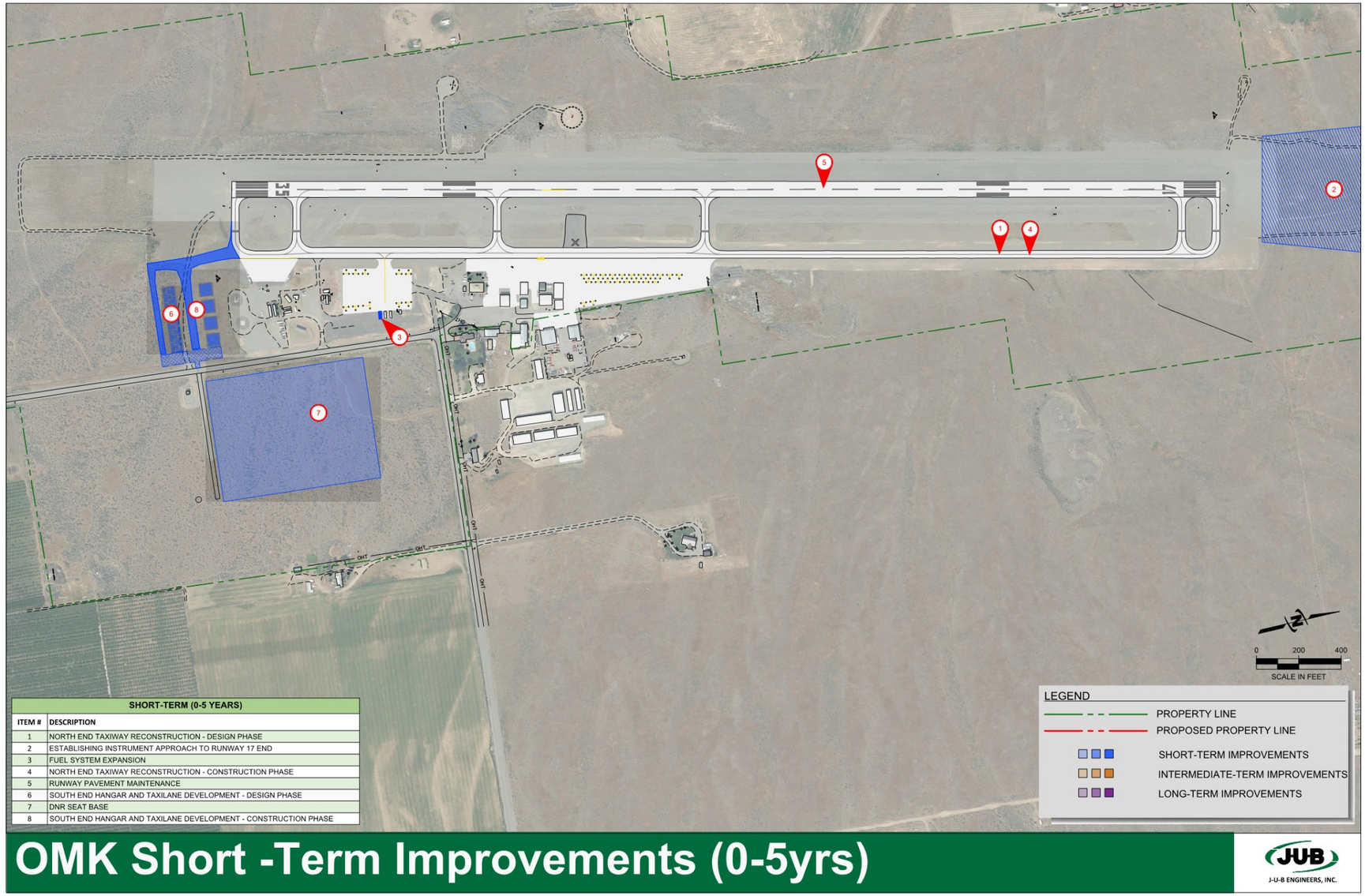
South End Hangar and Taxilane Development- Construction Phase

Two new taxilanes will be constructed on the south end of Runway 35 to provide access to future hangars. The construction of private hangars will occur after the taxilane development.

Cost Estimate: $750,000

Figure 6.1; Short-Term Improvements (Years 2022-2027) following this page depicts items numerically tabulated and referenced in plan view.

FIGURE 6.1
SHORT-TERM IMPROVEMENTS



SOURCE: JUB

6.3 INTERMEDIATE-TERM IMPROVEMENTS

During this Intermediate-Term phase the focus shifts to the reconstruction of the mid-field taxiway and apron area, relocating a Taxiway connector, additional hangar development, helipad development, and creating a vehicle access easement. Additionally, this phase will focus on preventative pavement maintenance of the runway and taxiways, and a new Master Plan Update to be performed in year 10. The following descriptions in **Table 6.2** accompany **Figure 6.2**.

TABLE 6.2
PHASED DEVELOPMENT PLAN

#	Description	Total Cost	Funding			
			FAA	WSDOT	Local	Unfunded
Intermediate-Term Improvements (Years 2028-2032)						
9	Midfield Taxiway and Apron Reconstruction – Design Phase	**$300,000**	$270,000	$15,000	$15,000	$0
10	Midfield Taxiway and Apron Reconstruction – Construction Phase	**$3,120,000**	$2,808,000	$156,000	$156,000	$0
11	South End Hangar and Taxilanes Development - Design Phase	**$150,000**	$135,000	$7,500	$7,500	$0
12	South End Hangar and Taxilanes Development – Construction Phase	**$750,000**	$675,000	$37,500	$37,500	$0
13	South End Helipad Development – Design Phase	**$100,000**	$90,000	$5,000	$5,000	$0
14	South End Helipad Development – Construction Phase	**$250,000**	$225,000	$12,500	$12,500	$0
15	Relocate Taxiway A4 Connector	**$700,000**	$90,000	$5,000	$5,000	$0
16	Runway and Taxiway Pavement Maintenance	**$300,000**	$270,000	$15,000	$15,000	$0
17	Vehicle Access Easement	**$15,000**	$13,500	$750	$750	$0
18	Master Plan Update	**$400,000**	$360,000	$20,000	$20,000	$0
	Years 6-10 Total Cost	**$6,085,000**	**$4,936,500**	**$274,250**	**$274,250**	$0

Source: J-U-B

INTERMEDIATE-TERM ITEM NO. 9 (YEAR 2028)

Midfield Taxiway and Apron Reconstruction – Design Phase

The design of the midfield portion of Taxiway A and adjacent apron pavement reconstruction is scheduled for this phase. The reconstruction is required due to the excessive pavement deterioration.

Cost Estimate: $300,000

INTERMEDIATE-TERM ITEM NO. 10 (YEAR 2029)

Midfield Taxiway and Apron Reconstruction – Construction Phase

The construction of the midfield portion of Taxiway A and adjacent apron pavement reconstruction is scheduled for this phase. The apron design specifications should be B-II, TDG-1B, and at least 16,000 pounds pavement strength.

Cost Estimate: $3,120,000

INTERMEDIATE-TERM PROJECT NO. 11 (YEAR 2030)

South End Hangar and Taxilane - Design Phase

The design process for future hangars and two more hangar taxilanes should begin at this point. This project is a continuation of short-term project number 8. Space for this project has already been identified for a variety of hangar sizes.

Cost Estimate: $150,000

INTERMEDIATE-TERM PROJECT NO. 12 (YEAR 2030)

South End Hangar and Taxilane Development- Construction Phase

Two new taxilanes will be constructed on the south end of Runway 35 to provide access to future hangars. The construction of private hangars will occur after the taxilane development. Hangar development could happen sooner, rather than 2030, if private users (other than the airport) wish to provide funding for their own hangars to be built.

Cost Estimate: $750,000

INTERMEDIATE-TERM PROJECT NO. 13 (YEARS 2031)

South End Helipad Development Design Phase

The design process for future helipads should begin at this point. Two additional helipads will be constructed near the existing helipads on the south end of the runway.

Cost Estimate: $100,000

INTERMEDIATE-TERM ITEM NO. 14 (YEAR 2031)

South End Helipad Development - Construction Phase

Two additional helipads will be constructed near the existing helipads on the south end of the runway. This will allow for better maneuverability around the aprons during the peak firefighting seasons and more space for helicopter parking.

Cost Estimate: $250,000

INTERMEDIATE-TERM ITEM NO. 15 (YEAR 2031)

Relocate Taxiway A4 Connector

The FAA requires that Taxiway connectors be located within the first third of the runway and not connected at the center. Relocation of the Taxiway A4 Connector will be moved further north to comply with FAA standards.

Cost Estimate: $700,000

INTERMEDIATE-TERM ITEM NO. 16 (YEAR 2032)

Runway and Taxiway Pavement Maintenance

FAA grant assurances require that a pavement maintenance plan be established to maximize the airfield's life cycle. At this point in the planning process Runway 17/35 and the taxiways would benefit from crack sealing and a seal coat with re-marking. This preventative maintenance is planned on a 4–6-year cycle over the course of the 20-year planning period.

Cost Estimate: $300,000

INTERMEDIATE-TERM ITEM NO. 17 (YEAR 2032)

Vehicle Access Easement

A land easement is needed for vehicles to access future hangars and taxilanes that will be developed on the north end of the airport property. Currently, there is no vehicle access to the proposed land where hangar development will take place.

Cost Estimate: $15,000

INTERMEDIATE-TERM ITEM NO. 18 (YEAR 2032)

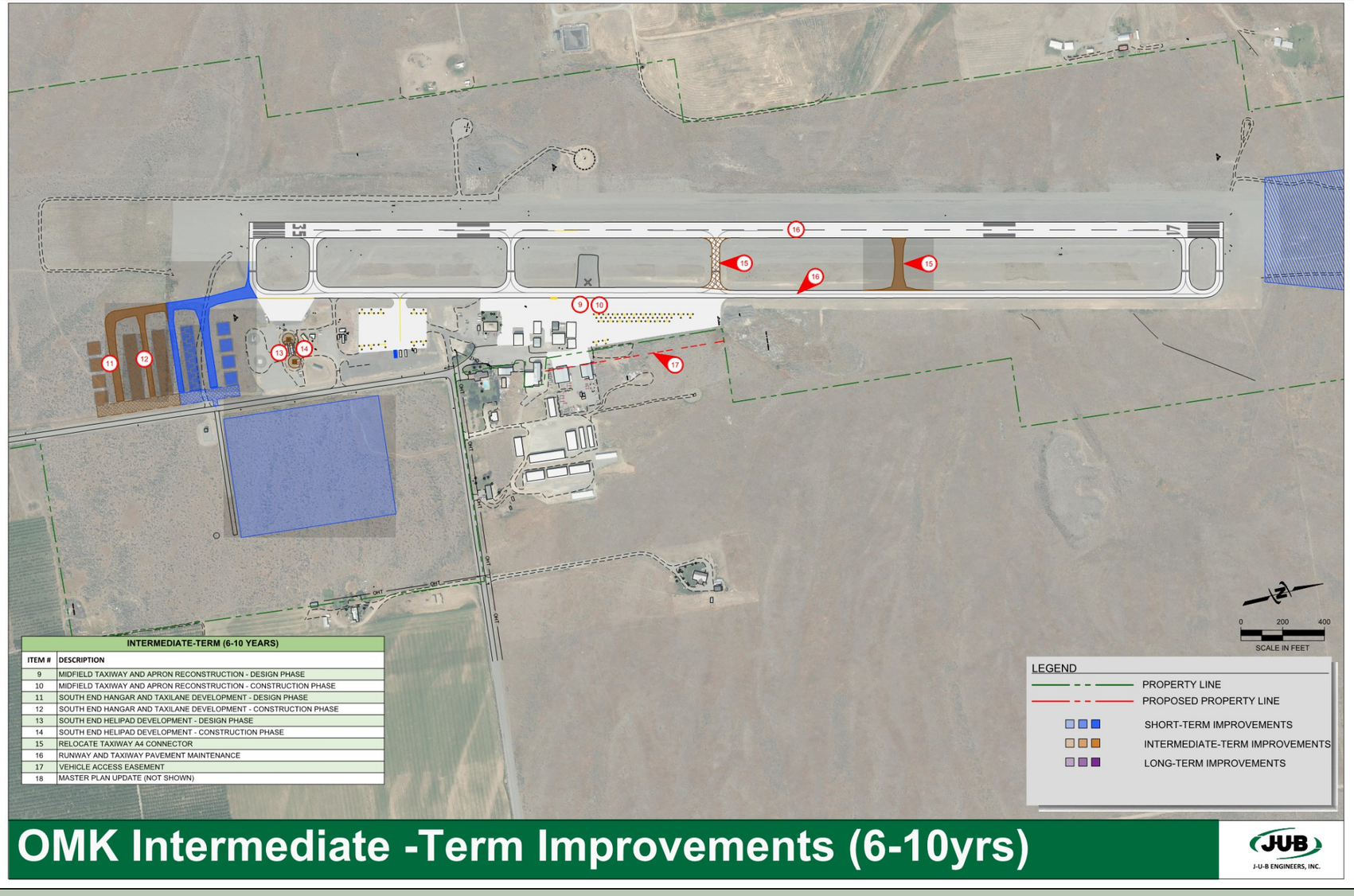
Master Plan Update

This phase will require a Master Plan Update to be done. This will be to verify that operations have achieved expectations for the selection of the ultimate Airport Runway Classification (ARC) of B-II.

Cost Estimate: $400,000

Figure 6.2; Intermediate-Term Improvements (Years 2028-2032) on the following page depicts these items numerically tabulated and referenced in plan view.

FIGURE 6.2
INTERMEDIATE-TERM IMPROVEMENTS



SOURCE:JUB

6.4 LONG-TERM IMPROVEMENTS

During the Long-Term phase the focus shifts to acquiring land and paving a vehicle access road that is needed for further hangar development on the north side. This long-term phase will also focus on preventative pavement maintenance of the runway, taxiways. taxilanes, and apron and a new Master Plan Update to be performed in year 20. The following descriptions in **Table 6.3** accompany **Figure 6.3**.

