

EASTON STATE AIRPORT AIRPORT LAYOUT PLAN REPORT



FINAL REPORT

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION
AVIATION DIVISION



Easton State Airport

Airport Layout Plan Report

Prepared for

Washington State Department of Transportation
Aviation Division



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Motto

Innovative leadership in state aeronautics

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Easton State Airport ALP Report Executive Summary

Easton State Airport is located in the community of Easton, about 13 miles west of Cle Elum in unincorporated Kittitas County, Washington. The airport is owned and operated by the WSDOT Aviation Division.

The airport was constructed in the late 1930s to provide an emergency landing area on the east side of the Cascade Range. Snoqualmie Pass is located 14 miles northwest.

The airport provides general aviation access to nearby recreational areas; supports search & rescue and mountain flying training; provides critical facility capabilities for local and regional emergency management, helicopter wildfire response, and helicopter medevac operations.

Airfield facilities include a single lighted turf runway (2,640' x 100'), an adjacent turf aircraft parking area, one unlighted wind cone, and a web camera. The airport has two campsites for day use and overnight use, but has no potable water. The airport has electrical and telephone service (for runway lights and webcam).

Easton State Airport is operated seasonally and is normally closed from October 1 to June 1 (except for approved military and public safety/law enforcement helicopter operations).

Short Term Improvements

- Improve airport access (existing or new access road options)
- Pilot flight planning station
- Extend EWD water service to airport w/ hydrants
- Install segmented circle (@ existing wind cone)
- Survey runway approaches – tree clearing/obstruction removal
- Evaluate runway threshold configurations based on obstruction clearances; RSA grading/fill
- Realign perimeter road at east end of runway
- Property Acquisition (west end - perimeter road)
- Construct emergency medevac helipad (lighted)
- New electrical building and rotating beacon

Longer Term Improvements

- Aircraft tiedown and campsite improvements
- Utility extensions (water, electric, communication)
- Construct airport restroom (CXT toilet, showers, potable water, etc.)
- Agency-funded emergency staging area and access road improvements
- Runway improvements: turf and soil amendments (drought resistant seed, import soil mix), replace runway edge lighting
- Construct turf irrigation system

Easton State Airport Action Items

Surveying/Mapping

1. Perform obstruction survey (inner runway approaches); define tree clearing limits
2. Update Sundry Site Plan to depict current/future WSDOT property interests and surveyed boundary

Land Use (Coordination with Kittitas County)

1. Correct errors in current airport overlay zone language (KCC Section 17.58.040B)
2. Ensure compliance with (corrected) overlay zoning for future development in airport vicinity

Agency Coordination

1. Coordinate with Washington State DNR and users for managing trail and mixed use activities on, and adjacent to the airport
2. Coordinate with agencies to support emergency staging or seasonal fire response capabilities and related facility improvements

Real Estate

1. Acquire right of way or perpetual easements for improved airport access roads:
 - Existing private road (Silver Trail Lane) and/or new access road (DNR property)
 - Emergency access at west end of airport (connect to end of Silver Trail Road)
2. Acquire control of perimeter road right of way (west section of existing road - approx. 0.31 acres)
3. Acquire/manage aviation easements for RPZs

Safety

1. Realign airport perimeter road clear of east runway end and runway safety area
2. Periodically clear trees in runway approaches and lateral areas
3. Prepare Wildlife Hazard Management Plan
4. Prepare management plan for non-aviation activities impacting airport operations

Environmental

1. Implement SEPA for ALP-defined short term and long term improvements

Capital Improvements and Airport Maintenance

1. Create a reliable source of funding to support the system of WSDOT Aviation-Owned and Managed Airports
2. Implement Short Term CIP priorities (safety and facility improvements)
3. Proactively manage facility maintenance, including turf areas, vegetation, and tree control

Chapter 1 – Introduction and Study Purpose

IN THIS CHAPTER

- Overview of Washington’s State-Managed Airports
- Overview of WSDOT Aviation airport planning requirements
- What is an Airport Layout Plan Report?
- Study Purpose and Need

Introduction

The Washington State Department of Transportation - Aviation Division (WSDOT Aviation) manages a group of general aviation airports in Washington, known as the “State-Managed Airports.” The state-managed airports include facilities that are owned and operated by WSDOT Aviation, and ones that are owned by other state or federal agencies and operated by WSDOT Aviation through Special Use Permits or leases.

State-managed airports perform several functional roles within Washington’s system of public use airports. The state-managed airport system provides unique benefits for Washington by fulfilling various activity needs or purposes that have been determined to bring value to the state. The state-managed airports provide benefits to the state that might not otherwise be afforded if not for the existence of the state-managed airport system. Specifically, the primary benefits or values to the state are represented in the following five main areas:

- 1) Support of forest firefighting activity;
- 2) Transportation access to remote communities;
- 3) Support of emergency medical operations;
- 4) Transportation access to recreational areas; and
- 5) Flight safety enhancement.

Most of the state-managed airports are located in remote areas with unpaved runways and basic facilities. Many of the airports operate on a seasonal (summer) basis with fixed opening and closing dates, or by published Notice to Airmen (NOTAM) at the discretion of airport management (**Washington Administrative Code (WAC) 468-250-030**). The WSDOT Aviation Division State Airports Manager is responsible for the operation and maintenance of all state-managed airports.

The WSDOT Aviation [State-Managed Airport Handbook](#) (February 2011) serves as a primary resource for this study. The handbook provides detailed information about individual airports, policies, performance measures, and guidelines for the maintenance, operation and construction of the state-managed airports. The handbook is organized in seven chapters:

- Chapter 1 – Aviation System Overview
- Chapter 2 – State-Managed Airport System Overview
- Chapter 3 – Airport Safety and Security Guidelines
- Chapter 4 – Airport Maintenance Guidelines
- Chapter 5 – Airport Construction Guidelines
- Chapter 6 – Airport Planning Guidelines
- Chapter 7 – Airport Management Guidelines

Of particular importance to the development of the Airport Layout Plan (ALP) is the analysis of airport and airspace planning standards contained in Chapter 6. These standards will be evaluated in detail in the airport design standards and facility requirements analysis portion of the ALP Report (Chapter 3).

State-Managed Airports

The 2015 Washington State Airport Guide lists 15 state-managed airports open to fixed wing and rotor aircraft and one airport (Lester) that is closed to fixed wing aircraft. The current group of state-managed airports open to both fixed wing and rotor aircraft are depicted and summarized in **Figure 1.1** and **Table 1-1**.

FIGURE 1.1: MAP OF STATE-MANAGED AIRPORTS



TABLE 1-1: WASHINGTON STATE-MANAGED AIRPORTS

	State Airport	FAA Identifier	LATS Airport Classification	County	Property Ownership	Closed Oct 1- Jun 1 ¹
1.	Bandera	4WO	Rural Essential	King	WSDOT Aviation	Yes
2.	Copalis Beach	S16	Rural Essential	Grays Harbor	State of Washington	Yes
3.	Easton	ESW	Rural Essential	Kittitas	WSDOT Aviation	Yes
4.	Easton	27W	Rural Essential	Kittitas	WSDOT Aviation	Yes
5.	Little Goose Lock & Dam	16W	Rural Essential	Columbia	U. S. Army Corps of Engineers	By Published NOTAM
6.	Lower Granite	00W	Rural Essential	Whitman	U. S. Army Corps of Engineers	By Published NOTAM
7.	Lower Monumental	W09	Rural Essential	Walla Walla	U. S. Army Corps of Engineers	By Published NOTAM
8.	Methow Valley	S52	Local Service	Okanogan	WSDOT Aviation	By Published NOTAM
9.	Ranger Creek	21W	Rural Essential	Pierce	U.S. Forest Service	Yes
10.	Rogersburg	D69	Rural Essential	Asotin	U.S. Bureau of Land Management	No ^{2, 3}
11.	Skykomish	S88	Rural Essential	King	WSDOT Aviation	Yes
12.	Stehekin	6S9	Rural Essential	Kittitas	National Park Service	Yes
13.	Sullivan Lake	09S	Rural Essential	Pend Oreille	U.S. Forest Service	Yes
14.	Tieton	4S6	Rural Essential	Yakima	WSDOT Aviation	Yes
15.	Woodland	W27	Local Service	Cowlitz/Clark	WSDOT Aviation	By Published NOTAM
16.	Lester (Rotor Only)	15S	Rural Essential	King	WSDOT Aviation	Yes
1. As published in Washington Administrative Code (WAC) 468-250-030 2. FAA Airport/Facility Directory Airport Remarks: "Airport closed Nov. 15 to Mar. 1" 3. Rogersburg State Airport not listed in WAC 468-250-030						

Functional Role of State-Managed Airports

The 2009 Washington Long Term Air Transportation Study (LATS) established a classification system for Washington’s 138 public use airports based on a variety of facility and use criteria. The classifications range from “Commercial Service” to “Rural Essential” for land airports, and “Seaplane Bases” for seaplane bases listed in the FAA Chart Supplement (formerly Airport/Facility Directory (A/FD)).

The state-managed airports are typically located in sparsely populated, remote areas and meet the criteria for “Rural Essential Airports.” Two exceptions are Woodland State Airport and Methow Valley State Airport, which are located near small communities and are classified as “Local Service Airports.” LATS provides the following summary for these airport categories:

Rural Essential Airports and Seaplane Bases

“The Rural Essential Airports and Seaplane Bases serve the narrowest scopes of general aviation. An airport in one of these two classifications typically develops due to geographic circumstances (e.g., a residential airpark, recreational destination, body of water, or emergency landing area in the mountains), rather than demand from the population within its service area.”

These airports typically serve recreation communities or leisure destinations and remote backcountry locations. These airports may also be strategically located for emergency and firefighting access in mountainous or other remote areas. Rural Essential Airports also include airparks, which combine residential housing with an airport. Many of these airports have private owners, are located in unpopulated areas or small unincorporated communities, lack paved runways, and/or may only be used seasonally.”

Local Service Airports

“The Local Service Airports typically serve smaller communities with populations less than 6,000. Airports in this classification accommodate a narrower range of general aviation activities and aircraft.”

“Local Service Airports primarily serve small-sized communities and are used by small piston-driven general aviation aircraft. Local Service Airports host lower levels of aviation activity than Community Service Airports and typically have fewer, if any, pilot or aircraft services. Typically, these airports are owned by a public entity and have 30-minute (driving time) service area coverage. Local Service Airports meet the following threshold criteria: • Have fewer than 20 based aircraft. • Have a paved runway.”

The LATS criteria for Rural Essential Airports are consistent with the operational and facility characteristics of most state-managed airports, with two exceptions: private ownership and residential airparks are not applicable to state-managed airports. The LATS criteria for Local Service Airports are consistent with the operational and facility characteristics of Methow Valley State Airport and Woodland State Airport.

WSDOT Aviation Requirement for Planning

WSDOT Aviation manages the Airport Aid Grant Program that provides funding for the planning and development of public use airports in Washington. For airports not eligible for FAA funding, the WSDOT Aviation grant program is the primary source of outside funding available to airport sponsors.

As an element of its grant program, WSDOT Aviation has adopted grant assurances to ensure consistency in program eligibility and use of funds. The WSDOT Aviation grant assurances are terms and conditions used to protect the public’s investment in the aviation system. They require airport sponsors to maintain and operate their facilities safely, efficiently and in accordance with specified conditions, as prescribed in **Washington Administrative Code (WAC) Chapter 468-260 Airport Aid Grant Assurances**.

Among these grant assurances is a requirement that airport sponsors develop and maintain current ALPs. **Section 468-260-030 Sponsor Certification (Number 31a)** defines the requirement for airport sponsors: *“...It will provide airport layout plans (ALPs) as prescribed in WSDOT’s Aviation Grant Procedures Manual. It will keep up-to-date at all times an airport layout plan of the airport.”*

With the exception of Methow Valley State Airport, which is included in the National Plan of Integrated Airport Systems (NPIAS) and receives FAA funding, none of the other state-managed airports had airport master plans, airport layout plans, or detailed capital improvement programs when entering this project. The state-managed airports are maintained to provide safe operating conditions and have undergone minimal planning, as needed, to address critical safety issues. Detailed evaluations of airport design and airspace planning standards have not been conducted in recent years.

A system-wide level of planning was initially conducted for state-managed airports through the preparation of the State-Managed Airport Handbook (February 2011).¹ This handbook provides guidance specifically applicable to these airports, including the development of modified airport design and airspace planning standards that may be used when conventional FAA standards cannot be met. A primary recommendation of the handbook is to develop “a master plan, airport layout plans, and capital improvement program” for all state-managed airports.

To fulfill the recommendations of the State-Managed Airport Handbook and to ensure consistency with the requirements applied to other Washington public airports in **WAC 468-260**, WSDOT Aviation initiated this project to develop airport layout plans for its group of state-managed airports. The effort to develop these planning tools for all state-managed airports will be completed over a multi-year period based on funding availability.

What is an Airport Layout Plan Report?

An Airport Layout Plan (ALP) report is a master planning study for small airports with lower levels of aviation activity and basic facility needs. The preparation of an ALP report follows airport planning guidelines recognized by FAA and WSDOT Aviation. The goal of an ALP report is to provide the framework needed to effectively manage existing activities and guide future airport improvements that are cost-effective while considering potential environmental or community impacts.

¹ State-Managed Airport Handbook (M3072, February 2011, Washington State Department of Transportation – Aviation Division)

The ALP project for state-managed airports includes a technical report and a set of technical drawings for each airport. The report describes existing conditions and airport uses, and provides a review of FAA and WSDOT Aviation design standards and other facility needs identified through the planning process. Based on this assessment, the plan will identify proposed improvements and evaluate options for accommodating those improvements on the airport. The proposed improvements are presented for public and agency review, which will lead to the recommended elements of the preferred alternative. The ALP report includes a capital improvement program that identifies and prioritizes recommended improvement projects. Future improvements are reflected in the ALP drawing set.

The ALP drawings graphically depict current and future configurations of facilities, protected areas, and airspace associated with the airport. WSDOT Aviation will use the ALP drawings and the ALP report as the primary guidance to prioritize future improvements and investment at the airport.

Study Purpose and Need

The primary purpose of the ALP project is to prepare planning documents that will support the ongoing mission of Washington State Department of Transportation Aviation Division (WSDOT Aviation) to effectively manage a group of small, remote airports that provide basic operational functions within the state's aviation system. No change to the currently defined functional role of the state-managed airports is anticipated. However, optimizing facility performance and safety, as measured within the airport's defined functional role, is a primary objective the project.

Study Purpose: Develop Airport Layout Plan (ALP) drawings and technical reports in accordance with WSDOT Aviation standards for the group of state-managed airports not included in the Federal Aviation Administration (FAA) National Plan of Integrated Airport Systems (NPIAS).

Study Need: Develop a standardized set of planning tools to maximize the safe and efficient use of state-managed airports, support facility improvements consistent with the LATS-defined functional role of these airports and the guidelines provided in the *State-Managed Airport Handbook*, and meet all applicable grant assurances associated with the WSDOT Aviation Airport Aid Program.

Chapter 2 – Airport Facilities

IN THIS CHAPTER

- Description of Airport Site and Facilities
- Overview of Airport Property
- Airport Users and Activity
- Overview of Land Use Controls, Multi-Modal Access

Airport Setting

Easton State Airport is located in Easton, on the eastern slopes of the Cascade Mountains in western Kittitas County. Easton is an unincorporated community with an estimated population of 419 (2010 Census).

Easton State Airport is located 14 nautical miles southeast of Snoqualmie Pass, adjacent to U.S. Interstate 90 (I-90) on a well-established, east-west general aviation travel route through the Cascade Range. The airport provides the closest landing area on the east side of the summit along this route; other nearby airports are 13 to 17 miles away. The importance of establishing an emergency landing area for small aircraft that led to development of the airport in the 1930s remains critical today. In addition to general aviation use, the airport's geographic location provides access to critical emergency services including medevac helicopters and wild fire response activities, and is well positioned within the I-90 corridor to support local and regional emergency response activities. Kittitas Valley Fire District No. 3 has an unlighted helicopter pad and windsock located on the west side of the railroad tracks in Easton that also accommodates medevac flights.

Easton State Airport is located in the valley that extends beyond the south end of Little Kachess Lake. Adjacent valleys to the east and west contain Cle Elum Lake and Keechelus Lake. Easton Ridge, located directly northeast of the airport, is a major terrain feature. Lake Easton State Park provides year round camping and 24,000 feet of freshwater access on Lake Easton within its 516 acres.² The park offers extensive hiking, cross country skiing and snowmobile trails. Easton is located between two sections of the Wenatchee National Forest.

The Yakima River is located less than 1 mile south of the runway (connects to both ends of Lake Easton). Silver Creek travels along the eastern airport property line, approximately 235 feet from the east end of Runway 9/27 at its nearest point.

Easton State Airport is owned and operated by the Washington State Department of Transportation – Aviation Division. Other public use airports located in Kittitas County include Cle Elum Municipal Airport, De Vere Field (Cle Elum), and Bowers Field (Ellensburg).

² Washington Department of Parks Webpage (Lake Easton State Park)

Airport History

According to the 2011 WSDOT Aviation State-Managed Airport Handbook, the airport was constructed in the 1930s by the Civil Aeronautics Authority (CAA) as an emergency landing strip through the east-west mountain flyway. The airport was later conveyed to the Washington State Aeronautics Commission, which later became the WSDOT Aviation Division.

An airport record form from 1947 depicts a 400 x 2,975-foot turf runway, designated “WNW/ESE.” The form indicates that 50-foot tall trees were located 300 feet from the west end of the runway, resulting in a 10:1 unobstructed approach path. 40-foot tall trees were located 800 feet from the east end of the runway, resulting in a 25:1 unobstructed approach path. The airport had runway edge lights, a 5-inch green beacon, one lighted wind cone, a fan marker building and two other structures. Airport acreage was listed at 160 acres.

According to WSDOT property records and survey information, the airport currently consists of 37.7 acres of property (fee simple ownership). An original section of the airport, originally intended for a second (north-south) runway, was traded for property at the east end of the airport.

Site Description

Easton State Airport is located north of West Sparks Road and I-90. The airport consists of a rectangular-shaped parcel, approximately 400 feet wide, that is aligned with the east-west orientation of the runway; two additional 10-acre sections are located at the east end of the airport, oriented along the established north-south quadrangle section lines. The Washington Department of Natural Resources (DNR) has an easement on airport property to provide surface access around the eastern perimeter of airport property.

Surface access (10-foot wide gravel road) to the airport is provided through an easement³ granted to WSDOT Aviation from the adjacent property owners. The 20-foot wide access and utility easement extends 1,323.45 feet north of West Sparks Road on Silver Trail Lane, a private road that extends over two privately-owned parcels. The utilities serving the airport are located within this easement.

Airport management has indicated a need to clear/reduce trees along the sides and beyond the ends of the runway for obstruction removal and accommodate airfield and staging facilities.

Airport Operation

Easton State Airport is open on a seasonal basis as prescribed by state law (Washington Administrative Code (WAC) 468-250-030): “(1) *Because of surface conditions and/or snow cover, the [airport] will be closed to all traffic (except in an emergency) from approximately October 1 to June 1 of each year by NOTAM.*” The current FAA Chart Supplement also notes the October 1 to June 1 airport closed dates, with the following addition:

³ Easton State Airport Road and Utility Easement (executed 2/24/94)

“Arpt CLOSED Oct 1 thru Jun 1 exc for approved military and public safety/law enforcement helicopter ops.”

Airport management has the authority to change opening and closing dates by published NOTAM based on unusual weather conditions. However, the ability to reschedule crews for the opening and closing site work presents a significant logistical challenge for airport management, given the number of airports involved and their wide geographic distribution.

Airport Users

Easton State Airport accommodates a variety of uses including recreation and emergency response. The airport provides seasonal access for camping, fishing, and other activities around Lake Easton State Park, Little Kachess Lake and other recreational facilities in the Easton area. The recreational facilities located on the airport support day use and limited camping activities for airport users.

Easton State Airport provides medical evacuation (MEDEVAC) helicopter access in upper Kittitas County. As noted in the WSDOT State-Managed Airport Handbook *“The airport is also commonly used for medical evacuation flights (10 to 15 times per year) primarily to transport people with injuries sustained from automobile accidents on Interstate 90.”*

The airport accommodates seasonal helicopter firefighting operations on an as-needed basis, which varies greatly based on the severity and location of fire activity within the region. The airport is also available to accommodate helicopter-based emergency response staging operations, agency resource management activities, search and rescue flights, and backcountry & mountain flying instruction.

Airport Activity

The level of flight activity associated with Easton State Airport is affected by several factors, particularly the scheduled four-month (June-September) operating period. In addition, the turf runway surface and runway length effectively limit the type and size of aircraft that can operate at the airport.

The 2012 WSDOT Aviation Airport Economic Profile for Easton State Airport listed an estimated 200 annual aircraft operations (takeoffs and landings). There are no based aircraft at the airport. The current FAA Airport Record Form (5010-1) lists 300 annual aircraft operations at Easton State Airport for the 12 months ending in December 2014. Another previous estimate of activity for Easton State Airport is contained in the 2011 WSDOT Aviation State-Managed Airport Handbook (1,000 to 2,000 annual operations).

The 2009 WSDOT Aviation Long Term Air Transportation Study (LATS) provides projections of airport activity organized by regional transportation planning organizations (RTPO), rather than for individual general aviation airports. The RTPO general aviation operations forecast projects average annual growth of 1.44 percent for the Quad County RTPO airports. However, Easton State’s share of this regional activity

was not significant (less than 1 percent) and there is no indication that the anticipated growth, which is influenced by several general aviation airports in the region, would be applicable.

The range of air traffic estimates (200 to 2,000) previously generated for the airport provides a reasonable indication of future air traffic potential that is well within the operational capabilities of the existing facility. Demand-driven needs such as the number of aircraft parking positions may be affected by peak activity levels to some degree.

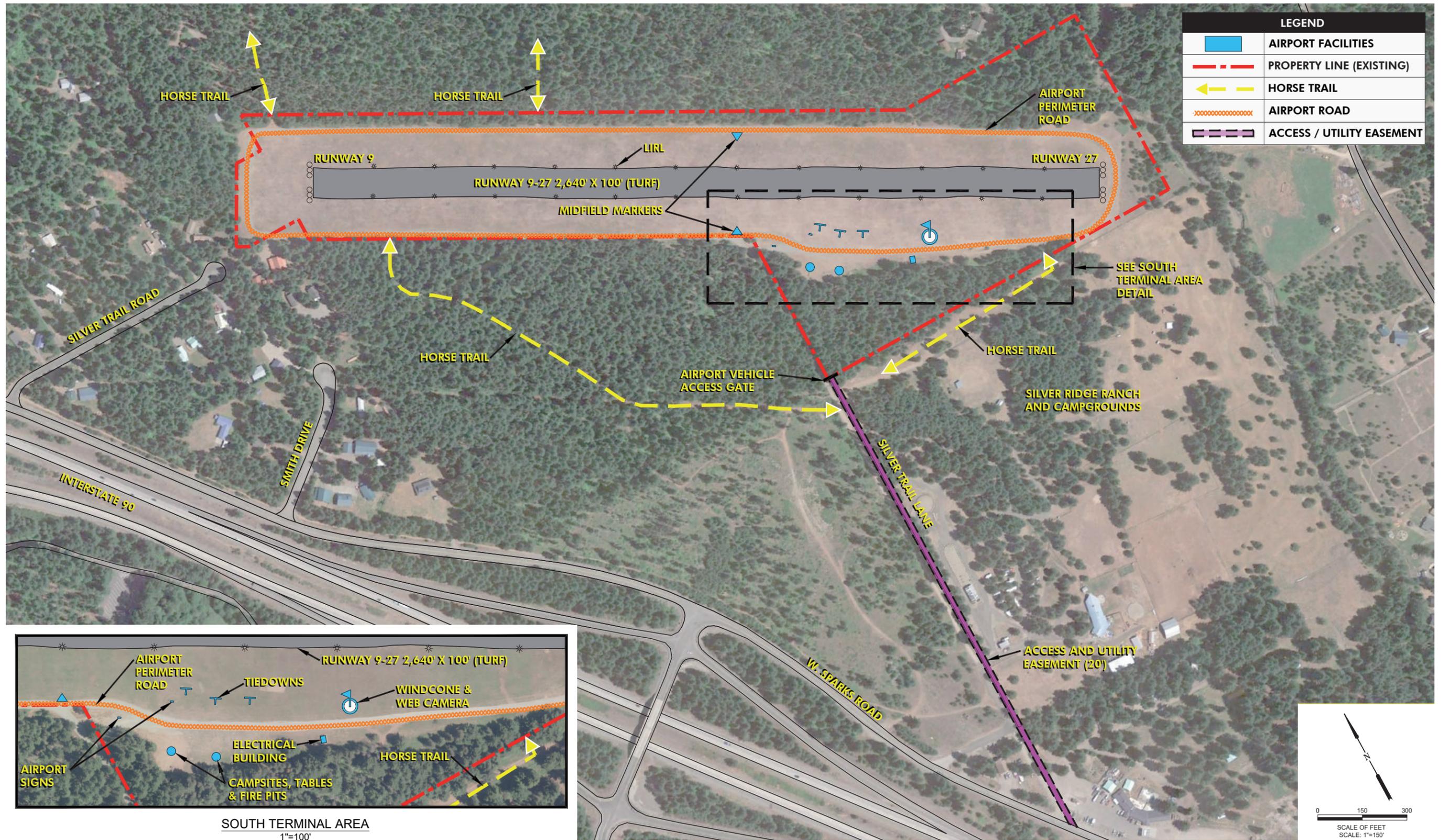
It is also recognized that emergency response activity may easily exceed normal activity levels, and are limited only by the operational resources required by the incident management team and the ability of the airport to physically support the response. In an emergency situation, the airport has the ability to accommodate a large volume of emergency helicopter flight operations ground support operations and staging areas. The volume of air traffic activity within the normal or emergency range is not expected to present a significant constraint in accommodating future airfield needs at the airport. Basic safety-related improvements at Easton State Airport are not driven by traffic volume, but by the need to provide a safe operating environment for a wide range of users, including recreation and emergency response.

Existing Facilities

The airfield facilities include a single, lighted turf runway, a turf aircraft parking area, and one wind cone. The runway is bordered by a gravel perimeter roadway used to provide access for airport maintenance and emergency operations. One building (airport electrical building) is located on the airport. The airport is equipped with a web camera that is mounted on the wind cone on the south side of the runway. Two campsites are located near the east end of the runway, on the south side of the perimeter road. A vehicle gate is located on the access road, at the south corner of airport property. **Table 2-1** summarizes existing airport facilities. **Figure 2.1** depicts existing facilities at Easton State Airport.

TABLE 2-1: AIRPORT DATA

Easton State Airport (ESW) – Existing Facilities	
Airport Site	
Airport Elevation	2,226.0' Mean Sea Level (MSL) – Estimated (High Point: Runway 9 end)
Acreage	37.7 Acres (WSDOT Property Records)
Airside Facilities	
Runway 9/27 - Dimensions Surface / Strength / Gradient	2,640' x 100' Turf / N/A / 0.19 Percent (slopes uphill to the west)
Traffic Pattern	Left Traffic (1,000' AGL / 3,226' MSL) As published in WSDOT Aviation Airport Guide
Taxiways	None
Runway Lighting/Reflectors	Low Intensity Runway Lights (LIRL)
Visual Aids	Wind Cone (1); Mid-runway markers (2 orange and white checkerboard painted panels)
Landside Facilities	
Aircraft Parking	Designated parking area on south side of runway (3 tiedowns installed) near east end
Helicopter Parking	No designated parking areas; runway is used during emergency activities
Structures on Airport	Airport electrical building/storage
Fencing/Security	None (limited wood or wire fencing located on adjacent parcels); Vehicle gate (locked) on airport access road at property line
Auto Parking	No designated areas. Undesignated parking available near airfield
Access/Service Roads	10-foot wide airport access road (Silver Trail Lane) 20-foot wide perimeter road (gravel) extends around the runway
Services	
Telephone	Telephone service on site (for airport web camera)
Fuel	None
Restroom	None
Campsites	Two campsites located adjacent to aircraft parking (2 ADA-accessible fire rings, 4 picnic tables, and tent pads) No water, garbage, or restroom facilities on site
Water (potable)	None on site
Electric	Electrical service on site (for airport web camera, runway lights)



RUNWAY

Runway 9/27 is 2,640 x 100 feet with a turf surface (unirrigated). The turf runway is located within an overall clearing approximately 360 feet wide that accommodates several protected areas including runway safety area and object free area. The clearing expands to approximately 500 feet wide near the aircraft tiedowns and campsites. The runway is bordered by lighting along its edges and ends.

The runway surface has several bare areas or poor turf condition, due in part to soil and seeding conditions, and the absence of irrigation during the summer months. Airport management has identified the need for soil amendments, leveling and re-grading, and reseeded with a durable and drought tolerant turf to address the current surface conditions. Adding irrigation to the turf areas will be considered as a future improvement.

Airport management limits use of vehicles within the runway environment and constructed a roadway around the runway perimeter to provide access for maintenance, emergency, and fire agency staging vehicles.

RUNWAY EDGE LIGHTS/REFLECTORS

The runway is equipped with low intensity runway lights (LIRL), installed along both sides of the runway, and at each runway end (threshold lights). The LIRL system was installed as part of the original runway construction, which also included a rotating beacon (no longer installed). The LIRL system is equipped with a photocell switch, which activates the lighting between dusk and dawn. Airport management reports the LIRL system operates normally, although the manufacturer is no longer in business and replacement parts and supplies are not readily available. The edge lights provide visual reference and situational awareness for pilots during both normal daylight and low light conditions. The edge lights are removed when the airport is closed for the winter season and reinstalled when the airport is opened each year.

WSDOT Aviation requested an evaluation of the use of retroreflective edge markers at state-managed airports and a comparison of models currently available that meet FAA standards. The evaluation of the use of retroreflective edge markers is provided in the facility requirements chapter (Chapter 3) and a summary of retroreflective edge markers airport currently approved for airport use is provided in **Appendix B**, located at the end of the report. It is anticipated that existing LIRL system will reach the end of its useful life within the current twenty-year planning period. Options include replacement/upgrade of the edge lighting system or use of the retroreflectors noted above.

RUNWAY ENVIRONMENT

Several defined surfaces associated with the runway are intended to provide a safe operating environment for aircraft. These surfaces are reflected in various airport design and airspace planning standards that are discussed in detail in the facility requirements analysis (Chapter 3). Most of these surfaces are contained within the cleared area surrounding the runway, are generally free of built or natural obstructions, and have only minor changes in elevation relative to the runway. Tree and vegetation growth beyond the sides and ends of the runway encroach into some of the protected areas.

The current FAA Airport Master Record (Form 5010-1) indicates that the Runway 9 has an approach obstruction clearance slope of 1:1, with trees (+55 feet above runway end) located 57 feet from the runway end (201 feet north of extended runway centerline). The 5010 lists Runway 27 as having a 4:1 obstruction clearance slope, with trees (+92 feet above runway end) located 336 feet from the runway end (on the extended runway centerline). The airport perimeter road that extends around the runway is not reflected in the 5010 obstruction analysis. The road is used by airport management and during emergency management activities; the restricted use of the road reduces the impact of the non-conforming use. Vehicles traveling on the roadway beyond the runway ends would fully penetrate the runway approach surfaces (0:1 obstruction clearance).

A detailed description of the non-conforming items will be provided in the facility requirements assessment (Chapter 3) and options for addressing these items will be examined in the alternatives analysis.

TAXIWAYS

There are no designated taxiways on the airport. Aircraft move freely on the turf surface between the runway and adjacent aircraft parking area and use the runway for taxiing operations.

VISUAL AIDS

The airport has one unlighted wind cone located near the east end of the runway on its south side. The wind cone is installed on a tilt-down mount and is in good condition. The airport does not have a segmented circle. The airport web camera is mounted on top of the wind cone support.

The runway is equipped with two panel markers (one on each side of the runway) at its approximate midpoint. The triangular-shaped plywood panels are mounted on three 4"x4" pressure treated wooden posts. The panels are painted with an orange and white checkerboard, consistent with marking standards for obstacles at airports.

A flush-mounted concrete circle marking the middle of the runway was previously installed on the runway. The circle (painted white) was noted in 1955 Civil Aeronautics Administration (CAA) airport record forms. The circle appears to have been removed or grown over, however, its outline remains visible in aerial photography.

AIRCRAFT PARKING

The airport has a small turf aircraft parking area located east of mid-runway, on the south side. The area is equipped with 3 sets of small aircraft tiedown anchors. The airport guest book is located adjacent to the tiedowns.

DAY USE AND CAMPSITE FACILITIES

The airport has limited facilities available for day use or camping located on the south side of the runway. There existing on-airport amenities include four picnic tables, two ADA-accessible fire rings, and two small tent pads. The airport does not have potable water or restroom facilities.

Aircraft Traffic Pattern and Communications

Runway 9/27 uses standard left traffic patterns that are 1,000 feet above ground level (AGL). Based on an airfield elevation of 2,226 feet above mean sea level (MSL), the traffic pattern altitude for Runway 9/27 is 3,226 feet MSL. The airport has close-in mountainous terrain located immediately north and south of the runway and is situated in a valley near the south end of Little Kachess Lake.

Easton State Airport is located 14 miles southeast of Snoqualmie Pass, 7 miles east of Stampede Pass, and 10 miles north of Green Pass. The Seattle Sectional aeronautical chart identifies MEFs (Maximum Elevation Figure) 6,500 to 14,800 feet MSL in all the quadrants surrounding Easton State Airport.

The runway has a downhill grade of approximately 0.19 percent from the west end to the east end, which has a nominal effect on aircraft operations. The airport has limited property ownership or control for the areas beyond each end of the runway. The area beyond the west end of the runway is heavily forested, which limits obstruction clearance for aircraft operations. The western property line is located less than 250 feet from the end of Runway 9. The area beyond the east end of the runway is also forested, although the majority of close-in trees are located on airport property.

Easton State Airport is an uncontrolled field and pilots use the airport Common Traffic Advisory Frequency (CTAF) for communications on the ground and near the airport. The CTAF is 122.9 MHz.

Airspace and Navigational Aids

Easton State Airport is a lighted airfield that operates under visual flight rules (VFR) conditions. The nearest ground-based electronic navigational aid is the Ellensburg VORTAC⁴, located 33 nautical miles southeast. The Wenatchee VOR/DME⁵ is located at Pangborn Memorial Airport, 41 nautical miles northeast.

Easton State Airport is located in Class G Airspace, which is uncontrolled, meaning there are no air traffic control (ATC) services provided. Class G Airspace has basic visibility and cloud clearance minimums for

⁴ VORTAC = Very High Frequency Omnidirectional Range/Tactical Air Navigation

⁵ VOR/DME = Very High Frequency Omnidirectional Range/Distance Measuring Equipment

VFR operations. Although Class G Airspace does not require two-way radio communication during VFR conditions, pilots are encouraged to use the CTAF when operating on or near the airport.

Easton State Airport is located approximately 25 nautical miles northwest of the western edge of a section of Class E airspace (700-foot above surface floor) associated with Bowers Field in Ellensburg. Class E airspace does not require two-way radio communication during VFR conditions, but does have increased visibility and cloud clearance requirements, compared to Class G. The airport is located approximately 18 nautical miles east of the 30-nautical mile Mode C airspace that surrounds SEATAC Int'l. Airport.

The Alpine Lakes Wilderness Area is located within 10 nautical miles (north) of Easton State Airport at its nearest point. As noted on published aeronautical charts “*All aircraft are requested to maintain a minimum altitude of 2,000 feet above the surface...*” in federally designated wilderness areas.

Vehicle Access and Parking

Easton State Airport has one surface access point located on the south side of the airport, near the east end of the runway. A locked swing gate is located on the road where it connects to airport property.

Silver Trail Lane is a 10-foot wide private gravel road that connects the airport to West Sparks Road. West Sparks Road provides a direct connection between I-90, Exit 70 (0.7 miles) and Easton State Airport via Silver Trail Lane.

The existing 10-foot width of Silver Trail Lane is inadequate to accommodate regular use of large vehicles and equipment and does not meet Kittitas County design standards for current use (see below). Upgrading Silver Trail Lane to county road standards should be considered to eliminate the existing surface access constraints. Options for converting Silver Trail Lane to a public road should also be considered through the acquisition of right of way.

The **Kittitas County Code (Title 12, Roads and Bridges)** specifies minimum design standards for public roads, private roads, and driveways. Section 12.02.020 includes the following definitions:

T. DRIVEWAY - Access road used by no more than two privately maintained residential, commercial, agricultural or industrial properties.

AI. PRIVATE ROAD - An access road serving three or more lots, residences or multi-family units that is privately owned and maintained for the use of the owner(s) or those having expressed or implied permission from the owner(s).

AJ. PUBLIC ROAD - Any street or road which is open to or dedicated to the use of the public. Public Roads may be privately maintained or maintained by a public agency such as Kittitas County, Washington State Department of Transportation or the United States Forest Service.

Based on the county code, Silver Trail Lane appears to meet the definition for Private Roads rather than Driveways. However, Silver Trail Lane is not depicted in any form on the current Kittitas County Road

Atlas (Easton Insert, dated August 6, 2015). The legend for the road atlas includes a variety of designations for public and private roads, and private driveways. It is unknown why Silver Trail Lane is not included in the Kittitas County road inventory, since records indicate the road was in place in 1939 (as depicted on CAA right of way plan) or earlier.

Section 12.04.080 requires a 20-foot minimum width for a Private Road serving 3 to 14 lots (average lot size \leq 10 acres) with a minimum easement width of 60 feet. Existing easements may be a minimum of 40 feet for this category.

Section 12.04.030 defines Public Roadway and Right of Way (ROW) dimensional requirements based on travel speed ($>$ or $<$ 40 mph) and average daily trips (ADT). A Public Roadway with $<$ 40 mph design speed and 0-400 ADT requires a 24-foot roadway width and a 60-foot ROW.

The original (unnamed) access road to the airport extended on the same alignment, approximately 2,085 feet north of U.S. Highway 10, as depicted on a 1939 Civil Aeronautics Authority (CAA) drawing.⁶ The easements extended over several privately-owned parcels (Bower, Toler) before reaching the airport property owned by the United States of America. The current easement follows the same path, but has been modified to accommodate the subsequent construction of I-90 and West Sparks Road.

There are no designated vehicle parking areas on the airport, although vehicles typically park adjacent to the roadway where it enters the airport. WSDOT Aviation limits vehicle traffic on the airfield to protect the turf runway surface from damage and aircraft conflicts (runway incursions). Several advisory signs are installed around the perimeter of the airfield which identify the active airfield boundary:



ACTIVE RUNWAY
 NO VEHICLES
 OR CAMPING
 BEYOND THIS POINT

The Silver Trail Lane easement includes a utility corridor (overhead electric and telephone). As with the access road, the utilities located within the easement provide service to both the airport and several adjacent parcels. Overhead power lines/poles extend approximately 1,860 feet along the west edge of the 20-foot wide easement, including approximately 310 feet on airport property before the service is buried. Puget Sound Energy (PSE) electrical poles are located immediately adjacent (west) of Silver Trail Lane, which suggest that an expanded roadway/right of way on its east side may be less costly than relocating existing utilities.

⁶ Road Right of Way Site-5B Easton, Washington, Seattle-Helena Airway, Type "D" Special; Civil Aeronautics Authority, Seventh Region, Seattle, Washington (August 29, 1939)

Utilities

Easton State Airport has electrical and telephone service that enters the airport on the utility easement that extends north from West Sparks Road. These systems power the runway lights and airport web camera. The service lines enter the airport on overhead poles that extend along the west edge of the easement. The service lines are buried within the developed areas of airport. Electrical power is provided by Puget Sound Energy (PSE) and telecommunications/internet service is provided by Quest Communications (dba Century Link).

The airport does not have water service on site. However, an Easton Water District service line extends along the north side of West Sparks Road, eastward from near the I-90 Exit 70 overpass, and continues east beyond the airport. The nearest water service connection is located at Silver Ridge Ranch, which abuts the southeast corner of the airport. The residential parcels located near the west end of the airport are not served by the water district and have individual wells.

Easton does not have sanitary sewer service and all properties have individual septic/drain field systems. Natural gas service is not available in Easton. The nearest natural gas service (PSE) is located in the Cle Elum/Roslyn area, which is served by a 20-mile pipeline from Thorp.

Multi-Modal Access

Easton State Airport has good multi-modal access potential, consistent with its close proximity to a major interstate highway and rail system.

Surface (Truck/Freight)

The airport is located approximately 0.7 miles from I-90 at Exit 70, via surface roads. Exit 70 provides access to the east- and west-bound lanes of I-90. West Sparks Road is a paved two-lane county road that functions as a frontage road near Exit 70 on the north side of the freeway.

The final surface access connection to the airport is a 10-foot wide private gravel road (Silver Trail Lane), which extends 0.25 miles north of West Sparks Road. As noted earlier, Silver Trail Lane (10 feet wide; 20 foot wide ROW easement) is inadequate to support access for emergency response activities and normal airport operations. Upgrading Silver Trail Lane to county road standards or developing a new access road, is recommended to eliminate the existing surface access constraint that limits the airport's intermodal capabilities.

Rail

The nearest rail service (grade level crossing) is located on Tree Farm Road in Easton, approximately 2.1 miles southeast of the airport on the south side of I-90. The shortest surface route between the rail tracks and the airport is via Railroad Street/Lake Easton Road, the Exit 70 overpass/interchange, and West Sparks Road. This section of Railroad Street has one bridge crossing on the Yakima River. An alternative surface route utilizes the I-90 Exit 71 overpass/interchange and the west bound lanes of I-90, to Exit 70.

Air

Easton State Airport can accommodate helicopter operations for medevac, emergency response, and firefighting activities and training, and small fixed wing aircraft commonly used in fire response and search and rescue activities.

Water

Water access is limited to nearby Lake Easton and the Yakima River (less than one mile from airport). Little Kachess Lake (south shore boat launch) is located approximately 2 miles northwest of the airport via West Sparks Road and a cutoff from Forest Service road NF-4818.

Table 2-2 summarizes the proximity and type of multi-modal access available at Easton State Airport.

TABLE 2-2: MULTI-MODAL ACCESS - EASTON STATE AIRPORT

Easton State Airport (27W)	
Vehicle	<p>Good/Fair (0.7 miles to Interstate 90 (east and west access) via West Sparks Road and Silver Trail Lane Interstate 90 is classified as an Interstate Highway; Easton has two exits (70 and 71) West Sparks Road is classified as a County Paved Road (adequate to support intermodal use) Silver Trail Lane is a 10 foot wide private gravel road (inadequate to support intermodal use)</p> <p>Existing surface access is constrained by a narrow (20-foot) road easement. The width of the access road is inadequate to accommodate large vehicles. Widening the easement and/or providing a second surface access point should be considered to improve overall accessibility. A 2008 WSDOT study evaluating the feasibility of developing a truck chain up area on and adjacent to Easton State Airport assumed the construction of a new 30-foot wide paved access road (Two 11’ travel lanes, two 4’ shoulders) to the airport within a 60-foot right of way.</p>
Rail	<p>Good/Fair Burlington Northern Santa Fe (BNSF) Major railroad line (section) from Spokane to Everett, Washington, via Stevens Pass. Distance from Airport to rail line @ Easton access: 2.1 miles via Railroad Street, Easton Lake Road, I-90 Exit 70 overpass, West Sparks Road, and Silver Trail Lane (<i>would require upgrade or emergency widening and tree clearing for emergency use</i>)</p> <p>The Yakima River Bridge (87.9-foot span Arch; 39’ deck width; constructed 1937) on Railroad Street crosses the Yakima River, approximately 1.6 miles south of the airport. Deck condition (Good - rehabilitated in 1991) Superstructure and substructure condition ratings (Satisfactory); sufficiency rating 98.9 out of 100 (www.bridgehunter.com)</p>
Water	<p>Poor (Limited Waterway Function) Yakima River – located < 1 mile from airport; Little Kachess Lake <2 miles from airport.</p>
Air	<p>Good (Excellent for Helicopter Access) Small Fixed Wing Aircraft and Helicopters</p>

Land Use Planning and Zoning

Easton State Airport is located in unincorporated Kittitas County, which has land use regulatory jurisdiction for the airport and limited land use authority over adjacent public lands. Current zoning for the airport is summarized below and copies of the Kittitas County zoning ordinances are provided in **Appendix C**, at the end of the report.

LAND USE (COMPREHENSIVE PLAN)

Kittitas County updated elements of its comprehensive plan in 2016. The 2016 document is referenced for the land use information described below. The Kittitas County Comprehensive Plan defines four categories for rural lands. Three rural land use designations exist for the areas in the immediate vicinity of Easton State Airport:

- **Rural Working** – the airport and some forest lands located to the north.
- **Rural Residential** – the majority of parcels located directly east and west of the airport, north/east of East Sparks Road.
- **LAMIRD (Limited Areas of More Intensive Rural Development)** – an area of land, currently consisting of 14 parcels located between the airport and East Sparks Road, and a small area on the airport. (Easton LAMIRD Rural Employment Center).

Rural Working Lands

The comprehensive plan notes: *“Uses within this designation [Rural Working Lands] generally encourage farming, ranching and storage of agriculture products, and some commercial and industrial uses compatible with rural environment and supporting agriculture and/or forest activities. Areas in this designation often have low population densities with larger parcel size compared to Rural Residential areas. Agriculture and forestry activities are generally less in scope than in the Resource lands.”*

The purpose of the Rural Working lands is:

- *“Provide preservation of agriculture activities where producers can live and work on their own lands separate from Resource Lands.*
- *To support the continuation, whenever possible, of agriculture, timber and mineral uses on lands not designated for long-term commercial significance.*
- *To provide some buffer between rural residential lands and resource lands.*
- *To provide areas of low intensity land use activities within the agriculture and forest activities.”*

The comprehensive plan identifies two implementing zones for Rural Working land use designations: **Agricultural 20 (AG-20)** and **Forest and Range (F-R)**. As noted above, Easton State Airport has a Rural Working land use designation; the airport is zoned **F-R**.

The goals, policies, and objectives (GPO 8.37-8.51) for Rural Working lands do not reference airports or aviation activities. The land use designation appears to reflect the airport’s historic development adjacent to, and from forest lands, but does not specifically address compatibility of transportation facilities, such as airports, within the overall land use. However, the clear intent of the Rural Working land use designation is to protect and maintain the rural character of natural resource lands. The nature of the development

associated with Easton State Airport appears to be consistent and compatible with its natural surroundings. Coupled with the Kittitas County policies and corresponding codes defining airports as “essential public facilities” and adopting airport overlay zoning for all public use airports, the existing land use protections appear to be adequate to support the long term operation of Easton State Airport.

Rural Residential Lands

The comprehensive plan notes: *“Rural Residential lands are those which are adjacent or near identified UGAs or LAMIRDs. They generally have a lower population density than urban areas but higher than most rural areas. A limited level of government services usually exists, and they are often inside Fire Districts and are outside flood areas and most hazard areas.”*

The purpose of the Rural Residential lands is:

- *“Allow for residential opportunity with rural character and a variety of densities outside UGAs without population expecting all urban services.*
- *Generally, provide services supporting rural development and lower population densities.*
- *Designate areas where lots are generally less than 10 acres in size and have a common land use pattern.*
- *Permit siting in areas generally without commercial activity.*
- *Protect residential activities from flooding areas and natural hazard areas.*
- *Preserve views of open space while providing opportunity for variety of rural densities.”*

The comprehensive plan notes: *“Rural Residential lands are characterized by activities generally associated with small-scale farms, dispersed single-family homes, and some types of recreational uses and open spaces. Lands are typically too far from the urban area to enable cost-effective provision of public services, and the typical uses do not require urban services. **Rural Residential lands are implemented through the Rural 5 and the Agriculture 5 zones.** Existing legally established parcels in this designation that do not meet minimum 5-acre lot sizes are recognized as legal nonconforming lots.”*

It is noted that the residential subdivision located near the west end of Runway 9/27 includes 29 individual parcels ranging from 0.98 to 5.22 acres. These parcels are zoned **Rural 5**.⁷ A 445-acre planned unit development (PUD) located within one mile east of the airport was approved by Kittitas County in March 2018. The residential components of the PUD were clustered to reduce potential conflicts/impacts with airport operations and the airport overlay zone. The PUD allows for 72 residential dwelling units. **Rural 5** zoning is applied to the PUD.

⁷ Kittitas County GIS Parcel Map (Compas)

LAMIRDS

As defined by RCW 36.70A.070 (Comprehensive plans—Mandatory elements), limited areas of more intensive rural development (LAMIRD) are permitted in rural areas. These areas “may allow for limited areas of more intensive rural development, including necessary public facilities and public services to serve the limited area...”

Kittitas County has designated several rural areas as LAMIRDS to reflect the presence of historical rural settlements that predate the requirements of the Washington Growth Management Act (GMA). LAMIRDS typically accommodate higher levels of development in remote areas with small concentrations of population. The purpose of the LAMIRD is defined⁸ as:

- *“To establish areas of community pattern that permits community activities without having to incorporate*
- *To provide opportunity for residential infill which permits variety of housing and yet maintains rural character*
- *To provide for rural community settings which do not require urban level services*
- *To maintain existing rural development patterns that have existed for long periods”*

The LAMIRD located between Easton State Airport and East Sparks Road is designated as a “Rural Employment Center.”

- **Rural Employment Center** –*“Intensification of development on lots containing isolated nonresidential uses or new development of isolated small-scale businesses that are not principally designed to serve the rural area, but do provide job opportunities for rural residents.”*

The zoning for parcels located within the LAMRID includes the base zones (Forest and Range and Rural 5) and the LAMIRD-defined zones (**Light Industrial (I-L)** and **Commercial-General (C-G)**). Single family dwellings are “outright permitted” uses in the LAMIRD-defined CG zone.

ESSENTIAL PUBLIC FACILITIES (EPF)

The 2016 Kittitas County Comprehensive Plan (Chapter 4, Transportation) includes goals, policies, and objectives (GPO) that address the designation and protection of public use airports as essential public facilities (EPF).

⁸ Kittitas County Comprehensive Plan (March 2016 draft)

- **GPO 4.15D** *To recognize air transport and airports as an important element.*
- **GPO 4.15E** *Recognize public-use airports as essential public facilities.*
- **GPO 4.15F** *Protect Kittitas County Airport (Bowers Field), Cle Elum Municipal, DeVere Field and Easton State airports from adjacent incompatible land uses and/or activities that could impact the present or future use of the airports as essential public facilities.*
- **GPO 4.15G** *A notice to title or disclosure statement should be required for new or substantial redevelopment of lots, buildings, structures, and activities located adjacent to public-use airports. The notice should indicate that the property is located adjacent to the airport and may experience low overhead flights, odor, vibrations, noise and other similar aviation impacts.*
- **GPO 4.14H** *Protect public-use airports from height hazards by developing a height overlay district that will prohibit buildings or structures from penetrating the Federal Aviation Regulations (FAR) Part 77 “Imaginary Surfaces.”*

ZONING

Zoning (Kittitas County Code Title 17) in the vicinity of Easton State Airport includes a variety of rural designations that are consistent with low density residential, commercial and resource land uses. As noted earlier, the LAMIRD designation allows more intensive land uses for several parcels located adjacent to East Sparks Road (south and east of the airport).

Forest and Range Zone (F-R) (KCC Chapter 17.56).

Easton State Airport is zoned **Forest and Range (F-R)**.

“The purpose and intent of this zone is to provide for areas of Kittitas County wherein natural resource management is the highest priority and where the subdivision and development of lands for uses and activities incompatible with resource management are discouraged.”

Rural 5 Zone (R-5) (KCC Chapter 17.30A).

The majority of property located west, east, and south of Easton State Airport is zoned for rural residential land uses (R-5).

“The purpose and intent of the Rural-5 zone is to provide areas where residential development may occur on a low density basis. A primary goal and intent in siting R-5 zones will be to minimize adverse effects on adjacent natural resource lands.”

Single family dwellings are “outright permitted” uses in the non-LAMIRD R-5 zoning. As noted earlier in this section, parcels in the R-5 zone that do not meet minimum 5-acre lot sizes are recognized as legal nonconforming lots. The majority of residential lots located adjacent to the west end of the runway and partially within the runway protection zone (RPZ) for Runway 9 are less than 5 acres.

The majority of land parcels included in the Easton LAMIRD - Rural Employment Center have R-5 zoning, but can be developed based on LAMIRD standards for the applicable General Commercial (C-G) or Light Industrial (L-I) zoning.

Light Industrial Zone (I-L) (KCC Chapter 17.48).

A single parcel abutting the south side of Easton State Airport is zoned for light industrial uses (I-L) through the LAMIRD designation. The underlying zoning for the parcel is Forest and Range (F-R). The 121.58-acre parcel is owned by the State of Washington (Department of Natural Resources – AG WSU Trust).

A review of current land use plan mapping indicates that the eastern section of the above noted DNR parcel was included in a land trade and is now part of the airport property. According to Kittitas County planners, this section of the LAMIRD boundary reflects the original parcel boundary, which is defined in the county comprehensive plan and can only be revised through the annual amendment docketing process. As a result, the I-L LAMIRD zoning currently applies to a small portion of Easton State Airport (southeast section, east of the access road).

“The light industrial zone is established to preserve areas for industrial and related uses of such a nature that they do not create serious problems of compatibility with other kinds of land uses and to protect such zones from encroachment by conflicting land uses. The regulations set out in this chapter shall apply to the light industrial zone.”

General Commercial Zone (G-C) (KCC Chapter 17.48).

Numerous parcels in the vicinity (south and east) of Easton State Airport are zoned for general commercial uses (G-C) through the LAMIRD designation. The underlying zoning for these parcels is Rural 5 (R-5).

“The purpose and intent of the general commercial zone is to provide a classification consistent with existing business districts in unincorporated towns (i.e., Vantage, Easton) where a wide range of community retail shops and services are available.”

AIRPORT OVERLAY ZONING

Kittitas County has adopted airport overlay zoning for all public use general aviation airports located in Kittitas County. The **Airport Zone** is contained in **Chapter 17.58, Kittitas County Code**. The Airport Zone includes protections for both FAR Part 77 airspace surfaces and WSDOT Airport Compatibility (Safety) Zones.

“Section 17.58.010 Purpose and Intent: The purpose and intent of this chapter is to establish an airport overlay zoning district on properties located on, adjacent to, and in the vicinity of public-use airports including Easton State, Cle Elum Municipal, DeVere Field, and Kittitas County Airport (Bowers Field), in order to protect the health, welfare, safety, and quality of life on the general public, property owners, airport operators, and aviation community; and also to ensure compatible land uses in the vicinity of the affected environments of the airport overlay zoning district.

Section 17.58.040B Airport overlay zoning district: Easton State, Cle Elum Municipal, DeVere Field: In order to carry out the provisions of this chapter, there is hereby created an airport overlay zoning district that is composed of the following surface and safety zones for the Easton State, Cle Elum Municipal and DeVere Field. The zones cover a geographic area that is affected by airport activities and are defined on the basis of factors including, but not limited to, aircraft noise, aircraft flight patterns, airport safety zones, local circulation patterns and area development patterns. The surface and safety zones are overlaid on top of the existing underlying zoning, which remains in full force and effect. Where the requirements imposed by the surface and safety zones conflict with the requirements of the underlying zoning, the more restrictive requirement shall be enforced. With the exception of those necessary and incidental to airport operations, no uses shall be permitted that allow buildings, structures, vegetation or other development that penetrates the imaginary air surfaces described below.”

Airport Zone Review

A review of **17.58.040B** (Item 1. Surface Zones and Item 2. Safety Zones) identifies numerous references and duplicate text from the previous section (17.58.040A) that defines the airport zone for Bowers Field in Ellensburg. The dimensions and configurations of the FAR Part 77 imaginary surfaces (airspace) and WSDOT safety zones for the runways at Bowers Field do not necessarily apply to small runways, including Runway 9/27 at Easton State Airport. Attempting to apply the current surface dimensions and slopes defined in 17.58.040B to Runway 9/27 in order to evaluate proposed land use actions in the vicinity of Easton State Airport cannot be accomplished in its current form. It is recommended that Chapter 17.58 of the county code and corresponding mapping be updated to accurately reflect the appropriate runway classifications for each airport addressed in the zone.

Wildlife Hazard Management Plan

At the request of WSDOT, the United States Department of Agriculture (USDA) Animal and Plant Health Inspection Service (APHIS) - Wildlife Services has prepared draft Wildlife Hazard Management Plans (WHMP) for several state airports, not including Easton. The purpose of the WHMP is noted in the scope description used for the studies “*WSDOT recognizes the threats wildlife pose to aircraft operations and takes legal measures to mitigate these threats reflective of existing federal, state, and local regulations.*”

Preparing a WHMP for Easton State Airport is recommended. The WHMP will establish best management practices and guidelines to ensure wildlife hazard management activities would not have an adverse effect on threatened or endangered species.

There are no known wetlands, stormwater facilities or areas of standing water that attract wildlife on the airport. However, the airport’s dense forest area setting creates a favorable environment for wildlife habitat. The current management practice is to maintain the airfield grasses as short as possible to deter the presence of wildlife. Providing the greatest distance practical between the runway and adjacent timbered areas by removing trees, shrubs and tall grasses on the airport to deter wildlife is recommended.

Airport Maintenance

The WSDOT Aviation [State-Managed Airport Handbook](#) provides detailed guidelines and defines maintenance procedures designed to “maintain the highest possible quality of facilities and services for airport users.” In the handbook, Chapter 4 - Airport Maintenance Guidelines, is organized around several key elements:

- Section 4.1 - WSDOT Aviation Airport Operational Procedures and Schedules
- Section 4.2 - WSDOT Aviation Airfield Maintenance Guidelines
- Section 4.3 - WSDOT Aviation Airport Maintenance Guidelines
- Section 4.4 – Vegetation Control Guidelines
- Section 4.5 - Obstruction Identification and Removal Practices
- Section 4.6 - References and Supporting Documentation

The regular maintenance performed by airport management with organized volunteer support during the operating months is addressed in several sections of Chapter 4 and includes mowing, weed and vegetation control, repairing holes in the runway surface and adjacent turf areas, and other repairs (signage, gate/fencing, wind cone, edge markers, picnic tables, fire rings, etc.) as needed.

In addition to defining operational procedures and seasonal activities (winter, spring, summer and fall) for WSDOT Aviation airport staff, Section 4.1 defines procedures for annual and seasonal airport opening and closing activities.

AIRPORT CLOSURE GENERAL GUIDELINES

The following action items are completed by WSDOT Aviation staff at the end of each season, prior to the first snow:

- Store and secure any aircraft tie-down equipment
- Close fuel lines if necessary
- Cover or store any recreational equipment that may be damaged during winter storms
- Remove any remaining trash from the disposal facilities
- Follow the procedures for the fall-shut down checklist for sprinkler systems
- Store and secure all airport maintenance equipment
- Verify if any replacement materials are needed for airport repairs. In this event, there will be sufficient time to order and receive items before seasonal openings.

Chapter 3 – Airport Design Standards and Facility Requirements

IN THIS CHAPTER

- FAA and WSDOT Aviation Design and Airspace Planning Standards
- Evaluation of Conformance to Standards
- Airfield Facility Needs Assessment
- Other Facility Needs Assessment

Introduction

The evaluation of airport facility requirements and design standards uses the results of the inventory and airport use described in Chapter 2, to determine facility needs for Easton State Airport through the current twenty-year planning period.

As noted in the previous chapter, airport activity (takeoffs and landings) is not expected to play a significant role in defining facility improvements. The airport operates on a seasonal basis with basic facilities and has no based aircraft. The primary planning assumption is that the operational profile of the airport will not change during the planning period, consistent with its historic use.

The airport accommodates a wide range of recreational users and accommodates emergency operations and training activities, as needed. The duration and nature of emergency use or training will vary by event and the functions are within the normal operational capabilities of the airport. The associated facility needs are consistent with both the historic and current airport functions and are not expected to deviate from the National Forest surroundings.

Basic safety related improvements or recommendations are established by type of use and the need is not reduced when activity levels are low. Use-specific improvements such as aircraft tiedowns or camping sites may reflect varying activity levels that could increase during the planning period.

The WSDOT Aviation [State-Managed Airport Handbook](#) provides general guidance related to facility requirements and design standards. Recognizing the unique facility and operational characteristics of these airports, the WSDOT Aviation standards are modified from the corresponding FAA standards for airports used by small aircraft in visual flight rules (VFR) conditions. The handbook notes that “State-managed airports that are not included in the FAA NPIAS and are not bound by federal grant assurances should be managed in a safe, cost-effective manner consistent with industry best management practices.” As noted in Chapter 2, the handbook provides guidelines and best management practices for regular maintenance, safety, security, and construction activities at the airport. A summary of these items is provided in Chapter 5 of this report.

As a general policy, WSDOT Aviation attempts to meet FAA standards where feasible. However, the development of modified standards reflects the practical constraints found at many state-managed airports and provides a reasonable level of safety for the group of “Rural Essential Airports” located in remote areas with unpaved runways. The ALP report will compare both sets of standards to determine the feasibility of implementation at Easton State Airport.

Evaluation Process

The evaluation of facility requirements will focus on two primary areas:

- First, a review of the existing airfield’s conformance to FAA and WSDOT airport design and airspace standards will be performed. Based on a review of specific site conditions a recommendation will be made on the standards most appropriate for Easton State Airport.
- Second, the evaluation will identify airfield and other facility needs consistent with the current and future use of the airport.

As noted earlier, the basic operational functions of Easton State Airport, as a Rural Essential Airport, will not change. The facility needs reflect specific items identified through the planning process and items identified by airport management through the normal operation of the facility.

Table 3-1 summarizes the applicable design and airspace planning standards for Easton State Airport. The standards are consistent with airports used by primarily small single-engine aircraft operating in visual flight rules (VFR) conditions. This aircraft type is categorized by FAA as Approach Category A (approach speeds <91 knots) and Airplane Design Group I (wingspan < 49 feet).

TABLE 3-1: COMPARISON OF FAA AND WSDOT AVIATION DESIGN & AIRSPACE STANDARDS
(dimensions in feet)

Standard	FAA Airplane Design Group A/B-I Visual ²	WSDOT Aviation VFR Airport Design Standard Dimensions ¹	Net Change
Runway Length	Site Specific	Site Specific	None
Runway Width	60	100 (Turf Rwy. Std.)	+40 feet
Runway Shoulder Width	10	10	None
Runway Safety Area			
-Width	120	100	-20 feet
-Length Beyond RWY End/Prior to Landing Threshold	240	200	-40 feet
Object Free Area			
-Width	250	200	-50 feet
-Length Beyond RWY End/Prior to Landing Threshold	240	200	-40 feet
Obstacle Free Zone			
-Length (Beyond Runway End)	250	-	No WSDOT OFZ Std.
-Width	200	-	
Primary Surface Width	250	120	-130 feet
Primary Surface Length (Beyond Runway End)	0 (unpaved runway)	0	None
Runway Protection Zone Length	1,000	1,000	None
Runway Protection Zone Inner Width	250	200	-50 feet
Runway Protection Zone Outer Width	450	300	-150 feet
Runway Centerline to:			
Parallel Txy/Taxilane Centerline	150	125	-25 feet
Aircraft Parking Line (APL)	125	125	None
Building Restriction Line (BRL)	>125 (varies by structure height)	200	N/A

Notes:

1. WSDOT State-Managed Airport Handbook “WSDOT Aviation VFR Airport Design Standard Dimensions”
2. FAA AC 150/5300-13A Appendix 7 “Runway Design Standards Matrix” and Paragraph 314 (Turf Runways)

CONFORMANCE REVIEW

A review of existing airport facilities was conducted to evaluate current and future conformance with the FAA and WSDOT Aviation airport design standards and airspace planning criteria summarized in **Table 3-1**. **Figures 3-1, 3-2, 3-3, and 3-4**, presented later in the chapter, graphically depict the locations of non-conforming items. The majority of items are related to trees or obstructions to runway protected areas. The current configuration of airport property, particularly the east and west ends near the runway, contribute to several non-conforming items that are partially located off airport property.

The airport perimeter road is located within defined protected areas near the ends of the runway. The road is not authorized for public vehicle use and provides access for airport maintenance and emergency operations. It is noted that area immediately surrounding the airfield includes several established horse trails that connect to the perimeter road. Eliminating runway safety area (RSA) conflicts is recommended as a high priority safety improvement based on the potential for public interaction with aircraft operating on the runway.

West End of Runway: The airport perimeter road travels around the west end of the runway and is located within portions of the FAA-defined runway safety area (RSA), object free area (OFA), and obstacle free zone (OFZ). However, road is located outside the WSDOT-defined RSA and OFA for Runway 9/27. The road travels through the inner section of both the FAA- and WSDOT-defined runway protection zones (RPZ) and runway approach surface.

The western airport property line is located approximately 250 feet from the Runway 9 threshold, with the exceptions of two small sections of property that extend into the defined airfield clearing area. The small sections of property are located northwest and south of the Runway 9 threshold. Two small sections of the airport perimeter road appear to extend off airport property onto these adjacent parcels. Small sections of the FAA-defined runway object free area (OFA) and the obstacle free zone (OFZ) that extend beyond the west end of Runway 9/27 are not contained on airport property.

The majority of the runway protection zone (RPZ) and inner approach surface for Runway 9 is located off of airport property. The land within the RPZ and beneath the inner approach surface for Runway 9 includes portions of ten residentially-zoned parcels. The parcels are heavily forested (including trees heights exceeding 80 feet).

Options for relocating or displacing the Runway 9 threshold are limited by the relatively short length of the runway. For example, clearing an 80-foot tree located 250 feet from the existing threshold for Runway 9 would require a displaced threshold of approximately 950 feet (when using the WSDOT 15:1 threshold siting surface). This would reduce the landing distance available on Runway 9 to approximately 1,690 feet, which is marginal for most single-engine aircraft. Alternatively, selective removal of the tallest trees in the approach may reduce the displaced threshold dimension required on Runway 9, while maintaining an adequate landing distance.

East End of Runway: All protected areas at the east of runway extend beyond airport property. The eastern airport property line follows common section lines that create a 90-degree angle point, approximately 235 feet east of the Runway 27 threshold.

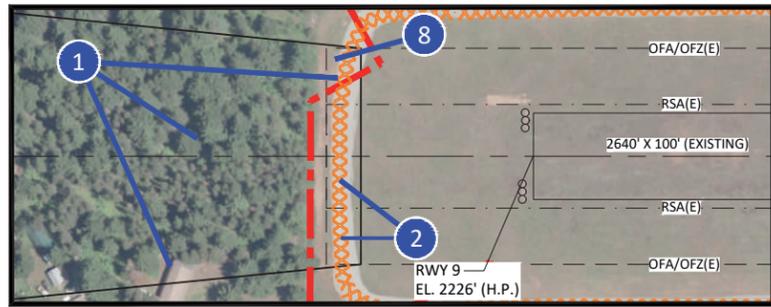
The airport perimeter road travels around the east end of the runway and is located within portions of the FAA- and WSDOT-defined runway safety area (RSA), object free area (OFA), and (FAA-defined) obstacle free zone (OFZ). The road travels through the inner section of both the FAA- and WSDOT-defined runway approach surface for Runway 27. Options for addressing the road, property control, and runway configuration issues will be included in the alternatives analysis.

Efforts to mitigate the non-conforming items, to the extent feasible, are encouraged and some of these may require property acquisition and/or formal aviation and surface access easements.

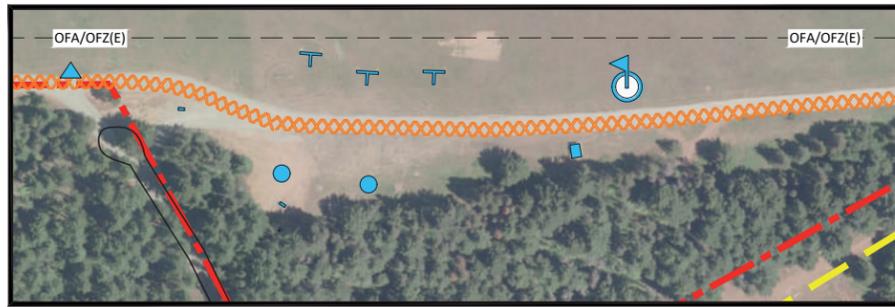
Airport Surroundings: Areas of terrain penetration (mountains, trees) to the FAR Part 77 horizontal and conical surfaces for Runway 9/27 are identified north and south of the runway, and immediately beyond each runway end. Terrain penetrations cannot be significantly mitigated, but are recognized as a normal factor for an airport sited in mountainous terrain. Trees surround the runway on all sides and penetrate the approach and transitional surfaces. Removal of close-in tree obstructions is recommended where feasible to reduce hazards to aircraft and improve safety in the air and on the ground.

It is recommended that WSDOT Aviation conduct an obstruction survey for the Runway 9/27 inner approach surfaces to identify the locations and heights of trees or other objects penetrating the standard FAR Part 77 runway approach surface (20:1 slope) and the WSDOT threshold siting surface (15:1 slope).

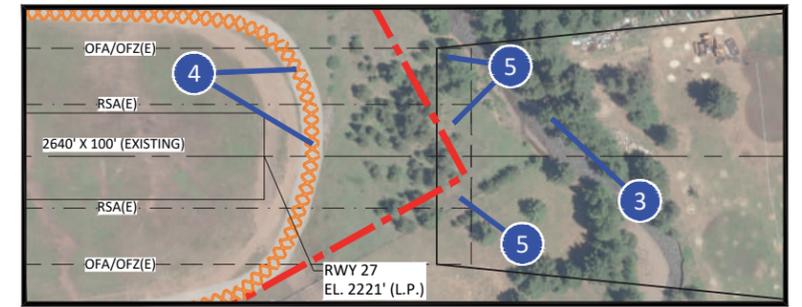
Easton State Airport is recognized as an essential public facility (EPF) under RCW 36.70A by Kittitas County and the airport is subject to the airport overlay zoning adopted by Kittitas County. As the local land use authority, Kittitas County has the sole responsibility to protect the airport from incompatible land uses surrounding the airport. A coordinated effort between WSDOT Aviation and Kittitas County is recommended to address obstruction control and ensure protection for the airport.