TABLE 6.3
PHASED DEVELOPMENT PLAN

#	Description	Total Cost	Funding			
			FAA	WSDOT	Local	Unfunded
Long-Term Improvements (Years 2033-2042)						
19	Pave Road for Vehicle Access Easement	**$300,000**	$270,000	$15,000	$15,000	$0
20	Land Acquisition for Future Development	**$700,000**	$630,000	$35,000	$35,000	$0
21	Perimeter Fence Improvement	**$30,000**	$27,000	$1,500	$1,500	$0
22	North Side Hangars and Taxilane Development – Design Phase	**$150,000**	$135,000	$7,500	$7,500	$0
23	North Side Hangars and Taxilane Development – Construction Phase	**$1,500,000**	$1,350,000	$75,000	$75,000	$0
24	Runway and Taxiway Pavement Maintenance	**$300,000**	$270,000	$15,000	$15,000	$0
25	Master Plan Update	**$400,000**	$360,000	$20,000	$20,000	$0
	Years 11-20 Total Cost	**$3,380,000**	**$3,042,500**	**$169,000**	**$169,000**	$0
Source: J-U-B						

LONG-TERM ITEM NO. 19 (YEAR 2036)

Pave Road for Vehicle Access

Once the vehicle access easement has been established, a road will be paved to accommodate airport users to access future hangars and taxilanes on the north end of the runway.

Cost Estimate: $300,000

LONG-TERM ITEM NO. 20 (YEAR 2037)

Land Acquisition for Future Development

Land acquisition is needed on the east side of the airport property boundary to allow for further development at the airport.

Cost Estimate: $700,000

LONG-TERM ITEM NO. 21 (YEAR 2038)

Perimeter Fence Improvement

The current perimeter fence along the east side of the airport property will need to be moved to allow for vehicle access after the easement has been acquired. A new perimeter fence will need to be installed/improved in place of the old one.

Cost Estimate: $30,000

LONG-TERM ITEM NO. 22 (YEAR 2039)

North Side Hangars and Taxilane Development - Design Phase

The design for additional hangar lots and supporting taxilanes north of the midfield GA apron will begin at this phase.

Cost Estimate: $150,000

LONG-TERM ITEM NO. 23 (YEAR 2040)

North Side Hangars and Taxilane Development – Construction Phase

Additional hangar lots and four supporting taxilanes will be constructed north of the midfield GA apron to accommodate future demand of increasing Omak airport traffic. The construction of private hangars will occur after this phase. FAA requires that hangars meet specific requirements for safety consideration. These include clearances, services, hazards, and security. Space for this project has already been identified for a variety of hangar sizes and types.

Cost Estimate: $1,500,000

LONG-TERM ITEM NO. 24 (YEAR 2041)

Runway, Taxiway, Taxilanes, and Apron Pavement Maintenance

FAA grant assurances require that a pavement maintenance plan be established to maximize the airfield's life cycle. At this point in the planning process, pavements would benefit from crack sealing and a seal coat with re-marking. This preventive maintenance is planned on a 4–6-year cycle over the course of the 20-year planning period.

Cost Estimate: $300,000

LONG-TERM ITEM NO. 25 (YEAR 2042)

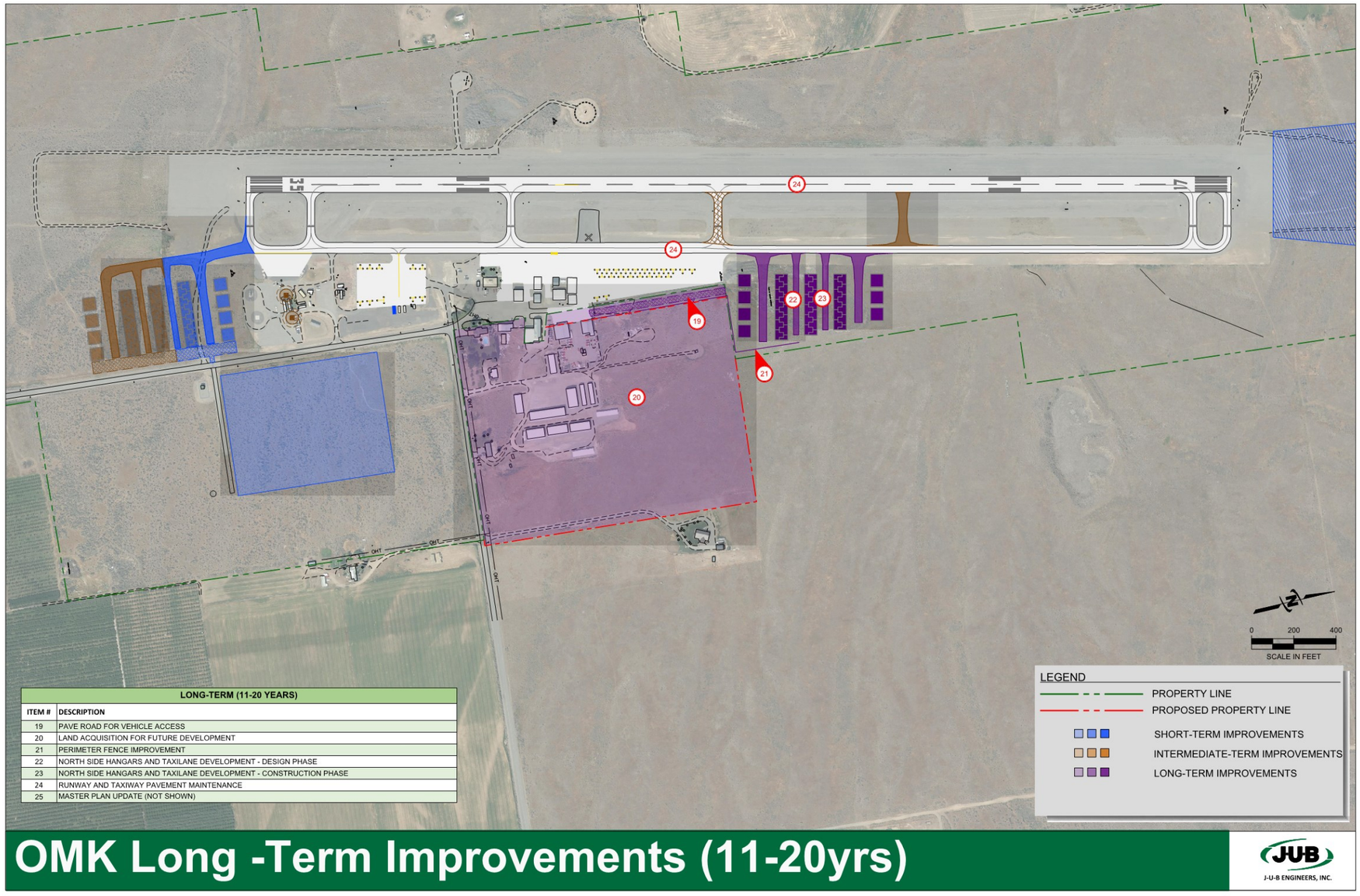
Master Plan Update

FAA makes AIP funds available every 10 years or so to update the Airport Master Plan, so this project is included as a 2042 project.

Cost Estimate: $400,000

Figure 6.3, Long-Term Improvements (2033-2043) on the following page depicts these items numerically tabulated and referenced in the plan view, totaling:

FIGURE 6.3
LONG-TERM IMPROVEMENTS



LONG-TERM (11-20 YEARS)	
ITEM #	DESCRIPTION
19	PAVE ROAD FOR VEHICLE ACCESS
20	LAND ACQUISITION FOR FUTURE DEVELOPMENT
21	PERIMETER FENCE IMPROVEMENT
22	NORTH SIDE HANGARS AND TAXILANE DEVELOPMENT - DESIGN PHASE
23	NORTH SIDE HANGARS AND TAXILANE DEVELOPMENT - CONSTRUCTION PHASE
24	RUNWAY AND TAXIWAY PAVEMENT MAINTENANCE
25	MASTER PLAN UPDATE (NOT SHOWN)

SOURCE:JUB

6.5 ENVIRONMENTAL REVIEW

The proposed capital improvements and preventative maintenance projects at the Omak Airport are described in detail in Sections 6.1, 6.2, and 6.3 and constitute the work anticipated as a result of the master planning public involvement processes. The short-term improvements include several development projects to address immediate needs for more hangars, a bigger fuel system, as well as pavement reconstruction and establishing an instrument approach to Runway 17 End. The intermediate plans focus on preventative pavement maintenance and apron reconstruction with some more hangar development and helipad development, and the long-term projects focus on land acquisition and space for more development of hangars and potential commercial development.

FAA will make the final determination regarding the level of NEPA documentation and the required resource evaluations for the Preferred Alternative. Based on the scope, scale, and location of the proposed Airport improvements, the following environmental resource studies are anticipated to be required prior to the implementation of the Preferred Alternative.

- **Environmental Evaluation** – Based on the Preferred Alternative actions, it is anticipated that the short-term improvements would meet the FAA's requirements for categorically excluded actions as detailed in FAA Order 1050.1F. Several resource studies may be required if a documented categorical exclusion with an environmental evaluation is necessary for any of the short-term improvement projects.
- **Biological Evaluation** – A preliminary biological evaluation and site visit should be completed prior to the commencement of any construction activities to verify the presence or absence of any Endangered Species Act (ESA) listed species and/or habitats within or immediately adjacent to the Airport property.
- **Water Resources Assessment** – A preliminary review of the U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) indicates that there are no surface waters or wetlands on the Airport property. A water resources assessment should be completed to verify existing conditions prior to implementation of the Preferred Alternative
- **Cultural Resource Survey** – A cultural resource survey is recommended for any areas on the Airport property that have not been surveyed due to future ground disturbance at the Airport.
- **Construction Impact Analysis** – Construction activities have the potential to result in temporary impacts to air, noise, and water quality in the project area. Therefore, construction impacts and mitigation measures, such as Best Management Practices, should be considered prior to the implementation of the Preferred Alternative.

The following resource surveys are not anticipated to be required for the completion of the NEPA requirements associated with the Preferred Alternative:

- **Air Quality Analysis** – Okanogan County is currently in attainment for all criteria pollutants and the GA operations at the Airport are forecasted to remain under the operation threshold for air quality analysis. Therefore, the proposed improvements are anticipated to remain under the

operation threshold for air quality. An air quality analysis may be required Okanogan County's air quality designation changes or if the Preferred Alternative results in an overall increase of operations such that the threshold is reached for air quality analysis.

- **Farmland Analysis** – There are no agricultural activities on the Airport property, and the Preferred Alternative would not convert any agricultural land to non-agricultural activities. No farmland analysis is anticipated to be required.
- **Land Use Analysis** – A land use analysis for the Preferred Alternative is included in an upcoming chapter of this Master Plan Update. Pertinent information from this Master Plan Update would be included in the environmental documentation.
- **Noise Analysis** – The proposed improvements under the Preferred Alternative are not likely to impact the surrounding land uses based on the current 65 DNL contour; therefore, a noise analysis is not likely to be required.
- **ESA Phase I/Hazardous Materials –** There are no known contaminated sites within the Preferred Alternative project area, and there would be no land acquisition included in the short-term projects. Therefore, a Phase I/Hazardous Materials assessment is not anticipated to be required. However, a review of the Washington State Department of Ecology Facility Site Atlas should be conducted prior to proceeding with any of the short-term projects to verify the presence or absence of any hazardous materials or sites.
- **Environmental Justice Analysis –** The short-term projects associated with the Preferred Alternative would not involve land acquisition and are not anticipated to impact health and safety conditions off of the Airport. Therefore, an environmental justice analysis is not anticipated to be required.

Intermediate Term Improvements: The Intermediate-Term Projects (2028-2032) would not be pursued until completion of the appropriate environmental analysis as dictated by the FAA. In general, the Intermediate-Term Projects focus on the reconstruction of the mid-field taxiway and apron area, as well as focus on preventative pavement maintenance of the runway and taxiways, and a new Master Plan Update to be performed in year 10. Based on these projects, a Categorical Exclusion (CATEX) would likely be necessary prior to the implementation of the proposed improvements.

Long Term Improvements: The Long-Term Projects (2033-2042) would include a shift in focus on acquiring land and paving a vehicle access road needed for further hangar development on the north side. This long-term phase would also focus on preventative pavement maintenance of the runway, taxiways, taxilanes, and apron and a new Master Plan Update to be performed in year 20. NEPA requirements for each of the Long-Term Projects would be assessed by FAA at a later date. However, a CATEX would likely be required for the implementation of the proposed improvements.

6.6 FINANCIAL REVIEW

Upon completion of the environmental analysis of the Airport, the following financial overview is prepared. Financial forecasting is the estimation of future revenue and expenses. While historical data and development plans are the best indicators of what these monies might be, future financial performance is affected by many events and outside influences.

Some of these include the effects of inflation and major impacts on the region's economy. As the forecasting horizon moves further out, these outside influences and events compound and often have a more profound effect on the entity's financial performance. Because of these outside influences, forecasts beyond a five-year horizon should be viewed more as an indication than as an estimate.

In preparing financial considerations for the Airport, potential project costs and expenses are evaluated and considered at 2020-dollar values. These itemized projects may be funded, in part, through grants with 90% participation by FAA. Grant funds depend upon authorization of the FAA's AIP program by Congress each year and the funding is not 100% guaranteed. Short-term development items were controlled to match the City of Omak's financial situation. Some of the costs and funding are considered as future AIP funding and other federal grant issues through FAA will be allocated at the time the projects become justified.

It is assumed that the City funds acquired through user fees, land leases and other revenue sources are sufficient to cover the NPE match as needed and will be considered available for use as matching funds for other project grants should they become awarded. WSDOT should also participate in the matching of funds.

This financial analysis assumes that no new key sources of operating revenues will be implemented during this five-year forecast. This is admittedly conservative. Possible sources of additional or new revenues could come from new infrastructure spending from the Federal Government, other State grants, future fuel sales and flowage, or the addition of an FBO, new business or hangars. However, the Airport must judge the potential profitability of such changes, given corresponding costs for collection and administration.

Finally, any forecast has unforeseen elements; unexpected expenditures may arise. The uncertainty associated with a new AIP program should also be expected. Should federal grant monies diminish, certain capital improvements may have to be funded from other sources.

6.7 CHAPTER SUMMARY

This phased development plan identifies the projects for each planning term including those that may be funded by FAA Airport Improvement Program funding. It is anticipated that the City of Omak will use its airport revenues as much as possible, but that there will still be a need for AIP funding. The local funding can be used to meet the match requirements. There is always a potential for unforeseen circumstances and factors to play a role in the funding of projects. The City should be flexible enough in their CIP and other planning that they can alter the sequencing as needed.