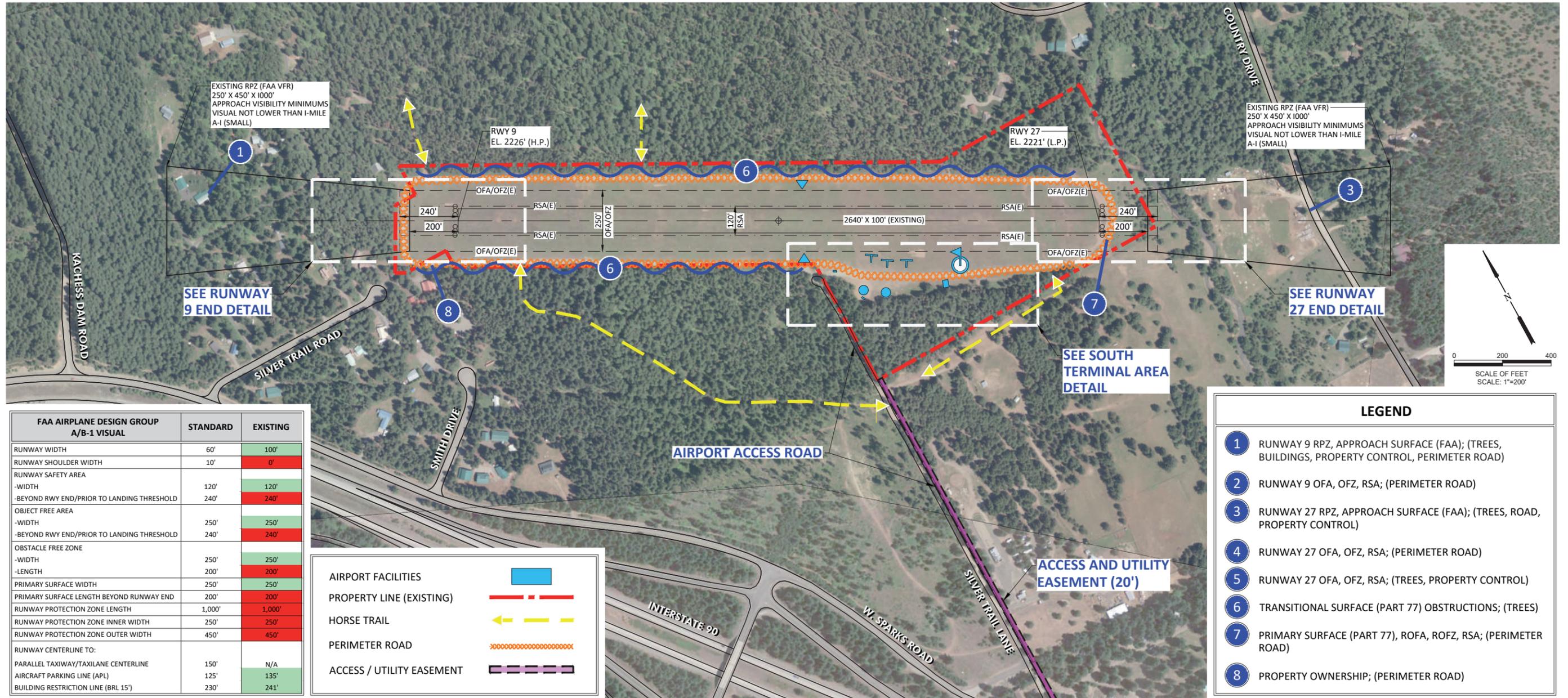
RUNWAY 9 END
1"=100'



SOUTH TERMINAL AREA
1"=100'



RUNWAY 27 END
1"=100'



FAA AIRPLANE DESIGN GROUP A/B-1 VISUAL	STANDARD	EXISTING
RUNWAY WIDTH	60'	100'
RUNWAY SHOULDER WIDTH	10'	0'
RUNWAY SAFETY AREA		
-WIDTH	120'	120'
-BEYOND RWY END/PRIOR TO LANDING THRESHOLD	240'	240'
OBJECT FREE AREA		
-WIDTH	250'	250'
-BEYOND RWY END/PRIOR TO LANDING THRESHOLD	240'	240'
OBSTACLE FREE ZONE		
-WIDTH	250'	250'
-LENGTH	200'	200'
PRIMARY SURFACE WIDTH	250'	250'
PRIMARY SURFACE LENGTH BEYOND RUNWAY END	200'	200'
RUNWAY PROTECTION ZONE LENGTH	1,000'	1,000'
RUNWAY PROTECTION ZONE INNER WIDTH	250'	250'
RUNWAY PROTECTION ZONE OUTER WIDTH	450'	450'
RUNWAY CENTERLINE TO:		
PARALLEL TAXIWAY/TAXILANE CENTERLINE	150'	N/A
AIRCRAFT PARKING LINE (APL)	125'	135'
BUILDING RESTRICTION LINE (BRL 15')	230'	241'

AIRPORT FACILITIES

PROPERTY LINE (EXISTING)

HORSE TRAIL

PERIMETER ROAD

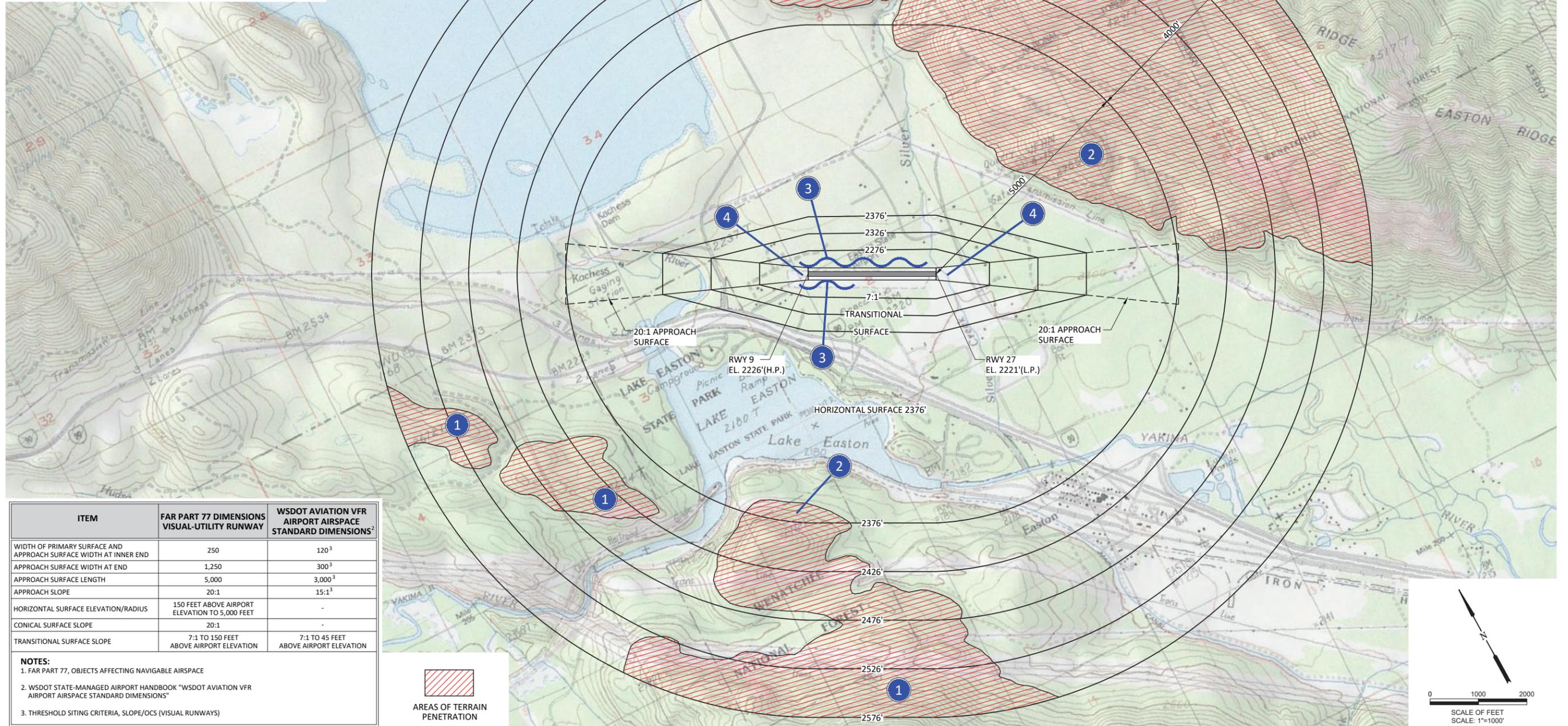
ACCESS / UTILITY EASEMENT

LEGEND

- 1 RUNWAY 9 RPZ, APPROACH SURFACE (FAA); (TREES, BUILDINGS, PROPERTY CONTROL, PERIMETER ROAD)
- 2 RUNWAY 9 OFA, OFZ, RSA; (PERIMETER ROAD)
- 3 RUNWAY 27 RPZ, APPROACH SURFACE (FAA); (TREES, ROAD, PROPERTY CONTROL)
- 4 RUNWAY 27 OFA, OFZ, RSA; (PERIMETER ROAD)
- 5 RUNWAY 27 OFA, OFZ, RSA; (TREES, PROPERTY CONTROL)
- 6 TRANSITIONAL SURFACE (PART 77) OBSTRUCTIONS; (TREES)
- 7 PRIMARY SURFACE (PART 77), ROFA, ROFZ, RSA; (PERIMETER ROAD)
- 8 PROPERTY OWNERSHIP; (PERIMETER ROAD)

LEGEND

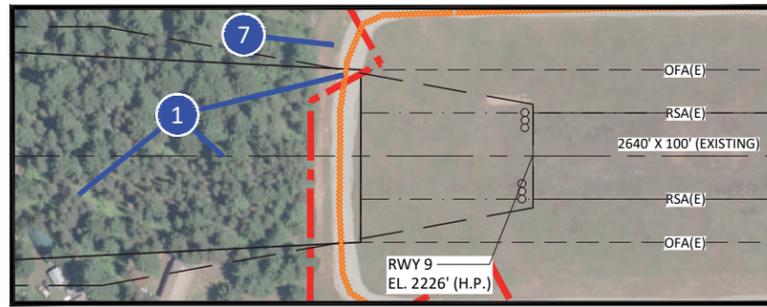
- 1 CONICAL SURFACE; (TERRAIN, TREES)
- 2 HORIZONTAL SURFACE; (TERRAIN; TREES)
- 3 TRANSITIONAL SURFACE (PART 77) OBSTRUCTIONS (TREES)
- 4 APPROACH SURFACE (PART 77) OBSTRUCTIONS; (TREES, PERIMETER ROAD)



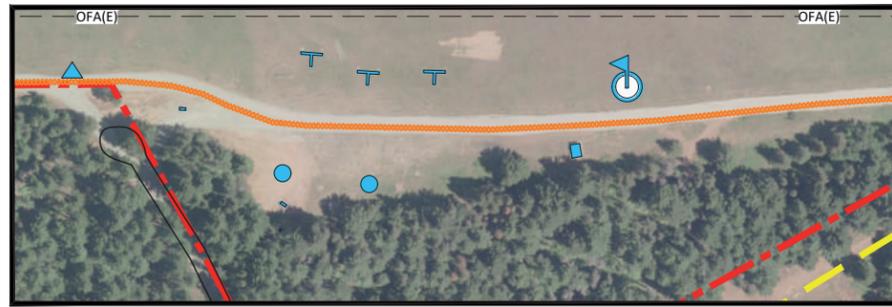
ITEM	FAR PART 77 DIMENSIONS VISUAL-UTILITY RUNWAY	WSDOT AVIATION VFR AIRPORT AIRSPACE STANDARD DIMENSIONS ²
WIDTH OF PRIMARY SURFACE AND APPROACH SURFACE WIDTH AT INNER END	250	120 ³
APPROACH SURFACE WIDTH AT END	1,250	300 ³
APPROACH SURFACE LENGTH	5,000	3,000 ³
APPROACH SLOPE	20:1	15:1 ³
HORIZONTAL SURFACE ELEVATION/RADIUS	150 FEET ABOVE AIRPORT ELEVATION TO 5,000 FEET	-
CONICAL SURFACE SLOPE	20:1	-
TRANSITIONAL SURFACE SLOPE	7:1 TO 150 FEET ABOVE AIRPORT ELEVATION	7:1 TO 45 FEET ABOVE AIRPORT ELEVATION

- NOTES:**
- 1. FAR PART 77, OBJECTS AFFECTING NAVIGABLE AIRSPACE
 - 2. WSDOT STATE-MANAGED AIRPORT HANDBOOK "WSDOT AVIATION VFR AIRPORT AIRSPACE STANDARD DIMENSIONS"
 - 3. THRESHOLD SITING CRITERIA, SLOPE/OCS (VISUAL RUNWAYS)

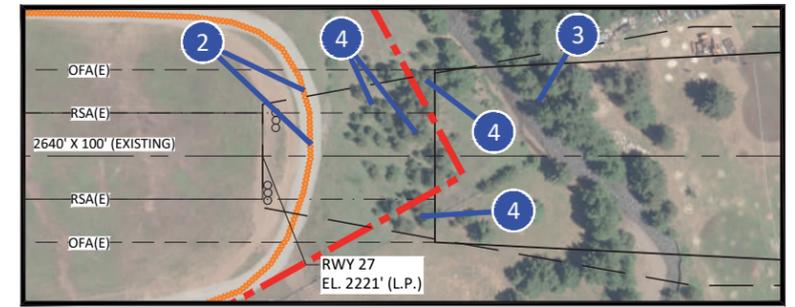
 AREAS OF TERRAIN PENETRATION



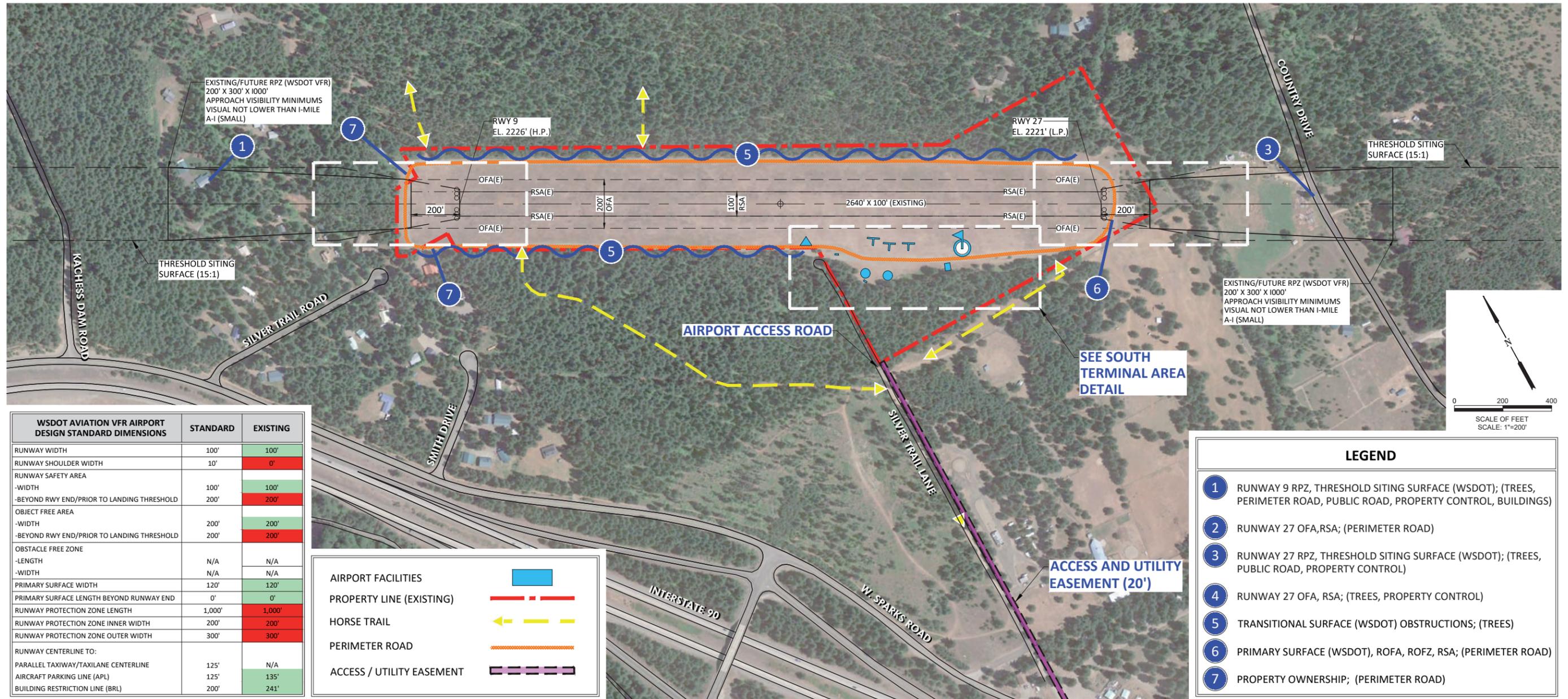
RUNWAY 9 END
1"=100'



SOUTH TERMINAL AREA
1"=100'



RUNWAY 27 END
1"=100'



WSDOT AVIATION VFR AIRPORT DESIGN STANDARD DIMENSIONS	STANDARD	EXISTING
RUNWAY WIDTH	100'	100'
RUNWAY SHOULDER WIDTH	10'	0'
RUNWAY SAFETY AREA		
-WIDTH	100'	100'
-BEYOND RWY END/PRIOR TO LANDING THRESHOLD	200'	200'
OBJECT FREE AREA		
-WIDTH	200'	200'
-BEYOND RWY END/PRIOR TO LANDING THRESHOLD	200'	200'
OBSTACLE FREE ZONE		
-LENGTH	N/A	N/A
-WIDTH	N/A	N/A
PRIMARY SURFACE WIDTH	120'	120'
PRIMARY SURFACE LENGTH BEYOND RUNWAY END	0'	0'
RUNWAY PROTECTION ZONE LENGTH	1,000'	1,000'
RUNWAY PROTECTION ZONE INNER WIDTH	200'	200'
RUNWAY PROTECTION ZONE OUTER WIDTH	300'	300'
RUNWAY CENTERLINE TO:		
PARALLEL TAXIWAY/TAXILANE CENTERLINE	125'	N/A
AIRCRAFT PARKING LINE (APL)	125'	135'
BUILDING RESTRICTION LINE (BRL)	200'	241'

AIRPORT FACILITIES

PROPERTY LINE (EXISTING)

HORSE TRAIL

PERIMETER ROAD

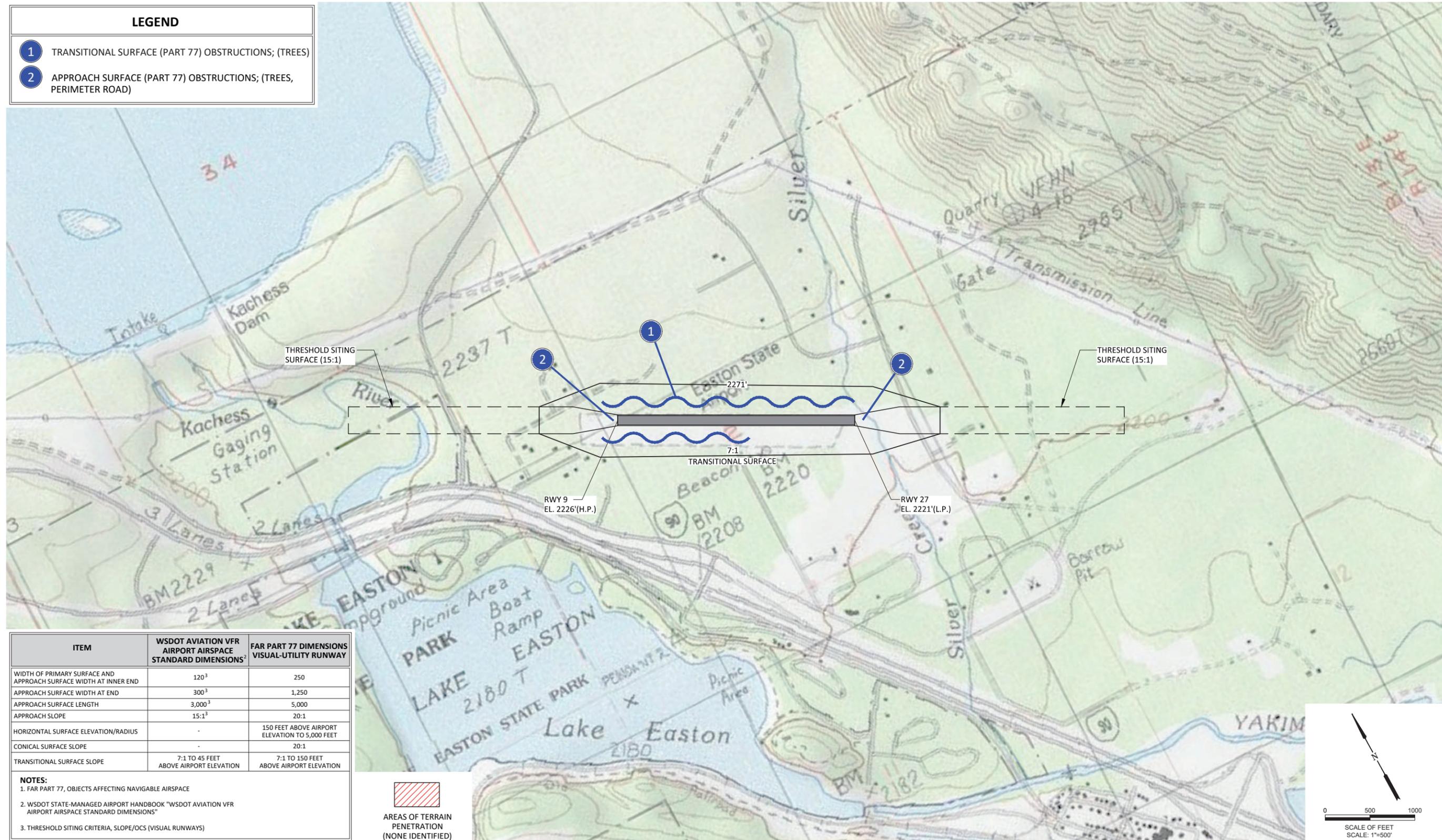
ACCESS / UTILITY EASEMENT

LEGEND

- 1 RUNWAY 9 RPZ, THRESHOLD SITING SURFACE (WSDOT); (TREES, PERIMETER ROAD, PUBLIC ROAD, PROPERTY CONTROL, BUILDINGS)
- 2 RUNWAY 27 OFA, RSA; (PERIMETER ROAD)
- 3 RUNWAY 27 RPZ, THRESHOLD SITING SURFACE (WSDOT); (TREES, PUBLIC ROAD, PROPERTY CONTROL)
- 4 RUNWAY 27 OFA, RSA; (TREES, PROPERTY CONTROL)
- 5 TRANSITIONAL SURFACE (WSDOT) OBSTRUCTIONS; (TREES)
- 6 PRIMARY SURFACE (WSDOT), ROFA, ROFZ, RSA; (PERIMETER ROAD)
- 7 PROPERTY OWNERSHIP; (PERIMETER ROAD)

LEGEND

- 1 TRANSITIONAL SURFACE (PART 77) OBSTRUCTIONS; (TREES)
- 2 APPROACH SURFACE (PART 77) OBSTRUCTIONS; (TREES, PERIMETER ROAD)



ITEM	WSDOT AVIATION VFR AIRPORT AIRSPACE STANDARD DIMENSIONS ²	FAR PART 77 DIMENSIONS VISUAL-UTILITY RUNWAY
WIDTH OF PRIMARY SURFACE AND APPROACH SURFACE WIDTH AT INNER END	120 ³	250
APPROACH SURFACE WIDTH AT END	300 ³	1,250
APPROACH SURFACE LENGTH	3,000 ³	5,000
APPROACH SLOPE	15:1 ³	20:1
HORIZONTAL SURFACE ELEVATION/RADIUS	-	150 FEET ABOVE AIRPORT ELEVATION TO 5,000 FEET
CONICAL SURFACE SLOPE	-	20:1
TRANSITIONAL SURFACE SLOPE	7:1 TO 45 FEET ABOVE AIRPORT ELEVATION	7:1 TO 150 FEET ABOVE AIRPORT ELEVATION

- NOTES:**
1. FAR PART 77, OBJECTS AFFECTING NAVIGABLE AIRSPACE
 2. WSDOT STATE-MANAGED AIRPORT HANDBOOK "WSDOT AVIATION VFR AIRPORT AIRSPACE STANDARD DIMENSIONS"
 3. THRESHOLD SITING CRITERIA, SLOPE/OCS (VISUAL RUNWAYS)

 AREAS OF TERRAIN PENETRATION (NONE IDENTIFIED)

APPLICABILITY OF DESIGN STANDARDS

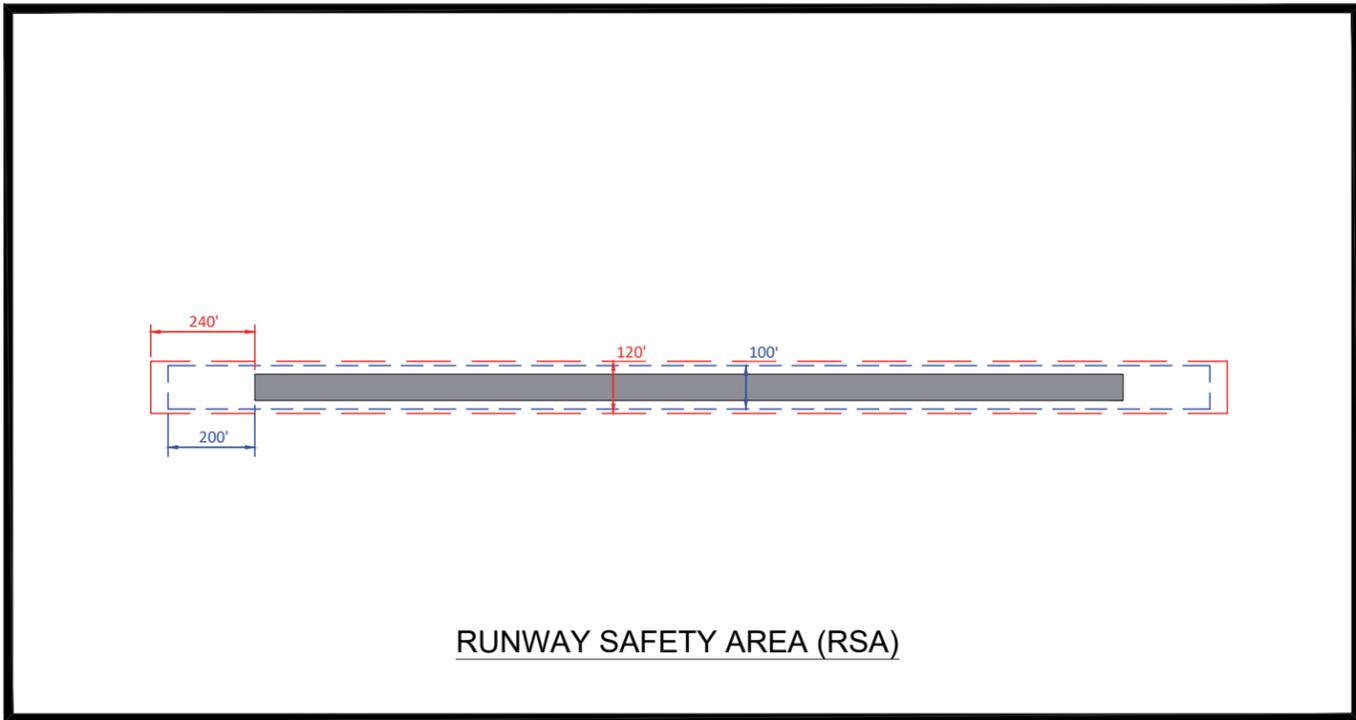
A review of FAA and WSDOT Aviation standards for Easton State Airport previously summarized in **Table 3-1** suggests that the **WSDOT Aviation VFR Airport Design Standards** are appropriate for use on Runway 9/27 and related airfield facilities. The primary site constraints on the site are found beyond the ends and to the sides of the runway and cannot be fully mitigated without reducing airport function or limiting development of airfield facilities such as aircraft parking. The WSDOT Aviation design standards provide a more feasible specification for defining runway clearances and protected areas for this size and type of runway, although it appears that some standards cannot be fully met. **Figure 3.5** depicts the footprints of the primary airport design standards for small runways in both FAA and WSDOT Aviation definitions.

Combining FAA and WSDOT airfield design standards into a hybridized standard based on specific site conditions is not recommended since it would create potential inconsistencies in standards among a group of airports with similar features and operational characteristics. However, in some cases, maintaining clearances beyond what is defined by the design standards is possible and is recommended as an added measure of safety.

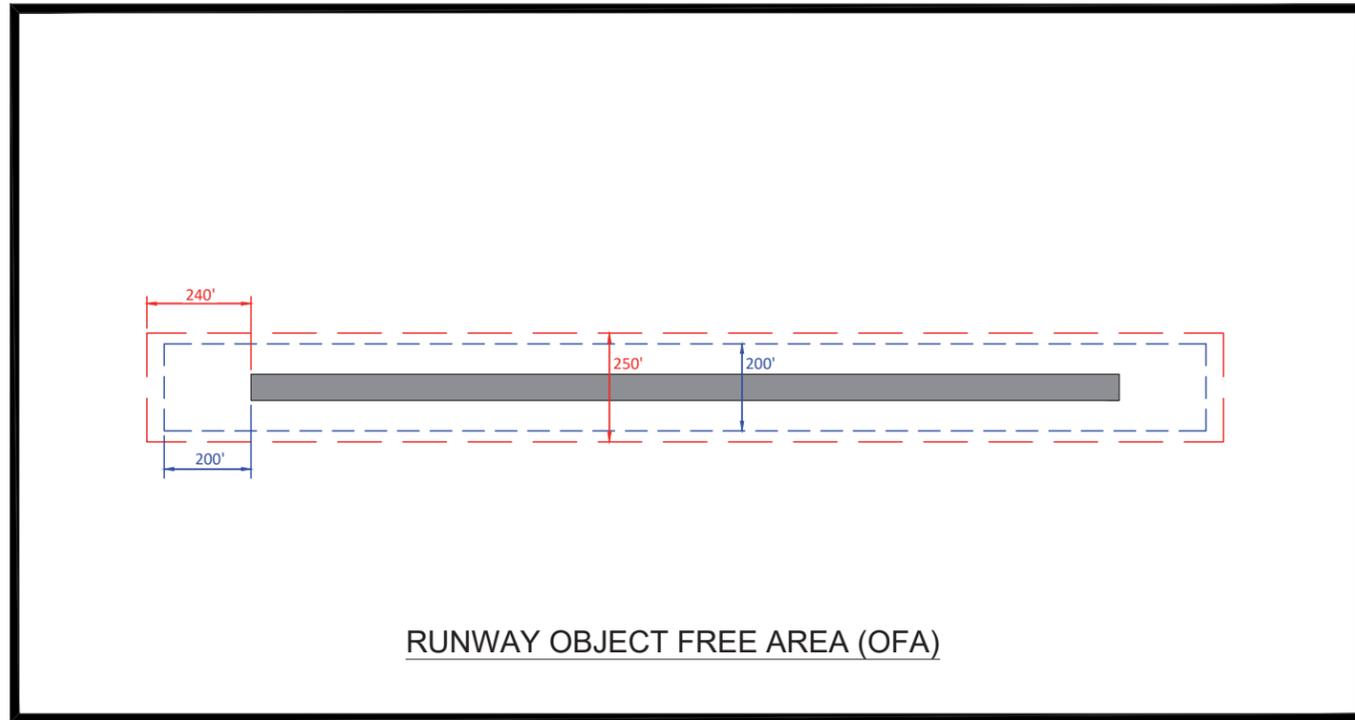
The comparison of FAA and WSDOT airfield design airspace planning standards presents a slightly different challenge. The **WSDOT Aviation VFR Airport Airspace Standards** combine elements from Federal Aviation Regulation (FAR) Part 77 (FAA defined airspace criteria) and FAA Advisory Circular (AC) 150/5300-13, Airport Design. The use of design features to mitigate airspace obstructions is common, particularly for runway approaches. Examples are the use of displaced thresholds and threshold siting surfaces. It is important to note that these design solutions mitigate obstructions, but do not alter the affected FAR Part 77-defined airspace surfaces or the applicability of those surfaces.

FAR Part 77 airspace surface criteria and dimensions/slopes are defined in federal regulation and are not modifiable. In contrast, FAA airport design standards are presented as advisory, most commonly in the form of FAA Advisory Circulars. As defined in FAR Part 77.21, Scope, “the standards apply airports available for public use and listed in the Airport/Facility Directory of the current Airman’s Information Manual.”

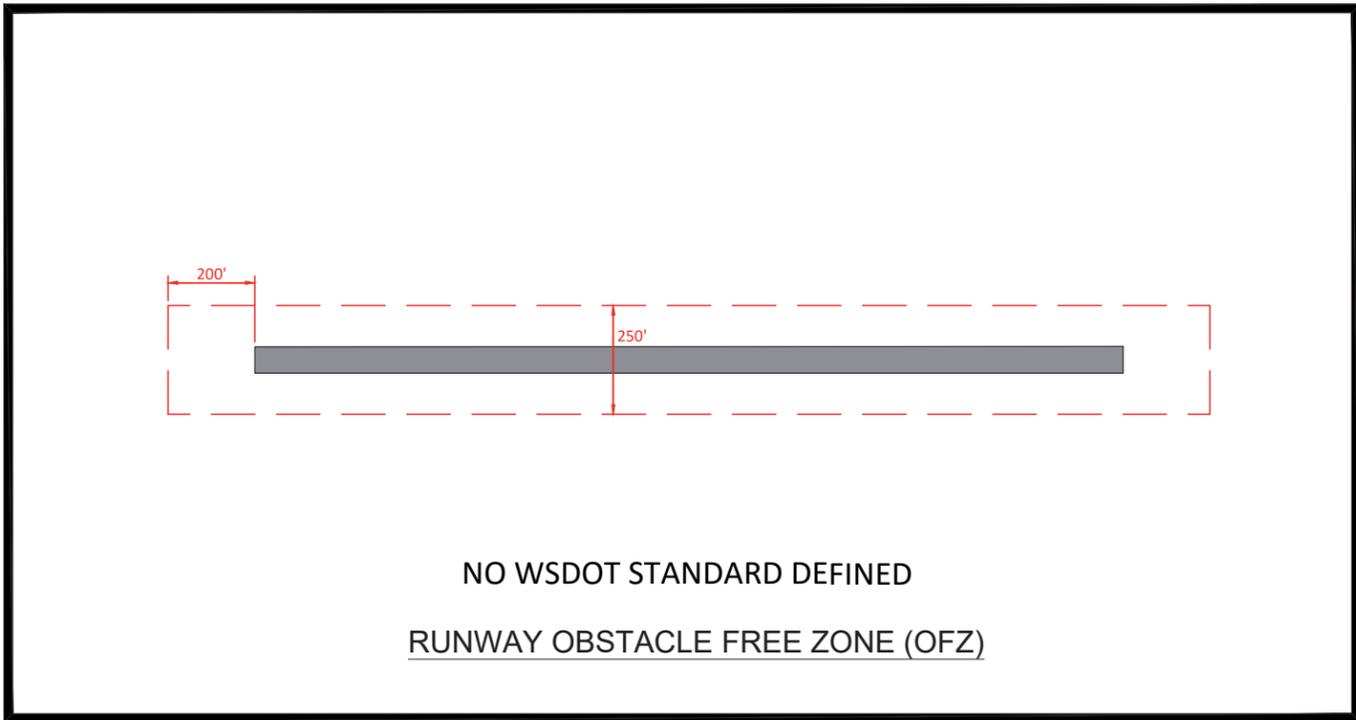
Based on these factors, it is recommended that the **WSDOT Aviation VFR Airport Airspace Standards** be used at Easton State Airport in the form of a design standard to supplement FAR Part 77 airspace surfaces for Runway 9/27. As prescribed in FAR Part 77, Subpart B, notices of proposed construction or alternation for proposed facilities on or near the airport will be subject to FAA review through the Form 7460-1 process. For this reason, airspace plans that depict FAR Part 77 airspace surfaces were created in this project.



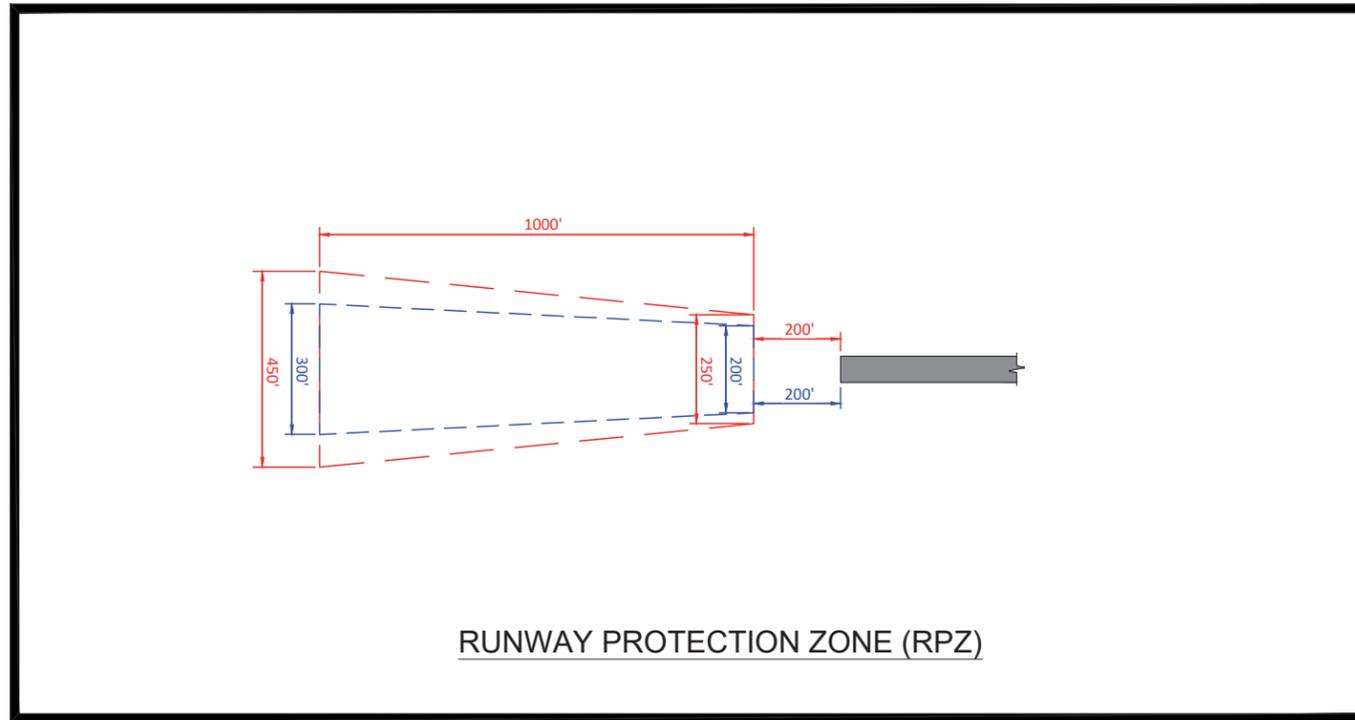
RUNWAY SAFETY AREA (RSA)



RUNWAY OBJECT FREE AREA (OFA)



NO WSDOT STANDARD DEFINED
RUNWAY OBSTACLE FREE ZONE (OFZ)



RUNWAY PROTECTION ZONE (RPZ)

- FAA SURFACES
- WSDOT AVIATION SURFACES
- RUNWAY

EXAMPLE RUNWAY 2000' LONG
A-I (SMALL)

State-Managed Airport Handbook Performance Objectives

The WSDOT Aviation State-Managed Airport Handbook defines several performance objectives for the group of state-managed airports and makes specific recommendations for each airport. WSDOT Aviation indicates that new airport management goals and updated performance measures are anticipated for state-managed airports in the next update of the handbook. **Table 3-2** summarizes the recommendations for Easton State Airport contained in the current handbook and updated recommendations for specific performance measures based on the evaluation conducted in the ALP Report. Many of the recommendations remain unchanged (“Same”) and others have been modified or expanded to reflect current conditions and facility needs. It is noted that the performance measures defined in the State-Managed Airport Handbook will require periodic updates to maintain consistency with other WSDOT Policy documents and Best Management Practices (BMPs).

TABLE 3-2: SUMMARY OF WSDOT AVIATION PERFORMANCE MEASURES

Easton State Airport		
Item	WSDOT Aviation State-Managed Airport Handbook Recommendation	ALP Report Recommendation
LATS Stratification Level: Recreation or Remote Airports		
ARC	A-I	Same
Aircraft Size	Small (under 12,500 lbs.)	Same
Runway Classification	Utility	Same
Runway Length	Maintain Existing Length (2,640 feet)	Same
Runway Width	100’ recommended	Same
Runway Surface	Turf/Gravel/Sand	Turf
Taxiway	Turnarounds on each end	Same
Other Facilities/Services	Transient aircraft parking area Auto parking Open seasonally	Tiedowns Limited vehicle parking Seasonal operation
Approach Categories	Visual (Daytime only)	Runway lighting supports night operations (emergency only recommended)
Visual Aids/NAVAIDS	Windsock Runway edge reflectors Weather reporting (as required)	Same Maintain edge lights/replace with reflectors (budget based issue) Airport Web Camera
Airspace Planning	To the greatest extent practicable, the airport should meet the approach surface requirements of FAR Part 77	Maintain all FAR Part 77 Airspace Surfaces for airspace planning and FAA Form 7460 coordination. Mitigate obstructions with WSDOT Aviation Design Standards, as needed.

Airport Design	To the greatest extent practicable, the airport should maintain appropriate Runway Safety Areas per FAA AC 150/5300-13	Same; when not practicable, apply WSDOT Aviation VFR Airport RSA standard.
General Maintenance / Development Recommendation	A master plan, airport layout plan, and capital improvement program should be completed for this airport.	Same
Flight Safety Enhancement	Emergency Shelter	Same
Activity Performance Measures		
Support Forest Firefighting Operations	Command unit trailer pad Area(s) for firefighting camping/staging/auto parking Complete grass coverage of all areas to minimize dust	Same
Access for Emergency Medical Operations	Excellent landside accessibility from road to airport (paved road) Paved/marked/lighted helipad Floodlighting for helipad area Snow removal for helipad Appropriate emergency airport signage on surrounding roadways	Same
Provide Access to Recreational Areas	Clear approaches (aircraft/helicopter) Aircraft parking areas Weather reporting ¹ Telephone Water Restrooms Good landside accessibility from road to airport (paved or graded gravel road) Auto parking Campsites/picnic tables/fire pits	Same
1. Weather reporting is recommended only after a thorough analysis and confirmation of need for the airport.		

Airport Design Standards

This section describes the airport design standards applicable to Easton State Airport.

RUNWAY

Runway 9/27 is 2,640 feet long, which limits its use to small fixed wing aircraft and helicopters capable of operating on a short, unpaved runway. The original construction of the runway as an emergency airstrip reflected the practical limits of the site and available property. The existing runway length appears to meet the requirements of the aircraft regularly using the airport and should be maintained.

Runway 9/27 is 100 feet wide, which exceeds the FAA runway width standard and conforms to the WSDOT Aviation standard. It is recommended that the current runway width be maintained.

The runway surface has several areas of poor turf condition, due in part to soil and seeding conditions, and absence of irrigation during the summer months. The runway requires rehabilitation including areas of fill, grading and leveling, compaction, new top soil, and reseeded with a drought tolerant and durable grass blend. Turf management best practices, which include regular mowing, weed control, animal control, and periodic re-seeding and rolling, are recommended for ongoing facility maintenance. The turf runway surface is not currently irrigated. The installation of an underground irrigation system should be considered.

The brush and tree growth along the sides of the perimeter road around the runway is generally clear of the lateral protected areas for the runway, although areas near the east end of the runway have become overgrown, which is encroaching into airspace and protected areas adjacent to the runway. Clearing the vegetation back to the eastern airport property boundary (within the runway approach) is recommended in conjunction with runway improvements.

TURF RUNWAY STANDARDS

FAA Advisory Circular 150/5300-13A (Paragraph 314) provides design guidance for turf runways including width standards, grading, compaction, vertical curves (along the runway centerline), thresholds, landing strip boundary markers, hold markings, and types of turf. Runway 9/27 meets or exceeds FAA standards in most areas, although no aircraft hold markings are currently in place.

Turf or gravel runways do not generally require prepared shoulders. However, FAA indicates that a stabilized surface, such as turf, may be used on runway shoulders to reduce soil erosion. The areas immediately adjacent to the runway edge lights are turf.

AIRFIELD MARKING AND LIGHTING

Runway Lighting

As noted earlier, Runway 9/27 is equipped with a low-intensity runway lights (LIRL). The system is operational, although airport management reports ongoing maintenance challenges including the age of the system and the increasing difficulty in obtaining replacement parts and bulbs. Based on the age and condition of the system, combined with a limited ability to maintain the system in the future, it is assumed that the LIRL will reach the end of its useful life within the current twenty year planning period and will require replacement with a current generation lighting system or retroreflector edge markers.

The development of helicopter facilities to accommodate emergency use activities such as medical evacuation (medevac) or search and rescue flights may warrant the addition of edge lighting to define a day/night use helicopter parking pad.

Runway Lighting vs Reflectors

Easton State Airport's lighted runway is unique among the WSDOT state-managed airports and backcountry airports in general. General aviation runways with regular night operations or significant emergency use potential (poor weather and limited other landing areas along heavily traveled routes, etc.) may consider runway edge lighting to improve operational utilization and safety. The operational benefits, geographic location, cost of the system, maintenance, and energy consumption are among the factors considered by airports when evaluating lighting options.

Airports with limited activity or predominantly daytime use are often well suited for use of retroreflective runway edge markers. Accordingly, FAA-certified retroreflective markers provide an economical alternative to edge lighting and represent the minimum standard for runway visual aids for State-Managed airports, as noted in the WSDOT Aviation State-Managed Airport Handbook. Retro-reflective markers shall meet the technical specifications established by the FAA in Advisory Circular (AC) 150/5345-39C – Specifications for L-853 Runway and Taxiway Retroreflective Markers.

The decision to maintain runway lighting at Easton State Airport will be based on the cost of system replacement and an assessment of cost and benefits. However, maintaining either runway edge lights or retro-reflective edge markers is recommended as a safety based minimum standard.

WSDOT Aviation - State Airport System Need & Functional Evaluation

Runway operational safety is increased through the use of runway edge lights or reflectors. Both runway edge lighting and reflectors improve low-light or low-visibility recognition of the runway environment, particularly for turf runways without clearly defined edges. Both edge lights and retroreflective edge markers provide other safety and operational benefits:

- Clearly define edges and ends of useable runway (prepared surface);
- Increases visual references, improves spatial orientation and situational awareness for pilots when operating in the runway environment; and
- Improves runway recognition during low light or low visibility conditions.

When operating in the airfield environment, the visual reference provided by a defined runway edge, edge lights, or edge markers provides an important cue for pilots within both forward and peripheral vision. The FAA published guide “Spatial Disorientation – Visual Illusions” (Medical Facts for Pilots, Pub. AM 400-00/1, rev. 2/11) discusses the common physiological and environmental factors contributing to spatial disorientation for pilots. “*Peripheral vision, also known as ambient vision, is involved with the perception of movement (self and surrounding environment) and provides peripheral reference cues to maintain spatial orientation...A final approach to an unusually wide runway may produce the visual illusion of being lower than you actually are. If you believe this illusion, you may respond by pitching the aircraft’s nose up to gain altitude, which may result in a low-altitude stall or missed approach.*”

Paved runways clearly distinguish the prepared runway surface from adjacent unpaved surfaces and pavement markings further enhance visual recognition of the operating surface for pilots.

Turf runways are commonly wider than paved runways of a similar length are often surrounded by open areas with similar visual characteristics. At Easton State Airport, the maintained runway surface is 100 feet wide, but is located within a grassy area approximately 360 to 380 feet wide. The absence of visual markers or edge lights to define the edges of a turf runway would increase the potential of aircraft moving from the maintained landing area into adjacent areas that are not maintained to the same standard as the runway surface.

Taildragger aircraft typically have limited forward visibility during the initial takeoff role and during a three-point landing. Retroreflective runway edge markers or runway edge lights provide a reliable visual reference within a pilot’s peripheral vision, which is consistent the FAA research on maintaining spatial orientation.

Edge markers/lights provide pilots with fixed reference points during takeoff and landing. As when operating a small airplane on a very wide paved runway at night or similarly, when landing a seaplane in glassy water conditions, the absence of visual cues can contribute to temporary disorientation for pilots.

Recommendations – Airfield Marking and Lighting

WSDOT Aviation State-Managed Airports:

- Retroreflective runway edge markers are recommended as the basic airfield marking/lighting standard. In cases where specific operational needs exist, runway edge lighting should be considered if the financial investment can be justified.
- Field evaluations of other FAA-approved retroreflector models currently available should be considered to maintain the system wide performance measure and avoid the potential of becoming dependent on a single vendor. In addition to evaluating comparative visibility effectiveness, consideration should be given to models that provide increased durability with “rebound” capabilities that allow the marker to “self-restore” to its original upright position if struck by an aircraft wheel. The current Valley Illuminator Model AR-100 has excellent visibility due to a surface area that exceeds the FAA requirement (96 square inches). However, the large diameter cylinders used in the AR-100 are prone to significant or complete damage (collapse) when struck. Several FAA-certified flexible-stake models with smaller diameter reflectors are available that may provide an acceptable level of illumination with improved durability. A review of several retroreflector models currently in use is provided in **Appendix B**, at the end of the report.

Easton State Airport:

- Runway 9/27 – Replace existing low intensity runway lighting system (LIRL) with current technology medium intensity lighting system (MIRL) if financially feasible.
- Alternatively, replace LIRL at end of useful life with FAA-approved retro-reflective edge markers based on the existing runway width (100 feet); the current interval between fixtures (200 feet) should be maintained. Permanent reflector mounts are recommended to improve installation and durability of units.
- Segmented Circle – Install a segmented circle on the south side of the runway (near mid-runway), at the existing wind cone with tilt-down mast (L-807).
- Install a supplemental wind cone at the west end of Runway 9/27 to improve recognition of surface wind conditions on airfield.
- Replace mid-runway panel marker mounts with frangible mounts.

Other Related Facility Needs

As noted earlier, the airport is located along a busy east-west flight route through the Cascade Range and provides an important emergency landing area for aircraft transiting the area. If runway lighting is maintained, airport management may wish to consider installation of a rotating beacon to improve airport recognition from the air. A review of historical records indicates that the Federal Aviation Agency (FAA) constructed a fan marker site on the airport (unknown installation date; surplus in 1965) which provided basic enroute navigation assistance through the area. The FAA installation of an enroute navigational aid, often used by pilots in visual flight rules (VFR) conditions, highlights the geographic significance of the airport in relation to enroute flight.

The airport's existing 8' x 12' electrical building was included in the 1965 FAA surplus of the fan marker site. The building and the runway lighting electrical control system is in poor condition and is in need of replacement. The replacement building would also provide improved equipment storage on site.

Airfield – Visual Aids

Wind cones and segmented circles represent the minimum standard for airfield visual aids for state-managed airports. FAA standards for siting and installation of airport visual aids, as noted in the State-Managed Airport handbook, should be utilized to ensure consistency. Traffic pattern indicators should also be used for any runway ends with “right traffic” rather than the standard “left traffic.” Supplemental wind cones located near a runway end may be appropriate based on localized wind conditions.

Runway 9/27 is equipped with elevated panels marking the approximate mid-point of the runway. The triangular-shaped painted plywood panels are ground mounted on three 4” by 4” pressure treated posts. The markers are not frangible, although they are located outside runway protected areas (object free area, runway safety area, etc.). Replacing the fix mounts with frangible mounts should be considered based on the proximity of the markers to the aircraft operating area (approximately 160 feet from runway centerline).

RUNWAY SAFETY AREA (RSA)

The Runway Safety Area (RSA) as “a defined surface surrounding the runway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway.” Runway safety areas are most commonly used by aircraft that inadvertently leave the runway environment during landing or takeoff.

By FAA design standard, the runway safety area “shall be:

1. *cleared and graded and have no potentially hazardous ruts, humps, depressions, or other surface variations;*
2. *drained by grading or storm sewers to prevent water accumulation;*

3. *capable, under dry conditions, of supporting snow removal equipment, aircraft rescue and firefighting equipment, and the occasional passage of aircraft without causing structural damage to the aircraft; and*
4. *free of objects, except for objects that need to be located in the runway safety area because of their function. Objects higher than 3 inches above grade should be constructed on low impact resistant supports (frangible mounted structures) of the lowest practical height with the frangible point no higher than 3 inches. Other objects such as manholes should be constructed at grade. In no case should their height exceed 3 inches.”*

The RSA for Runway 9/27 is limited by property ownership (east end) and the airport perimeter road that encircles the runway. The perimeter road enters both the WSDOT and FAA-defined RSA at the east end of the runway; and the FAA-defined RSA at the west end of the runway. The design standard for surface conditions noted above, requires the RSA to support an aircraft or airport vehicles under dry conditions. Based on WSDOT Aviation standards, the RSA width and the turf runway width (100 feet) are the same. Aircraft parking and day use facilities on the south side of the runway are located outside the RSA. Options for improving the RSA will be addressed in the alternatives evaluation (Chapter 4).

RUNWAY OBJECT FREE AREA (OFA)

Runway object free areas are two-dimensional surfaces intended to be clear of ground objects that protrude above the runway safety area edge elevation. Obstructions within the object free area may interfere with aircraft flight in the immediate vicinity of the runway. The FAA defines the object free area clearing standard:

“The object free area clearing standard requires clearing the object free area of above ground objects protruding above the runway safety area edge elevation. Except where precluded by other clearing standards, it is acceptable to place objects that need to be located in the object free area for air navigation or aircraft ground maneuvering purposes and to taxi and hold aircraft in the object free area. Objects non-essential for air navigation or aircraft ground maneuvering purposes are not to be placed in the object free area. This includes parked airplanes and agricultural operations.”

The OFA for Runway 9/27 is limited at its west and east ends by the airport perimeter road and property ownership. Aircraft parking and day use facilities on the south side of the runway are located outside the OFA (at least 100 feet from runway centerline, 50 feet from the runway edge markers). Options for improving the OFA will be addressed in the alternatives evaluation (Chapter 4).

RUNWAY PROTECTION ZONES (RPZ)

The FAA provides the following definition for runway protection zones:

“The RPZ’s [runway protection zone] function is to enhance the protection of people and property on the ground. This is best achieved through airport owner control over RPZs. Control is preferably exercised through the acquisition of sufficient property interest in the RPZ and includes clearing RPZ areas (and maintaining them clear) of incompatible objects and activities. The RPZ is trapezoidal in shape and centered about the extended runway centerline. The RPZs begin 200 feet beyond the end of the area useable for takeoff or landing.” The central portion and controlled activity area are the two components of the RPZ. The central portion of the RPZ extends from the beginning to the end of the RPZ, centered on the [extended] runway centerline and is equal to the width of the runway OFA.

The WSDOT-Aviation defined RPZ has smaller dimensions than the corresponding FAA RPZ, which reduces the surface area and area of concern for incompatible land uses and activities. Therefore, the use of WSDOT RPZ is recommended to mitigate non-aviation activities for Runway 9/27.

The majority of the Runway 9 RPZ is located off airport property and extends over portions of ten residential parcels. Nearly the entire Runway 27 RPZ extends off airport property over portions of five sparsely developed land parcels. It is recommended that aviation easements be acquired for the portions of the RPZs, which coincide with the inner approach surfaces for the runway, to maintain adequate obstruction control for the approach surfaces.

RUNWAY OBSTACLE FREE ZONE (OFZ)

The obstacle free zone (OFZ) is a plane of clear airspace extending upward above runway elevation that are intended to protect close-in obstructions that may create hazards for aircraft. The FAA defines the Runway OFZ and its clearing standard:

“The ROFZ is a defined volume of airspace centered above the runway centerline. The ROFZ is the airspace above a surface whose elevation at any point is the same as the elevation of the nearest point on the runway centerline. The runway OFZ extends 200 feet beyond each end of the runway.”

“The obstacle free zone clearing standard precludes taxiing and parked airplanes and object penetrations, except for frangible visual NAVAIDs [navigational aids] that need to be located in the obstacle free zone because of their function.”

Although not recognized in the WSDOT Aviation standards, the FAA-defined OFZ for Runway 9/27 has the same width dimension as the FAA-defined OFA. The WSDOT-defined OFA could also accommodate an OFZ of the same width to increase consistency with FAA standards. It is recommended that WSDOT Aviation apply the FAA-defined OFZ clearing standards to correspond to the WSDOT OFA dimensional standards (200 feet wide, extending 200 feet beyond each runway end).

Therefore, the OFZ for Runway 9/27 is limited by the same items previously noted for the OFA. Options for improving the OFZ clearing will be addressed in the alternatives evaluation (Chapter 4).

RUNWAY- PARALLEL TAXIWAY SEPARATION

Runway 9/27 is not equipped with a parallel taxiway. This standard is not applicable to Easton State Airport.

BUILDING RESTRICTION LINE

A building restriction line (BRL) identifies the minimum runway setback required to accommodate a typical building without penetrating airspace or conflicting with other airfield protected areas. The WSDOT Aviation dimensional standard for runway centerline to property or building line is 200 feet. When coupled with the WSDOT Aviation VFR Airspace Standards for the primary surface and transitional surface, the 200-foot WSDOT Aviation BRL can accommodate a 20-foot structure (assuming the same ground elevation as the runway) without penetrating the surfaces. Using conventional FAR Part 77 standards, the 200-foot BRL could accommodate a 10.7-foot structure. It is noted that a 200-foot BRL at Easton State Airport coincides with the north and south property lines that parallel most of the runway. The southern property line located near the east end of the runway extends southeast away from the runway, which provides additional area for development that has adequate clearance from the runway setbacks.

There is one small structure currently located at Easton State Airport:

- Electrical Building – located near east end of runway (approximately 250 feet south of runway centerline, 660 feet west of Runway 27 end; estimated elevation 12 feet AGL). The structure does not appear to penetrate the runway transitional surface (FAR Part 77 or WSDOT-defined).

FAA design standards do not provide a specified distance for BRLs. However, the protection of defined runway and taxiway clearances, runway protection zones, and FAR Part 77 airspace surfaces generally provide adequate clearances for controlling building locations and heights.

The use of WSDOT Aviation VFR Airspace Standard Dimensions would mitigate impacts to FAR Part 77 airspace, but would not likely be sufficient to result in a “no objection” finding during a 7460 review process.⁹ However, FAA airspace findings are advisory and have no enforcement mechanism for non-NPIAS airports.

⁹ FAA Form 7460-1 – Notice of Proposed Construction or Alteration

Any proposed siting of structures on the airport should be made to avoid or minimize airspace penetrations. However, if an airspace penetration is unavoidable, the minimum required mitigation would be to mark or light the obstruction to assist pilots in recognizing the item, which is consistent with FAA requirements for any built item obstruction to FAR Part 77 airspace.

AIRCRAFT PARKING LINE

The aircraft parking line (APL) represents the minimum setback required for locating aircraft parking in order to clear an adjacent runway-taxiway system. For runways without a parallel taxiway, the FAA and WSDOT Aviation dimensional standard for the APL is 125 feet from runway centerline. This distance corresponds to clearing an ADG I runway OFZ, OFA, and visual runway primary surface (FAR Part 77), but does not address FAR Part 77 transitional surface clearance.

The three existing small airplane tiedowns located on the south side of the runway are 135 to 160 feet from runway centerline.

The designated aircraft parking area on the south side of Runway 9/27 is located beyond the defined 125-foot APL setback. Additional aircraft parking areas should also be located at least 125 feet from runway centerline to provide adequate runway separation.

FAR Part 77 Surfaces

There are five “imaginary surfaces” defined in FAR Part 77.25 including the primary, transitional, approach, horizontal and conical surfaces. Part 77 surfaces should be free of built or terrain obstructions to the greatest extent possible. Objects that penetrate FAR Part 77 surfaces may require action to mark or remove depending on their severity, location and the feasibility of the action. The drawing includes a table of obstructions with recommended dispositions.

The physical characteristics of the Part 77 surfaces defined for Runway 9/27 are based on small (utility) aircraft and visual approaches.

- **Approach Surface:** Extends 5,000 feet from the end of the runway primary surface. The approach surface has a slope of 20:1 and represents the horizontal distance required for each increment of vertical rise.
- **Primary Surface:** Based on the visual approach standards for a utility unpaved runway, the primary surface is 250 feet wide and extends to each end of the runway. The primary surface is a

flat plane of airspace centered on the runway at the same elevation as the nearest point on the runway centerline.

- **Transitional Surface:** The runway transitional surfaces extend outward and upward from the outer edges of the primary surface. The transitional surfaces have a slope of 7:1 and extend to an elevation 150 feet above airfield elevation and connect to the runway horizontal surface and approach surfaces.
- **Horizontal Surface:** The horizontal surface is drawn from 5,000 foot radii that extend from both ends of the primary surface to form an oval. The horizontal surface is a flat plane of airspace with an elevation 150 feet above airport elevation.
- **Conical Surface:** The conical surface extends from the outer edge of the horizontal surface at a slope of 20:1 for 4,000 feet.

The airport has mountainous terrain in the conical surface north, east, and south of the Runway 9/27, which is not unusual for an airport located in a mountainous area. The runway approaches are free of terrain penetrations and the natural terrain (valley) provides clear routes for pilots to follow between areas of high terrain. The use of threshold siting surface criteria is recommended to provide a reasonable measure for controlling tree heights and other penetrations close to the runway. Several trees appear to penetrate the runway approaches and the runway transitional surface. An obstruction survey is recommended to identify the most critical tree penetrations for the runway approaches and transitional surfaces. Acquisition of aviation easements is recommended to address the portions of the inner approaches that extend beyond airport property.

WSDOT Aviation VFR Airport Airspace Standards

As noted earlier, WSDOT Aviation has developed a modified set of airspace surfaces modeled after FAR Part 77, Objects Affecting Navigable Airspace and FAA Advisory Circular 150/5300-13A, Airport Design to reflect the unique size, location, topography and natural obstructions commonly found at many state-managed airports.¹⁰ These are referred to as “non-standard” primary and transitional surfaces.

- The non-standard runway primary surface width is based on the inner width of the Threshold Siting Criteria surface (120’) and not the standard widths based on approach surfaces defined in FAR Part 77.
- The non-standard transitional surfaces start at the runway primary surfaces and climb at a rate of 7:1 (similar to FAR Part 77) – however, these surfaces only climb to 45’ AGL, limiting their lateral width to 315’.

¹⁰ WSDOT State-Managed Airport Handbook, *WSDOT Aviation VFR Airport Airspace Standard Dimensions* (February 2011)

- The non-standard transitional surfaces intersect the Threshold Siting Criteria surfaces at appropriate elevations (e.g., the 45' AGL contour of the transitional surface meets the 45' AGL contour of the Threshold Siting Criteria surface).

THRESHOLD SITING SURFACES

The use of threshold siting surfaces (TSS) to mitigate approach surface obstructions is consistent with FAA airport design guidance. The WSDOT Aviation State-Managed Airport Handbook recommends that “threshold siting criteria be utilized as the basis for the Airport’s airspace surfaces when the State has minimum control over removing obstructions in mountainous and forested regions.”

The **WSDOT Aviation VFR Airspace Standard Dimensions** recommend the dimensions and surface slope for “Runway Type 1” defined in FAA AC 150/5300-13, Airport Design, for threshold siting surfaces (TSS). It is noted that the “Runway Type 1” TSS applies to “runways expected to serve small airplanes with approach speeds less than 50 knots. (Visual runways only, day/night). With a few exceptions, the majority of small single-engine aircraft have approach speeds of 50 knots or more, which corresponds to “Runway Type 2.” However, the benefits provided by a Runway Type 2 TSS on Runway 9/27 would be very limited since the TSS slope (20:1) and the inner width dimension are the same as the Part 77 approach surfaces.

Based on the mountainous environment and close-in trees found at many state-managed airports, the **WSDOT Aviation VFR Airspace Standard Dimensions** for the Type 1 TSS provide a reasonable modified standard for approach clearances which is consistent with the pilot skill level required to safely operate on unimproved airfields. At a minimum, WSDOT Aviation should acquire aviation easements for the TSSs for both runway ends and conduct an obstruction survey to determine the tree clearing required to maintain unobstructed surfaces.

The use of the WSDOT Aviation non-standard airspace surfaces is recommended to mitigate obstructions to standard FAR Part 77 surfaces. However, standard FAR Part 77 airspace surfaces, recognized by FAA, will continue to be used for all airspace evaluations performed by FAA through the 7460 process. Both WSDOT and FAR Part 77 airspace surfaces should be reflected on the ALP airspace plan sheets.

Table 3-3 summarizes the TSS recommended for Runway 9/27, based on WSDOT standards.

TABLE 3-3: THRESHOLD SITING SURFACE CRITERIA FOR EASTON STATE AIRPORT

WSDOT Aviation VFR Airport Airspace Standard Dimensions						
Runway Type	Dimensional Standards					Slope/ OCS
Approach end of runways expected to serve small airplanes with approach speeds less than 50 knots. (Visual runways only, day/night)	dist. from rwy end	inner width	outer width	inner section length	outer section length	15:1
	0	120	300	500	2,500	

Table 3-4 provides a comparison between WSDOT’s non-standard airspace dimensions and FAR Part 77 airspace dimensions.

TABLE 3-4: AIRSPACE SURFACES

Item	WSDOT Aviation VFR Airport Airspace Standard Dimensions ²	FAR Part 77 Dimensions Visual-Utility Runway ¹
Width of Primary Surface and Approach Surface at Inner End	120 ³	250
Approach Surface Width at Outer End	300 ³	1,250
Approach Surface Length	3,000 ³	5,000
Approach Slope	15:1 ³	20:1
Horizontal Surface Elevation/Radius	N/A	150 feet above airport elevation to 5,000 feet
Conical Surface Slope	N/A	20:1
Transitional Surface Slope	7:1 to 45 feet above airport elevation	7:1 to 150 feet above airport elevation
Notes: 1. FAR Part 77, Objects Affecting Navigable Airspace 2. WSDOT State-Managed Airport Handbook “WSDOT Aviation VFR Airport Airspace Standard Dimensions” 3. Threshold Siting Criteria, Slope/OCS (Visual Runways)		

Other Facility Requirements

AIRCRAFT PARKING

Easton State Airport has no based aircraft requiring permanent tiedowns and none are forecast during the current twenty-year planning period. Transient aircraft parking requirements are difficult to quantify based on the overall low levels of activity at the airport. However, based on the range of operations estimates for the airport noted in Chapter 2, a normal “busy day” would be expected to generate demand for 2 to 4 tiedown positions for overnight or extended visits. Parking demand could increase significantly during organized fly-

in or airport clean up events and areas should be reserved for overflow parking. Additional space for tiedowns should be reserved beyond current projections to accommodate any increase in demand.

The existing aircraft parking area located on the south side of the runway, east of mid-runway, currently has three small airplane tiedowns. The tiedowns are slightly staggered, ranging from approximately 135 to 160 feet south of runway centerline. The tiedowns are approximately 120 feet north of two adjacent airport campsites, which include ADA-accessible fire rings, picnic tables and tent pads. The tiedowns are located inside the airport perimeter road, with direct turf access to the runway.

The development of additional small airplane parking and helicopter parking areas should be located to provide adequate separation from the runway.

MEDEVAC HELICOPTER PAD

The addition of a lighted helipad is recommended to support year-round, 24-hour medevac access for Easton. Improving surface access to the airport and providing regular snow removal on the pad is required to maintain a high level operational readiness for the facility.

CAMPSITES

Basic airport campsites for day use or overnight use are consistent with the recreational use of airport. Existing facilities located on the south side of the runway include picnic tables, two ADA-accessible fire rings, and two small tent pads. Facility improvements could include larger tent pads, animal-resistant food storage lockers and garbage disposal bins, potable water supply, and restrooms with showers and toilets.

PILOT FLIGHT PLANNING STATION

The addition of a pilot flight planning station with a telephone is recommended for pilots to open and close their FAA flight plans. The pilot flight planning station will also require extension of electrical power and communication links (either telephone or internet), which should be considered when evaluating technology options.

RESTROOMS/SHOWERS

Some remote airports are equipped with restrooms with flush toilets and showers. The Idaho Department of Transportation Aeronautics Department maintains this type of facility at some of their remote airports. Self-contained CXT systems that require periodic pumping provide an environmentally friendly alternative to traditional pit toilets or septic systems. Routine maintenance, system maintenance and winterization costs, and water service connections are required.

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AIRPORT WEB CAMERA

The existing airport web camera appears to be adequate. The on-site camera provides pilots with visual information about airfield conditions and area weather, and also provides airport management with improved monitoring capabilities of activities on the airport.

FIRE & EMERGENCY RESPONSE FACILITIES

Easton State Airport has the ability to provide a strategic response and emergency staging capabilities for events in western Kittitas County and adjacent counties. The airport currently has no facilities that are dedicated to emergency response staging and operations, although mobile “self-contained” operations can be accommodated as needed. The airport’s location within the I-90 corridor and its close proximity to timberlands located in the Okanogan-Wenatchee National Forest, the Snoqualmie National Forest, and the Teanaway Community Forest, underscores its unique strategic geographic location that provides an accessible forward location capable of effectively supporting forest fire response activities and other emergency response planning.

The positioning of forward fire response resources is determined by the location of the fire(s) relative to available assets. Since the fire response needs are random and vary greatly from year to year, there is no anticipated demand to construct permanent facilities, although the airport has the capability of accommodating that need, if required. Facility improvements such as extending water, electrical and telephone service, adding restrooms with showers, loading/staging areas, and helicopter parking pads could be considered to increase agency response capabilities. Some of these facilities could also be used by other airport users during non-emergency periods, which would also provide a unique venue capable of accommodating a variety of civilian and military emergency and fire response training activities.

MILITARY & AGENCY COORDINATION

Easton State Airport has the ability to provide a strategic response and emergency staging capabilities for central Washington and surrounding areas. Included among the response scenarios is a post-Cascadia Subduction event, which has the potential of causing significant damage to Interstate 90, including bridges, elevated sections, and roadway sections located in areas of high landslide or avalanche risk on both sides of Snoqualmie Pass.

Easton State Airport is one of six WSDOT Aviation state-managed airports identified by the Washington National Guard as proposed staging areas for developing all hazard response capabilities. The broad guidance provided by National Guard emergency planners is that development of dedicated infrastructure at small airports is not typically required. However, evaluating the staging and operational activities that could be accommodated in a particular location as part of an overall, coordinated agency response is important.

It is noted that the emergency response capabilities and facility needs for remote airports such as Easton State Airport are basic and relatively similar, whether the response is geared to events such as wildfires or aircraft search and rescue, or less common natural disasters such as flooding, landslides or larger seismic events. In both military and civilian response scenarios, emergency teams are generally mobile and self-contained. The ability to quickly access a response site and set up operations is a key to an effective response. Depending on the specific requirements of the designed response, facilities may be repositioned to another site or shut down if the function is no longer needed.

Primary emergency staging facility needs or capabilities include:

- Adequate areas for staging response operations (equipment storage, crew accommodations, operations facilities, fuel storage);
- Helicopter parking and staging areas;
- Access to potable water;
- Access to electricity and land line communications; and
- Multi-modal access.

The evaluation of multi-modal access capabilities of Easton State Airport are noted in **Table 2-3**, in Chapter 2. Multi-modal access is one of several factors emergency planners consider in defining emergency response plans. The unique capability of an airport is the ability to support air operations in the event of loss of surface access (roads and bridges) within an area. For small airports, the ability to support helicopter activity is generally more feasible than accommodating fixed wing aircraft commonly in military or fire response use. The geographic location of an airport may also be critical, particularly in planning responses to highly localized incidents such as wildfires, flooding, or disruption of surface roads and bridges. It is important to note that the response capabilities of any particular airport are defined by the physical characteristics of the facility. As part of a well-defined systematic approach, the capabilities of the system as a whole, rather than one individual asset, provides the broad level of response needed to address a wide variety of potential events that occur with little or no advance notice.

Ongoing coordination is recommended between the Aviation Division and the National Guard to develop formal response plans involving Easton State Airport, as one of six state-managed airports that have been identified as having potential for staging all-hazard responses.

A future phase of WSDOT Aviation ALP project for state-managed airports is expected to include a task for agency and military coordination to address the items noted above, and issues related to federal ownership (where applicable) and the need for coordinated planning among agencies.

AIRPORT UTILITIES

Electric

The existing electrical service to Easton State Airport is adequate for current and anticipated needs. Facility upgrades, such as replacement of runway edge lights and the airport electrical building, or the addition of lighted medevac helicopter parking pad may require updated underground service connections. The potential development of emergency staging facilities may require service extensions within the airport.

Water

The Easton Water District provides water service within Easton and has a main service line (with hydrants) located along the north side of West Sparks Road in the vicinity of the airport. The developed residential and commercial parcels located adjacent to the east end of the airport are served from this main line; the residential parcels located near the west end of the runway are not located in the current water district service area and rely on individual wells.

Extending potable water to the airport from nearby service lines should be evaluated to determine the most cost effective connection options. Recommended improvements could include the addition of hydrants to support emergency services staging areas and access (spigots) to potable water in the aircraft camping area for normal use and fire protection.

The land parcels in the vicinity of the airport are classified by Kittitas County with “high-extreme” roof hazard (fire) ratings and require use of “Class A” roofing materials (e.g., brick, tile, clay, metal, concrete, asphalt, slate, fiber-cement) for new construction. In addition to serving airport-related needs, extending water service to the airport may enhance area-wide fire response capabilities through an approved memorandum of understanding.

Sanitary Sewer/Septic

Easton does not have sanitary sewer service. Individual septic/drain field systems are used. The potential development of on-airport restrooms and showers will require a septic/drain field system or a self-contained discharge for waste and drain field for gray water.

Natural Gas

Natural gas service is not available in Easton. The nearest natural gas service (Puget Sound Energy) is located in the Cle Elum/Roslyn area, which is served by a 20-mile pipeline from Thorp.

Telecommunications

The airport has telephone and internet service (Quest) that enters the airport on Silver Trail Lane. The service is used to support the WSDOT web camera mounted on the wind cone located on the south side of the runway.

SURFACE ACCESS

Upgrading the access road (Silver Trail Lane) serving the airport is recommended as a near-term project. The project may include acquisition of public right-of-way (40 feet +) for the private road. Increasing the width of the 10-foot wide roadway to 20 feet is also recommended.

The development of an additional public access road to the airport is also recommended. The road should be designed to meet Kittitas County public road standards for <40 mph design speed and 0-400 ADT: 24-foot roadway width and a 60-foot ROW.

The addition of a surface access to the west end of the airport is recommended to improve emergency access. A short extension from the cul-de-sac located at the end of Silver Trail Road would provide the most direct access. The roadway connection would be gated and not open to the public.

Airport management limits use of vehicles within the runway environment to limit damage to the turf surface. The perimeter road is intended to provide access for airport maintenance, emergency, and fire agency staging vehicles and is not authorized for public use. Maintaining safe and efficient surface access to support emergency operations is critical to the airport's mission. Extending access roads to serve new emergency staging areas on the airfield is recommended. Options for realigning the existing perimeter road around the runway to eliminate conflicts with runway protected areas will be included in the alternatives evaluation.