The federal and state dollars depend on authorization by Congress and State legislatures each year and are not guaranteed. Should federal grant monies diminish, certain capital improvements may have to be funded from other sources or postponed.

CHAPTER 7 – AIRPORT LAYOUT PLAN DRAWINGS

7.1 INTRODUCTION

The Airport Layout Plan (ALP) drawing set depicts existing airport facilities and proposed development at the Omak Municipal Airport. The ALP is a culmination of this planning effort and enables the Airport Sponsor and FAA to plan for airport facility improvements, anticipate budgetary and procedural needs, and protect relevant airspace. The set of technical drawings was developed according to FAA standard operating procedures and includes the following sheets:

AF-1	Cover and Index
AF-2	Airport Layout Plan
AF-3	Airport Data Sheet
AF-4	Airport Airspace Plan
AF-4A	Airport Airspace Obstruction Tables
AF-5	Runway 35 Inner Approach Surface Drawing
AF-6	Runway 17 Inner Approach Surface Drawing
AF-7	Runway 35 End Departure Surface Drawing
AF-8	Runway Centerline Plan and Profile
AF-9A	Terminal Area Plan - South
AF-9B	Terminal Area Plan - North
AF-10	Land Use Plan
AF-11	Exhibit “A” Airport Property Inventory Map

FAA grant assurances require that an Airport Sponsor maintain a current ALP, which can be for a period of 5 years or longer if no major improvements to the airfield are made. The ALP is a set of planning drawings and is not intended to provide information with design engineering accuracy.

The ALP is a legal document that represents an agreement between the City of Omak and the Federal Aviation Administration. The agreement relates to design standards compliance, future development locations and obstruction disposition. On-airport development must be depicted on the ALP and the ALP should be kept reasonably current. The following sections describe each of the ALP Drawings.

7.2 COVER SHEET AND INDEX

The Cover Sheet includes approval signature blocks for the Airport Sponsor and FAA ADO, airport location and vicinity maps, and content information.

7.3 AIRPORT LAYOUT PLAN

The ALP is a scaled graphic representation of existing and proposed airport development including pertinent clearance and dimensional information required to show design standard conformance. The proposed facility improvements integrated into the phasing schedule are depicted in the ALP as either future short-term or ultimate long-term development. In addition to airport buildings and facilities, the ALP identifies Runway 17/35 safety areas, Part 77 approach surface obstructions, and the existing and future airport property boundary.

The ALP depicts the recommended location of facilities proposed to accommodate the 20-year demand (and beyond in some cases) as discussed in the facility requirements chapter and refined through the alternatives and financial process.

Short-term improvements include additional hangar and taxilane development, preparation for updated instrument approach procedures, adding an additional fuel tank, and taxiway reconstruction, while intermediate and longer-term improvements are geared more toward runway and taxiway improvements and satisfying future demand with additional hangars and acquiring land.

7.4 AIRPORT DATA SHEET

The Airport Data Sheet is a continuation of basic airport and runway data tables associated with the ALP drawing. The information included in this sheet has been provided in accordance with FAA Standard Operating Procedures 2.00 — *Standard Procedure for FAA Review and Approval of Airport Layout Plans.* As such, tables were developed that summarize airport, runway, taxiway and taxilane, airport facilities, declared distances, and wind coverage data. IFR, VFR, and All-Weather wind roses for 10.5, 13, 16, and 20 knots are also included on the Airport Data Sheet.

7.5 AIRPORT AIRSPACE PLAN (FAR PART 77)

The Airport Airspace Plan is a graphic depiction of the imaginary surfaces established by the FAA in FAR Part 77 to protect the airspace near airports from existing natural and manmade objects.

The Airport Airspace Plan is both a land use planning tool for local authorities and a review mechanism for the Airport Sponsor to determine if proposed development near Omak Municipal Airport presents a hazard to aircraft. The FAR Part 77 imaginary surfaces depicted in the Airport Airspace Plan include the primary, approach, transitional, horizontal, and conical surfaces.

These imaginary surfaces emanate from the runway centerline and are sized according to runway category and type of approach available or planned to a runway end. The existing and future dimensions

of each imaginary surface are based on a non-Precision instrument runway with visibility minimums greater than or equal to ¾-miles.

The **Primary Surface** is a rectangular surface longitudinally centered on the runway that is 500 feet wide and extends 200 feet beyond each runway end for paved runways.

The **Approach Surface** is a surface centered on the extended runway centerline, starting at each end of the primary surface (200 feet beyond each end of the runway), at a width equal to that of the primary surface and an elevation equal to that of the end of the runway. The approach surfaces at Omak Municipal Airport reflect the most precise approach available at the Airport, which is a non-precision instrument approach (GPS on Runway 35). The surface extends at a horizontal distance of 5,000 feet to a width of 2,000 feet at a slope of 20:1.

The **Transitional Surface** extends outward and upward from the runway centerline and its extension at a right angle. There is a seven to one (7:1) slope from the primary and approach surface sides to the height of the horizontal surface.

The **Horizontal Surface** is a plane 150 feet above the established airport elevation. The surface perimeter is constructed by swinging arcs of a 10,000-foot radius from the center of each runway end and connecting the adjacent arcs with lines of tangency.

The **Conical Surface** extends outward and upward from the horizontal surface's periphery at a slope of 20 to one (20:1) for a total horizontal distance of 4,000 feet.

The City of Omak should do all in its power as Airport Sponsor to ensure development stays below the FAR Part 77 surfaces to protect the role of the Airport. Any penetration to the CFR Part 77 imaginary surfaces, whether manmade or natural growth, is classified as an "obstruction," presumed to be a hazard to navigation, and is subject to an FAA aeronautical study which will determine whether the obstruction is in fact considered a hazard. If the FAA determines an obstruction is not a hazard, the Airport Sponsor is not required to prevent or clear the penetration.

7.6 INNER APPROACH DRAWINGS

The Inner-Approach Surface drawings includes the plan and profile view of the inner portion of the approach surface for each runway end and a tabular listing of all surface penetrations. Detailed obstruction and facility data are provided to identify planned improvements and the disposition of obstructions.

7.7 RUNWAY PLAN AND PROFILES

The Inner-Approach Surface Plan and Profile drawings show the existing, future, and ultimate approach surface configuration and their interaction with the airport and off-airport environs. The extended runway centerline ground profile and the critical point profiles are shown for terrain clearance purposes. Notable objects in this regard are shown in each plan profile and the tabulated with heights and disposition, as appropriate. These drawings are supplemental to the Airport Airspace Plan. There are some significant obstruction occurrences that have been identified, which are land masses (terrain). It is impractical to mitigate these obstructions. Some other obstructions will be considered for removal, marking or lighting.

The Runway Centerline Profile drawing depicts surface longitudinal grades on centerline, edge of runway pavement, and edge of Runway Safety Area. The Line-of-Sight standard is also depicted.

7.8 TERMINAL AREA PLANS

The Terminal Area Plans are an enlargement of existing and planned facilities depicted on the ALP drawing, which include aprons, taxilanes, hangars, and other landside improvements.

The Terminal Area Plans, as a larger replication of specific landside areas with the ALP drawing, similarly enables the Airport Sponsor and FAA to plan for future facility improvements at Omak Municipal Airport. Implementation of the proposed development will be based on funding availability and justified by increasing activity levels.

7.9 LAND USE PLAN

The Land Use Plan is a depiction of the airport compatibility zones established by the City of Omak on or around the Airport. Jurisdictional regulations recognized in these areas protect the surrounding airspace and prevent the encroachment of noise-sensitive or incompatible land uses. The City of Omak Airport Zoning Ordinance establishes airspace obstruction zones and land use safety zones that regulate housing density, structure heights, nonconforming obstructions, and land uses. The airspace protection zones regulate the airspace within the FAR Part 77 imaginary surfaces, while the land use safety zones protect the land underlying these airspace protection zones.

7.10 EXHIBIT A - AIRPORT PROPERTY MAP

The Exhibit A - Airport Property Map is an inventory of land parcels within the dedicated airport property boundary federally obligated for compliance under the terms and covenants of a grant agreement. This map identifies existing easements and encumbrances, previously acquired parcels, areas released for non-aviation use under Section 163, and property proposed for future acquisition. The parcel and property specific information identified in the drawing has been provided in accordance with FAA Standard Operating Procedures 3.00 – *Standard Procedures for FAA Review of Exhibit 'A'.*

7.11 CHAPTER SUMMARY

This study provided a comprehensive long-term assessment of the facilities at the Omak Municipal Airport. It described the infrastructure plans to meet the projected future demands and provided the framework needed to guide Airport development. The study also considered the potential financial and socioeconomic impacts meeting all Federal Aviation Administration (FAA) facility requirements.

The goal was to optimize the operational efficiency, effectiveness, capability, and safety of the airport, enhance the economic and social value of the airport and meet the long-term aviation and multi-modal transportation needs of the community.

APPENDICES

APPENDIX A

PUBLIC INVOLVEMENT SUMMARY

April 20, 2023

To Whom It May Concern:

First I really appreciate interacting with the 3 engineers prior to the Omak City Council meeting on April 17, 2023 regarding the Omak City Airport preliminary AIP update. A few comments on the Plan follows:

1. Please do not take my comment as negative towards the current Omak City administration; in many cases they inherited this situation. I moved to the Omak Airport in 1984 and zero has been accomplished to supply utilities or prepare the ground for the North hangar area. In fact as an owner of Aircraft Salvage (sold in 1997) we suggested the city install the underground conduit/piping for power and water to the NE corner of the NE existing hangar prior to the paving Aircraft Salvage paid for. The City Administration turned down that request at that time which I am guessing that was about 1993.
2. PLEASE include possible options 1 & 2 (North & South) for future hangar building sites. The south option seems to be the one where we might have a chance to build General Aviation hangars in the near future as it already has the power and water available. My guess is the South option would cost less to prepare the ground and hangar sites over the North option.
3. I would suggest checking with the DNR and BIA as to their possible needs for an additional Helicopter pad or space for the SEAT Aircraft. Seems to me plenty of room now but not really sure of what their future plans are. Moving the proposed South hangar site further South at this point would not really affect anything even if it were necessary to eliminate one row of General Aviation hangars. At this time if there was an area prepared for even one row of General Aviation hangars that would be a big improvement.
4. Just an FYI to illustrate what happens when there is an area prepared where hangars can be constructed. Yesterday on a flight I counted 13 hangars plus one under Construction at the Tonasket Airport (W01. Out of curiosity I drove to Okanogan (S35) to see what the hangar and aircraft situation is there. They have 10 hangars with 13 aircraft plus a hangar under construction which will have 1 aircraft. Another hangar is under permit but no construction at this time. Omak as you know has 7 hangars with 8 aircraft plus 2 tied down outside. One hangar formerly occupied by Federal Express is now for sale and it can accommodate 2 aircraft. To my knowledge all of the hangars at Tonasket do hold at least one aircraft.
5. As another FYI for those not familiar with the Firefighting aircraft that used the Omak Airport when it was a USFS base, the list was extensive. It included DC6, DC7, P2V, C130 (USAF converted to drop water), PB4Y2, S2 Tracker and others. With the current large tanker base in Moses lake and the speed of the current large tankers I really doubt if we will see any need for basing large tankers at OMK in the future. My feeling is we will continue to see the single engine SEATS as well as a variety of light and heavy helicopters for the firefighting.
6. I certainly do not have a crystal ball but with our lumber mills closed and torn down I really doubt if we will see any need for a large building for any enterprise in the foreseeable future. If we have hangar space for aircraft like a King Air or twin-engine business jet that will be the extent of large hangars needed. Again just my personal opinion. Hopefully in the future an FBO will locate to Omak with a flight school and maintenance shop but until the based aircraft increases that is unlikely.
7. The Airport Advisory Committee forwarded a list of 8 pilots interested in hangar space to the airport manager in the spring of 2022. Hopefully we can increase the based aircraft at Omak instead of seeing them migrate to Okanogan and Tonasket.

Thank you and feel free to email or call me at any time,
Douglas C. Marsh
508-322-1022
swampy185@gmail.com

Omak Municipal Airport Public Involvement

Public Involvement Overview

The City of Omak, who owns and operates the Omak Municipal Airport, is working to update its Airport Layout Plan. The process, which started in June of 2022, is anticipated to take 18 months, and will be guided through the City Council. Several public involvement efforts are included: 1) the Kick-Off Meeting; 2) Open Houses; and 3) presentations to the City Council. All efforts aim to inform stakeholders and to understand the needs and perspectives of those affected by the current and future airport facilities and activities. The public may also contact the project team with questions and feedback throughout the process by emailing J-U-B Project Manager, Alex DelRiccio at adelriccio@jub.com or J-U-B Planning Manager, Neal Fraser at nfraser@jub.com.

This report covers the findings from both the Kick-Off Meeting and the Open House/City Council meeting.

Kick-Off Meeting Summary

The project kick-off meeting was conducted at the City of Omak on June 15th, 2022. Several city and county officials were present, as well as a few attendants from the Department of Natural Resources, the Bureau of Indian Affairs, and local pilots. The following is a list of initial themes that were discussed at the meeting:

Initial Themes

- There is a need for 8-10 additional hangars right now.
- Helicopter activity in the summer causes severe congestion on the taxiways and aprons.
- Updating the approach procedure on Runway 17 end.
- Repurposing the tiedown area pavement that is north of the hangars.
- Utility and resource accommodations for firefighting operations.
- FedEx may leave from the terminal building.
- DNR wants to build a home base at the Airport.

Attendees:

Todd McDaniel	City Manager
Wayne Beetchenow	Airport Manager and Public Works
Tracy Oestreich	Former Airport Manager
Maurice Goodall	County Official
Tyrell Sweezy	Pilot
Deb Tonasket	Bureau of Indian Affairs
Ryan Christoff	Resident
Mark Christoff	Resident
Don Abel	Public Works (City)
Doug Marsh	Pilot
Wayne Skill	Department of Natural Resources
Dave Womak	City Official

Open House/City Council Meeting Summary

An open house and a presentation to the City Council were conducted at the City of Omak on April 17th, 2023. There were four pilots who attended the open house and who provided valuable input for future development at the Airport. There were also seven City Council members and one FAA official who were in attendance for the formal presentation. A lively Q and A discussion followed the presentation.