Chapter 4 – Proposed Improvements

IN THIS CHAPTER

- Proposed airport facility improvements (runway, replace lighting, aircraft parking, etc.)
- Proposed upgrades in existing surface access and construction of additional access roads
- Proposed airport campsite and recreational facility improvement options
- Proposed firefighting and emergency operations/staging areas
- Proposed medevac helicopter pad (lighted)
- Preliminary Preferred Alternative

Introduction

The evaluation of development options at Easton State Airport includes basic facility improvements and new facilities. The established facilities on the airport reflect the existing site configuration and past improvements made by airport management in response to user needs.

The WSDOT Aviation State Airport Manager maintains a list of general airport improvements and maintenance items for all state-managed airports, including Easton State Airport:

1. Master Plans/ALP/Capital Improvement Program (this project addresses this recommendation; update as needed);
2. Develop standardized property documentation:
 - Right-of-Way Plans
 - Survey – Geodetic
 - Topo – Orthos
 - Boundary Marking

Also recommend runway surveying (end coordinates and elevations; RSA grade, etc.);

3. Avigation easements;
4. Legal access;
5. New access roads;
6. Security plan - Gates / Fencing;
7. Highway and Airport Signage;
8. Aircraft Tiedowns (clear of runway protected areas);
9. Vehicle Parking (clear of runway protected areas);
10. Habitat Assessments – Critical Areas, Vegetation (Herbicide/Pesticide), and Wildlife Management Plans;
11. Establish coverage under 4(d) RRMP Programmatic coverage (regional road maintenance program employing best management practices for ESA protection);

12. Part 77 analysis – Obstruction removal plans (approach and primary surface/obstacle free zone obstruction analysis, etc.);
13. Standard runway configuration – Per Airport handbook standards – 100' x 2,400' Turf;
14. Emergency Management Staging Access Areas – WA Interagency Incident Management Team Facilities;
15. Pilot Flight Planning Station with telephone; guest sign;
16. Restroom (vault toilet) and Showers (co-located with staging areas);
17. Utilities – Power, Water, Internet, Phone, WiFi, – Established for Emergency Management Staging Areas;
18. Web Camera;
19. Helicopter Parking for firefighting staging; lighted pad for Medevac operations;
20. Segmented circle with wind cone;
21. Physical address;
22. Police and Fire access agreements - training and emergency staging; and
23. Volunteer Sponsor under Adopt-an-Airport Program.

In addition to the general improvements noted above, several specific facility improvements were identified for Easton State Airport during the planning process:

- Runway rehabilitation (fill and grading; reestablish crown, drainage improvements, amend top soil, re-seed);
- Irrigation system for turf runway;
- Runway safety area improvements (east end of RSA to property line, fill, grading, and compaction):
 - Relocate sections of airport perimeter road outside of RSA (shift road to eastern property line)
 - Relocate the Runway 27 threshold approximately 69 feet north to provide standard RSA beyond runway end (reduces runway length to 2,571 feet);
- Evaluate Runway 9 displaced threshold/obstruction removal options to improve approach obstruction clearance (trees);
- Conduction obstruction survey for runway approaches to identify the heights, locations, and elevations of trees penetrating the WSDOT Aviation 15:1 threshold siting surfaces for Runway 9 and 27;
- Acquire avigation easements for runway protection zones (RPZ) and inner approach surfaces to allow obstruction control (trees) in approaches;
- Acquire property (fee or easement) at west end of runway (approximately 0.31 acres) to protect airport perimeter road;
- Construct lighted helicopter parking pad for medevac and emergency management use;
- Upgrade existing access road (Silver Trail Lane) to Kittitas County private road standards for road and right of way (ROW);
- Develop a new access road (60-foot ROW; 24-foot road) to airport (requires acquisition of approximately 1 acre ROW on DNR parcel);

- Replace existing low intensity runway lights (LIRL) with current-generation medium intensity runway lights (MIRL);
- Install airport rotating beacon;
- Install supplemental wind cone near Runway 9 end;
- Install segmented circle (at existing wind cone);
- Replace airport electrical building/equipment storage building;
- Clear trees and brush along sides of runway to accommodate facility improvements (as needed);
- Establish facilities for seasonal fire response and emergency response (Incident Management) capable of accommodating aircraft flight operations, ground operations, and staging activities;
- Acquire property to site interagency emergency response facilities (approximately 3.4 acres on adjacent DNR parcel);
- Upgrade/reconfigure aircraft campsites (tent sites; potable water; animal-resistant food storage lockers and garbage disposal, etc.);
- Construct restrooms and showers adjacent to campsites/emergency staging area;
- Construct pilot flight planning station;
- Extend water service to airport (Easton Water District) for airport use and fire protection; and
- Periodic runway maintenance (grass seeding, herbicide, and pesticide application to improve turf surface).

Figure 4.1 depicts the general location of proposed improvements. **Figure 4.2** depicts a conceptual aircraft campsite. The primary features include an aircraft tiedown, tent pad, picnic table, fire pit/ring, and a USDA-FS-approved food storage locker for each campsite.

RUNWAY & AIRFIELD IMPROVEMENTS

The proposed runway improvements are intended to provide a safe operating surface, consistent with the airport's historic and continued use as an emergency landing site in the busy east-west VFR flyway, a support facility for emergency and wild fire response activities, and a facility providing general aviation access to prime recreational areas.

A small reduction (69 feet) in the existing runway length is proposed to provide standard runway safety area (RSA) beyond the east end of Runway 9/27. The runway length would be reduced from 2,640 feet to 2,571 feet by relocating the Runway 27 threshold. The section of airport perimeter road that extends around the east end of the runway is shifted to follow the eastern airport property line to minimize the threshold relocation. In conjunction with the threshold and road relocations, runway safety area improvements are recommended at the east end of the runway including filling, leveling and compacting the surface. The existing 100-foot runway width is consistent with WSDOT Aviation design standards and is maintained.

An evaluation of Runway 9 approach obstructions is recommended, including completion of an obstruction survey to define the locations and heights of trees within the runway approach. Once the heights and

locations of trees penetrating the approach are defined, an analysis of tree removal and lowering and runway reconfiguration (displaced threshold) can be performed. The use of the WSDOT Aviation 15:1 threshold siting surface (TSS) is recommended for defining tree clearing limits in the Runway 9 approach.

The proposed runway improvements include rehabilitation of the surface and base courses, which includes fill, grading, leveling, re-establishing the runway centerline crown, and re-seeding (turf). The installation of an irrigation system is proposed to support optimal turf conditions during the dry summer months. The irrigation system upgrade will require extending water service to the airport and constructing the underground system.

The existing runway edge lights will be replaced and reconfigured at 100-foot intervals with permanent mounting bases that are set in concrete. The edge lights will continued to be removed when the airport is closed over the winter months to prevent damage when covered with snow.

Trees and brush located along the north and south sides of the runway should be cleared and the ground surface graded to provide effective drainage for the site and accommodate future landside facility development.

A segmented circle is proposed to be added at the existing wind cone on the south side of the runway, near mid-runway. A supplemental wind cone is proposed on the north side of the runway near the Runway 9 end to accurately reflect surface wind conditions.

HELICOPTER PAD

The development of a paved and lighted helicopter pad is proposed for the airport to support year round 24-hour medevac service for the local Easton community and the upper county. The helicopter parking pad would be located adjacent to the runway, outside the runway safety area and object free area. The helipad is located north of the proposed small airplane tiedowns, directly adjacent to the north end of the airport access road. Upgraded surface access to the helicopter pad is also recommended to provide efficient and reliable access for emergency vehicles. The option of developing a designated helicopter landing area may also be considered. This would require establishing and protecting FAR Part 77 airspace (approaches, etc.) for the helicopter facility. Helicopters currently utilize the airspace associated with the runway for arrivals and departures. Establishing a designated helicopter landing area could support the development of a helicopter-only instrument approach that could provide all weather access to the facility.

AIRPORT ACCESS ROADS

Widening the existing airport access road (Silver Trail Lane) is recommended to improve accessibility. Options for converting the private road and easement to a public right of way (ROW) should be considered, in addition to upgrading the road to meet county road standards.

The development of a new access road is proposed to upgrade the overall accessibility for the airport. The proposed new access road utilizes a design alignment created by WSDOT for the evaluation of a previously proposed I-90 truck chain-up area. The proposed roadway is 1,500 feet long and connects to West Sparks Road from a DNR land parcel. The acquisition of approximately 2 acres of ROW (60 feet wide) is required to construct the access road.

Modifications are proposed for the airport perimeter road to reduce conflicts with various runway protected areas. The improvements include relocating the section around the east end of the runway, beyond the runway safety area (RSA).

Roadway extensions are proposed to access future facilities on the south side of the runway, outside defined runway protected areas. The proposed roads will be gravel-surfaced and capable of accommodating airport maintenance equipment and other large vehicles that may be used in emergency response activities.

AIRCRAFT TIEDOWNS

A minor reconfiguration of aircraft tiedowns is proposed for both day use and camping facilities. The tiedowns are co-located with proposed campsite and picnic area improvements.

The proposed south-side parking areas would consist of four north-facing tiedowns located outside the runway object free area, adjacent to the aircraft camping area. Additional aircraft parking can be accommodated south of the proposed tiedowns, if needed.

A small pilot flight planning shelter with telephone is proposed adjacent to aircraft tiedown area.

AIRCRAFT CAMPING FACILITIES

Upgraded aircraft camping areas are proposed near the southeast corner of the airport, adjacent to the runway. The existing campsite locations are maintained, although additional clearing is proposed to the south to accommodate additional space for tent sites and other facilities. The campsite locations have direct runway access and provide convenient access to the local trail system. Camping facilities include picnic tables, fire rings, tent pads, and animal resistant food storage lockers and garbage disposal.

The improvement of camping facilities would retain existing trees wherever possible to maintain the current character of the site. The gravel perimeter road extending around the runway will provide access for airport maintenance equipment and other vehicles. Public access to the camping area would be limited to airport users and the perimeter road would not be used.

EMERGENCY MANAGEMENT STAGING AREA

The development of an emergency operations staging area is proposed for the airport. A location on the south side of the runway is proposed to provide the most efficient surface access and airfield access. The staging areas would be intended to support emergency response operations and seasonal firefighting activities.

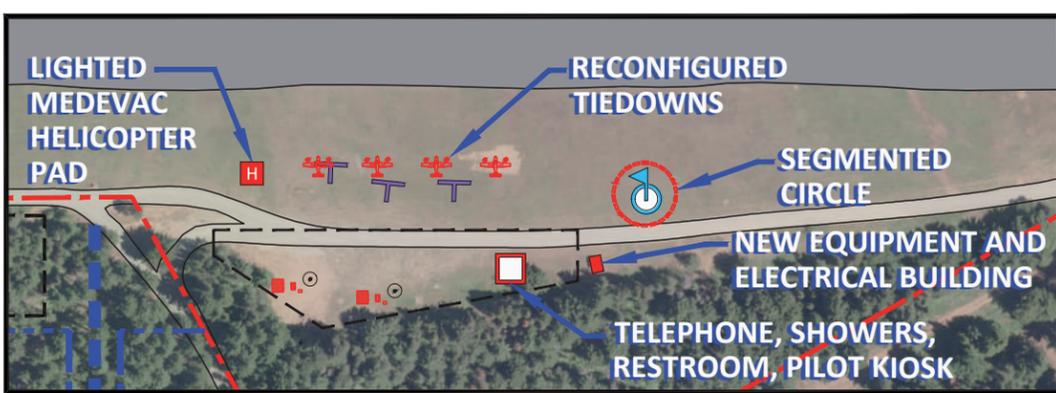
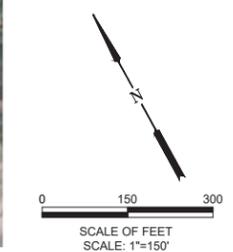
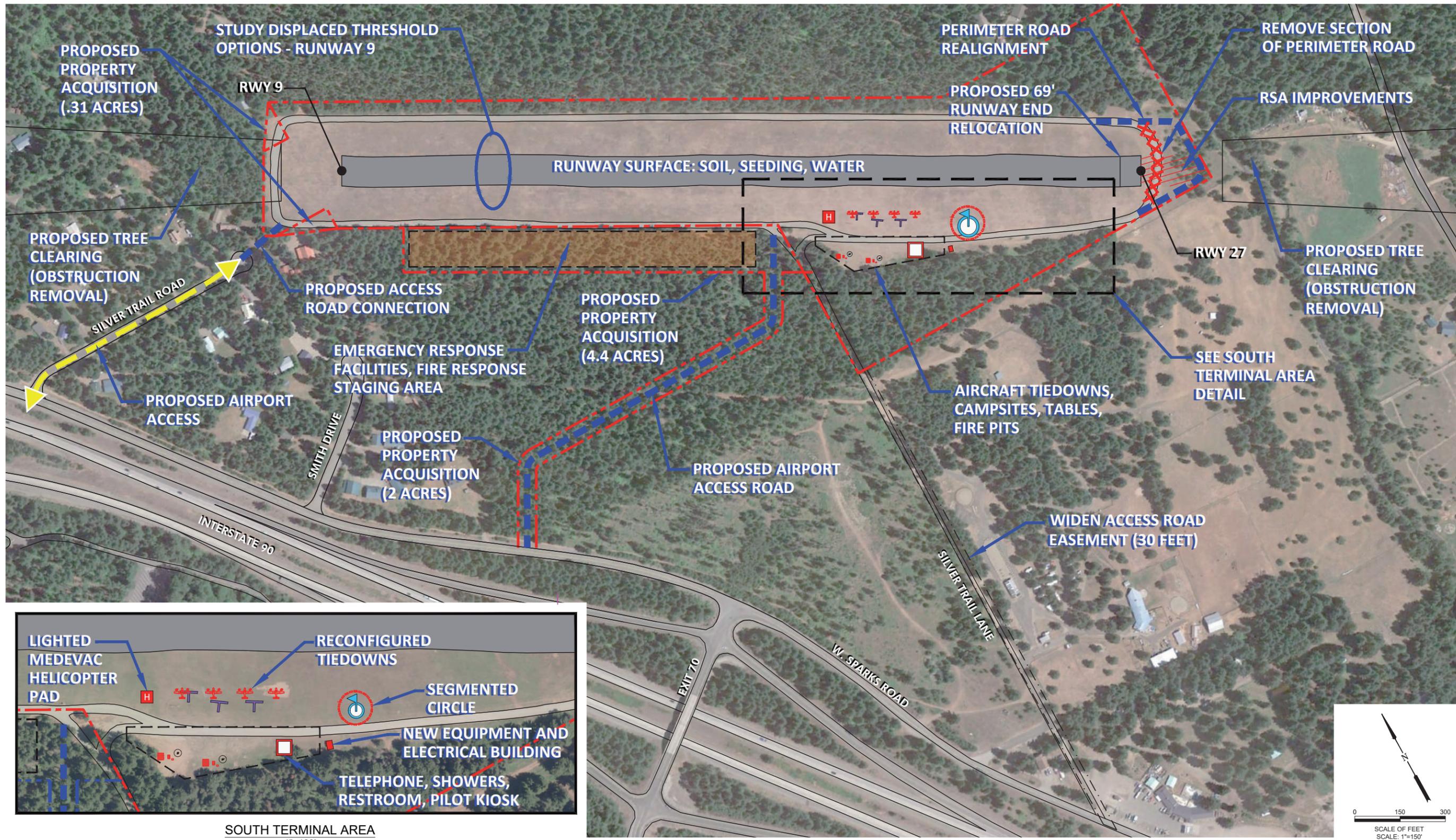
The proposed site is located on DNR property, immediately adjacent to the airport and can be accessed from the existing and proposed access roads and the perimeter road serving the airport. An area of property acquisition (approximately 4.4 acres) is depicted. The facility is intended to support interagency emergency response and fire response activities. The proposed site would have direct access to the airfield and is capable of accommodating several helicopter parking pads in addition to designated areas to accommodate aircraft ground support operations, personnel and equipment staging areas, and secondary support facilities common to agency-led incident response management.

Extending basic utilities into the site is recommended and will be determined by user needs (water, electrical power, telephone, etc.). All utilities entering the sites from existing service lines will be placed underground in the vicinity of runway and helicopter operating areas. The development of restrooms with showers is proposed to support staging operations.

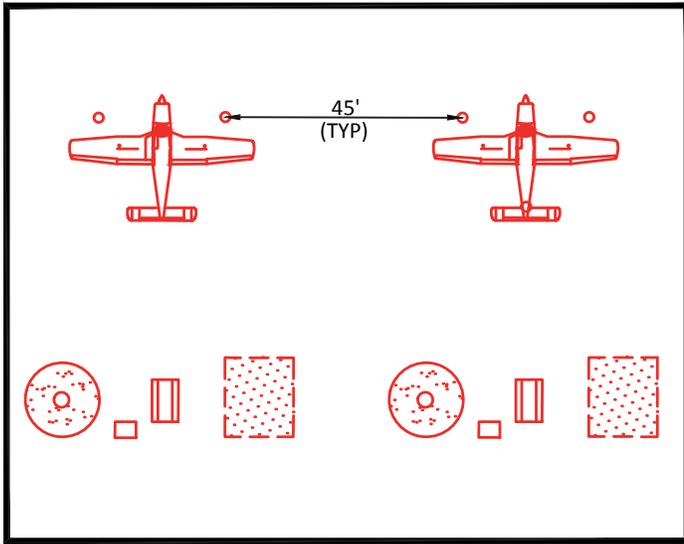
PROPERTY ACQUISITION

Five areas of property acquisition are proposed to expand the boundary of Easton State Airport.

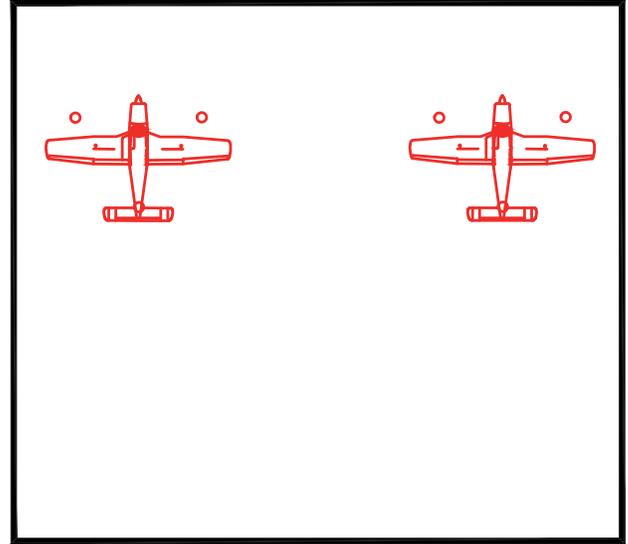
- Two small parcels (0.31 acres combined) are located near the west end of Runway 9/27. The required property (privately owned) will allow a uniform rectangular shape of the airfield and fully contain the airport perimeter road within the airport boundary.
- The proposed new airport access road ROW requires approximately 2 acres of property acquisition (DNR owned)
- The proposed emergency staging area requires approximately 4.4 acres of property acquisition or lease (DNR owned)
- A small area of property acquisition is proposed at the east end of Silver Trail Road (cul-de-sac) to accommodate a roadway connection to the airport perimeter road. The roadway would be gated and used only for emergency access, fire response, and airport maintenance.



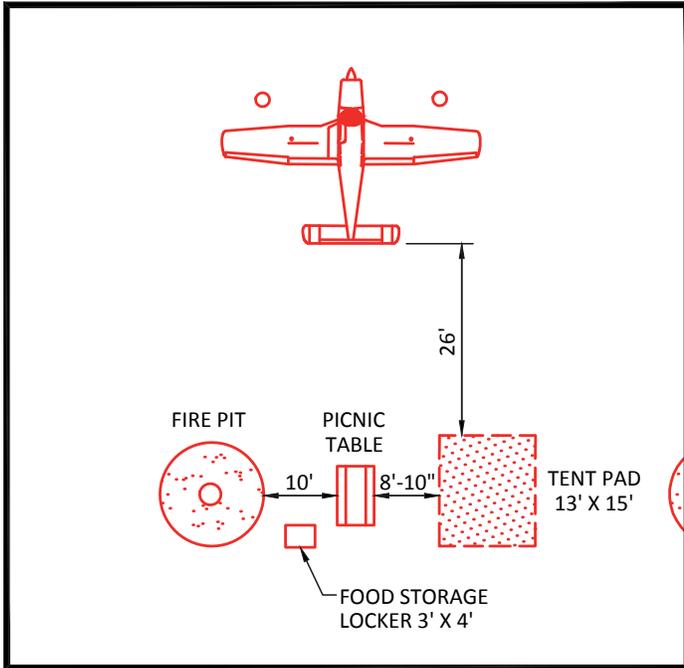
SOUTH TERMINAL AREA
1"=100'



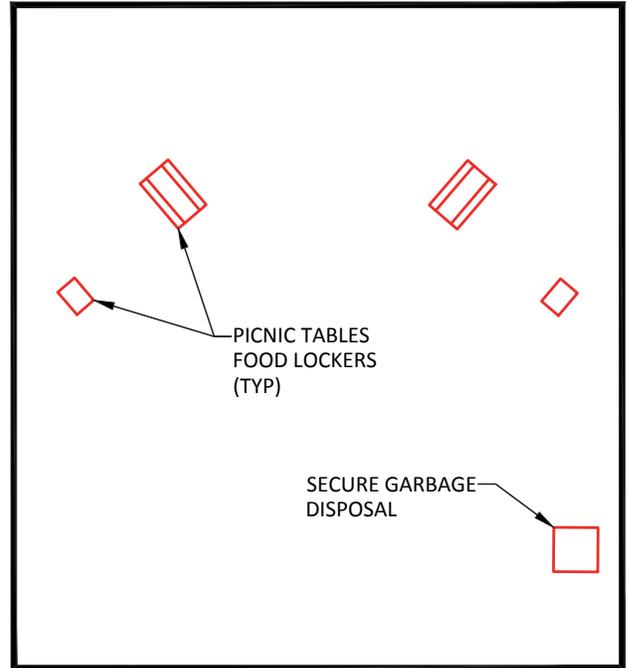
AIRCRAFT CAMPSITES



DAY USE TIEDOWNS



AIRCRAFT CAMPSITE DETAIL



PICNIC SITES

Preferred Alternative (Preliminary)

The recommended improvements for Easton State Airport are depicted on the draft Airport Layout Plan (ALP) drawing (**Figure 4.3**). The improvements collectively represent the preliminary preferred alternative for the draft ALP Report provided for public review. The preliminary preferred alternative will be refined, as needed, through public comment and coordination with the state and federal agencies with operational or land ownership interests related to Easton State Airport and its immediate surroundings. Final recommendations and facility configurations will be determined through this process and depicted on the final ALP drawing in Chapter 6.

PUBLIC REVIEW PROCESS

The draft Airport Layout Plan (ALP) Report was posted on the WSDOT Aviation Division webpage for public review. The WSDOT Aviation State Airport Manager coordinated with agencies and airport stakeholders throughout the project. This outreach included periodic project update emails and an airport user survey (See Appendix C).

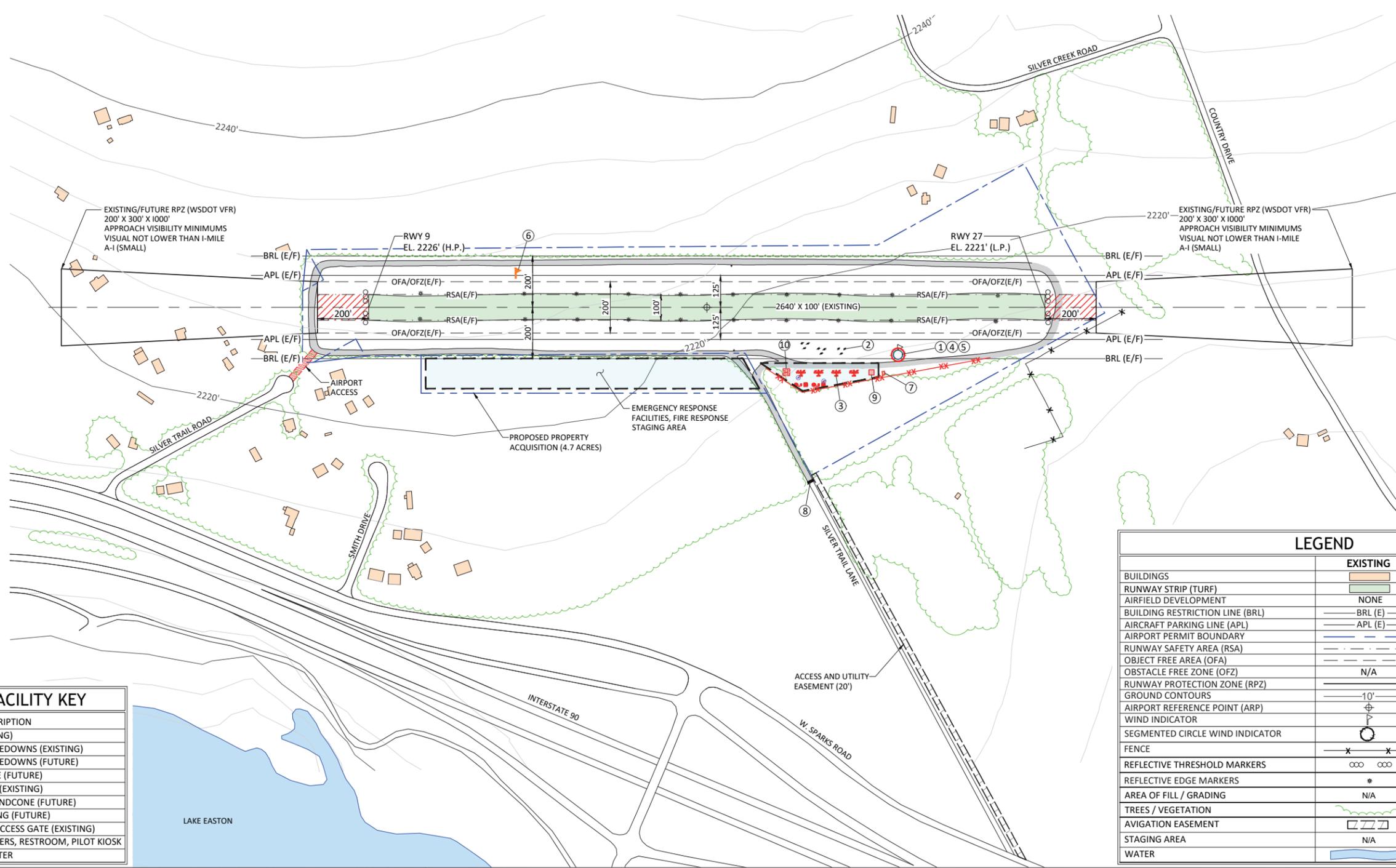
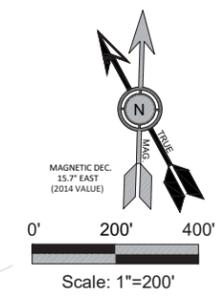
PREFERRED ALTERNATIVE

The preliminary preferred alternative depicted on **Figure 4.3** was further refined based on the public and agency review, coordination, and input described above. The key elements of the recommended preferred alternative are described below:

- Runway Improvements:
 - Runway reconditioning (runway leveling, soil amendment, rolling, re-seeding);
 - Realignment of airport perimeter road (outside RSA @ east end);
 - Runway Safety Area (RSA) improvements (east end – fill, grading, compaction in conjunction with perimeter road realignment);
 - Runway approach obstruction survey (trees);
 - Reconfigure runway thresholds (TBD - design evaluation required based on obstruction survey and ability to clear approaches);
 - Replace runway edge lights or convert to reflectors;
 - Install irrigation system (turf runway);
- Tree Clearing (obstruction removal and lateral site development);
- Realign horse trails from runway and protected areas;
- Other Airfield Facility Improvements:
 - Segmented circle (mid-runway, south side @ existing tilt-down wind cone);
 - Medevac helipad (paved and lighted);
 - Supplemental wind cone (north side, near Rwy 9 end);
 - New airport rotating beacon;
 - Replacement electrical control building and equipment storage;

- Extend local water service to airport (distribution to campsites, emergency staging areas, future irrigation system, hydrants);
- Pilot Facilities:
 - Pilot Flight Planning Shelter;
 - Aircraft Tiedowns and Camping Facility Improvements;
 - Restroom Facilities (CXT vault toilet, showers, potable water);
- Property Acquisition:
 - Right of Way for Silver Trail Lane (optional, involves privately-owned land);
 - Right of Way for new airport access road (DNR property);
 - South Emergency/Fire Response Staging Area (DNR) (approximately 4.4. acres);
 - Western section of perimeter road right of way (approximately 0.31 acre);
 - Avigation Easements for both Runway Protection Zones (control tree heights for inner approaches);
- Surface Access Improvements:
 - (Near-Term) Options to upgrade the existing airport access:
 - Widen easement for Silver Trail Lane roadway (40 feet);
 - Widen Silver Trail Lane roadway (20-24 feet) within easement;
 - Acquire roadway right of way for airport access road (approx. 1.2 acres);
 - Convert private road to Kittitas County road (public use);
 - Reliable 24-hour access is required for planned medevac helipad;
 - Acquire right of way for emergency access at west end of airport (via Silver Trail Road cul-de-sac);
 - (Long-Term) Airport access improvements:
 - Acquire right of way for new airport access road over adjacent DNR property (approximately 2 acres);
- Emergency/Fire Staging Area:
 - Helicopter Parking Pads; and
 - Extend Electric, Water and Telephone to Site.

The final ALP drawing, presented in Chapter 6, reflects the recommended facility improvements and configuration.



DRAFT

BUILDING/FACILITY KEY	
	DESCRIPTION
①	WINDCONE (EXISTING)
②	SMALL AIRPLANE TIEDOWNS (EXISTING)
③	SMALL AIRPLANE TIEDOWNS (FUTURE)
④	SEGMENTED CIRCLE (FUTURE)
⑤	AIRPORT WEBCAM (EXISTING)
⑥	SUPPLEMENTAL WINDCONE (FUTURE)
⑦	ELECTRICAL BUILDING (FUTURE)
⑧	AIRPORT VEHICLE ACCESS GATE (EXISTING)
⑨	TELEPHONE, SHOWERS, RESTROOM, PILOT KIOSK
⑩	MEDEVAC HELICOPTER

	EXISTING	FUTURE
BUILDINGS		
RUNWAY STRIP (TURF)		
AIRFIELD DEVELOPMENT	NONE	
BUILDING RESTRICTION LINE (BRL)		
AIRCRAFT PARKING LINE (APL)		
AIRPORT PERMIT BOUNDARY		
RUNWAY SAFETY AREA (RSA)		
OBJECT FREE AREA (OFA)		
OBSTACLE FREE ZONE (OFZ)	N/A	
RUNWAY PROTECTION ZONE (RPZ)		
GROUND CONTOURS		
AIRPORT REFERENCE POINT (ARP)		
WIND INDICATOR		
SEGMENTED CIRCLE WIND INDICATOR		
FENCE		
REFLECTIVE THRESHOLD MARKERS		
REFLECTIVE EDGE MARKERS		
AREA OF FILL / GRADING	N/A	
TREES / VEGETATION		
AVIGATION EASEMENT		
STAGING AREA	N/A	
WATER		

Chapter 5 – Financial Planning and Airport Management

IN THIS CHAPTER

- Project Cost Estimates
- Prioritized Capital Improvement Program
- Airport Management Guidelines

Capital Improvement Program

A capital improvement plan (CIP) has been prepared for Easton State Airport that reflects the recommended projects and project priorities.

Table 5-1 summarizes the short-term and longer-term projects proposed at Easton State Airport with planning-level cost estimates provided. The project costs include a 50 percent contingency for engineering, environmental, WSDOT program development review/SEPA coordination and sales tax.

State-managed airports have limited financial resources available to fund maintenance and operations. The WSDOT Aviation Airport Aid program is a potential source of funding to support the airport's capital project needs. However, the funding levels available in the grant program are limited and competition for funds among all of Washington's public use airports is strong.

The capital improvement program needs for Easton State Airport are modest when compared to a typical general aviation airport. However, any investment in facilities presents a challenge for a system of remote airports with limited activity and little or no revenue generating potential. It is important to emphasize that the airport's defined functional role to accommodate recreational use and emergency response as needed, and the ability to make safety-related improvements cannot be maintained without investment. These needs are not measured strictly by volume of activity or revenue.

TABLE 5-1: PROPOSED IMPROVEMENT PROJECTS – EASTON STATE AIRPORT

Project Year	Project Name	Project Type	Total
Short-Term (2017-2023)	Surveying, Local & Agency Coordination (ROW & property acquisition, airport overlay zone enforcement, aviation easements, etc.)	Other	\$75,000
	Pilot Flight Planning Telephone Shelter	Other	\$25,000
	<u>Access Road Options</u>		
	Option A – Widen Sliver Trail Lane (1,800 x 24’); including private property ROW cost, utility relocation, environmental, road construction	Other	\$275,000
	Option B – Construct New Access Road (1,500 x 24’); including DNR property ROW, environmental, road construction	Other	\$225,000
	Segmented Circle	Other	\$7,000
	Extend Water to Airport, with Hydrants (1,500 LF assumed)	Utilities	\$130,000
	Obstruction Survey (Runway Approaches)	Survey	\$40,000
	Obstruction Removal (Trees) 6 Acres	Other	\$12,000
	Medevac Helipad (Paved and Lighted)	Construction	\$100,000
	Rotating Beacon (New System)	Lighting	\$75,000
	Utility Shed/Electrical Building Replacement	Other	\$20,000
	Longer-Term (2024-2037)	Perimeter Road Realignment (east end – 500 LF)	Other
RWY Safety Area - Grading/Fill (east end)		Rehabilitation	\$40,000
Restroom Facilities (CXT, Showers, Potable Water) – connect to water district service, serving campsites and emergency staging area		Other	\$100,000
Utilities Extension on Site (Power, Water)		Other	\$100,000
Camping Facilities (misc.)		Other	\$15,000
Airplane Tiedowns (Qty 4)		Other	\$1,200
Supplemental Wind Cone		Other	\$7,000
Fencing and Gates		Other	\$12,000
Airport Access Road Connection (west end – 150 feet), w/ ROW acquisition		Other	\$30,000
RWY Surface Improvements (Re-seeding)		Rehabilitation	\$20,000
RWY Irrigation System	Other	\$50,000	
Replace LIRL	Lighting	\$150,000	
Note: Costs include a 50% contingency for engineering, environmental, agency coordination and taxes			

AIRPORT MANAGEMENT ISSUES - EASTON STATE AIRPORT

Easton State Airport presents some unique management challenges for WSDOT Aviation in part due to the emerging pattern of development in the vicinity of the airport which contributes to increased mixed use recreational activities, some of which occur on and adjacent to airport property.

WSDOT Aviation has proactively managed non-aviation public activity on the airport. Advisory signs have been placed on the airport indicating access is limited to the perimeter road and no access to the runway is permitted.



ACTIVE RUNWAY
NO VEHICLES
OR CAMPING
BEYOND THIS POINT

Despite these efforts, airport management reports issues with horse, motorbike, and snowmobile recreational users ignoring the signs and accessing the turf runway. The unauthorized runway use has resulted in horse riders injured from falls; horse and motorbike damage to the runway surface, signs and lighting. Unauthorized snowmobile use includes high speed racing on the runway, damaged signs, and garbage accumulations found during the spring work to re-open the airport.

Since several trails connect directly to the airport perimeter road, the opportunity exists to safely accommodate a variety of mixed use activities if effectively managed. Airport management has indicated a preference to work with stakeholders to create user agreements to effectively manage safety for all users and potentially route some local trails away from the airfield.

It is recommended that airport management develop a mixed-use activities plan for Easton State Airport that identifies acceptable mixed use activities, establishes safe operating practices for users, and identifies local stakeholders who can partner with WSDOT Aviation in maintaining safe activities at the airport. Stakeholders may include, but are not limited to:

- State agencies with land and recreational management responsibilities associated with the local trail system (Washington Department of Natural Resources, State Parks and Recreation, etc.);
- Private land owners (trail owner/managers) to coordinate use of the multi-modal trail system;
- Ranches offering trail riding and attracting visitors;
- Campgrounds and other local businesses attracting recreational uses;
- Organized horse riding clubs in Kittitas County;
- Organized snowmobile clubs in Easton and Kittitas County (Upper Kittitas County Snowmobilers, Inc. (Snomads), Washington State Snowmobile Association, etc.); and

- Kittitas County Sheriff (including search and rescue operations) and Washington State Patrol to define law enforcement requirements.

The overall goal is to develop an effective user group structure that shares the responsibility for ensuring that permitted mixed use activities are safely conducted in a manner compatible with airport operations and facilities.

WSDOT Aviation manages an “Adopt-an-Airport” program to support the basic maintenance and upkeep for its state-owned and managed airports. For Easton State Airport, this activity could be shared by pilot groups and local recreational groups (winter and summer). For example, WSDOT Aviation has a use agreement with a local snowmobile club at Lake Wenatchee State Airport that addresses many of the issues found at Easton State Airport. Other state airports have agreements with local chapters of the Washington Pilots Association (WPA) or other aviation groups.

Airport management has the final determination of safety and may choose to close the airport to all non-aviation users if existing recreational use cannot be adequately managed. Fencing the airport property line (with locked gates) may be considered to eliminate casual access, although the potential for Elk damage to fencing is high and would require a substantial animal-resistant design and regular maintenance/repair. Since the airport is remotely managed, the potential for vandalism also exists, particularly during the winter months when the airport is closed.

AIRPORT MANAGEMENT GUIDELINES

State-Managed Airport Handbook

Chapter 7 (Airport Management Guidelines) of the WSDOT Aviation State-Managed Airport Handbook outlines the range of administrative elements and tasks required in the management of the state airports. The chapter is organized around five primary sections:

- 7.1 What is Included in Airport Administration
- 7.2 An Overview of Airport Standard Procedures
- 7.3 What Are the Airport Property Management and Leasing Standards
- 7.4 Airport Purchasing and Project Procurement
- 7.5 Chapter References and Supporting Documentation

The handbook provides a schedule for periodic review to ensure that the information remains current and accurately reflects current conditions.

The handbook notes that WSDOT Aviation not have minimum standards established for it state-managed airports and provides general information and examples of content to assist in the development of minimum standards in the future.

Developing a standardized set of airport minimum standards for state-managed airports is recommended to supplement existing standards and practices used by WSDOT Aviation for evaluation of access requests, leases, risk management review, insurance requirements, legal review, purchasing and contracting, and defining activities included in the “adopt-an-airport” program.

Airport Management Priorities (Safety and Performance Measures)

A primary priority for airport management is to ensure consistency in meeting established safety standards for the maintenance and operation of state-managed airports. By utilizing “best practices” and defined performance measures, airport management is tasked with maintaining the facilities in a manner that provides for safe and efficient use. Specific guidelines are defined in the following areas of emphasis in the WSDOT Aviation State-Managed Airport Handbook:

- Airport Safety and Security (Chapter 3)
- Airport Maintenance (Chapter 4)
- Airport Construction (Chapter 5)
- Airport Planning (Chapter 6)
- Airport Management (Chapter 7)

Performance measures, like the specific facility improvement recommendations contained in the ALP Report, provide for a consistent management approach that meets the overall objectives of the state-managed airports. Like all management tools, these items require regular updating to reflect changes in use, facilities or regulatory elements.

Airport Rules

Washington Administrative Code (WAC) 468-250 (sections -010 to -170) State Airport Rules, codifies all applicable activities for state-managed airports. WAC 468-250 includes the following sections:

- 010 Definitions.
- 020 Aeronautic division to manage.
- 030 Opening and closing of airports.
- 040 Controlled operations.
- 050 Fees.
- 060 Nondiscrimination.
- 070 Exclusive grants prohibited.
- 080 Representations.
- 090 Provisions in agreements.

- 100 State/federal agreements controlling
- 110 Grounds for refusal to grant agreement.
- 120 Preexisting agreements.
- 130 All use at own risk.
- 140 Temporary rules.
- 150 Accident notification.
- 160 Hazard notification.
- 170 Littering.

Appendix A contains the current guidelines for the opening and closing of the state-managed airports as defined in WAC 468-250-030.

WSDOT Aviation has been working on developing proposed updates to current language that is consistent with current operational needs of stat-managed airports. Proposed updates and revisions to the WAC are also provided for consideration in **Appendix A**. WAC 468-250 was last updated in August 1996.

Chapter 6 – Airport Layout Plan

IN THIS CHAPTER

- Airport Layout Plan Drawings

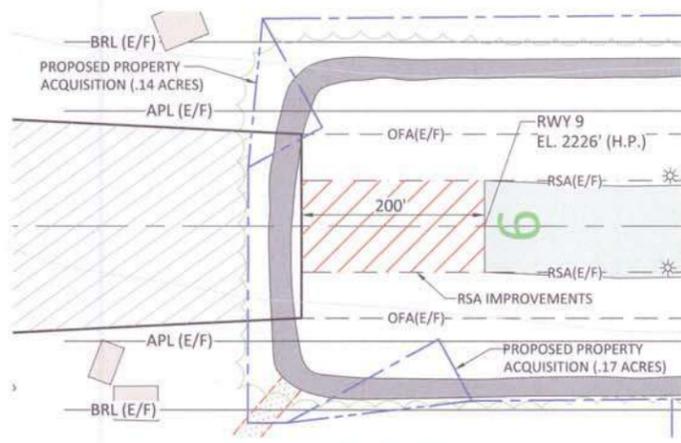
The recommended improvements for Easton State Airport are incorporated into the airport layout plan drawings, which are presented in this chapter. The set of airport plans, which is referred to in aggregate as the “Airport Layout Plan” (ALP) has been prepared in accordance with WSDOT Aviation guidelines.

The ALP set of Easton State Airport includes the following drawings:

- Sheet 1 – Airport Layout Plan
- Sheet 2 - Data Sheet / Terminal Area Plans
- Sheet 3 – Airport Airspace Plan (FAR Part 77)
- Sheet 4 – WSDOT VFR Airport Airspace Plan
- Sheet 5 – WSDOT Aviation VFR Airport Airspace & Runway RPZ and Inner Approach Plan
- Sheet 6 – Airport Land Use Plan
- Sheet 7 – Exhibit “A” Airport Property Plan

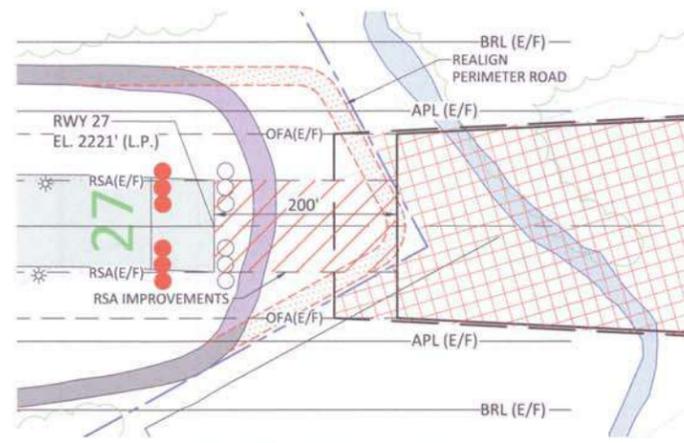
The airport layout plan drawings provide detailed information for existing facilities and recommended improvements. The future improvements depicted in the drawing set are consistent with the airport layout plan’s updated capital improvement program presented in Chapter 5.

The draft ALP drawing set was submitted along with the draft final Airport Layout Plan Report to WSDOT Aviation for review and coordination with local government, airport users, and affected agencies. The final ALP set is presented on the following pages. As individual projects are completed, minor “as-built” updates to the ALP drawing may be completed without updating the airport layout plan report. The airport layout plan drawings are prepared using AutoCAD® computer-aided drafting software, which allows for easier updating and revision. The drawing files may also be imported into Kittitas County geographic information systems (GIS) to support land use planning, mapping, etc.



WEST AIRFIELD DETAIL

Scale: 1"=100'

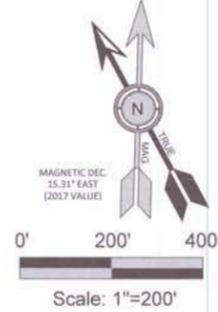
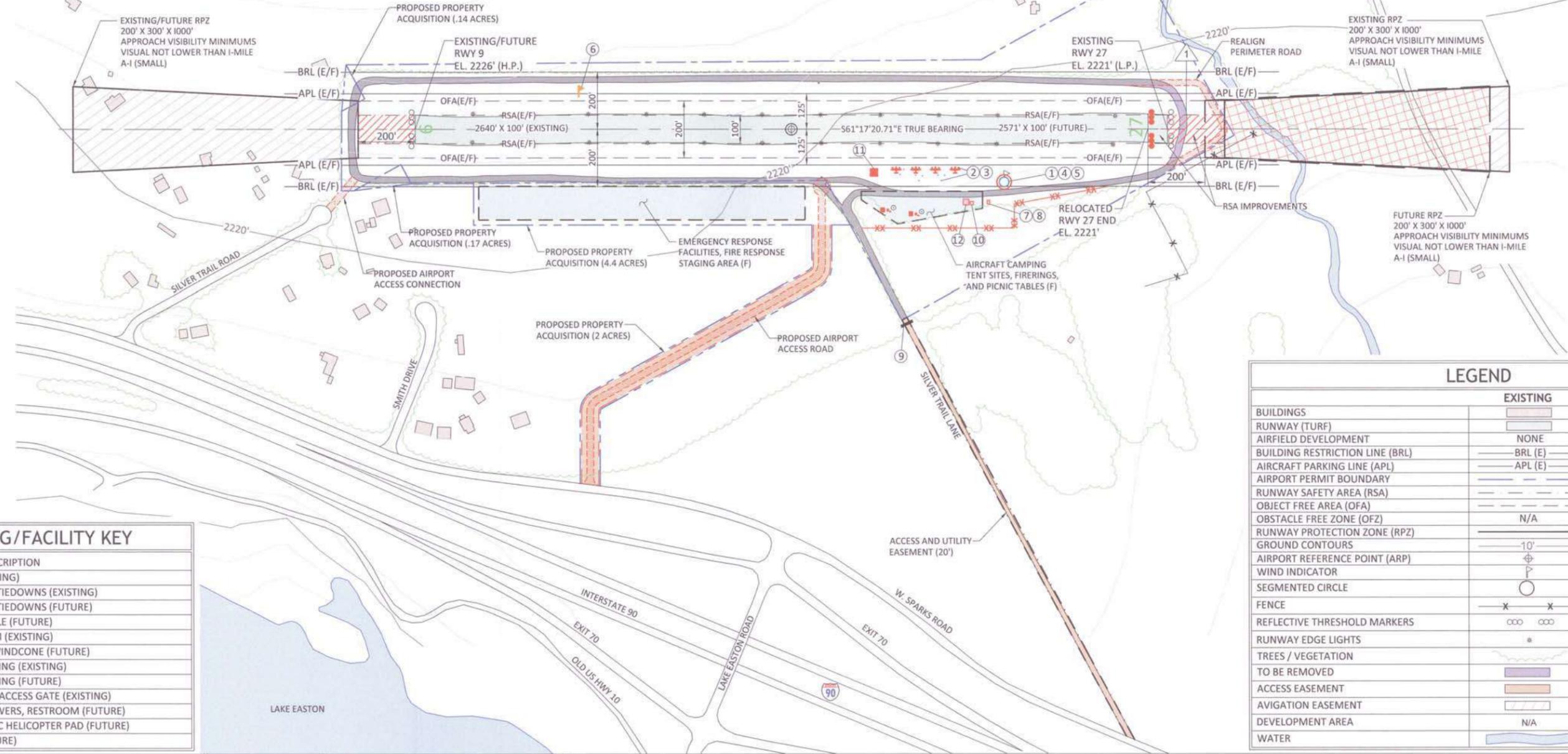


EAST AIRFIELD DETAIL

Scale: 1"=100'

- NOTES:
1. WSDOT AVIATION VFR AIRPORT DESIGN STANDARDS USED AT THIS AIRPORT. FAA DESIGN STANDARDS USED WHERE PRACTICAL.
 2. THRESHOLD SITING SURFACE, PER WSDOT AVIATION VFR AIRPORT AIRSPACE STANDARD.
 3. RUNWAY END NUMBERS FOR ILLUSTRATION PURPOSED ONLY (NO PHYSICAL MARKINGS ON TURF SURFACES).

NON STANDARD CONDITIONS			
NO.	ITEM	DESCRIPTION	DISPOSITION
1	OFA / RSA	PERIMETER ROAD	REALIGN ROAD / RELOCATE RWY END



	EXISTING	FUTURE
BUILDINGS	[Symbol]	[Symbol]
RUNWAY (TURF)	[Symbol]	SAME
AIRFIELD DEVELOPMENT	NONE	[Symbol]
BUILDING RESTRICTION LINE (BRL)	BRL (E)	BRL (F)
AIRCRAFT PARKING LINE (APL)	APL (E)	APL (F)
AIRPORT PERMIT BOUNDARY	[Symbol]	[Symbol]
RUNWAY SAFETY AREA (RSA)	[Symbol]	[Symbol]
OBJECT FREE AREA (OFA)	[Symbol]	[Symbol]
OBSTACLE FREE ZONE (OFZ)	N/A	SAME
RUNWAY PROTECTION ZONE (RPZ)	[Symbol]	[Symbol]
GROUND CONTOURS	10'	SAME
AIRPORT REFERENCE POINT (ARP)	[Symbol]	[Symbol]
WIND INDICATOR	[Symbol]	[Symbol]
SEGMENTED CIRCLE	[Symbol]	[Symbol]
FENCE	[Symbol]	[Symbol]
REFLECTIVE THRESHOLD MARKERS	[Symbol]	[Symbol]
RUNWAY EDGE LIGHTS	[Symbol]	SAME
TREES / VEGETATION	[Symbol]	SAME
TO BE REMOVED	[Symbol]	SAME
ACCESS EASEMENT	[Symbol]	SAME
AVIGATION EASEMENT	[Symbol]	[Symbol]
DEVELOPMENT AREA	N/A	[Symbol]
WATER	[Symbol]	SAME

BUILDING/FACILITY KEY	
NO.	DESCRIPTION
1	WINDCONE (EXISTING)
2	SMALL AIRPLANE TIEDOWNS (EXISTING)
3	SMALL AIRPLANE TIEDOWNS (FUTURE)
4	SEGMENTED CIRCLE (FUTURE)
5	AIRPORT WEBCAM (EXISTING)
6	SUPPLEMENTAL WINDCONE (FUTURE)
7	ELECTRICAL BUILDING (EXISTING)
8	ELECTRICAL BUILDING (FUTURE)
9	AIRPORT VEHICLE ACCESS GATE (EXISTING)
10	TELEPHONE, SHOWERS, RESTROOM (FUTURE)
11	LIGHTED MEDEVAC HELICOPTER PAD (FUTURE)
12	PILOT KIOSK (FUTURE)

NO.	DATE	BY	APPR	REVISIONS
1	6/17			WSDOT APPROVAL; REVIEW DRAFT SUBMITTED PRIOR

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WASHINGTON STATE DEPARTMENT OF TRANSPORTATION APPROVAL
 APPROVAL DATE: JUNE 28, 2017
Tristan K. Otterlei
 SIGNATURE

CENTURY WEST ENGINEERING
 BEND OFFICE: 1020 SW EMKAY DRIVE, #100, BEND, OR 97702, 541.322.8962, 541.382.2423 FAX
 DESIGNED BY: DM, DRAWN BY: JLS, CHECKED BY: WMR, SCALE: AS SHOWN
 DATE: JUNE 2017, PROJECT NO: 10170001.01

EASTON STATE AIRPORT
 AIRPORT LAYOUT PLAN
 FIGURE NO. -
 SHEET NO. 1 OF 7

AIRPORT DATA TABLE			
DESCRIPTION	EXISTING	FUTURE	
AIRPORT ELEVATION (MSL)	2226'	SAME	
AIRPORT ACREAGE	37.7	44.41	
ARP COORDINATES	LAT. N 47° 15' 15.062" LONG. W 121° 11' 7.914"	SAME	
MAGNETIC DECLINATION	15°31'E (6/2017)	ANNUAL RATE OF CHANGE 0°8'W	
MEAN MAX. DAILY TEMPERATURE	81.4° F	SAME	
FAA IDENTIFIER	KESW	SAME	
DATUM	NAD 83/NGVD 88	SAME	

RUNWAY DATA TABLE		
	EXISTING CONDITIONS RUNWAY 9 - 27	FUTURE CONDITIONS RUNWAY 9 - 27
RUNWAY LENGTH AND WIDTH	2640' X 100'	2571' X 100'
RUNWAY LIGHTING	LIRL	MIRL / REFLECTORS
RUNWAY PAVEMENT STRENGTH (IN 1000 LBS)	N/A	N/A
RUNWAY PAVEMENT TYPE	TURF	SAME
RUNWAY PERCENT WIND COVERAGE (12 MPH)	N/A	N/A
RUNWAY PERCENT GRADIENT / MAXIMUM GRADE	0.19%	SAME
AIRPORT REFERENCE CODE (ARC)	A-I (SMALL)	SAME
FAR PART 77 DESIGNATION	VISUAL - UTILITY	SAME
NPIAS ROLE / SERVICE LEVEL	NON NPIAS / GENERAL AVIATION	SAME
TERMINAL NAVAIDS	NONE	SAME
TAXIWAY LIGHTING	NONE	SAME
TAXIWAY MARKING	NONE	SAME
OFZ PENETRATION	N/A	N/A

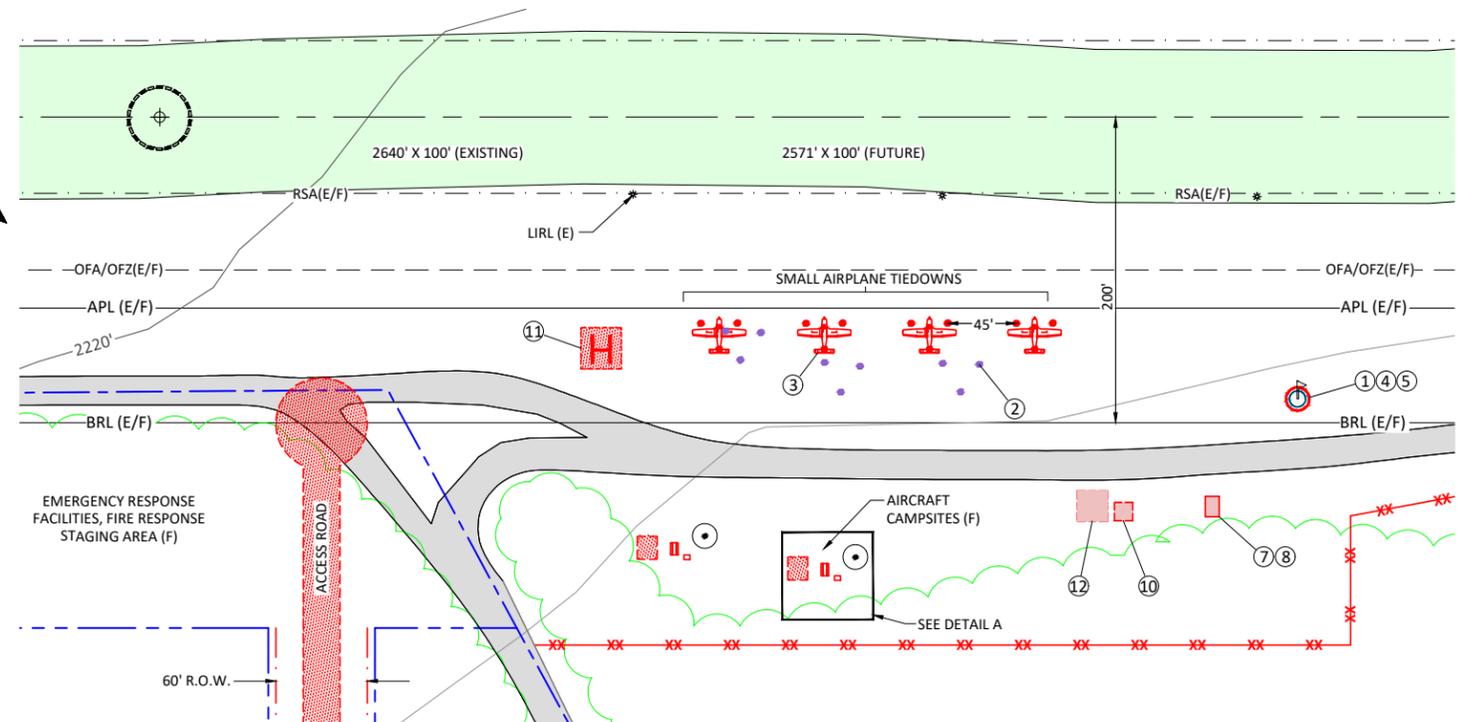
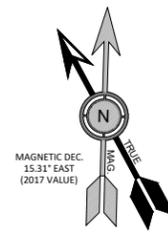
	EXISTING CONDITIONS	EXISTING STANDARD	FUTURE CONDITIONS	FUTURE STANDARD
RUNWAY SAFETY AREA LENGTH AND WIDTH LENGTH BEYOND RUNWAY END	3040' X 100' 200'	3040' X 100' 200'	2971' X 100' 200'	2971' X 100' 200'
OBJECT FREE AREA LENGTH AND WIDTH LENGTH BEYOND RUNWAY END	3040' X 200' 200'	3040' X 200' 200'	2971' X 200' 200'	2971' X 200' 200'
OBSTACLE FREE ZONE LENGTH AND WIDTH LENGTH BEYOND RUNWAY END	N/A	N/A	N/A	N/A

	EXISTING CONDITIONS		FUTURE CONDITIONS	
RUNWAY END	9	27	9	27
RUNWAY APPROACH CATEGORY	VISUAL	VISUAL	SAME	SAME
RUNWAY APPROACH SLOPE	PART 77 REQ. 20:1	20:1	SAME	SAME
	ACTUAL 10:1	10:1	SAME	SAME
APPROACH VISIBILITY MINIMUMS	≥ 1 MILE	≥ 1 MILE	SAME	SAME
RUNWAY MARKINGS	NONE (TURF)	NONE (TURF)	SAME	SAME
RUNWAY END COORDINATES	LAT. N 47° 15' 21.26" LONG. W 121° 11' 24.73"	N 47° 15' 8.85" W 121° 10' 51.09"	SAME	SAME
INSTRUMENTATION AND APPROACH AIDS	NONE	NONE	SAME	SAME
VISUAL APPROACH AIDS	NONE	NONE	SAME	SAME
CRITICAL AIRCRAFT (ARC)	C206		SAME	
WINGSPAN	< 49'		SAME	
WEIGHT	< 12,500		SAME	
APPROACH SPEED	< 91 KNOTS		SAME	
LENGTH OF HAUL	< 500 MILES		SAME	

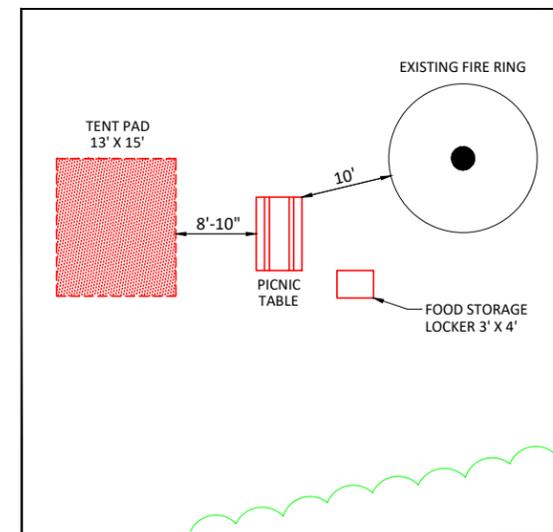
BUILDING/FACILITY KEY	
	DESCRIPTION
①	WINDCONE (EXISTING)
②	SMALL AIRPLANE TIEDOWNS (EXISTING)
③	SMALL AIRPLANE TIEDOWNS (FUTURE)
④	SEGMENTED CIRCLE (FUTURE)
⑤	AIRPORT WEBCAM (EXISTING)
⑥	SUPPLEMENTAL WINDCONE (FUTURE)
⑦	ELECTRICAL BUILDING (EXISTING)
⑧	ELECTRICAL BUILDING (FUTURE)
⑨	AIRPORT VEHICLE ACCESS GATE (EXISTING)
⑩	TELEPHONE, SHOWERS, RESTROOM (FUTURE)
⑪	LIGHTED MEDEVAC HELICOPTER PAD (FUTURE)
⑫	PILOT KIOSK (FUTURE)

NOTES:

1. WSDOT AVIATION VFR AIRPORT DESIGN STANDARDS USED AT THIS AIRPORT. FAA DESIGN STANDARD USED WHERE PRACTICAL.
2. THRESHOLD SITING SURFACE, PER WSDOT AVIATION VFR AIRPORT AIRSPACE STANDARD.
3. COMPLETE LEGEND IS LOCATED ON SHEET 1. AIRPORT LAYOUT PLAN.



EAST TERMINAL DETAIL
Scale: 1"=60'



DETAIL A
AIRCRAFT CAMPSITES (TYP)
Scale: 1"=10'

NO.	DATE	BY	APPR	REVISIONS
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541.382.2423 FAX

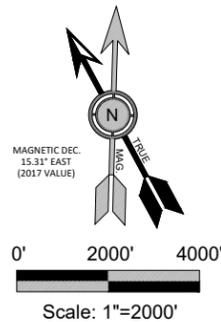
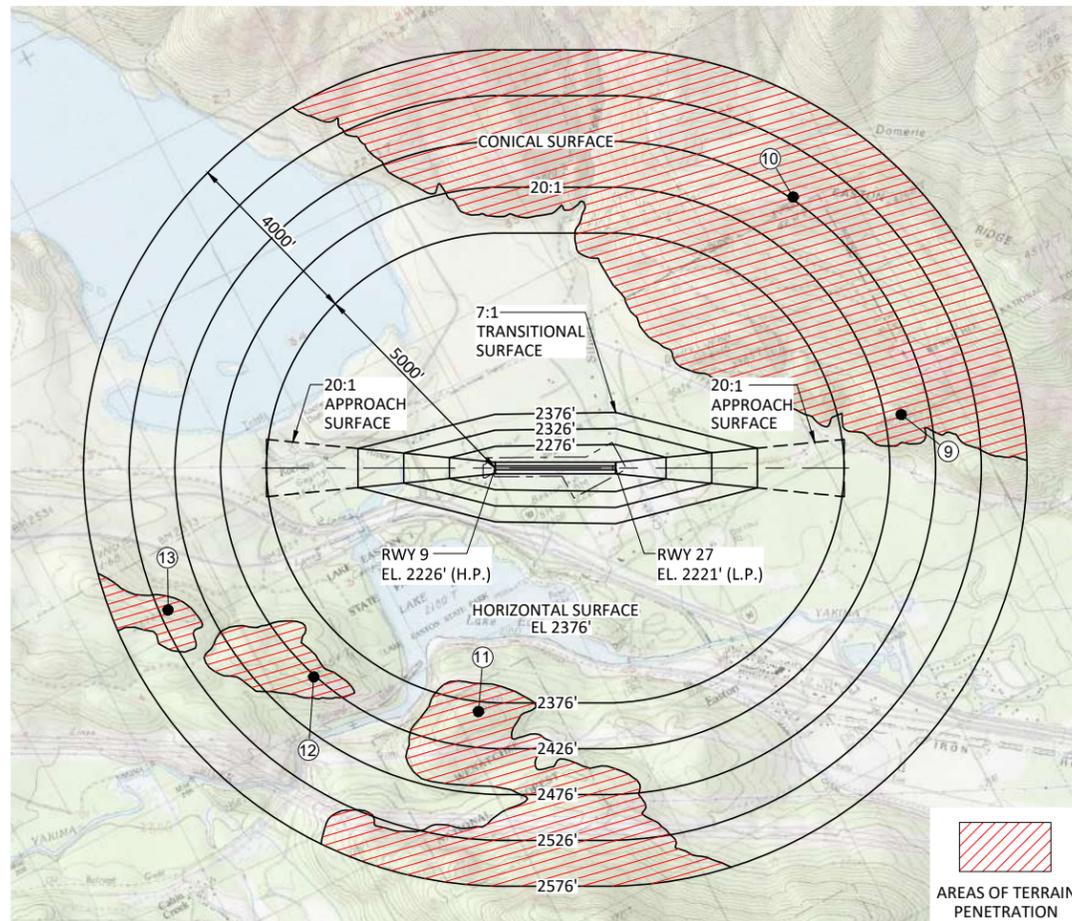
DESIGNED BY: DM	DRAWN BY: JLS	CHECKED BY: WMR	SCALE: AS SHOWN
DATE: JUNE 2017	PROJECT NO: 10170001.01		

EASTON STATE AIRPORT

AIRPORT DATA SHEET

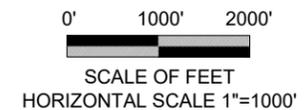
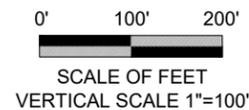
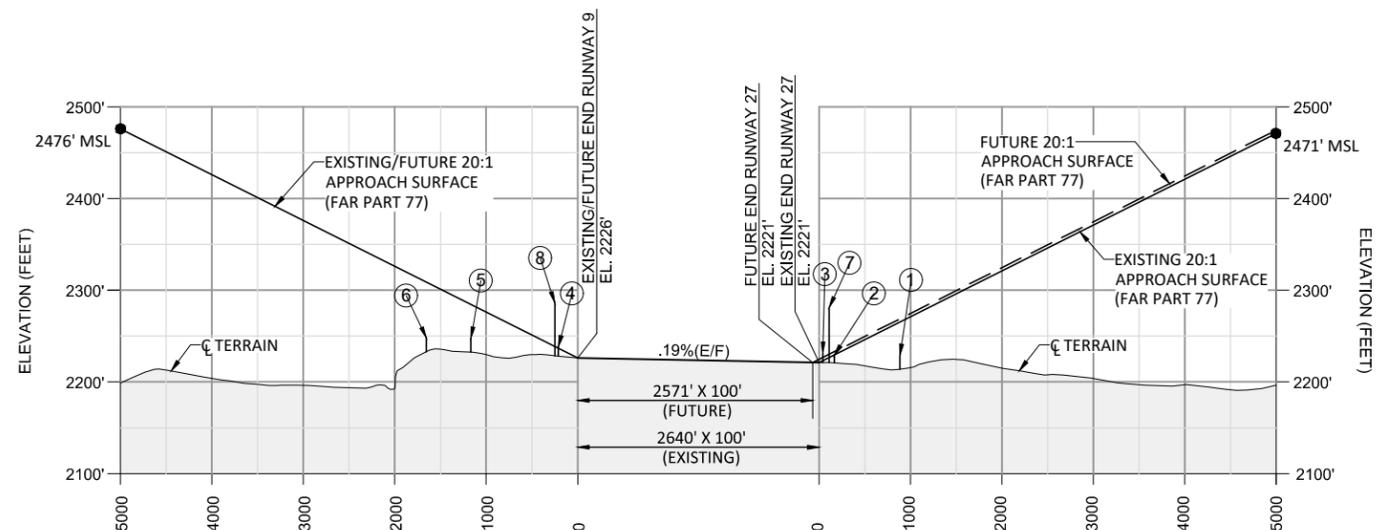
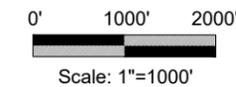
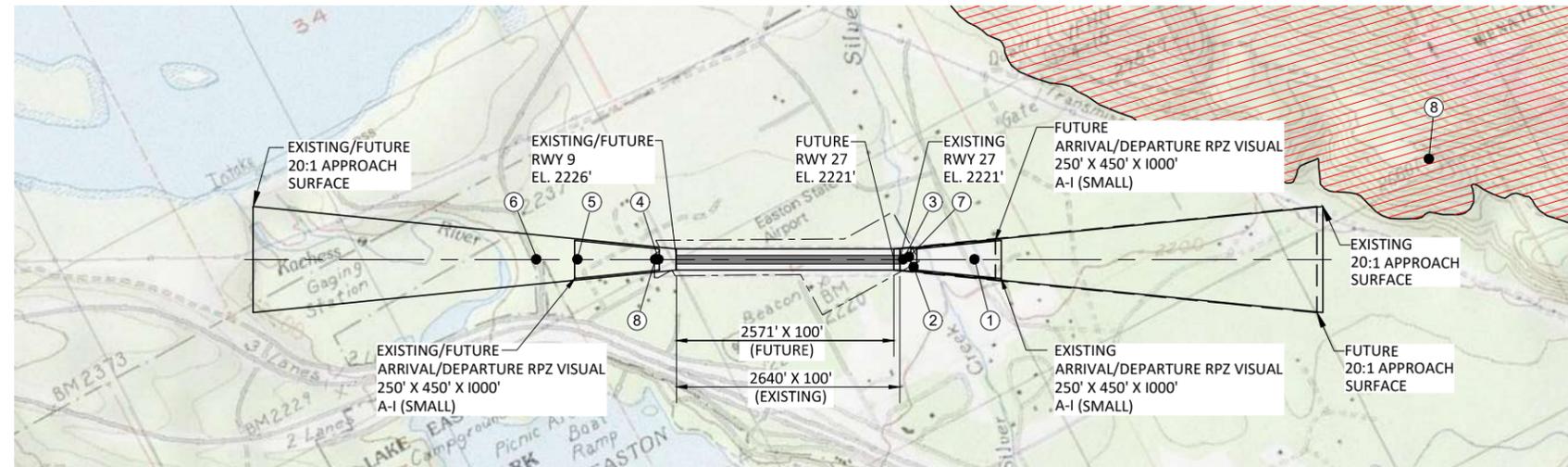
FIGURE NO. -

SHEET NO. 2 OF 7



RUNWAY 9/27	
FAR PART 77 DIMENSIONAL STANDARDS	
RUNWAY ULTIMATE LENGTH =	2571'
RUNWAY TYPE =	A-1 (SMALL)
PRIMARY SURFACE WIDTH =	250'
APPROACH SURFACE INNER WIDTH =	250'
APPROACH SURFACE OUTER WIDTH =	1,250'
APPROACH SURFACE LENGTH =	5,000'
RADIUS OF HORIZONTAL SURFACE =	5,000'
APPROACH SLOPE =	20:1

- NOTES:**
- PRIMARY SURFACE FOR RUNWAY 9/27 ENDS AT RUNWAY ENDS, PER FAR PART 77 STANDARDS FOR UNPAVED RUNWAYS.
 - AIRPORT PERIMETER ROAD (NON-PUBLIC ROAD) 10-FOOT VEHICLE HEIGHT (PART 77).



OBSTRUCTION CHART								
NO.	ITEM	PART 77 SURFACE	MSL ELEV (EST.)	DISTANCE FROM RWY CL	DISTANCE FROM RWY END	AMOUNT OF PENETRATION (ESTIMATED)	AIRPORT PROPERTY	DISPOSITION
1	COUNTY DRIVE ROAD	APPROACH (RWY 27)	2229'	0'	885'	0'	NO	NONE
2	FENCE	APPROACH (RWY 27)	2229'	90' L	166'	0'	NO	NONE
3	PERIMETER ROAD	APPROACH (RWY 27)	2231'	0'	42'	8'	YES	REALIGN ROAD
4	PERIMETER ROAD	APPROACH (RWY 9)	2238'	0'	211'	4'	YES	NONE
5	SILVER TRAIL LANE	APPROACH (RWY 9)	2248'	0'	1167'	1'	NO	NONE
6	KACHESS DAM ROAD	APPROACH (RWY 9)	2248'	0'	1654'	0'	NO	NONE
7	TREES	APPROACH (RWY 27)	2281'	30' R	112'	54'	YES	REMOVE / CLEAR
8	TREES	APPROACH (RWY 9)	2286'	0'	250'	47.5'	NO	REMOVE / LOWER
9	TERRAIN	CONICAL	2660'	1162' R	6250'	184'	NO	NONE
10	TERRAIN	CONICAL	4291'	5913' R	3882'	1765'	NO	NONE
11	TERRAIN	CONICAL	2772'	5315' R	363'	346'	NO	NONE
12	TERRAIN	CONICAL	2654'	4560' R	3964'	178'	NO	NONE
13	TERRAIN	CONICAL	2672'	3097' R	7156'	146'	NO	NONE

NO.	DATE	BY	APPR	REVISIONS
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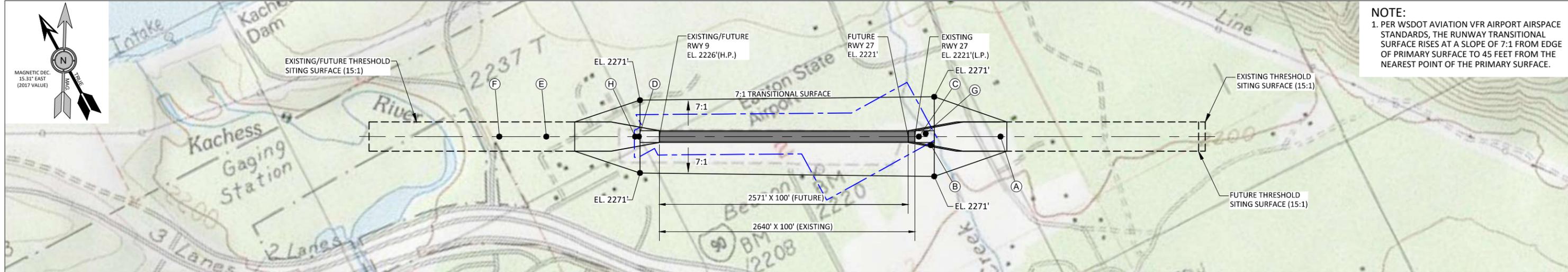
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SCALE: AS SHOWN
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PROJECT NO: 10170001.01

EASTON STATE AIRPORT

AIRPORT AIRSPACE PLAN (FAR PART 77)

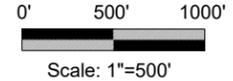
FIGURE NO.