Additional Themes

- More information on DNR aerial firefighting operations were requested by the consultant.
- The current A-II ARC will likely change to a B-II once the consultant receives the DNR operations information.
- Suggestions for an additional helicopter pad or space for the SEAT Aircraft.
- Expanding the aprons for more room to accommodate seasonal helicopter activity.
- Would like to see an FBO come in with a flight school and maintenance shop.
- Would like to see the based aircraft increase at Omak instead of seeing them migrate to Okanogan or Tonasket.
- Alternative 2 seemed to be the popular option among the pilots who attended the open house. Utilities and access are already available.

Additional comments and feedback have been included in the following pages.

APPENDIX B

SECTION 163 – FAA APPROVAL AUTHORITY REVIEW

U.S. Department
of Transportation
**Federal Aviation
Administration**

Northwest Mountain Region
Seattle Airports District Office
2200 S. 216th Street
Des Moines, WA 98198

April 6, 2021

Ms. Diane Zipperer
Project Engineer
Omak Municipal Airport (OMK)
P.O. Box 72
Omak, WA 98841

Dear Ms. Zipperer:

Thank you for your inquiry dated 1/25/2021, regarding whether or not the Federal Aviation Administration (FAA) has a federal action on the proposed water reservoir at Omak Municipal Airport (OMK).

Recent changes in federal law have required the Federal Aviation Administration (FAA) to revisit whether FAA approval is needed for certain types of airport projects throughout the nation. On October 5, 2018, HR 302, the "FAA Reauthorization Act of 2018" (the Act) was signed into law (P.L. 115-254). In general, Section 163(a) limits the FAA's authority to directly or indirectly regulate an airport operator's transfer or disposal of certain types of airport land. However, Section 163(b) identifies exceptions to this general rule. The FAA retains authority:

1. To ensure the safe and efficient operation of aircraft or safety of people and property on the ground related to aircraft operations;
2. To regulate land or a facility acquired or modified using federal funding;
3. To ensure an airport owner or operator receives not less than fair market value (FMV) in the context of a commercial transaction for the use, lease, encumbrance, transfer, or disposal of land, any facilities on such land, or any portion of such land or facilities;
4. To ensure that that airport owner or operator pays not more than fair market value in the context of a commercial transaction for the acquisition of land or facilities on such land;
5. To enforce any terms contained in a Surplus Property Act instrument of transfer; and
6. To exercise any authority contained in 49 U.S.C. § 40117, dealing with Passenger Facility Charges.

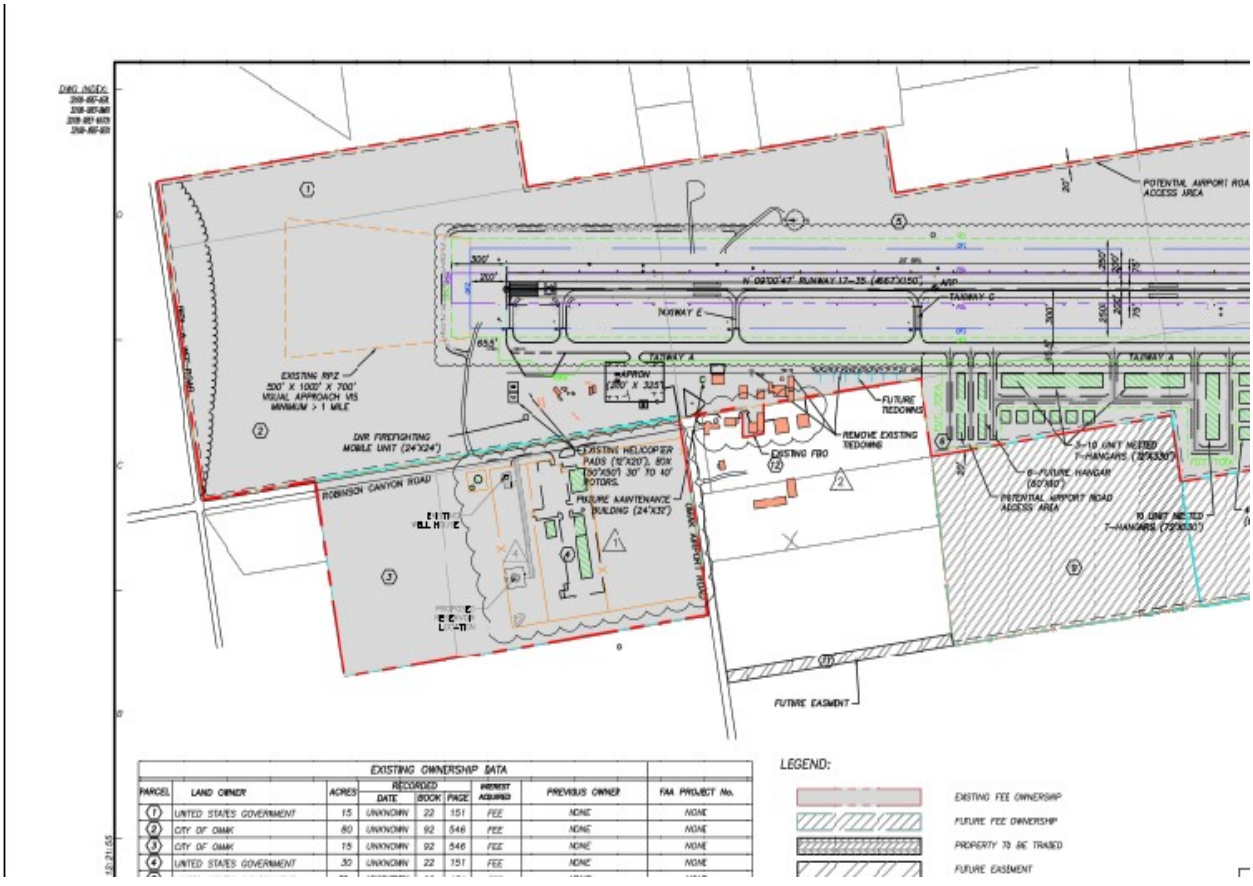
In addition, Section 163(c) preserves the statutory revenue use restrictions regarding the use of revenues generated by the use, lease, encumbrance, transfer, or disposal of the land, as set forth in 49 U.S.C. §§ 47107(b) and 47133.

Section 163(d) of the Act limits the FAA's review and approval authority for Airport Layout Plans (ALPs) to those portions of ALPs or ALP revisions that:

1. Materially impact the safe and efficient operation of aircraft at, to, or from the airport;
2. Adversely affect the safety of people or property on the ground adjacent to the airport as a result of aircraft operations; or
3. Adversely affect the value of prior Federal investments to a significant extent.

Proposed Project

The proposed OMK water reservoir project would provide domestic water supply and fire protection for the airport as well as supporting Department of Natural Resources (DNR) aerial firefighting activity. This property acquired under an Order of Declaration of Taking after condemnation of the same land. The site is located in parcel 3, on a slope towards the east/southeast of the OMK property and is identified as Non-Aviation on the Airport Land Use Plan. The property is not needed for current or future aeronautical purposes.



FAA's Determination Regarding Changes to the Airport Layout Plan

We have determined that the proposed airport water reservoir would have no material impact on aircraft operations at, to, or from OMK and would not adversely affect the safety of people or property on the ground adjacent to the airport as a result of aircraft operations. We have also determined that the proposed project would not have an adverse effect on the value of prior Federal investments to a significant extent. Therefore, the FAA lacks the legal authority to approve or disapprove changes to the ALP to reflect the proposed project.

FAA's Authority to Regulate Land Use

OMK parcel 3, was obtained under an Order of Declaration of Taking after condemnation of the same land. Although the land was federally conveyed, the project is to provide water to the airport aeronautical facilities and is therefore considered aeronautical, so no change in land use is required. Additionally, the project will not affect the safe and efficient operation of aircraft or safety of people and property on the ground related to aircraft operations, so the FAA lacks the authority to regulate the use of land associated with this project.

Applicability of the National Environmental Policy Act (NEPA)

Because the FAA lacks the legal authority to approve or disapprove changes to the ALP, and lacks the authority to regulate the land associated with this project, the agency does not have an action subject to the National Environmental Policy Act (NEPA).

Sponsor Obligations Still In Effect

This determination only addresses FAA's approval authority for this project. It is not a determination that the project complies with the sponsor's federal grant assurances. The sponsor must continue to comply with all of its Federal grant obligations, including but not limited to Grant Assurance #5, Preserving Rights and Powers; Grant Assurance #19, Operation and Maintenance; Grant Assurance #20, Hazard Removal and Mitigation; Grant Assurance #21, Compatible Land Use; and Grant Assurance #25 Airport Revenue. Section 163 and Grant Assurance 25 require the airport sponsor to receive not less than fair market value for the use, lease, encumbrance, transfer, or disposal of land, any facilities on such land, or any portion of such land or facilities. The sponsor must ensure that all revenues generated as a result of this lease may only be expended for the capital or operating costs of the airport; the local airport system; or other local facilities which are owned or operated by the owner or operator of the airport and which are directly and substantially related to the actual air transportation of passengers or property; or for noise mitigation purposes on or off the airport. The sponsor also has the responsibility to comply with all federal, state, and local environmental laws and regulations.

Additionally, this project is still subject to airspace review under the requirements of 14 CFR part 77, and Grant Assurance 29 still requires the airport to update and maintain a current ALP. Please send us an updated ALP that depicts the proposed development if it is completed.

If you have further questions or need for clarification, please feel free to contact Agnes Fisher, SEA ADO Community Planner at 206-231-3984.

Sincerely,

Warren D. Ferrell, Acting Manager
Seattle Airports District Office

cc: Valerie Thorsen, Airport Capacity Program Manager, ANM Airports Division

U.S. Department
of Transportation
**Federal Aviation
Administration**

Northwest Mountain Region
Seattle Airports District Office
2200 S. 216th Street
Des Moines, WA 98198

July 15, 2022

Mr. Wayne Beetchenow, Omak Public Works Director
Attention: Diane Zipperer
Omak Municipal Airport
P. O. Box 72
Omak, WA 98841

Re: FAA Approval Authority Review – Omak Municipal Airport (OMK), Omak, Washington – Construction of Firefighting Facility.

Dear Mr. Beetchenow:

Thank you for your inquiry dated 6/13/2022, regarding whether or not the Federal Aviation Administration (FAA) has a federal action on the proposed construction of firefighting facility at Omak Municipal Airport, (OMK).

Federal law requires the Federal Aviation Administration (FAA) to determine whether FAA approval is needed for certain types of airport projects throughout the nation. On October 5, 2018, HR 302, the "FAA Reauthorization Act of 2018" (the Act) was signed into law (P.L. 115-254). In general, Section 163(a) limits the FAA's authority to directly or indirectly regulate an airport operator's transfer or disposal of certain types of airport land. However, Section 163(b) identifies exceptions to this general rule. The FAA retains authority:

1. To ensure the safe and efficient operation of aircraft or safety of people and property on the ground related to aircraft operations;
2. To regulate land or a facility acquired or modified using federal funding;
3. To ensure an airport owner or operator receives not less than fair market value (FMV) in the context of a commercial transaction for the use, lease, encumbrance, transfer, or disposal of land, any facilities on such land, or any portion of such land or facilities;
4. To ensure that that airport owner or operator pays not more than fair market value in the context of a commercial transaction for the acquisition of land or facilities on such land;
5. To enforce any terms contained in a Surplus Property Act instrument of transfer; and
6. To exercise any authority contained in 49 U.S.C. § 40117, dealing with Passenger Facility Charges.

In addition, Section 163(c) preserves the statutory revenue use restrictions regarding the use of revenues generated by the use, lease, encumbrance, transfer, or disposal of the land, as set forth in 49 U.S.C. §§ 47107(b) and 47133.

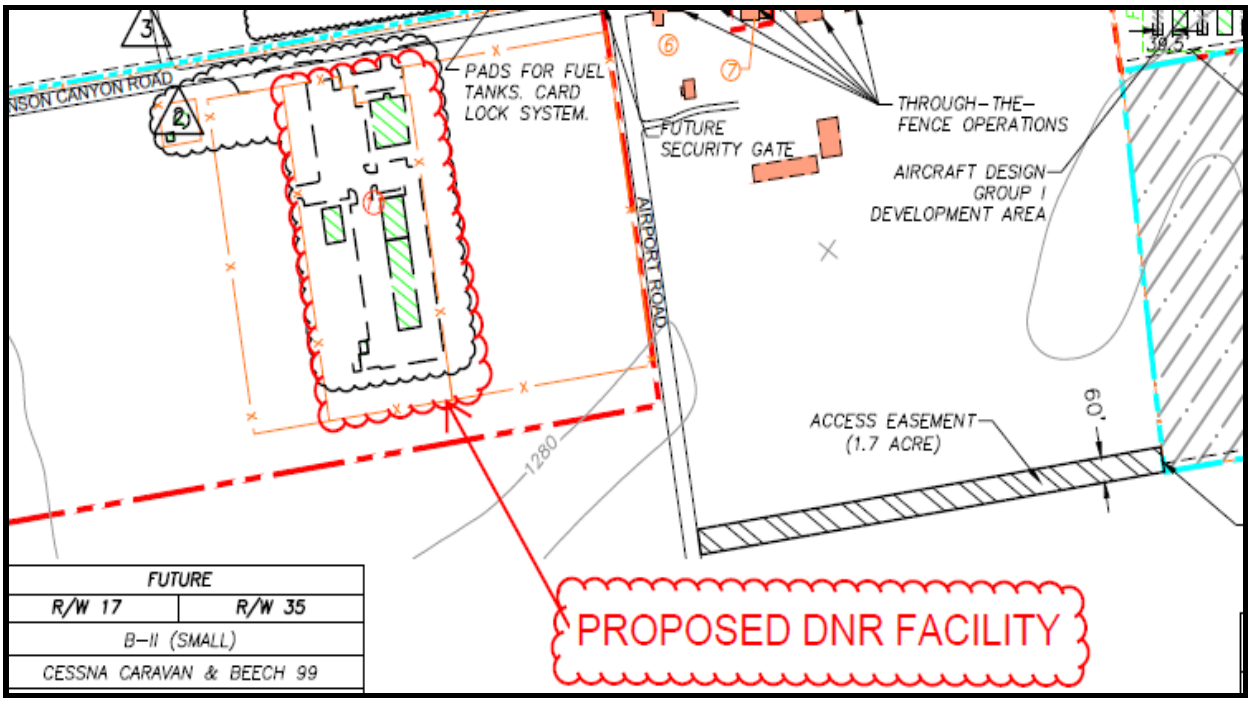
Section 163(d) of the Act limits the FAA's review and approval authority for Airport Layout Plans (ALPs) to those portions of ALPs or ALP revisions that:

1. Materially impact the safe and efficient operation of aircraft at, to, or from the airport;
2. Adversely affect the safety of people or property on the ground adjacent to the airport as a result of aircraft operations; or
3. Adversely affect the value of prior Federal investments to a significant extent.

Proposed Project

Omak Municipal Airport (OMK), proposes to construct a firefighting facility to provide services to both OMK and the City. The facility will be constructed on parcel 4 of the airport property, without federal assistance. The site, which will be leased by The Washington State Department of Natural Resources (DNR), is located between Robinson Canyon Road and Airport Road. Measuring approximately 5.7 acres, Parcel 4 lies south east of the airport and contains an existing well house and water tank constructed to provide domestic water supply and fire protection for OMK and DNR aerial firefighting activity. The parcel, site of the proposed firefighting facility, is found at the coordinates 48° 27' 31" N and 119° 30' 50" and is recorded as property of the City of Omak acquired under an Order of Declaration of Taking after condemnation of the same land. The property is not needed for current or future aeronautical purposes.

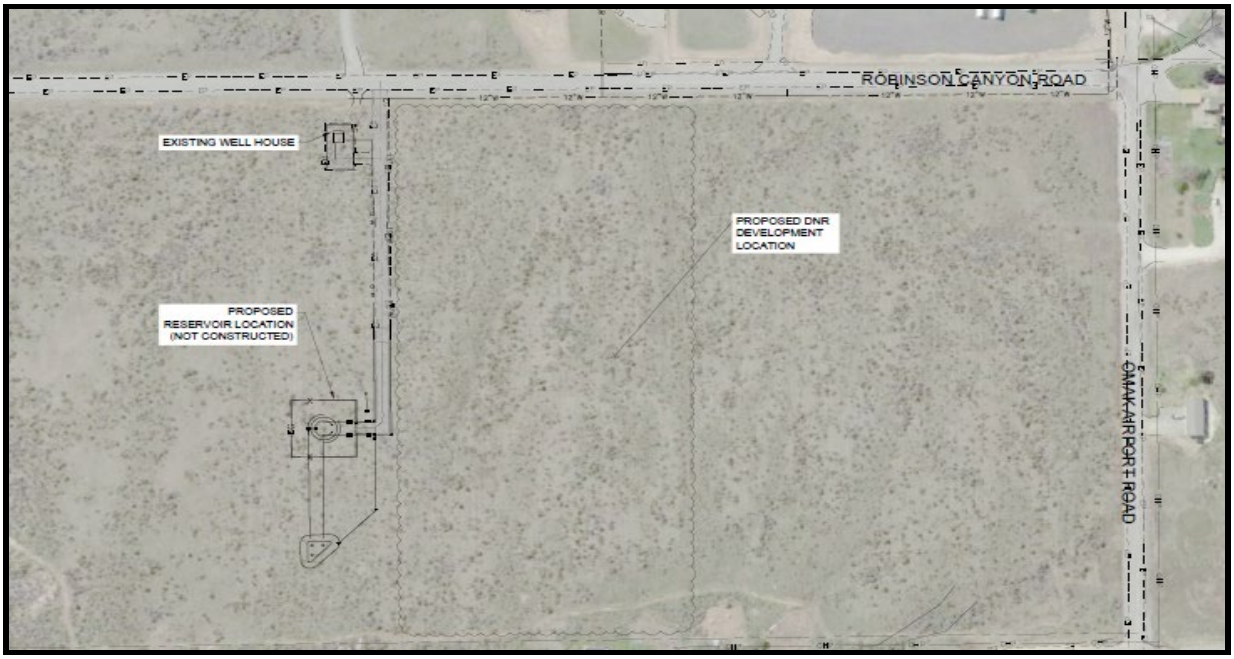
Figure 1: Extract of ALP dated 2007



FAA's Determination Regarding Changes to the Airport Layout Plan

For the purpose of determining whether the proposed project requires FAA ALP approval, we have determined that the proposed project would have no material impact on aircraft operations at, to, or from OMK and would not adversely affect the safety of people or property on the ground adjacent to the airport as a result of aircraft operations. We have also determined that the proposed project would not have an adverse effect on the value of prior Federal investments to a significant extent. Therefore, the FAA lacks the legal authority to approve or disapprove changes to the ALP to reflect the proposed project.

Figure 2: Extract of Aerial Map dated June 2022 showing project site and well house



FAA's Authority to Regulate Land Use

Under section 163(b) of the Act, the FAA has the legal authority to regulate land acquired with federal funding. However, the proposed project is considered a non-aeronautical use, consistent with the intended land use when acquired, therefore the FAA will not require a release of obligations of the subject parcel as depicted on the currently approved ALP. Additionally, the project will not affect the safe and efficient operation of aircraft or safety of people and property on the ground related to aircraft operations, so the FAA lacks the authority to regulate the use of land associated with this project.

Applicability of the National Environmental Policy Act (NEPA)

Because the FAA lacks the legal authority to approve or disapprove changes to the ALP, and a release of obligations is not required for this project, the agency does not have an action subject to NEPA.

Sponsor Obligations Still In Effect

This determination only addresses FAA's approval authority for this project. It is not a determination that the project complies with the sponsor's federal grant assurances. The sponsor must continue to comply with all of its Federal grant obligations, including but not limited to Grant Assurance #5, Preserving Rights and Powers; Grant Assurance #19, Operation and Maintenance; Grant Assurance #20, Hazard Removal and Mitigation; Grant Assurance #21, Compatible Land Use; and Grant Assurance #25 Airport Revenue.

Section 163 and Grant Assurance 25 require the airport sponsor to receive not less than fair market value for the use, lease, encumbrance, transfer, or disposal of land, any facilities on such land, or any portion of such land or facilities. The sponsor must ensure that all revenues generated as a result of this project may only be expended for the capital or operating costs of the airport; the local airport system; or other local facilities which are owned or operated by the owner or operator of the airport and which are directly and substantially related to the actual air transportation of passengers or property; or for noise mitigation purposes on or off the airport.

The sponsor also has the responsibility to comply with all federal, state, and local environmental laws and regulations.

Additionally, any development on this parcel is still subject to airspace review under the requirements of 14 CFR part 77, and Grant Assurance 29 still requires the airport to update and maintain a current ALP.

If you have further questions or need for clarification, please feel free to contact Agnes Fisher, Community Planner, WA State – Seattle ADO, at 206-231-3984.

Sincerely,

Ryan Zulauf
Acting Assistant Manager, Seattle Airports District Office

cc: Valerie Thorsen, Airport Capacity Program Manager, ANM Airports Division

APPENDIX C

FAA FORECAST APPROVAL LETTER

U.S. Department
of Transportation
Federal Aviation Administration

Northwest Mountain Region
Seattle Airports District Office
2200 S. 216th Street
Des Moines, WA 98198

July 20, 2023

Mr. Wayne Beetchenow
Omak Municipal Airport
City of Omak, Public Works Department
P.O. Box 72
Omak, WA 98841

Omak Municipal Airport (OMK), Omak, Washington
Master Plan Update: Grant 3-53-0042-014-2022
Approval of Aviation Forecast

Dear Mr. Beetchenow:

The Federal Aviation Administration (FAA), Seattle Airports District Office has reviewed the aviation forecast for the Omak Municipal Airport (OMK) Master Plan Update of May 31, 2023. The FAA approves the forecast for airport planning purposes, including Airport Layout Plan (ALP) development. The FAA approval is based on the following:

OMAK AIRPORT FORECASTS COMPARED TO THE FAA TAF

Forecast Period	Year	Omak Airport Forecast	FAA TAF	% Difference
Based Aircraft				
Base Year	2022	7	4	75%
Base Year +5	2027	7	4	75%
Base Year +10	2032	8	4	100%
Base Year +20	2042	9	4	103%
Total Operations				
Base Year	2022	1,330	23,750	-82%
Base Year +5	2027	1,378	23,750	-83%
Base Year +10	2032	1,428	23,750	-83%
Base Year +20	2042	1,544	23,750	-85%

Source FAA TAF and J-U-B

1. The difference between the FAA Terminal Area Forecast (TAF) and the Omak Municipal Airport forecast for total operations is outside the 10 percent allowance for the 5-year planning horizon, and outside 15% allowance for the 10-year planning horizon.

2. The difference between the TAF and OMK's forecast for based aircraft is outside the 10 percent allowance for the 5-year plans, and outside the 15 percent allowance for the 10-year planning horizon.

The forecast is based on reasonable planning assumptions, current data and appropriate forecasting methodologies. Further consideration is given to the continued use of the TAF legacy module and the operational changes experienced at Omak during the significant impacts of COVID-19 on the current aviation activity that caused lower than normal confidence in future growth projections.

The FAA also approves A-II existing critical aircraft typified by the Cessna Caravan family of aircraft, with Taxiway Design Group (TDG) of 1A; and B-II for the future critical aircraft typified by the Air Tractor 802F Fire Boss with a TDG of 1B.

This approval of forecast and critical aircraft with TDG does not automatically constitute a commitment on the part of the United States of America to participate in any development recommended in the master plan or shown on the ALP. Justification for each project will be based on activity levels at the time the project is requested for development, rather than this forecast approval. Further, the approved forecast may be subject to more analysis or the FAA may request a sensitivity test if this data is to be used for environmental or Part 150 noise planning purposes.

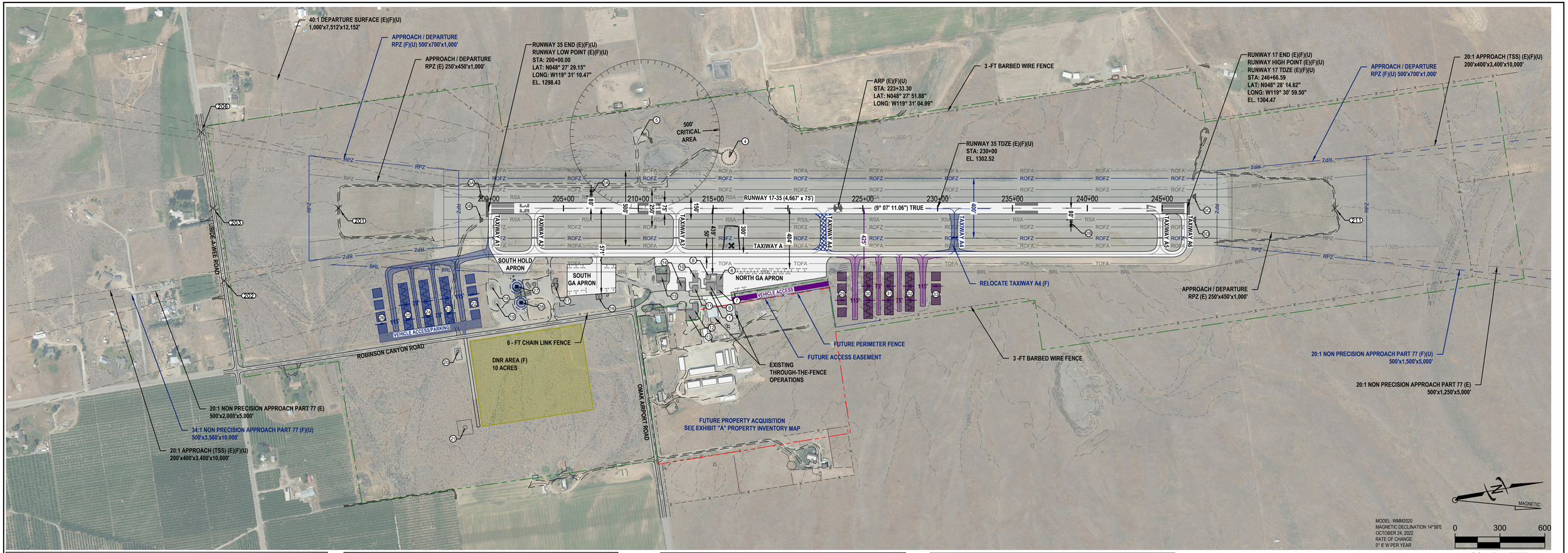
The SEA ADO will initiate a process to request the FAA Office of Aviation Policy and Plans (APO) to modify the TAF to reflect any updates to current forecast. Such updates may take some time to be officially reflected in the TAF.

If you have any questions regarding this forecast approval, please reach out to me at (206) 231-3984 or email: agnes.fisher@faa.gov

Sincerely,

Community Planner, Washington State
FAA Seattle Airports District Office

Cc: - Neal Fraser, J-U-B Inc.