SHEET NO.
3 OF 7



NOTE:
 1. PER WSDOT AVIATION VFR AIRPORT AIRSPACE STANDARDS, THE RUNWAY TRANSITIONAL SURFACE RISES AT A SLOPE OF 7:1 FROM EDGE OF PRIMARY SURFACE TO 45 FEET FROM THE NEAREST POINT OF THE PRIMARY SURFACE.

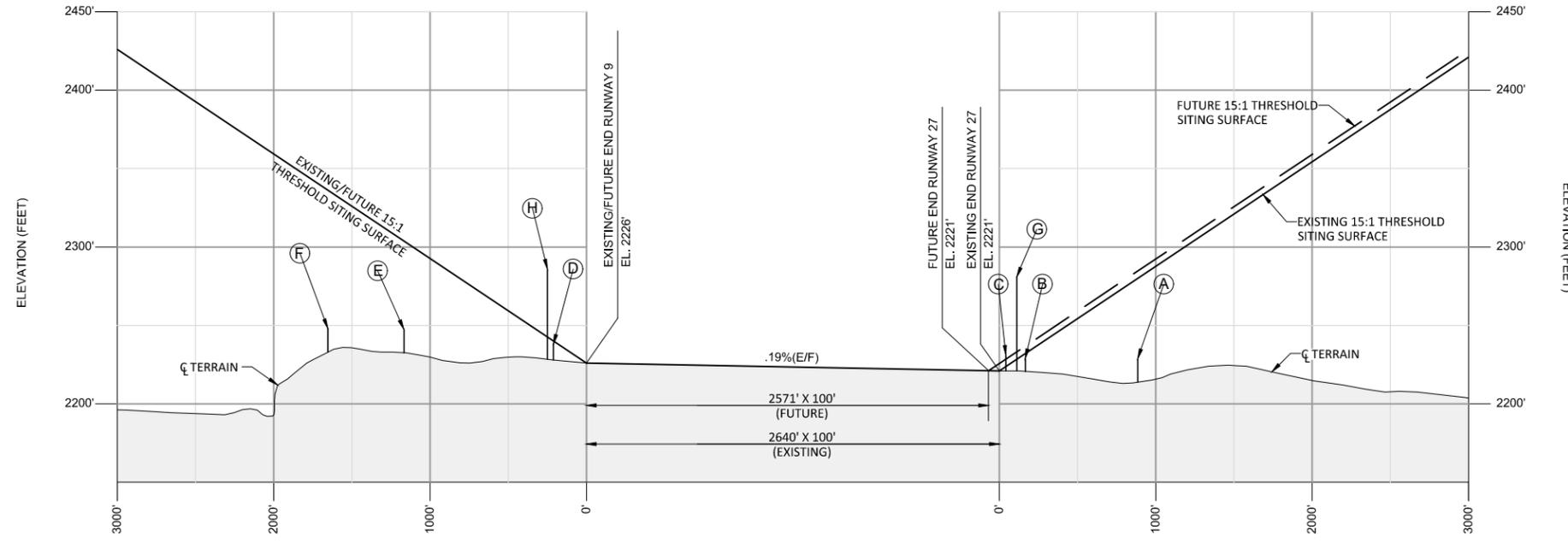
RUNWAY 9-27 PLAN VIEW



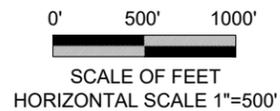
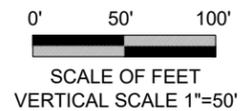
WSDOT AVIATION VFR AIRPORT AIRSPACE STANDARDS

PRIMARY SURFACE
 WIDTH = 120'
 LENGTH BEYOND RWY END = 0'

THRESHOLD SITING SURFACE
 INNER WIDTH = 120'
 OUTER WIDTH = 300'
 LENGTH = 3000'
 SURFACE SLOPE = 15:1
 TRANSITIONAL SURFACE SLOPE = 7:1 TO 45'



RUNWAY 9-27 PROFILE VIEW



NOTES:
 1. WSDOT VFR AIRPORT AIRSPACE STANDARDS RECOMMENDED FOR RUNWAY 9/27 TO MITIGATE FAR PART 77 SURFACE PENETRATIONS DEPICTED ON SHEET 3 OF 7.
 2. AIRPORT PERIMETER ROAD (NON-PUBLIC ROAD) 10-FOOT VEHICLE HEIGHT (PART 77).

OBSTRUCTION CHART

NO.	ITEM	PART 77 SURFACE	MSL ELEV (EST.)	DISTANCE FROM RWY CL	DISTANCE FROM RWY END	AMOUNT OF PENETRATION (ESTIMATED)	AIRPORT PROPERTY	DISPOSITION
A	COUNTRY DRIVE ROAD	TSS (RWY 27)	2229'	0'	885'	0'	NO	NONE
B	FENCE	TSS (RWY 27)	2229'	90'L	166'	0'	NO	NONE
C	PERIMETER ROAD	PRIMARY	2231'	0'	42'	7'	YES	REALIGN ROAD
D	PERIMETER ROAD	TSS (RWY 9)	2238'	0'	211'	0'	YES	NONE
E	SILVER TRAIL LANE	TSS (RWY 9)	2248'	0'	1167'	0'	NO	NONE
F	KACHESS DAM ROAD	TSS (RWY 9)	2248'	0'	1654'	0'	NO	NONE
G	TREES	TSS (RWY 27)	2281'	30'R	112'	53'	YES	REMOVE / CLEAR
H	TREES	TSS (RWY 9)	2286'	0'	250'	43'	NO	REMOVE / LOWER

NO.	DATE	BY	APPR	REVISIONS
1	6/17			WSDOT APPROVAL; REVIEW DRAFT SUBMITTED PRIOR

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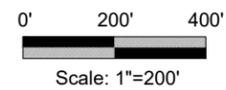
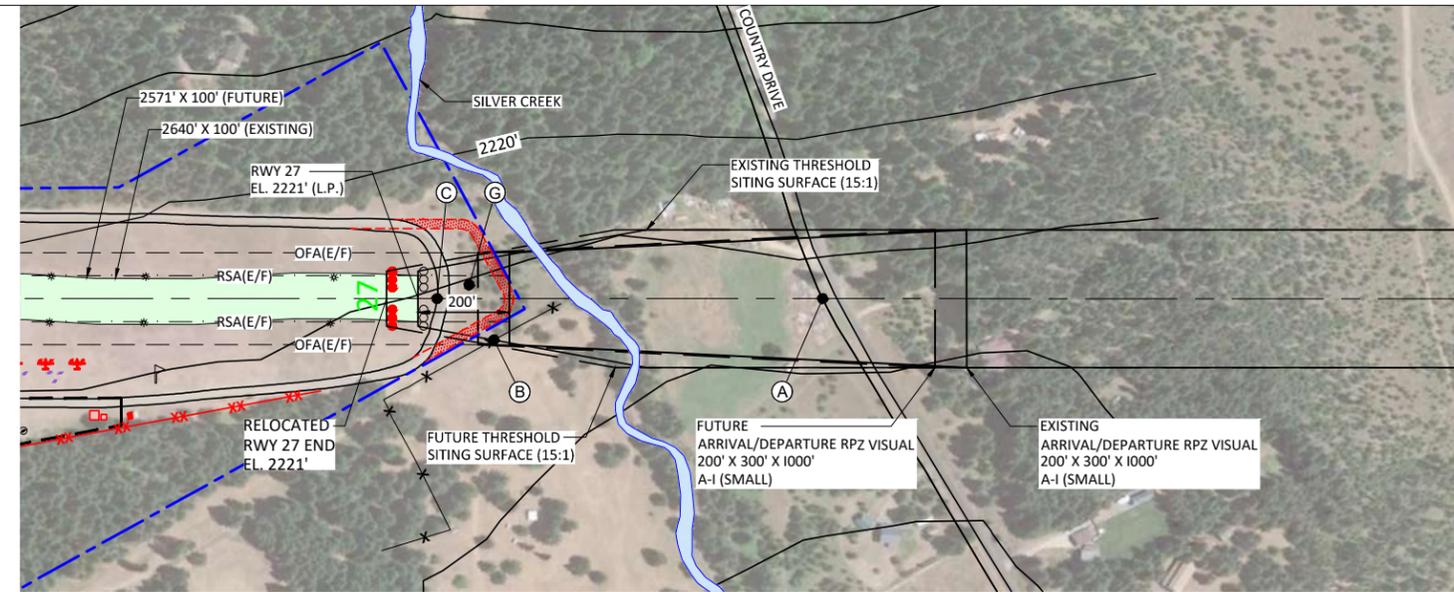
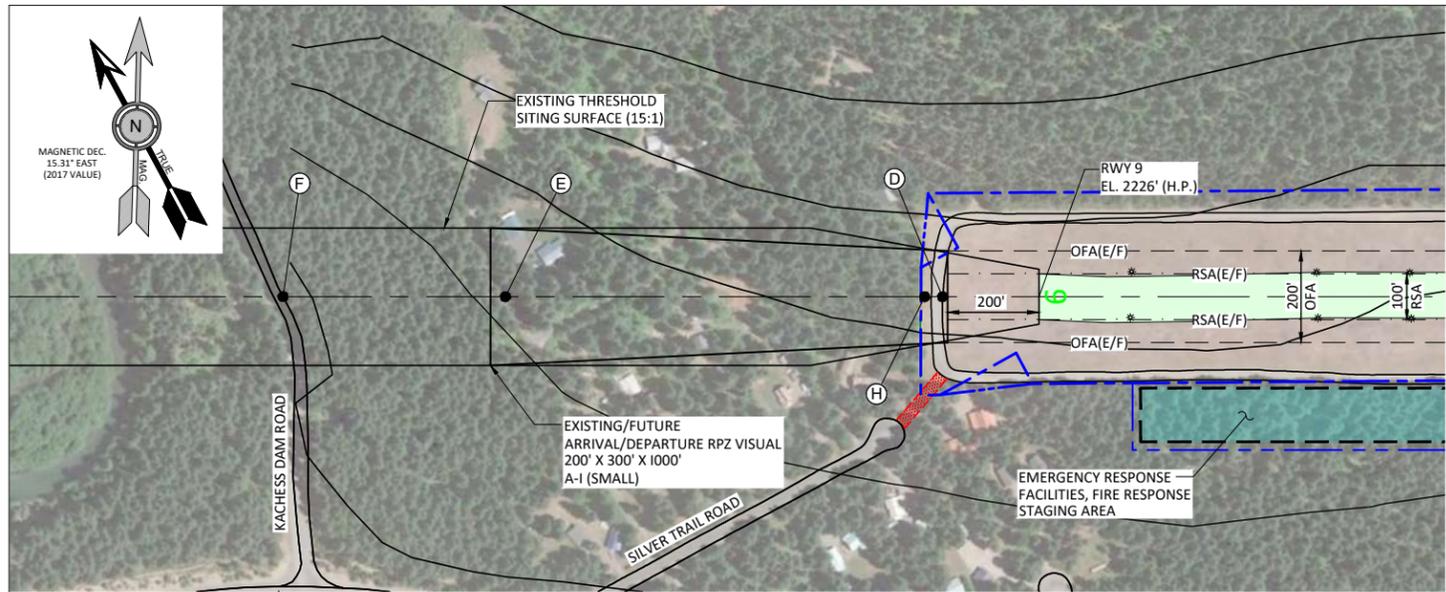
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DATE: JUNE 2017
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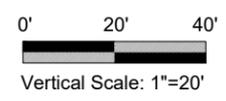
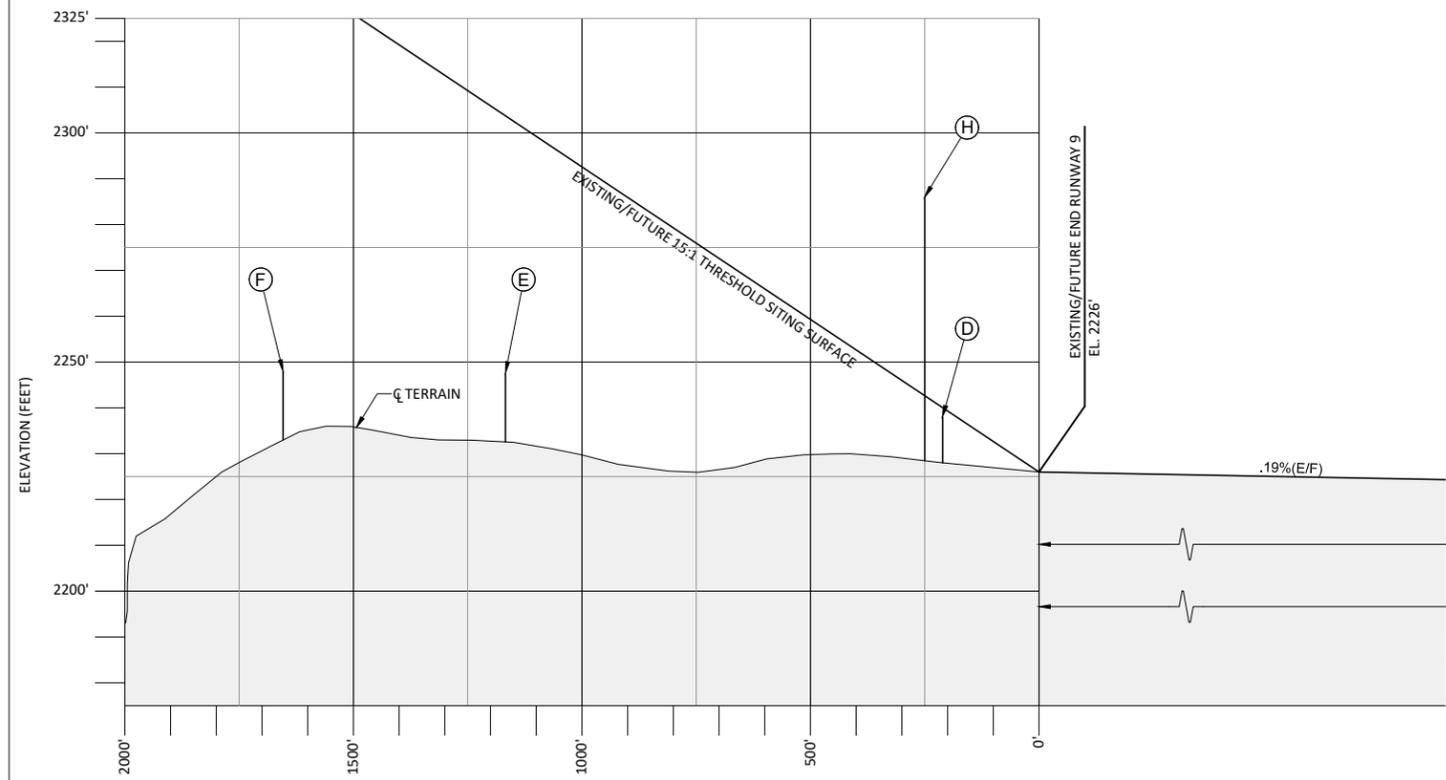
EASTON STATE AIRPORT

WSDOT AIRPORT AIRSPACE PLAN (FAR PART 77)

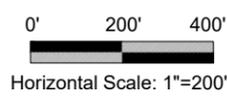
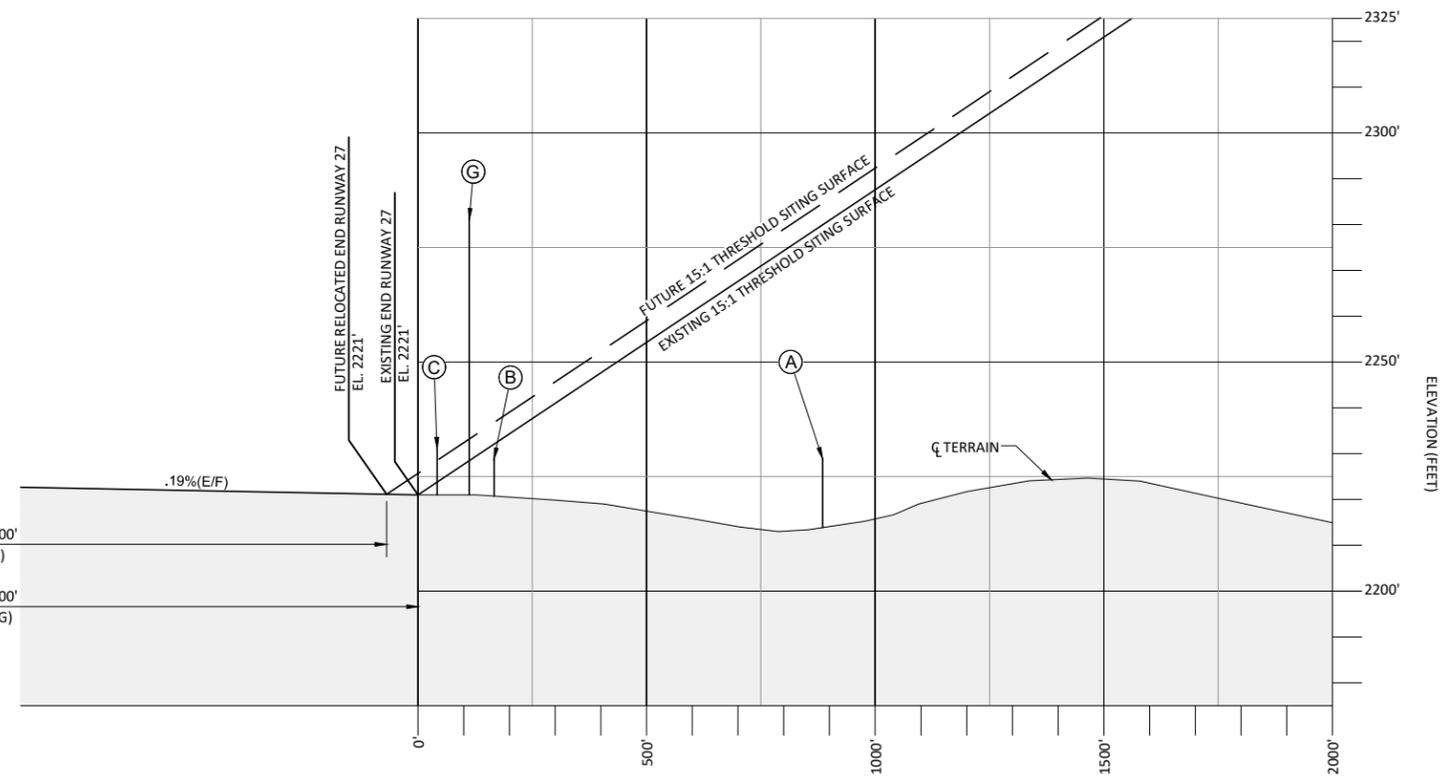
FIGURE NO. -
 SHEET NO. 4 OF 7



RUNWAY 9-27 PLAN VIEW



RUNWAY 9-27 PROFILE VIEW



- NOTES:**
1. WSDOT AIRPORT DESIGN STANDARDS AND VFR AIRSPACE SURFACES RECOMMENDED FOR RUNWAY 9/27.
 2. COMPLETE OBSTRUCTION CHART IS LOCATED ON SHEET 4, WSDOT AIRPORT AIRSPACE PLAN.
 3. COMPLETE LEGEND IS LOCATED ON SHEET 1, AIRPORT LAYOUT PLAN.
 4. RUNWAY END NUMBERS FOR ILLUSTRATION PURPOSES ONLY (NO PHYSICAL MARKINGS ON TURF SURFACES).
 5. AIRPORT PERIMETER ROAD (NON-PUBLIC ROAD) 10-FOOT VEHICLE HEIGHT (PART 77).

NO.	DATE	BY	APPR	REVISIONS
1	6/17			WSDOT APPROVAL; REVIEW DRAFT SUBMITTED PRIOR

VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL DRAWING. 0" = 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION APPROVAL

APPROVAL DATE: _____

 SIGNATURE

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 BEND, OR 97702
 541.322.8962
 541.382.2423 FAX

DESIGNED BY: DM DRAWN BY: JLS CHECKED BY: WMR SCALE: AS SHOWN

DATE: JUNE 2017 PROJECT NO: 10170001.01

LEGEND

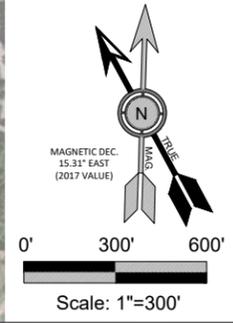
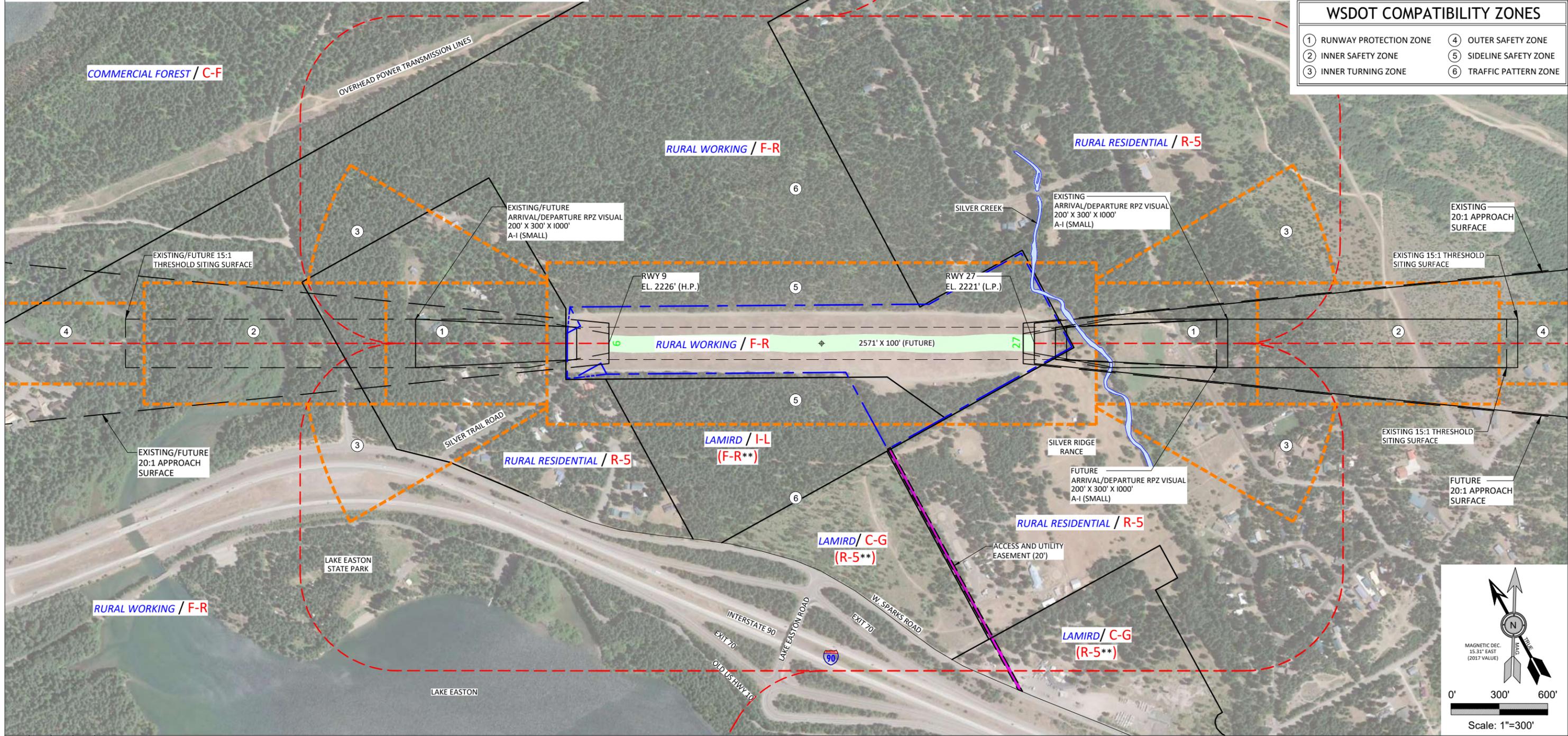
KITITAS COUNTY LAND USE		ZONING	
COMPREHENSIVE PLAN LAND USE DESIGNATION		F-R	FOREST AND RANGE
<i>RURAL WORKING</i>		R-5	RURAL 5
<i>RURAL RESIDENTIAL</i>		C-G	GENERAL COMMERCIAL
<i>LAMIRD*</i>		I-L	LIGHT INDUSTRIAL
<i>COMMERCIAL FOREST</i>		C-F	COMMERCIAL FOREST
* LIMITED AREAS OF MORE INTENSIVE RURAL DEVELOPMENT (LAMIRD)			
** UNDERLYING (PRIMARY) ZONING WITHIN LAMIRD			

	ZONING BOUNDARY
	AIRPORT TRAFFIC PATTERN (TYP.)
	RUNWAY PROTECTION ZONE
	APPROACH SURFACE
	AIRPORT PROPERTY LINE (EXISTING)
	AIRPORT PROPERTY LINE (FUTURE)
	AIRPORT COMPATIBILITY ZONES
	ACCESS / UTILITY EASEMENT
	LIMITED AREA OF MORE INTENSIVE RURAL DEVELOPMENT (LAMIRD)

- NOTES:**
- EASTON STATE AIRPORT IS LOCATED ENTIRELY WITHIN UNINCORPORATED KITITAS COUNTY.
 - KITITAS COUNTY HAS ADOPTED AIRPORT OVERLAY ZONE (KCC TITLE 17, CHAPTER 17.58), CONSISTENT WITH THE GUIDELINES ESTABLISHED BY WSDOT AVIATION.
 - THE AIRPORT OVERLAY ZONE ALSO RECOGNIZES PART PART 77 IMAGINARY SURFACES (CONICAL, HORIZONTAL, PRIMARY, APPROACH, AND TRANSITIONAL).
 - RUNWAY END NUMBERS FOR ILLUSTRATION PURPOSES ONLY (NO PHYSICAL MARKINGS ON TURF SURFACES).
 - WSDOT AVIATION VFR AIRPORT DESIGN STANDARDS USED AT THIS AIRPORT. FAA DESIGN STANDARDS USED WHERE PRACTICAL.

WSDOT COMPATIBILITY ZONES

① RUNWAY PROTECTION ZONE	④ OUTER SAFETY ZONE
② INNER SAFETY ZONE	⑤ SIDELINE SAFETY ZONE
③ INNER TURNING ZONE	⑥ TRAFFIC PATTERN ZONE



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1	6/17			WSDOT APPROVAL; REVIEW DRAFT SUBMITTED PRIOR

VERIFY SCALES
 BAR IS ONE INCH ON ORIGINAL DRAWING. 0" = 1" IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION APPROVAL

APPROVAL DATE: _____

SIGNATURE _____

CENTURY WEST ENGINEERING

BEND OFFICE
 1020 SW EMKAY DRIVE, #100
 BEND, OR 97702
 541.322.8962
 541.382.2423 FAX

DESIGNED BY: DM	DRAWN BY: JLS	CHECKED BY: WMR	SCALE: AS SHOWN
DATE: JUNE 2017	PROJECT NO: 10170001.01		

EASTON STATE AIRPORT

AIRPORT LAND USE PLAN

FIGURE NO. -	SHEET NO. 6 OF 7
--------------	------------------

ADJACENT PARCELS							
PARCEL	GRANTOR	ACRES	PARCEL #	PARCEL	GRANTOR	ACRES	PARCEL #
1	USA	37.7	-	(13)	50 SILVER TRAIL LN EASTON	-	-
TOTAL AIRPORT ACRES (EXISTING)		37.7		(14)	CLIFFORD EUGENE CRANDALL	1.07	738834
2	GREGORY T. LANDCASTER	.14	708834	(15)	MIKE W & JANET G FITCH	1.65	678834
3	-	.16		(16)	STEVEN DAVIDSON	5.22	758834
4	STATE OF WASHINGTON	6.8	768834	(17)	CHESTER LAURANT & MARVIN KAPASKA	3.27	954043
5	STATE OF WASHINGTON	121.58	768834	(18)	PEARL G HOFFINE	5.07	828834
6	STATE OF WASHINGTON	137.99	664236	(19)	JO ANN LA VASSAR	6.1	208834
7	GREGORY T. LANDCASTER	2.2	708834	(20)	KEITH E ETUX HAMILTON	5.06	503936
8	PEGGY A. HENKEL	1.15	138834	(21)	PETER ZENKA	5	848834
9	PEGGY A. HENKEL	1.29	298834	(22)			
10	BEVERLY JO TERRY	1.51	098834				
11	THEODORE E. SHIPMAN	1.51	088834				
12	EDNA MAE TURNBULL	1.51	078834				

EASEMENTS				
PARCEL	GRANTOR	ACRES	NOTES	DATE
(A)	WSDOT AVIATION	3±	D.N.R. ACCESS EASEMENT (60' WIDE)	-
(B)	HENRY KAUFMANN	.34±	ACCESS EASEMENT	2-24-1994
(C)	HENRY KAUFMANN	.43±	ACCESS AND UTILITY EASEMENT (14' WIDE)	2-24-1994

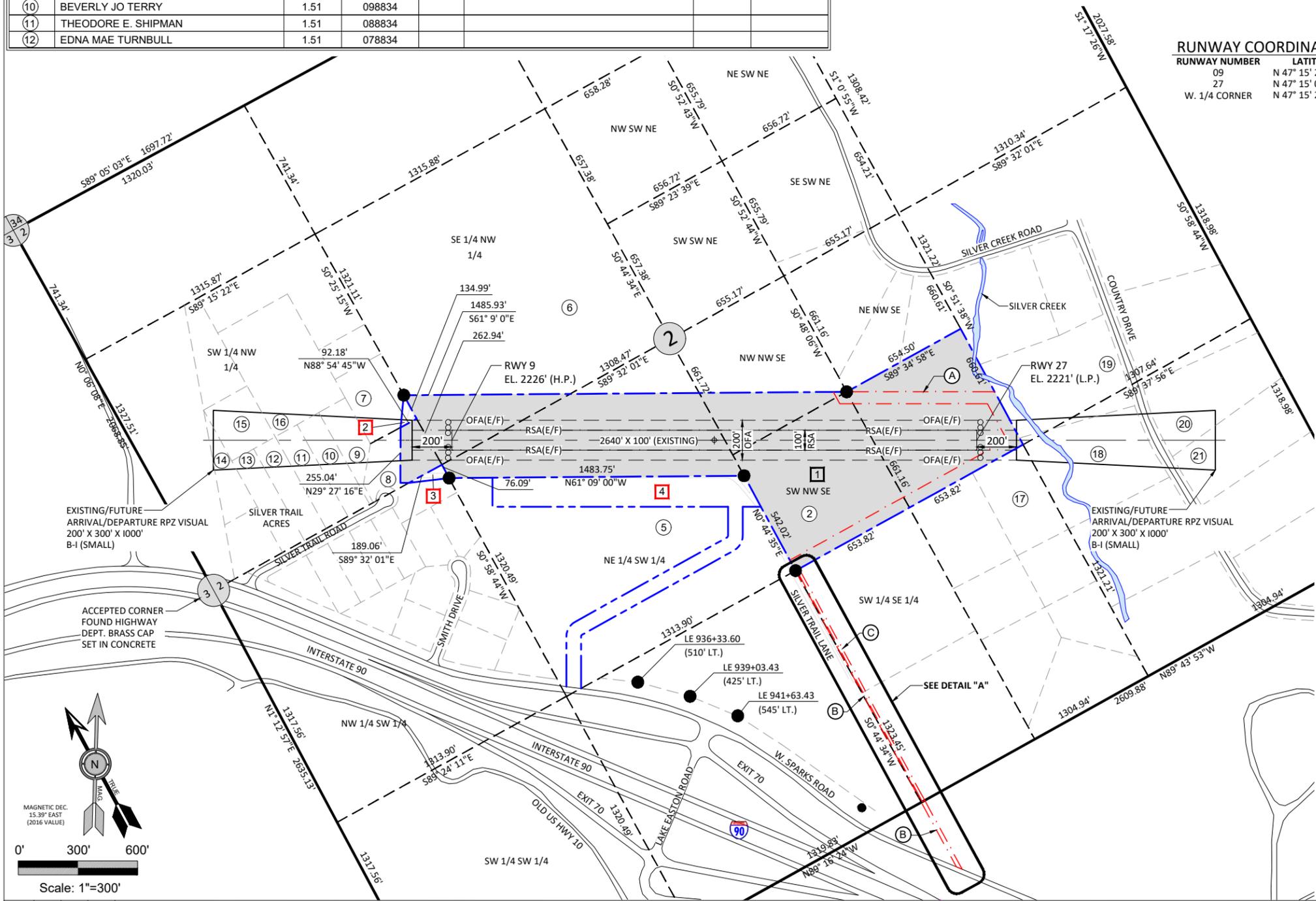
LEGEND

- EXISTING PROPERTY
- ACCESS AND UTILITY EASEMENT (EXISTING)
- LAND TO BE ACQUIRED
- AVIGATION EASEMENT (FUTURE)
- AIRPORT PROPERTY LINE (EXISTING)
- AIRPORT PROPERTY LINE (FUTURE)
- SECTION LINE
- SECTION SUBDIVISION LINE
- PARCEL LINES

NOTE:

1. PARCELS IDENTIFIED WITH ARE CURRENTLY IN AIRPORT OWNERSHIP.

2. THE AIRPORT PROPERTY UNDER USA OWNERSHIP TOTALED APPROXIMATELY 160 ACRES. SUBSEQUENT LAND TRADES HAVE CREATED THE CURRENT ACREAGE OF 37.7 ACRES OWNED IN FEE SIMPLE.



RUNWAY COORDINATES

RUNWAY NUMBER	LATITUDE	LONGITUDE	NORTHING (M)	EASTING (M)
09	N 47° 15' 21.2677"	W 121° 11' 24.7374"	213,930.722	447,758.497
27	N 47° 15' 08.8562"	W 121° 10' 51.0914"	213,541.301	448,462.577
W. 1/4 CORNER	N 47° 15' 20.9320"	W 121° 11' 40.9830"	213,923.354	447,416.851

REFERENCES

RECORD OF SURVEYS	FINAL MAP	A.F.N.
DEPT. OF NATURAL RESOURCES	F.M. 352	437418
SILVER TRAILS ACRES	VOL. 7 PG. 50	439833
WEST EASTON SUBDIVISION	-	462542
SILVER CREEK II	-	408074
R.O.S. EXIT 68 OVERPASS	VOL. 8 PG. 12	448796

RIGHT OF WAY PLANS

SR 90	-KACHESS RIVER TO LITTLE CREEK, SHEETS 2 & 3 OF 18 SHEETS, JUNE 28, 1935
STATE RD. NO. 12	-SNOQUALMIE PASS TO EASTON, SHEETS 15 & 16 OF 16 SHEETS, FEBRUARY 15, 1927
SR 90	-EASTON HILL TO EASTON, SHEETS 9 & 10 OF 13 SHEETS, APRIL 28, 1972
SR 90	-RUSTIC INN TO EASTON, SHEETS 15 & 16 OF 23 SHEETS JANUARY 22, 1957

CONTRACT PLANS

CONTRACT 6045 SUNSET LODGE VICINITY 8C TOP OF EASTON HILL TO EASTON SEPTEMBER 17, 1958

CONTRACT 9806 EASTON HILL TO EASTON MARCH 19, 1974

NARRATIVE:

THE STATE OF WASHINGTON DEPARTMENT OF NATURAL RESOURCES MAP SHOWING SURVEY OF SECTION 2, T.20N., R.13E., W.M., IN KITTITAS COUNTY, SEPT. 1979, NO. 352 WAS USED FOR THE SECTION SUBDIVISION.