EXISTING BUILDING AND FACILITIES LIST

#	DESCRIPTION	APPROXIMATE SIZE (SQ FT)	HEIGHT (FT)	TOP ELEV (FT)	FUTURE PART 77 PENETRATION
1	AIRPORT BEACON	N/A	36	1334	NONE
2A	RUNWAY 35 PAPI	N/A	3	1303	NONE
2B	RUNWAY 17 PAPI	N/A	2	1304	NONE
3A	RUNWAY 35 WEST REIL	N/A	2	1300	NONE
3B	RUNWAY 35 EAST REIL	N/A	2	1298	NONE
3C	RUNWAY 17 WEST REIL	N/A	2	1307	NONE
3D	RUNWAY 17 EAST REIL	N/A	2	1305	NONE
4	WINDSOCK	N/A	21	1328	NONE
5	ASOS	N/A	31	1330	NONE
6	HANGAR	3388	19	1318	NONE
7	HANGAR	1791	18	1317	NONE
8	HANGAR	1214	19	1317	NONE
9	HANGAR	3102	21	1319	NONE
10	HANGAR	2173	26	1324	NONE
11	HANGAR	1446	19	1317	NONE
12	HANGAR	3482	21	1318	NONE
13	FBO	3204	20	1317	NONE
14	HANGAR	2561	21	1321	NONE
15	TERMINAL	3062	21	1321	NONE
16	FUEL TANKS	N/A	9	1302	NONE
17	FIRE RETARDANT TANKS	N/A	8	1303	NONE
18	HELICOPTER PAD	395	N/A	1296	NONE
19	HELICOPTER PAD	392	N/A	1296	NONE
20	WELL HOUSE	N/A	N/A	1294	NONE
21	WATER TOWER (UNDER CONSTRUCTION)	N/A	162	1454	NONE

FUTURE BUILDING AND FACILITIES LIST

#	DESCRIPTION	DIMENSION	APPROXIMATE SIZE (SQ. FT.)	HEIGHT	MAX TOP ELEV.
22	BOX HANGAR (QTY 4)	60X60	3,600	25	1320
23	T-HANGAR (QTY 12)	60X312	18,720	25	1320
24	T-HANGAR (QTY 12)	60X312	18,720	25	1320
25	T-HANGAR (QTY 12)	60X312	18,720	25	1320
26	BOX HANGAR (QTY 4)	60X60	3,600	25	1320
27	HELICOPTER PAD	20X20	400	N/A	1320
28	HELICOPTER PAD	20X20	400	N/A	1320

ULTIMATE BUILDING AND FACILITIES LIST

#	DESCRIPTION	DIMENSION	APPROXIMATE SIZE (SQ. FT.)	HEIGHT	MAX TOP ELEV.
29	BOX HANGAR (QTY 4)	60X60	3,600	25	1320
30	T-HANGAR (QTY 12)	60X312	18,720	25	1321
31	T-HANGAR (QTY 11)	60X288	17,280	25	1322
32	T-HANGAR (QTY 12)	60X264	15,840	25	1323
33	BOX HANGAR (QTY 3)	60X60	3,600	25	1324

CLEARANCE TABLE WITHIN RUNWAY 17-35 PART 77 APPROACH SURFACES

OBS ITEM	LOCATION	GROUND ELEVATION	TRAVERSE WAY ADJUSTMENT	APPROACH ELEVATION	APPROACH CLEARANCE
201	EXISTING APPROACH CENTERLINE AT AIRPORT ACCESS ROAD	1295.1	+10'	1338.6	33.5'
201	FUTURE APPROACH CENTERLINE AT AIRPORT ACCESS ROAD	1295.1	+10'	1321.4	16.3'
202	EXISTING EAST EDGE OF APPROACH AT BIDE-A-WEE ROAD	1280.7	+15'	1376.8	81.1'
202	FUTURE EAST EDGE OF APPROACH AT BIDE-A-WEE ROAD	1280.7	+15'	1343.1	47.4'
203	EXISTING APPROACH CENTERLINE AT BIDE-A-WEE ROAD	1286.2	+15'	1380.5	84.3'
203	FUTURE APPROACH CENTERLINE AT BIDE-A-WEE ROAD	1286.2	+15'	1345.3	49.1'
206	EXISTING WEST EDGE OF APPROACH AT BIDE-A-WEE ROAD	1285.2	+15'	1384.4	84.2'
206	FUTURE WEST EDGE OF APPROACH AT BIDE-A-WEE ROAD	1285.2	+15'	1347.5	47.3'

NOTE : APPROACH CLEARANCE IS MEASURED FROM TOP OF TRAVERSE WAY ADJUSTMENT TO THE APPROACH SURFACE. A POSITIVE VALUE IS THE CLEARANCE FROM THE TOP OF THE TRAVERSE WAY TO THE APPROACH SURFACE. A NEGATIVE VALUE IS THE AMOUNT THE TRAVERSE WAY IS ABOVE THE APPROACH SURFACE.

CLEARANCE TABLE WITHIN RUNWAY 17 PART 77 APPROACH SURFACES

OBS ITEM	LOCATION	GROUND ELEVATION	TRAVERSE WAY ADJUSTMENT	APPROACH ELEVATION	APPROACH CLEARANCE
211	EXISTING APPROACH CENTERLINE AT AIRPORT ACCESS ROAD	1305.4	+10'	1344.0	28.4'

NOTES:
1. TRUE BEARINGS LISTED FOR RUNWAYS ARE GEODETIC VALUES. ELEVATIONS PUBLISHED ARE BASED ON NAD88 VERTICAL DATUM. HORIZONTAL DATUM IS NAD83/2011.
2. TAXIWAY A WIDTH: 50 FT, ALL OTHER TAXIWAYS ARE 35' UNLESS SHOWN OTHERWISE.
3. RUNWAY 35 PAPI-2 IS LOCATED AT STATION 206+84 (E,F,U), 82 FT FROM RUNWAY CENTERLINE. RUNWAY 17 PAPI-2 IS LOCATED AT STATION 238+91 (E,F,U), 82 FT FROM RUNWAY CENTERLINE.
4. RUNWAY 35 REILS ARE LOCATED AT STATION 190+60 (E,F,U), 77 FT FROM RUNWAY CENTERLINE. RUNWAY 17 REILS ARE LOCATED AT STATION 247+04 (F,U), 77 FT FROM RUNWAY CENTERLINE.
5. TAXIWAY EDGE SAFETY MARGIN (TESM); TAXIWAY DESIGN GROUP (TDG) 1A: 5 FT (E); 1B: 5 FT (F,U)
6. TAXIWAY SHOULDER WIDTH; TAXIWAY DESIGN GROUP (TDG) 1A: 10 FT (E); 1B: (F,U): 10 FT
7. TAXIWAY OBJECT FREE AREA (TOFA); AIRPLANE DESIGN GROUP(ADG) II: 124 FT (E,F,U)
8. TAXILANE OBJECT FREE AREA (TOFA); AIRPLANE DESIGN GROUP (ADG) II: 110 FT (E,F,U)
9. TAXIWAY/TAXILANE SAFETY AREA (TSA); AIRPLANE DESIGN GROUP (ADG) II: 79 FT (E,F,U)
10. RUNWAY SHOULDER WIDTH; B-II: 10 FT (E,F,U)
11. ALL FENCES ARE 6 FEET IN HEIGHT UNLESS OTHERWISE NOTED.
12. THE DEPICTED 25-FOOT BUILDING RESTRICTION LINE IS INTENDED AS A GUIDELINE ONLY. FUTURE HANGARS MUST RECEIVE A NO-HAZARD DETERMINATION VIA FAA FROM 7460 FILING.
13. APRON (E,F,U) 21,800 SQUARE YARDS.

LEGEND

EXISTING	FUTURE SHORT TERM	ULTIMATE LONG TERM	DESCRIPTION
			BUILDING/STRUCTURE
			AIRPORT PAVEMENT AND MARKINGS
			PAVEMENT TO BE REMOVED
			ROADWAY
			AIRPORT PROPERTY LINE
			AIRPORT PROPERTY EASEMENTS
			THRESHOLD SITTING APPROACH SURFACE (TSS)
			DEPARTURE SURFACE
			PART 77 APPROACH SURFACE
BRL	BRL	BRL	25 FOOT BUILDING RESTRICTION LINE (BRL)
ROFA	ROFA	ROFA	RUNWAY OBJECT FREE AREA (ROFA)
RPZ	RPZ	RPZ	RUNWAY PROTECTION ZONE (RPZ)
RSA	RSA	RSA	RUNWAY SAFETY AREA (RSA)
ROFZ	ROFZ	ROFZ	RUNWAY OBSTACLE FREE ZONE (ROFZ)
TOFA	TOFA	TOFA	TAXIWAY OBJECT FREE AREA (TOFA)
			NAVAID CRITICAL AREA
			FENCE
			THRESHOLD LIGHTS
			LANDING AID (PAPI-2)
			LANDING AID (REILS)
			SUPPLEMENTAL WINDCONE
			AIRPORT REFERENCE POINT (ARP)
			TREE
			GROUND CONTOURS (2' INTERVAL)
			FENCE TO BE RELOCATED
			AIRPORT CONTROL STATION - PACS/SACS

"THE PREPARATION OF THESE DOCUMENTS WAS FINANCED IN PART THROUGH A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, AS AMENDED. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THESE DOCUMENTS BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS."

REUSE OF DRAWINGS

J-U-B SHALL RETAIN ALL COMMON LAW, STATUTORY, COPYRIGHT AND OTHER RESERVED RIGHTS OF THESE DRAWINGS, AND THE SAME SHALL NOT BE REUSED WITHOUT J-U-B'S PRIOR WRITTEN CONSENT. ANY REUSE WITHOUT WRITTEN CONSENT BY J-U-B WILL BE AT CLIENT'S SOLE RISK AND WITHOUT LIABILITY OR LEGAL EXPOSURE TO J-U-B.

REVISION

NO.	DESCRIPTION	FAA UPDATE	APR	DATE

FAA APPROVAL

FEDERAL AVIATION ADMINISTRATION
NORTHWEST MOUNTAIN REGION
SEATTLE AIRPORTS DISTRICT OFFICE

DATE

SPONSOR APPROVAL

OMAK, WASHINGTON

DATE

City of Omak
WASHINGTON STATE
heart of the okanogan

J-U-B ENGINEERS, INC.
999 W. Riverside Ave.
Suite 700
Spokane, WA 99201
Phone: 509.458.3727
www.jub.com

FILE : 45-21-036_AF-2
JUB PROJ. # : ----
DRAWN BY: MDS
DESIGN BY: SMD
CHECKED BY: AAD

ONE INCH
AT FULL SIZE, IF NOT ONE INCH, SCALE ACCORDINGLY

OMAK MUNICIPAL AIRPORT, AIRPORT LAYOUT PLAN
OMAK, WASHINGTON

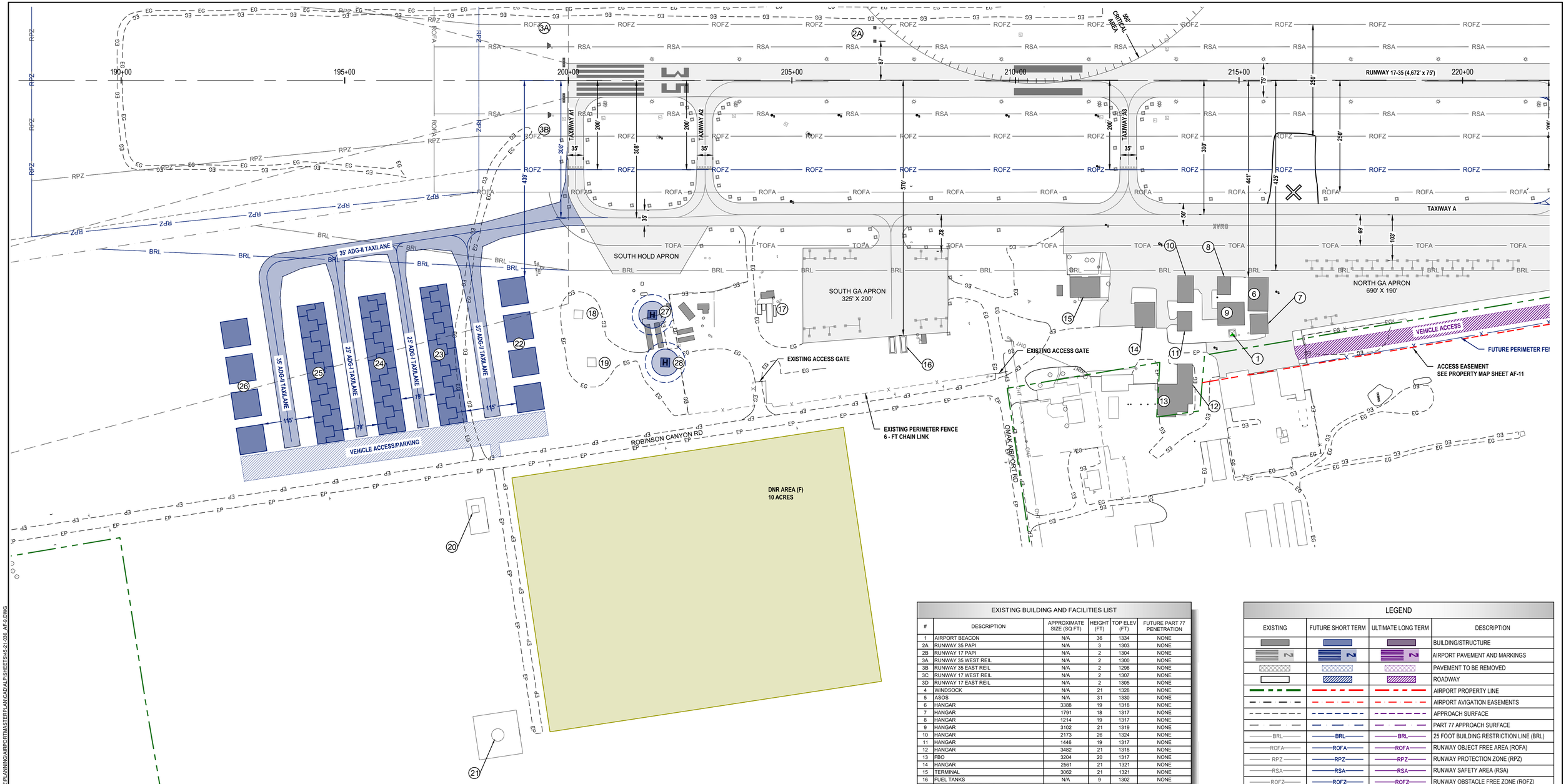
AIRPORT LAYOUT PLAN

LAST UPDATED: 8/15/2023

SHEET NUMBER:

AF-2

Plot Date:8/15/2023 10:02 AM Plotted By: Shawn Dulin
Date Created:8/15/2023 \\JUB.COM\CENTRAL\CLIENTS\WA\OMAK\CITY\PROJECTS\45-21-036_ALP\UPDATE\PLANNING\AIRPORTMASTERPLAN\CAD\ALP-SHEETS\45-21-036_AF-2.DWG



NOTES:
1. TRUE BEARINGS LISTED FOR RUNWAYS ARE GEODETIC VALUES. ELEVATIONS PUBLISHED ARE BASED ON NAD88 VERTICAL DATUM. HORIZONTAL DATUM IS NAD83/2011.
2. TAXIWAY A WIDTH: 50 FT, ALL OTHER TAXIWAYS ARE 35' UNLESS SHOWN OTHERWISE.
3. RUNWAY 35 PAPI-2 IS LOCATED AT STATION 206+84 (E,F,U), 82 FT FROM RUNWAY CENTERLINE. RUNWAY 17 PAPI-2 IS LOCATED AT STATION 238+91 (E,F,U), 82 FT FROM RUNWAY CENTERLINE.
4. RUNWAY 35 REILS ARE LOCATED AT STATION 190+60 (E,F,U), 77 FT FROM RUNWAY CENTERLINE. RUNWAY 17 REILS ARE LOCATED AT STATION 247+04 (F,U), 77 FT FROM RUNWAY CENTERLINE.
5. TAXIWAY EDGE SAFETY MARGIN (TESM), TAXIWAY DESIGN GROUP (TDG) 1A: 5 FT (E); 1B: 5 FT (F,U)
6. TAXIWAY SHOULDER WIDTH; TAXIWAY DESIGN GROUP (TDG) 1A: 10 FT (E); 1B: (F,U): 10 FT
7. TAXIWAY OBJECT FREE AREA (TOFA); AIRPLANE DESIGN GROUP(ADG) II: 124 FT (E,F,U)
8. TAXILANE OBJECT FREE AREA (TOFA); AIRPLANE DESIGN GROUP (ADG) II: 110 FT (E,F,U)
9. TAXIWAY/TAXILANE SAFETY AREA (TSA); AIRPLANE DESIGN GROUP (ADG) II: 79 FT (E,F,U)
10. RUNWAY SHOULDER WIDTH; B-II: 10 FT (E,F,U)
11. ALL FENCES ARE 6 FEET IN HEIGHT UNLESS OTHERWISE NOTED.
12. THE DEPICTED 25-FOOT BUILDING RESTRICTION LINE IS INTENDED AS A GUIDELINE ONLY. FUTURE HANGARS MUST RECEIVE A NO-HAZARD DETERMINATION VIA FAA FROM 7460 FILING.
13. APRON (E,F,U) 21,800 SQUARE YARDS.

MODEL: WMM2020
MAGNETIC DECLINATION 14°56'E
OCTOBER 24, 2022
RATE OF CHANGE
0° 6' W PER YEAR

MAGNETIC

0 100 200
SCALE IN FEET

EXISTING BUILDING AND FACILITIES LIST

#	DESCRIPTION	APPROXIMATE SIZE (SQ FT)	HEIGHT (FT)	TOP ELEV (FT)	FUTURE PART 77 PENETRATION
1	AIRPORT BEACON	N/A	36	1334	NONE
2A	RUNWAY 35 PAPI	N/A	3	1303	NONE
2B	RUNWAY 17 PAPI	N/A	2	1304	NONE
3A	RUNWAY 35 WEST REIL	N/A	2	1300	NONE
3B	RUNWAY 35 EAST REIL	N/A	2	1298	NONE
3C	RUNWAY 17 WEST REIL	N/A	2	1307	NONE
3D	RUNWAY 17 EAST REIL	N/A	2	1305	NONE
4	WINDSOCK	N/A	21	1328	NONE
5	ASOS	N/A	31	1330	NONE
6	HANGAR	3388	19	1318	NONE
7	HANGAR	1791	18	1317	NONE
8	HANGAR	1214	19	1317	NONE
9	HANGAR	3102	21	1319	NONE
10	HANGAR	2173	26	1324	NONE
11	HANGAR	1446	19	1317	NONE
12	HANGAR	3482	21	1318	NONE
13	FBO	3204	20	1317	NONE
14	HANGAR	2561	21	1321	NONE
15	TERMINAL	3062	21	1321	NONE
16	FUEL TANKS	N/A	9	1302	NONE
17	FIRE RETARDANT TANKS	N/A	8	1303	NONE
18	HELICOPTER PAD	395	N/A	1296	NONE
19	HELICOPTER PAD	392	N/A	1296	NONE
20	WELL HOUSE	N/A	N/A	1294	NONE
21	WATER TOWER (UNDER CONSTRUCTION)	N/A	162	1454	NONE

FUTURE BUILDING AND FACILITIES LIST

#	DESCRIPTION	DIMENSION	APPROXIMATE SIZE (SQ. FT.)	HEIGHT	MAX TOP ELEV.
22	BOX HANGAR (QTY 4)	60X60	3,600	25	1320
23	T-HANGAR (QTY 12)	60X312	18,720	25	1320
24	T-HANGAR (QTY 12)	60X312	18,720	25	1320
25	T-HANGAR (QTY 12)	60X312	18,720	25	1320
26	BOX HANGAR (QTY 4)	60X60	3,600	25	1320
27	HELICOPTER PAD	20X20	400	N/A	1320
28	HELICOPTER PAD	20X20	400	N/A	1320

LEGEND

EXISTING	FUTURE SHORT TERM	ULTIMATE LONG TERM	DESCRIPTION
			BUILDING/STRUCTURE
			AIRPORT PAVEMENT AND MARKINGS
			PAVEMENT TO BE REMOVED
			ROADWAY
			AIRPORT PROPERTY LINE
			AIRPORT AVIGATION EASEMENTS
			APPROACH SURFACE
			PART 77 APPROACH SURFACE
BRL	BRL	BRL	25 FOOT BUILDING RESTRICTION LINE (BRL)
ROFA	ROFA	ROFA	RUNWAY OBJECT FREE AREA (ROFA)
RPZ	RPZ	RPZ	RUNWAY PROTECTION ZONE (RPZ)
RSA	RSA	RSA	RUNWAY SAFETY AREA (RSA)
ROFZ	ROFZ	ROFZ	RUNWAY OBSTACLE FREE ZONE (ROFZ)
TOFA	TOFA	TOFA	TAXIWAY OBJECT FREE AREA (TOFA)
			NAVAID CRITICAL AREA
X	X	X	FENCE
			THRESHOLD LIGHTS
			LANDING AID (PAPI-2)
			LANDING AID (REILS)
			SUPPLEMENTAL WINDCONE
			AIRPORT REFERENCE POINT (ARP)
			TREE

"THE PREPARATION OF THESE DOCUMENTS WAS FINANCED IN PART THROUGH A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, AS AMENDED. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THESE DOCUMENTS BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS."

REVISION

NO.	DESCRIPTION	FAA UPDATE	APR.	DATE

City of Omak
WASHINGTON STATE
heart of the okanogan

J-U-B ENGINEERS, INC.
999 W. Riverside Ave.
Suite 700
Spokane, WA 99201
Phone: 509.458.3727
www.jub.com

FILE : 45-21-036_AF-9
JUB PROJ. # : ----
DRAWN BY: MDS
DESIGN BY: SMD
CHECKED BY: AAD

ONE INCH
AT FULL SIZE, IF NOT ONE INCH, SCALE ACCORDINGLY

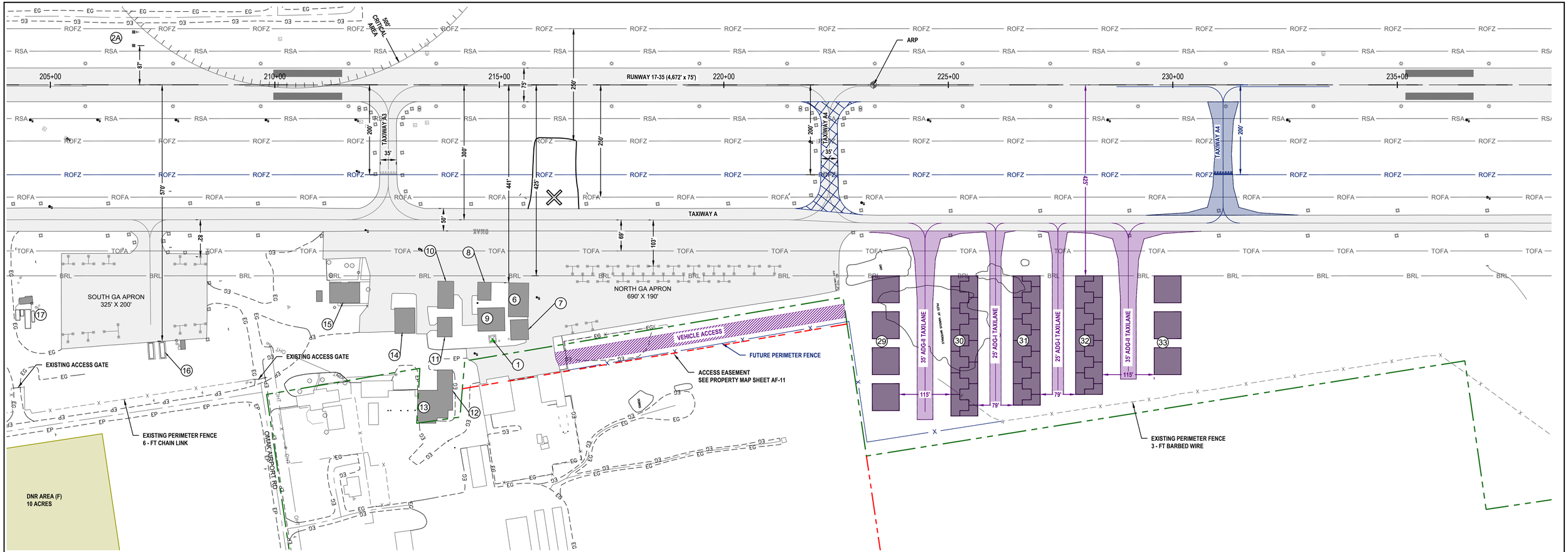
OMAK MUNICIPAL AIRPORT, AIRPORT LAYOUT PLAN
OMAK, WASHINGTON

TERMINAL AREA PLAN - SOUTH

LAST UPDATED: 8/15/2023

SHEET NUMBER:
AF-9A

Plot Date:8/15/2023 10:52 AM Plotted By: Shawn Dulin
Date Created:7/21/2023 \\JUB.COM\CENTRAL\CLIENTS\WA\OMAK\CITYPROJECTS\45-21-059_ALP\UPDATE\PLANNING\AIRPORTMASTERPLAN\CAD\ALP\SHEETS\45-21-059_AF-9.DWG



EXISTING BUILDING AND FACILITIES LIST					
#	DESCRIPTION	APPROXIMATE SIZE (SQ FT)	HEIGHT (FT)	TOP ELEV (FT)	FUTURE PART 77 PENETRATION
1	AIRPORT BEACON	N/A	36	1334	NONE
2A	RUNWAY 35 PAPI	N/A	3	1303	NONE
2B	RUNWAY 17 PAPI	N/A	2	1304	NONE
3A	RUNWAY 35 WEST REIL	N/A	2	1300	NONE
3B	RUNWAY 35 EAST REIL	N/A	2	1298	NONE
3C	RUNWAY 17 WEST REIL	N/A	2	1307	NONE
3D	RUNWAY 17 EAST REIL	N/A	2	1305	NONE
4	WINDSOCK	N/A	21	1328	NONE
5	ASOS	N/A	31	1330	NONE
6	HANGAR	3388	19	1318	NONE
7	HANGAR	1791	18	1317	NONE
8	HANGAR	1214	19	1317	NONE
9	HANGAR	3102	21	1319	NONE
10	HANGAR	2173	26	1324	NONE
11	HANGAR	1446	19	1317	NONE
12	HANGAR	3482	21	1318	NONE
13	FBO	3204	20	1317	NONE
14	HANGAR	2561	21	1321	NONE
15	TERMINAL	3062	21	1321	NONE
16	FUEL TANKS	N/A	9	1302	NONE
17	FIRE RETARDANT TANKS	N/A	8	1303	NONE
18	HELICOPTER PAD	395	N/A	1296	NONE
19	HELICOPTER PAD	392	N/A	1296	NONE
20	WELL HOUSE	N/A	N/A	1294	NONE
21	WATER TOWER (UNDER CONSTRUCTION)	N/A	162	1454	NONE

FUTURE BUILDING AND FACILITIES LIST					
#	DESCRIPTION	DIMENSION	APPROXIMATE SIZE (SQ. FT.)	HEIGHT	MAX TOP ELEV.
29	BOX HANGAR (QTY 4)	60X60	3,600	25	1320
30	T-HANGAR (QTY 12)	60X312	18,720	25	1321
31	T-HANGAR (QTY 11)	60X288	17,280	25	1322
32	T-HANGAR (QTY 10)	60X264	15,840	25	1323
33	BOX HANGAR (QTY 3)	60X60	3,600	25	1324

LEGEND			
EXISTING (E)	FUTURE (F) SHORT TERM	ULTIMATE (U) LONG TERM	DESCRIPTION
			BUILDING/STRUCTURE
			AIRPORT PAVEMENT AND MARKINGS
			PAVEMENT TO BE REMOVED
			ROADWAY
			AIRPORT PROPERTY LINE
			AIRPORT AVIGATION EASEMENTS
			APPROACH SURFACE
			PART 77 APPROACH SURFACE
BRL	BRL	BRL	25 FOOT BUILDING RESTRICTION LINE (BRL)
ROFA	ROFA	ROFA	RUNWAY OBJECT FREE AREA (ROFA)
RPZ	RPZ	RPZ	RUNWAY PROTECTION ZONE (RPZ)
RSA	RSA	RSA	RUNWAY SAFETY AREA (RSA)
ROFZ	ROFZ	ROFZ	RUNWAY OBSTACLE FREE ZONE (ROFZ)
TOFA	TOFA	TOFA	TAXIWAY OBJECT FREE AREA (TOFA)
			NAVAID CRITICAL AREA
X	X	X	FENCE
			THRESHOLD LIGHTS
			LANDING AID (PAPI-2)
			LANDING AID (REILS)
			SUPPLEMENTAL WINDCONE
			AIRPORT REFERENCE POINT (ARP)
			TREE
			GROUND CONTOURS (1' INTERVAL)

NOTES:
1. TRUE BEARINGS LISTED FOR RUNWAYS ARE GEODETIC VALUES. ELEVATIONS PUBLISHED ARE BASED ON NAD88 VERTICAL DATUM. HORIZONTAL DATUM IS NAD83/2011.
2. TAXIWAY A WIDTH: 50 FT, ALL OTHER TAXIWAYS ARE 35' UNLESS SHOWN OTHERWISE.
3. RUNWAY 35 PAPI-2 IS LOCATED AT STATION 206+84 (E,F,U), 82 FT FROM RUNWAY CENTERLINE. RUNWAY 17 PAPI-2 IS LOCATED AT STATION 238+91 (E,F,U), 82 FT FROM RUNWAY CENTERLINE.
4. RUNWAY 35 REILS ARE LOCATED AT STATION 190+60 (E,F,U), 77 FT FROM RUNWAY CENTERLINE. RUNWAY 17 REILS ARE LOCATED AT STATION 247+04 (F,U), 77 FT FROM RUNWAY CENTERLINE.
5. TAXIWAY EDGE SAFETY MARGIN (TESM); TAXIWAY DESIGN GROUP (TDG) 1A: 5 FT (E); 1B: 5 FT (F,U)
6. TAXIWAY SHOULDER WIDTH: TAXIWAY DESIGN GROUP (TDG) 1A: 10 FT (E); 1B: (F,U): 10 FT
7. TAXIWAY OBJECT FREE AREA (TOFA): AIRPLANE DESIGN GROUP(ADG) II: 124 FT (E,F,U)
8. TAXILANE OBJECT FREE AREA (TOFA); AIRPLANE DESIGN GROUP (ADG) II: 110 FT (E,F,U)
9. TAXIWAY/TAXILANE SAFETY AREA (TSA); AIRPLANE DESIGN GROUP (ADG) II: 79 FT (E,F,U)
10. RUNWAY SHOULDER WIDTH: B-II: 10 FT (E,F,U)
11. ALL FENCES ARE 6 FEET IN HEIGHT UNLESS OTHERWISE NOTED.
12. THE DEPICTED 25-FOOT BUILDING RESTRICTION LINE IS INTENDED AS A GUIDELINE ONLY. FUTURE HANGARS MUST RECEIVE A NO-HAZARD DETERMINATION VIA FAA FROM 7460 FILING.
13. APRON (E,F,U) 21,800 SQUARE YARDS.

MODEL: WMM2020
MAGNETIC DECLINATION 14°56'E
OCTOBER 24, 2022
RATE OF CHANGE
0° 6' W PER YEAR

MAGNETIC

0 100 200
SCALE IN FEET

"THE PREPARATION OF THESE DOCUMENTS WAS FINANCED IN PART THROUGH A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, AS AMENDED. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THESE DOCUMENTS BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS."

REVISION

NO.	DESCRIPTION	FAA UPDATE	APR.	DATE

City of Omak
WASHINGTON STATE
heart of the okanogan

J-U-B ENGINEERS, INC.
999 W. Riverside Ave.
Suite 700
Spokane, WA 99201
Phone: 509.458.3727
www.jub.com

FILE : 45-21-036_AF-9
JUB PROJ. # : ----
DRAWN BY: MDS
DESIGN BY: SMD
CHECKED BY: AAD

ONE INCH
AT FULL SIZE, IF NOT ONE INCH, SCALE ACCORDINGLY

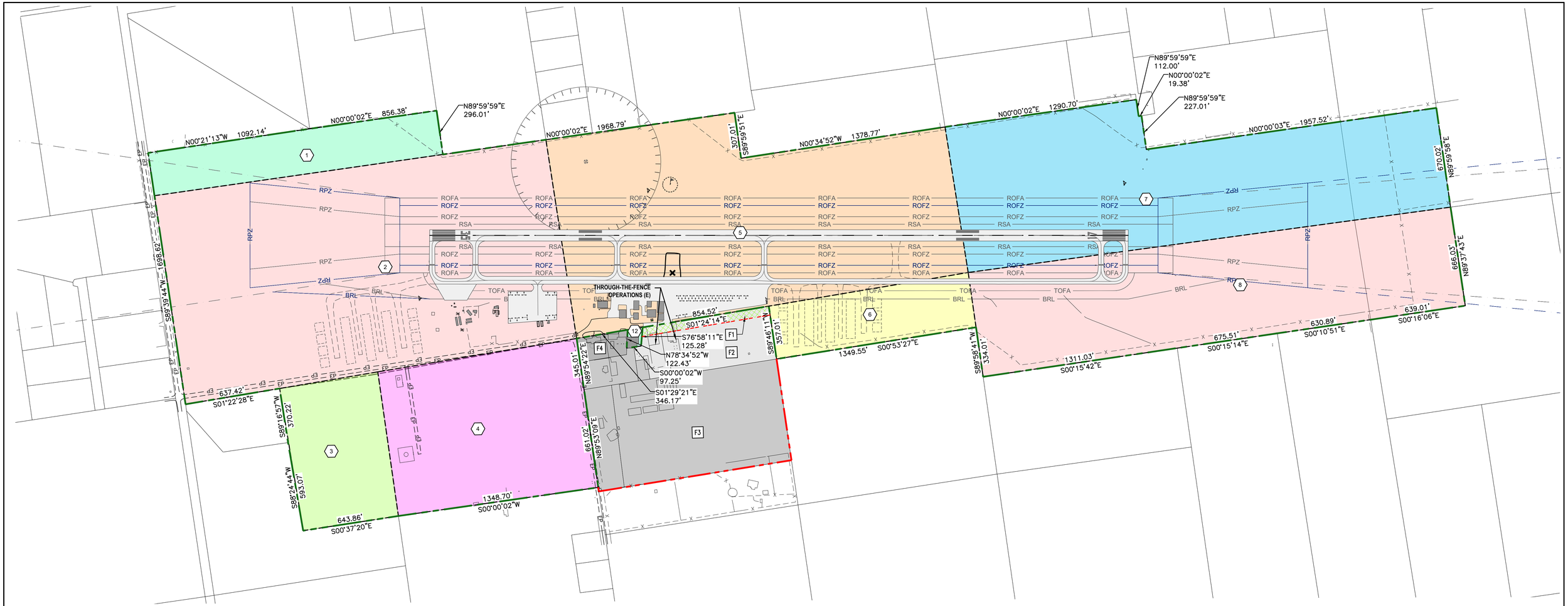
OMAK MUNICIPAL AIRPORT, AIRPORT LAYOUT PLAN
OMAK, WASHINGTON

TERMINAL AREA PLAN - NORTH

LAST UPDATED: 8/15/2023

SHEET NUMBER:
AF-9B

Plot Date:8/15/2023 10:53 AM Plotted By: Shawn Dulin
Date Created:7/21/2023 J:\JUB.COM\CENTRAL\CLIENTS\WA\OMACITY\PROJECTS\45-21-036_AF\PUPDATE\PLANNING\AIRPORTMASTERPLAN\CAD\ALP-SHEETS\45-21-036_AF-9.DWG

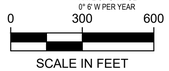


AIRPORT PROPERTY PARCEL INFORMATION

⬡	OWNER	GRANTOR	TYPE OF INTEREST	ACREAGE (APPROX.)	INSTRUMENT	TAX PARCEL #	BOOK AND PAGE	DATE OF ACQUISITION	FAA GRANT/YEAR	ACQUISITION PURPOSE	REMARKS
1	CITY OF OMAK	UNITED STATES OF AMERICA	FEE	15.00		3426112005	Deed Book 150, Page 498	5/31/1956		AIRFIELD	CITY MUST MAINTAIN THE PROJECT CONSTRUCTED THEREON
2	CITY OF OMAK	STATE OF WASHINGTON	FEE	80.00				7/3/1956		AIRFIELD	OMAK FLIGHT STRIP
3	CITY OF OMAK	STATE OF WASHINGTON	FEE	15.00				7/3/1956		AIRFIELD	OMAK FLIGHT STRIP
4	CITY OF OMAK	UNITED STATES OF AMERICA	FEE	30.00		3426123005	Deed Book 150, Page 498	5/31/1956		AIRFIELD	CITY MUST MAINTAIN THE PROJECT CONSTRUCTED THEREON
5	CITY OF OMAK	UNITED STATES OF AMERICA	FEE	70.00		3426111013	Deed Book 150, Page 498	5/31/1956		AIRFIELD	CITY MUST MAINTAIN THE PROJECT CONSTRUCTED THEREON
6	CITY OF OMAK	UNITED STATES OF AMERICA	FEE	10.00		3426124007	Deed Book 150, Page 498	5/31/1956		AIRFIELD	CITY MUST MAINTAIN THE PROJECT CONSTRUCTED THEREON
7	CITY OF OMAK	UNITED STATES OF AMERICA	FEE	50.00		3426022004	Deed Book 150, Page 498	5/31/1956		AIRFIELD	CITY MUST MAINTAIN THE PROJECT CONSTRUCTED THEREON
8	CITY OF OMAK	UNITED STATES OF AMERICA	FEE	40.00		3426013005	Deed Book 150, Page 498	5/31/1956		AIRFIELD	CITY MUST MAINTAIN THE PROJECT CONSTRUCTED THEREON
12	CITY OF OMAK	AIRWAYS EAST	FEE	0.27						AIRFIELD	PURCHASED PROPERTY

PROPERTY TO BE AQUIRED

f	OWNER	TYPE OF INTEREST	ACREAGE (APPROX.)	DATE OF ACQUISITION
F1	AIRWAY EAST, LLC	EASEMENT	1.2	
F2	AIRWAY EAST, LLC	FEE	7.1	
F3	AIRPORT RENTALS, LLC	FEE	22.4	
F4	REVOE & YVETTE HILL	FEE	1.2	



LEGEND

EXISTING	FUTURE	DESCRIPTION
		BUILDING/STRUCTURE
		AIRPORT PAVEMENT AND MARKINGS
		AIRPORT LEASE AREA OR EASEMENT LINE
		AIRPORT AVIGATION EASEMENTS
		AIRPORT PARCEL LINES
		PART 77 APPROACH SURFACE
BRL	BRL	BUILDING RESTRICTION LINE (BRL)
ROFA	ROFA	RUNWAY OBJECT FREE AREA (ROFA)
RPZ	RPZ	RUNWAY PROTECTION ZONE (RPZ) (APPROACH AND DEPARTURE)
RSA	RSA	RUNWAY SAFETY AREA (RSA)
ROFZ	ROFZ	RUNWAY OBSTACLE FREE ZONE (ROFZ)
TOFA	TOFA	TAXIWAY OBJECT FREE AREA (TOFA)
		NAVAID CRITICAL AREA
X	X	FENCE

NOTES:
1. THIS INFORMATION SHOULD BE USED FOR PLANNING PURPOSES ONLY. MEETS AND BOUNDS LABELS OF PROPERTY LINE ARE BASED ON BEST AVAILABLE INFORMATION FROM CONDUCTED RESEARCH. AN OFFICIAL LAND SURVEY SHOULD BE COMPLETED TO ATTAIN ACCURATE PROPERTY BOUNDARIES.
2. RESEARCH CONDUCTED TO PROVIDE THE INFORMATION PRESENTED ON THIS SHEET DID NOT YIELD CONVEYANCE DOCUMENTS FOR ALL PORTIONS OF THESE PARCELS AS THEY ARE DEPICTED ON THE OKANOGAN COUNTY ASSESSOR'S WEBSITE. FOR A PROPER AND COMPLETE BOUNDARY RESOLUTION A RECORD OF SURVEY MUST BE PERFORMED AND CHAIN OF TITLE REQUESTED FOR EACH PARCEL.

SPONSOR APPROVAL

OMAK, WASHINGTON DATE

"THE PREPARATION OF THESE DOCUMENTS WAS FINANCED IN PART THROUGH A PLANNING GRANT FROM THE FEDERAL AVIATION ADMINISTRATION AS PROVIDED UNDER SECTION 505 OF THE AIRPORT AND AIRWAY IMPROVEMENT ACT OF 1982, AS AMENDED. THE CONTENTS DO NOT NECESSARILY REFLECT THE OFFICIAL VIEWS OR POLICY OF THE FAA. ACCEPTANCE OF THESE DOCUMENTS BY THE FAA DOES NOT IN ANY WAY CONSTITUTE A COMMITMENT ON THE PART OF THE UNITED STATES TO PARTICIPATE IN ANY DEVELOPMENT DEPICTED HEREIN NOR DOES IT INDICATE THAT THE PROPOSED DEVELOPMENT IS ENVIRONMENTALLY ACCEPTABLE IN ACCORDANCE WITH APPROPRIATE PUBLIC LAWS."

REVISION

NO.	DESCRIPTION	FAA UPDATE	APR.	DATE

City of Omak WASHINGTON STATE
heart of the okanogan

J-U-B ENGINEERS, INC.
999 W. Riverside Ave.
Suite 700
Spokane, WA 99201
Phone: 509.458.3727
www.jub.com

FILE :	45-21-036-AF-11
JUB PROJ. # :	---
DRAWN BY:	MDS
DESIGN BY:	SMD
CHECKED BY:	AAD

ONE INCH
AT FULL SIZE, IF NOT ONE INCH, SCALE ACCORDINGLY

OMAK MUNICIPAL AIRPORT, AIRPORT LAYOUT PLAN
OMAK, WASHINGTON

EXHIBIT "A" AIRPORT PROPERTY INVENTORY MAP

LAST UPDATED: 7/21/2023

SHEET NUMBER:

AF-13

Plot Date:8/15/2023 11:03 AM Plotted By: Shawn Dulin
Date Created:7/17/2023 \\JUB.COM\CENTRAL\CLIENTS\WA\OMAKCITY\PROJECTS\45-21-036_ALP\UPDATE\PLANNING\AIRPORTMASTERPLAN\CAD\ALP-SHEETS\45-21-036-AF-11.DWG

MEMORANDUM

To: Cindy Gagné, Mayor

From: Wayne Beetchenow, Public Works Director

Date: September 5, 2023

Subject: **Resolution No. 75-2023** Approving the Authorization of a Grant Application with The Washington State Recreation and Conservation Office

---

The Attached Resolution No. 75-2023, A RESOLUTION OF THE OMAK CITY COUNCIL, AUTHORIZING A GRANT APPLICATION WITH THE WASHINGTON STATE, RECREATION AND CONSERVATION OFFICE, is forwarded for your consideration.

This is a grant to help with maintenance backlogs within our parks. The grant is up to $100,000 with no match from the city.

This is a new grant program and we a working with Kurt to determine what projects may best benefit our park system and align with the program requirements.

We are requesting approval of this resolution.

RESOLUTION NO. 75-2023

A RESOLUTION OF THE OMAK CITY COUNCIL AUTHORIZING A GRANT APPLICATION WITH THE WASHINGTON STATE, RECREATION AND CONSERVATION OFFICE

WHEREAS, the Recreation and Conservation Office, (RCO) has funding available that can fund maintenance backlogs for key local parks facilities; and

WHEREAS, an Applicant Resolution/Authorization form is required to initiate the application for RCO funds; and

WHEREAS, this application designates City authorized representatives and identifies grant application requirements; and

WHEREAS, the application needs to be submitted through the RCO website (PRISM) by September 18, 2023

NOW THEREFORE, BE IT RESOLVED by the City Council of the City of Omak that the Recreation and Conservation Office Applicant Resolution/Authorization, attached hereto as "Exhibit A", is approved. The Mayor is authorized to execute said application on behalf of the City.

INTRODUCED AND APPROVED by the City Council of the City of Omak this _____day of _____, 2023.

APPROVED:

_____
Cindy Gagné, Mayor

ATTEST:

_____
Connie Thomas, City Clerk

APPROVED AS TO FORM:

_____
Michael D. Howe, City Attorney