USING THE LATITUDE AND LONGITUDE OF THE W. 1/4 CORNER OF SECTION 2 TO DETERMINE THE COORDINATE VALUE ON NAD1927, THE SECTION WAS CALCULATED PER THE RECORD OF SURVEY (NAD 1927 GRID).

AFTER CALCULATING USING NAD1927 DATUM, THE LAT. & LONG. WAS THEN USED TO DETERMINE NAD 83/91 COORDINATES FOR THE W. 1/4 CORNER OF SECTION 2. THEN THE CAICE FILE WAS TRANSLATED TO NAD 83/91 GRID.

USING THE WSDOT AVIATION DIVISION'S SUMMARY OF RUNWAY END COORDINATE (LAT. & LONG.) AND ELEVATIONS (EASTON STATE POINTS 09 & 27), A MEAN COMBINED FACTOR (M.C.F. = 0.99987954) WAS CALCULATED. THE COMBINED FACTOR OF 0.99987954 WAS THEN APPLIED TO THE CAICE DATA FILE TO CONVERT TO GROUND DISTANCES.

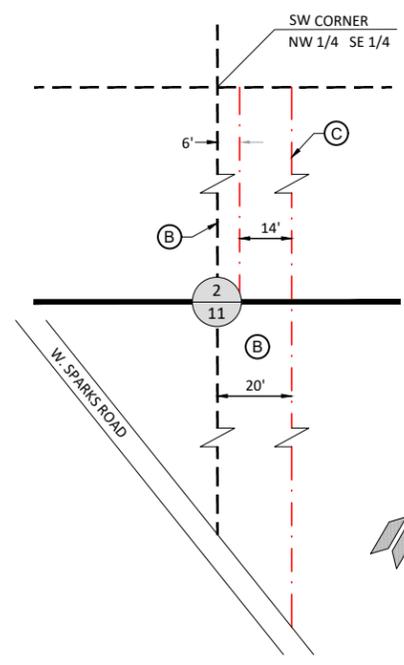
DEEDS

EASEMENT - WASHINGTON STATE AERONAUTICS COMMISSION TO DEPARTMENT OF NATURAL RESOURCES FOR 60' ACCESS ROAD, DATED: OCTOBER 11, 1974

Q.C.D. - BOARD OF NATURAL RESOURCES TO WASHINGTON STATE AERONAUTICS COMMISSION, AIRPORT STRIP PROPERTY RECORDS, DATED: MARCH 15, 1976, VOL 69 PG. 455, A.F.N. 403408

WARRANTY DEED - BEN R. SMITH LOGGING COMPANY, INC. TO STATE OF WASHINGTON, DATED: MARCH 2, 2000, A.F.N. 200003020022

Q.C.D. - WASHINGTON AERONAUTICS COMMISSION TO D.N.R., DATED: MARCH 15, 1976



DETAIL "A"
NOT TO SCALE

MAGNETIC DEC. 15.39° EAST (2016 VALUE)

Scale: 1"=300'

NO.	DATE	BY	APPR	REVISIONS

VERIFY SCALES

BAR IS ONE INCH ON ORIGINAL DRAWING. 1" = 300' IF NOT ONE INCH ON THIS SHEET, ADJUST SCALES ACCORDINGLY.

WASHINGTON STATE DEPARTMENT OF TRANSPORTATION APPROVAL

APPROVAL DATE: _____

SIGNATURE _____

CENTURY WEST ENGINEERING

BEND OFFICE
1020 SW EMKAY DRIVE, #100
BEND, OR 97702
541.322.8962
541.382.2423 FAX

DESIGNED BY: DM	DRAWN BY: JLS	CHECKED BY: WMR	SCALE: AS SHOWN
DATE: JUNE 2017	PROJECT NO: 10170001.01		

EASTON STATE AIRPORT

EXHIBIT "A" PROPERTY PLAN

FIGURE NO. -

SHEET NO. 7 OF 7

Appendix A

Appendix A
Chapter 468-250 WAC
State Airport Rules

A review of the current WAC Chapter 468-250 (8/13/96 update) was conducted to identify outdated information and sections that could be revised to better reflect the operational requirements for state-managed airports. These proposed revisions will require further examination by the Aviation Division to determine final language, which would then be followed by a formal process of revising WAC language. A copy of the current WAC Chapter 468-250 (with highlighted sections) related to the proposed revisions noted below is also provided in this appendix.

Proposed revisions are noted below:

468-250-010 Definitions.

(4) “Special use permit” Reference to “noncommercial” activities, suggests a need to define “commercial” activities and to distinguish between aeronautical and non-aeronautical uses. Additional clarification is needed to address activities with anticipated continuous or extended airport presence (e.g., seasonal flight operations, etc.) and occasional transient activities such as charter air taxi or flightseeing flights under the applicable Federal Aviation Regulations (FAR).

(7) “Flowage fee” definition does not require revision; however, additional information (new or expanded section) related to fuel flowage fees at “State airports” is recommended to address potential exemptions for emergency management staging activities, through-the-fence activities (off-airport fueling), and fee structure/mechanism.

468-250-020 Aeronautics division to manage. Reference to “assistant secretary for aeronautics” should be updated to identify “Director – Washington Department of Transportation – Aviation Division” as responsible official.

468-250-030 Opening and closing of airports.

“Conditions for closing airports” (Group 1) should be revised to clarify airport management responsibility for assessing seasonal conditions, owner requirements, or other factors when determining airport opening and closing dates.

Recommend revising closure language (Group 1):

- Replace “will” with “may”
- Replace “winter” with “fall/winter”
- Replace “NOTAM” with “Published NOTAM”
- Insert “air” to “...be closed to all (air) traffic...” to recognize approved non-aeronautical uses during winter months.
- Consider potential use (with prior permission) by ski-equipped aircraft during winter months when airports are closed due to snow.
- Consider adding notation identifying “state-managed” airports and presence of special use permits.

List of Airports

(1) (b) Lester (airport is currently closed indefinitely; remove from list if closure becomes permanent)

(1) (c) Nason Creek (delete - no longer active State airport)

(1) (e) Avey (delete - no longer active State airport)

Renumber airports as needed to reflect deletions

Recommend revising closure language (Group 2):

The following state airports are open year round except when runway conditions (e.g., snow, ice, etc.) require closure. These state airports may be closed during the fall/winter due to conditions, by Published NOTAM.

(2) (a) Winthrop/Intercity (update name to Methow Valley)

(2) (d) Quillayute (delete - no longer active State airport)

Renumber airports as needed to reflect deletions

(3) Pilot notification of opening and closing dates. Recommend revising section and moving to beginning of section (ahead of current item 1):

Opening and closing dates may change at state airports and pilots shall check all NOTAMS prior to using any state airport. It is strongly suggested that pilots contact the aviation division prior to use, to verify current conditions. Pilots are also encouraged to check airport status on the "is your airport open" section of the wsdot aviation division webpage.

468-250-040 Controlled operations.

(3) Recommend revising to read:

(3) Any non-aviation use, including, but not limited to, the following operations require the execution of an agreement, lease, special use permit, or other arrangement as appropriate, between the department of transportation and the controlled user;

(3) (g) Any commercial operation, except transient non-scheduled (*on demand*) air taxi operations;

(5) Recommend revising to read:

(5) Facilities constructed on state property under any agreement with the department of transportation may become property of the department of transportation at its sole discretion, at the conclusion of the agreement including any renewals, extensions, or renegotiations of the agreement. If the department of transportation opts not to take ownership of the constructed facilities, the ownership shall be retained by the authorized user of said facility and may be required to remove facilities from said property at the discretion of the department of transportation;

468-250-130 All use at own risk.

Recommend revising to read:

Sentence 2: *State airports are maintained principally for emergency management response, emergency medical evacuation, providing access to remote areas, and recreation, and the state does not warrant the conditions at any state airport to be suitable for any other use.*

468-250-140 Temporary rules.

Recommend revising to read:

Sentence 2: These rules will be available from the *aviation division* and may be distributed, as necessary, by other means, including *NOTAMS, airport web pages, and other public media sources.*

468-250-150 Accident notification.

Sentence 1: replace “aeronautics division” with “aviation division.”

468-250-160 Hazard notification.

Sentence 1: replace “aeronautics division” with “aviation division.”

468-250-XXX

Recommend adding a new section to address unauthorized access, vandalism, firearm discharge, etc.

468-250-XXX Prohibited activities.

Unauthorized access on state airports is prohibited. (Add language that defines “authorized” access and use)

Discharging firearms on airport property is prohibited, unless specially authorized by airport management for the purposes of maintaining airport safety (control of wildlife hazard).

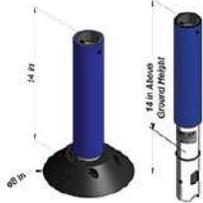
Vandalism, including, but not limited to cutting gate locks, defacing or damaging airport signs, fences, or other facilities shall be prosecuted under (insert appropriate statute).

Appendix B

Appendix B

Retroreflective Runway Edge Markers

Manufacturer/Distributor	Specifications	Image	Costs	Notes
<p>Airport Lighting Company (315) 682-6460 www.Airportlightingcompany.com</p>	<p>FAA Certified: Yes L-853 Reflector Heights 14", 18", 24", 30"</p>		<p>\$75/each (14"-24") \$65/each (large Qty)</p>	<p>Vendor/Distributor - units manufactured by Flexstake and Safehit Will also sell AR-100 model from Valley Illuminators</p>
<p>RBI Inc. (520) 624-0042 www.Rbi-inc.com</p>	<p>FAA Certified: Yes (recently certified Advisory Circular has not been updated) Medium Intensity Retro-reflective Runway/Taxiway Marker (Model 324-2) Height 16"</p>		<p>\$340/ea (Qty 1-99) \$323/ea (Qty 100+)</p>	<p>Manufacturer/Direct Sales New Mexico DOT uses at two state-managed airports for the past 10+ years. NMDOT has experienced difficulty in replacing the reflective surface when worn, faded without replacing the full unit at significant cost. NMDOT plans to replace with Flexstake models.</p>
<p>Airport Reflectors (877) 723-5123 www.Airportreflectors.com</p>	<p>FAA Certified: No</p>		<p>\$30/each (<40 units) \$35/each (>40 units)</p>	<p>Manufacturer/Direct Sales</p>

<p>Valley Illuminators (253) 833-3016 www.Valleyilluminators.com</p>	<p>FAA Certified: Yes AR-100 Height 14"-30"</p>		<p>\$30 (14") RWY/TWY \$32 (14") Threshold Reflectors +.25/cents per inch higher</p>	<p>Manufacturer/Direct Sales</p>
<p>ADB Airfield Solutions (800) 275-6649 www.Adb-air.com</p>	<p>FAA Certified: Yes L-853 / RTEM Height 14"-30"</p>		<p>\$125/ea</p>	<p>Vendor/Distributor - units manufactured by Flexstake and Safehit</p>
<p>Manairco (419) 524-2121 www.Manairco.com</p>	<p>FAA Certified: Yes L-853 A-650 Series (Turf Mount) A-750 Series (Paved Mount) Height 14", 19", 24", 30"</p>		<p>A-650 Series \$24.80/ea (19") \$26.20 /ea (24") \$27.80/ea (30") A-750 Series \$25.80/ea (19") \$27.20/ea (24") \$28.80/ea (30")</p>	<p>Vendor/Distributor – units manufactured by Flexstake</p>
<p>Hali-Brite (800) 553-6269 www.Halibrite.com</p>	<p>FAA Certified: Yes L-853 Height 18"-30"</p>		<p>\$69.90/ea (14") \$64.24/ea (24") (\$16 discount each for Qty 100+)</p>	<p>Vendor/Distributor – units manufactured by other</p>

Review and Recommendation

FAA-certified retroreflective markers represent the minimum standard for runway visual aids for state-managed airports, as noted in the WSDOT Aviation State-Managed Airport Handbook. WSDOT Aviation currently utilizes Valley Illuminator Model AR-100 retroreflective edge markers throughout the state-managed airport system. The markers meet the technical specifications established by the FAA in Advisory Circular (AC) 150/5345-39C – Specifications for L-853 Runway and Taxiway Retroreflective Markers.

The Valley Illuminator Model AR-100 has excellent visibility due to a 200 square-inch reflective surface area that significantly exceeds the FAA specification (96 square inches). However, the large diameter cylinders used in the AR-100 are prone to damage (collapse) when struck by an aircraft, mower or other vehicles. Once the cylinders are crushed they often require replacement. Another consideration is that the AR-100 model is proprietary and available through only one vendor/manufacturer.

As part of its ongoing evaluation of systems and equipment, it would be appropriate for WSDOT Aviation to evaluate all FAA-approved retroreflectors currently available on the market to determine whether the current models provide the most effective and reliable application. It is recognized that the AR-100 model has excellent visibility due to its larger reflective surface area. Several flexible-stake models are available that meet FAA specifications and may provide improved durability through “rebound” capabilities that allow the marker to “self-restore” to its original upright position if struck by an aircraft wheel. In order to objectively evaluate performance, field tests of other FAA-approved retroreflector models should be considered.

Recommended Evaluation:

1. Conduct a field test at one state-managed airport for one season to provide airport management with firsthand installation/removal experience and performance data. Pilots should be actively engaged to provide valuable input on visibility and overall performance for the test airport and other state-managed airports using the current AR-100 model. Evaluation factors include:
 - a. Visibility for pilots when opening in runway environment
 - b. Durability (ability to withstand impact)
 - c. Ease of installation and removal
 - d. Cost (per unit, including mounting hardware and spares)
 - e. Availability (number of vendors available for each product type)
2. Analyze field test results, costs and other factors to determine procurement policy for retroreflectors.

Appendix C

Appendix C

Kittitas County Zoning

Chapter 17.56

FOREST AND RANGE ZONE*

Sections

[17.56.010](#) Purpose and intent.

[17.56.020](#) Allowed uses.

[17.56.030](#) Repealed.

[17.56.040](#) Lot - Minimum size.

[17.56.050](#) Lot - Width.

[17.56.060](#) Yard requirements.

[17.56.062](#) Yard requirements - Adjacent to Liberty Historic Overlay Zone.

[17.56.065](#) Yard requirements- Zones Adjacent to Commercial Forest Zone.

[17.56.070](#) Structure height.

[17.56.080](#) Repealed.

[17.56.090](#) Repealed.

[17.56.100](#) Repealed.

* Prior legislation: Ords. 82-Z-1, 77-1Z, 76-3, 762,75-11, 74-6, 2.

17.56.010 Purpose and intent.

The purpose and intent of this zone is to provide for areas of Kittitas County wherein natural resource management is the highest priority and where the subdivision and development of lands for uses and activities incompatible with resource management are discouraged. (Ord. 92-6 (part), 1992)

17.56.020 Uses permitted.

Uses allowed in the forest and range zone include those uses pursuant to KCC Chapter [17.15](#). ([Ord. 2013-001](#), 2013; [Ord. 2012-009](#), 2012; [Ord. 2011-013](#), 2011; Ord. 2007-22, 2007; Ord. 96-19 (part), 1996; Ord. 92-6 (part), 1992; Ord. 88-4 § 5, 1988; Ord. 87-9 § 4, 1987; Ord. 85-Z-2 (part), 1985; Res. 83-10, 1983)

17.56.030 Repealed.

([Ord. 2013-001](#), 2013; [Ord. 2012-009](#), 2012; Ord. 2009-25, 2009; Ord. 2007-22, 2007; Ord. 2001-13 (part), 2001; Ord. 93-6 (part), 1993; Ord. 92-6 (part), 1992; Ord. 90-15 §§ 2 (part), 3 (part), 1990; Ord. 90-10 (part), 1990; Ord. 90-6 (part), 1990; Ord. 88-4 § 6, 1988; Ord. 87-9 § 5, 1987; Ord. 85-Z-2 (part), 1985; Ord. 83-Z-2 (part), 1983; Res. 8310, 1983)

17.56.040 Lot - Minimum size.

The minimum lot size in the Forest and Range zone shall be:

1. Twenty (20) acres, unless within a cluster or conservation plat as provided for in KCC Chapter [16.09](#), Cluster Platting and Conservation Platting;
2. One-half (½) acre for lots in a cluster or conservation plat; ([Ord. 2013-001](#), 2013; Ord. 2007-22, 2007; Ord. 92-6 (part), 1992; Res. 83-10, 1983)

17.56.050 Lot - Width.

Appendix C
Kittitas County Zoning

1. No parcel created after the adoption of the ordinance codified in this chapter shall have a length-width dimension less than five hundred (500) feet unless the parcel is approved under provisions established in Section 17.56.040 2 and 3.
2. No platted parcel shall have dimensions in excess of a 4:1 length by width ratio. ([Ord. 2013-001](#), 2013; Ord. 2007-22, 2007; Ord. 92-6 (part), 1992; Res. 83-10, 1983)

17.56.060 Yard requirements.

1. Front Yard. There shall be a minimum front yard of twenty-five (25) feet.
2. Side Yard. Side yard shall be ten (10) feet, except on corner lots which shall have a fifteen-(15)-foot side yard.
3. Rear Yard. There shall be a rear yard with a minimum depth of ten (10) feet to the main building. ([Ord. 2013-001](#), 2013; Ord. 96-19 (part), 1996; Ord. 92-6 (part), 1992; Res. 83-10, 1983)

17.56.062 Yard requirements - Adjacent to Liberty Historic Overlay Zone.

Properties bordering or adjacent to the Liberty Historic overlay zone are subject to a fifty (50) foot setback from the overlay boundary. For properties where such setback isn't feasible, development shall comply with [KCC 17.84](#), Variances. ([Ord. 2014-005](#), 2014;)

17.56.065 Yard requirements in Zones Adjacent to Commercial Forest Zone .

Properties bordering or adjacent to the Commercial Forest zone are subject to a two hundred (200)-foot setback from the Commercial Forest Zone. ([KCC 17. 57.050\(1\)](#)). For properties where such setback isn't feasible, development shall comply with KCC [17.57.050\(2\)](#). ([Ord. 2013-001](#), 2013; [Ord. 2010-014](#), 2010; Ord. 2007-22, 2007)

17.56.070 Structure height.

No structure shall exceed two and one-half (2½) stories or thirty-five (35) feet in height, whichever is greater. This limit does not apply to agricultural buildings. ([Ord. 2013-001](#), 2013; Ord. 92-6 (part), 1992; Res. 83-10, 1983)

17.56.080 Repealed.

([Ord. 2016-006](#), 2016; [Ord. 2013-001](#), 2013; Ord. 92-6 (part), 1992; Res. 83-10, 1983)

17.56.090 Repealed.

([Ord. 2013-001](#), 2013; Ord. 92-6 (part), 1992; Res. 83-10, 1983)

17.56.100 Repealed.

([Ord. 2013-001](#), 2013; [Ord. 2010-014](#), 2010)

Appendix C Kittitas County Zoning

Chapter 17.48 I-L LIGHT INDUSTRIAL ZONE*

Sections

[17.48.010](#) Purpose and intent.

[17.48.020](#) Allowed uses.

[17.48.030](#) Minimum lot size.

[17.48.040](#) Front, side and rear yard requirements.

[17.48.050](#) Setbacks.

[17.48.060](#) Height restrictions.

[17.48.070](#) Lot coverage.

* Prior legislation: Ord. 2 §§ 13, 13.01, 13.02.01, 13.02.02, 13.02.03, 13.02.04, 13.02.05, Ord. 71-5 and Ord. 76-3.

17.48.010 Purpose and intent.

The light industrial zone is established to preserve areas for industrial and related uses of such a nature that they do not create serious problems of compatibility with other kinds of land uses and to protect such zones from encroachment by conflicting land uses. The regulations set out in this chapter shall apply to the light industrial zone. ([Ord. 2013-001](#), 2013; Ord. 83-Z-2 (part), 1983)

17.48.020 Allowed uses.

Uses allowed in the light industrial district include those uses pursuant to KCC Chapter [17.15](#). ([Ord. 2013-001](#), 2013; [Ord. 2012-009](#), 2012; [Ord. 2011-013](#), 2011; [Ord. 2010-014](#), 2010; Ord. 96-19 (part), 1996; Ord. 83Z-2 (part), 1983)

17.48.030 Minimum lot size. The minimum lot size in the City of Kittitas urban growth area is twenty (20) acres, unless the Director approves smaller lots after reviewing a land division plan or sketch that demonstrates the following:

1. The smaller lots do not result in inefficient use of land;
2. The smaller lots will not preclude future large-scale industrial development;
3. The smaller lots will not preclude the adequate access and infrastructure to future development; and
4. The lots are at least ten (10) acres.

([Ord. 2013-001](#), 2013; Ord. 93-1 (part), 1993)

17.48.040 Front, side and rear yard requirements.

There are no yard requirements, unless the property abuts a parcel of land of more restricted nature such as a commercial zone, in which case the requirements on the abutting side shall be those of the abutting property. (Ord. 83-Z-2 (part), 1983)

17.48.050 Setbacks.

No building or permanent structure may be constructed closer than fifty-five (55) feet from the

Appendix C
Kittitas County Zoning

centerline of any public right-of-way. If any use in this zone abuts or faces any residential zone, a setback of fifty (50) feet on the side abutting or facing the residential zone shall be provided, with tree planting or other conditions necessary to preserve the character of the residential zone. The Director shall determine what these conditions shall be. ([Ord. 2013-001](#), 2013; Ord. 83-Z-2 (part), 1983)

17.48.060 Height restrictions.

There shall be no limitations. (Ord. 83-Z-2 (part), 1983)

17.48.070 Lot coverage.

No structure or combination of structures, including buildings, shall occupy or cover more than fifty (50%) percent of the total lot area. ([Ord. 2013-001](#), 2013; [Ord. 2012-009](#), 2012; Ord. 93-1 (part), 1993)

Appendix C

Kittitas County Zoning

Chapter 17.30A

R-5 - RURAL-5 ZONE

Sections

[17.30A.010](#) Purpose and intent.

[17.30A.020](#) Allowed uses.

[17.30A.030](#) Repealed.

[17.30A.040](#) Lot size required.

[17.30A.050](#) Yard requirements.

[17.30A.055](#) Yard requirements- Zones Adjacent to Commercial Forest Zone.

[17.30A.060](#) Sale or conveyance of lot portion.

[17.30A.070](#) Repealed.

[17.30A.080](#) Repealed.

[17.30A.090](#) Repealed.

17.30A.010 Purpose and intent.

The purpose and intent of the Rural-5 zone is to provide areas where residential development may occur on a low density basis. A primary goal and intent in siting R-5 zones will be to minimize adverse effects on adjacent natural resource lands. (Ord. 2005-05, 2005)

17.30A.020 Uses permitted.

Uses allowed in the Rural-5 zone include those uses pursuant to KCC Chapter [17.15](#). ([Ord. 2013-001](#), 2013; [Ord. 2012-009](#), 2012; [Ord. 2011-013](#), 2011; Ord. O-2006-01, 2006; Ord. 2005-05, 2005)

17.30A.030 Repealed.

([Ord. 2013-001](#), 2013; Ord. O-2006-01, 2006; Ord. 2005-05, 2005)

17.30A.040 Lot size required.

The minimum lot size for parcels created after the adoption of the ordinance codified in this chapter shall be:

1. Five (5) acres for lots served by individual wells and septic tanks;
2. One-half (½) acre for lots in a cluster plat. ([Ord. 2013-001](#), 2013; Ord. 2005-05, 2005)

17.30A.050 Yard requirements.

There shall be a minimum front yard setback of twenty-five (25) feet. Side and rear yard setbacks shall be fifteen (15) feet. ([Ord. 2013-001](#), 2013; Ord. 2005-05, 2005)

17.30A.055 Yard requirements - Zones Adjacent to Commercial Forest Zone

Properties bordering or adjacent to the Commercial Forest zone are subject to a two hundred (200)-foot setback from the Commercial Forest Zone. KCC ([17.57.050\(1\)](#)). For properties where such setback isn't feasible, development shall comply with KCC [17.57.050\(2\)](#). ([Ord. 2013-001](#), 2013; Ord. 2007-22, 2007)

17.30A.060 Sale or conveyance of lot portion.

No sale or conveyance of any portion of a lot, for other than a public purpose, shall leave a structure on the remainder of the lot with less than the minimum lot, yard or setback requirements of this zone. ([Ord. 2013-001](#), 2013; Ord. 2005-05, 2005)

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17.30A.070 Repealed.

([Ord. 2013-001](#), 2013; Ord. 2005-05, 2005)

17.30A.080 Repealed.

([Ord. 2016-006](#), 2016; [Ord. 2013-001](#), 2013; Ord. 2005-05, 2005)

17.30A.090 Repealed.

([Ord. 2013-001](#) , 2013; Ord. 2007-22, 2007)

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Chapter 17.58

AIRPORT ZONE*

Sections

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*For airport use regulations, see [KCC Title 19](#). Prior history: Ords. 88-4 and 83-Z-2; Res. 83-10; Vol. 5, p. 362, 1979.

17.58.010 Purpose and intent.

The purpose and intent of this chapter is to establish an airport overlay zoning district on properties located on, adjacent to, and in the vicinity of public-use airports including Easton State, Cle Elum Municipal, DeVere Field and Kittitas County Airport (Bowers Field), in order to protect the health, welfare, safety, and quality of life of the general public, property owners, airport operators, and aviation community; and also to ensure compatible land uses in the vicinity of the affected environments of the airport overlay zoning district. With regulations set forth in the Adopted 14 CFR Federal Aviation Regulations Part 77. (Ord. 2007-22, 2007; Ord. 2001-10 (part), 2001)

17.58.020 Statutory authority.

This chapter is adopted pursuant to [RCW 36.70A.547](#) and [36.70A.200](#) which requires a county, city or town to enact development regulations, to discourage the siting of incompatible land uses adjacent to general aviation airports and public-use airports. (Ord. 2007-22, 2007; Ord. 2001-10 (part), 2001)

17.58.030 Definitions.

As used in this chapter, unless the context otherwise requires:

1. "Airport" means public-use airports including Easton State, Cle Elum Municipal, DeVere Field and Kittitas County Airport (Bowers Field).
2. "Airport elevation" means 1,766 feet above mean sea level.
3. "Airport overlay zoning district" shall include the runway protection zone, inner safety zone, inner turning zone, outer safety zone, sideline zone, and the airport operation zone as depicted on Map "B" - "Airport Safety Zones"¹ and numbered zones 1 through 6, respectively, and shall also encompass the area identified within 14 CFR Federal Aviation Regulations (FAR) Part 77, as amended and depicted on Map "A" - "Part 77".²

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¹. Map "B", referenced throughout this chapter, is on file with the Kittitas County public works department.

². Map "A", referenced throughout this chapter, is on file with the Kittitas County public works department.

4. "Airport surface" means a surface longitudinally centered on the extended runway centerline, extending outward and upward from the end of the primary surface and along the same slope as the approach zone height limitation slope set forth in [KCC 17.58.050](#). The perimeter of the approach surface coincides with the perimeter of the approach zone.
5. Approach, Transitional, Horizontal, and Conical Zones. These zones are set forth and defined in [KCC 17.58.040](#).
6. "Conical surface" means a surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 feet upward to one foot outward for a horizontal distance of 4,000 feet.
7. "Flammable and combustible liquids" shall be defined as the type and design of underground and aboveground liquid storage tanks; the location and design of the fuel dispensers and dispenser nozzles; the design and specifications for related piping, valves and fittings; the location and classification of electrical equipment, including emergency fuel shutdown devices; and specifications for fuel storage and pressure-relief components, and shall be in accordance with Article 52 (5201.3.2(#1) Motor Vehicle Fuel - Dispensing Stations), Article 79 (Flammable and Combustible Liquids, specifically Special Options 7904), Standard of the International Fire Code and all applicable codes.
8. "Hazard to air navigation" means an obstruction determined to have a substantial adverse effect on the safe and efficient utilization of the navigable airspace.
9. "Height" for the purpose of determining the height limits in all zones set forth in this chapter and shown on the airport overlay zoning district map "A", the datum shall be mean sea level elevation unless otherwise specified.
10. "Horizontal surface" means a horizontal plane 150 feet above the established airport elevation.
11. "Larger than utility runway" means a runway that is constructed for and intended to be used by propeller driven aircraft of greater than 12,500 pounds maximum gross weight and jet-powered aircraft.
12. "Nonconforming use" means any preexisting structure, object of natural growth, or use of land, which is inconsistent with the provisions of this chapter.
13. "Nonprecision instrument runway" means a runway having an existing instrument approach procedure utilizing air navigation facilities with only horizontal guidance, or area type navigation equipment, for which a straight in nonprecision instrument approach procedure has been approved or planned.

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14. "Obstruction" means any structure, growth, or other object, including a mobile object, which exceeds a limiting height set forth in [KCC 17.58.050](#).
15. "Person" means an individual, firm, partnership, corporation, company, association, joint stock association or government entity. "Person" includes a trustee, a receiver, an assignee, or a similar representative.
16. Precision Instrument Approach. The precision instrument approach is designed to provide an approach path for exact alignment and descent of an aircraft on final approach to a runway.
17. Precision Instrument Runway 29. The precision approach is a 50,000-foot-long trapezoid that is 1,000 feet wide at the point where it meets the primary surface. It has a 50:1 slope for the first 10,000 feet and a slope of 40:1 for the remaining 40,000 feet. The approach surface is 16,000 feet wide at the outermost point.
18. "Primary surface" means a surface longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway. For military runways or when the runway has no specially prepared hard surface, or planned hard surface, the primary surface ends at each end of that runway. The width of the primary surface is set forth in [KCC 17.58.040](#). The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline.
19. "Runway" means a defined area on an airport prepared for landing and takeoff of aircraft along its length.
20. "Structure" means an object, including a mobile object, constructed or installed by man, including but without limitation, buildings, towers, cranes, smokestacks, earth formation, and overhead transmission lines.
21. Transitional Surfaces. These surfaces extend outward at 90-degree angles to the runway centerline and the runway centerline extended at a slope of seven feet horizontally for each one foot vertically from the sides of the conical surfaces. Transitional surfaces for those portions of the precision approach surfaces, which project through and beyond the limits of the conical surface, extend a distance of 5,000 feet measured horizontally from the edge of the approach surface and at 90-degree angles to the extended runway centerline.
22. "Tree" means any object of natural growth.
23. "Utility runway" means a runway that is constructed for and intended to be used by propeller-driven aircraft of 12,500 pounds maximum gross weight or less.
24. "Visual runway" means a runway intended solely for the operation of aircraft using visual approach procedures. (Ord. 2007-22, 2007; Ord. 200110 (part), 2001)

17.58.040A Airport overlay zoning district: Kittitas County Airport (Bowers Field).

In order to carry out the provisions of this chapter, there is hereby created an airport overlay zoning district that is composed of the following surface and safety zones for Kittitas County Airport (Bowers Field). The zones cover a geographic area that is affected by airport activities and are defined on the basis of factors including, but not limited to, aircraft noise, aircraft flight patterns, airport safety zones,

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local circulation patterns and area development patterns. The boundaries of the airport surface and safety zones are shown on airport overlay zoning district Map "A" - "Part 77" and Map "B" - "Airport Safety Zones", which are attached hereto and incorporated by reference, and which shall also be on file and open for inspection in the Kittitas County Community Development Services, Kittitas County Public Works department, and the city of Ellensburg community development department. The surface and safety zones are overlaid on top of the existing underlying zoning, which remains in full force and effect. Where the requirements imposed by the surface and safety zones conflict with the requirements of the underlying zoning, the more restrictive requirement shall be enforced.

1. Surface Zones. In order to carry out the provisions of this chapter, there are created and established certain surface zones which include all of the land lying beneath the approach surfaces, transitional surfaces, horizontal surfaces, and conical surfaces as they apply to Kittitas County Airport (Bowers Field). Such zones are shown on Kittitas County Airport (Bowers Field) overlay zoning map "A", as amended. Within each of the surface zones there are hereby established certain height restrictions for structures and trees. The surface zones are established and defined as follow:
 - a. Runways 07, 25, and 11, Larger than Utility with a Visibility Minimum Greater than Three-Fourth Mile Nonprecision Instrument Approach Zone. The 500-foot inner edge coincides with the width of the primary surface and slopes 34 feet outward for each one foot upward beginning at the end of and at the same elevation as the primary surface and expands to a horizontal distance of 3,500 feet at a horizontal distance of 10,000 feet along the extended runway centerline. Its centerline is the continuation of the runway centerline as depicted on map "A".
Height Restrictions: No object shall penetrate the imaginary line created by a slope 34 feet outward for each one foot upward beginning at the end of and at the same elevation as the primary surface and extending to a horizontal distance of 10,000 feet along the extended runway centerline.
 - b. Runway 29, Larger than Utility with a Visibility Minimum Lower than Three-Fourth Mile Precision Instrument Approach Zone. The 1,000-foot inner edge of this approach zone coincides with the width of the primary surface. The approach zone expands uniformly to a width of 16,000 feet at a horizontal distance of 50,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway as depicted on map "A".
Height Restrictions: No object shall penetrate the imaginary line created by a slope 50 feet outward for each one foot upward for the first 10,000 feet of this zone and 40 feet outward for each one foot upward for the remaining 40,000 feet of this zone.
 - c. Transitional Zones. This zone is defined by a slope seven feet outward for each one foot upward beginning at the sides of and at the same elevation as the primary surface and the approach surface, and extending to a height of 150 feet above the airport elevation which is 139 feet above mean sea level.
Height Restrictions: No object shall penetrate the imaginary line created by a slope seven feet outward for each one foot upward beginning at the sides of and the same elevation as the approach surface, and extending to where they intersect the conical

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surface. Further, where the precision instrument runway approach zone projects beyond the conical zone, no object shall penetrate the imaginary line created by a slope seven feet outward for each one foot upward beginning at the sides of and the same elevation as the approach surface, and extending a horizontal distance of 5,000 feet measured at 90degree angles to the extended runway centerline.

- d. Horizontal Zone. The zone is established at 150 feet above the airport elevation or at a height of 1,916 feet above mean sea level by swinging arcs of 5,000 feet radial for all runways designated utility or visual and 10,000 feet for all other runways from the centers of the primary surface of each runway and connecting adjacent arcs by drawing lines tangent to those arcs. The horizontal zone does not include the approach and transitional zones.

Height Restrictions: No object shall penetrate the imaginary horizontal line created at 150 feet above the airport elevation or at a height above the airport of 1,916 feet above mean sea level.

- e. Conical Zone. The conical zone is established as the area that commences at the periphery of the horizontal zone and extends outward there from for a horizontal distance of 4,000 feet as depicted in map "A".

Height Restrictions: No objects shall penetrate the imaginary line created by a slope 20 feet outward for each one foot upward beginning at the periphery of the horizontal zone and at 150 feet above the airport elevation and extending to a height up to 3,500 feet above the surface of the land.

2. Safety Zones. In order to carry out the provisions of this chapter and to promote land use compatibility on lands within and adjacent to and in the vicinity of the Kittitas County Airport (Bowers Field), there are created and established certain safety zones. Such safety zones are shown on Kittitas County Airport (Bowers Field) overlay zoning district map "B", as amended. Within each of the safety zones, certain land use limitations are established and certain development standards are imposed in addition to the land uses and development standards of the underlying zoning. Where the requirements imposed by these safety zones conflict with the requirements of the underlying zoning, the more restrictive requirement shall be enforced. The safety zones are established and defined as follows:

- a. Runway Protection Zone 1. An area extending beyond the centerlines of runways 11, 29, 07, and 25 as depicted on map "B" (shaded area #1). This zone begins from the outer boundaries of the primary surface, 200 feet from the ends of the runways and extends out 1,700 feet to its widest point, which measures 1,010 feet across, 505 feet on either side of the runway centerline.
- b. Inner Safety Zone 2. An area extending beyond the centerlines of runways 11, 29, 07, and 25 as depicted in map "B" (shaded area #2). This zone begins at the end of the runway protection zone 1 and extends out 2,800 feet, The zone measures 1,010 feet across, 505 feet on either side of the runway centerline.

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- c. Inner Turning Zone 3. A fan shaped area extending beyond the center lines of runways 11, 29, 07, and 25 as depicted on map "B" (shaded area #3). This zone begins at the primary surface, 200 feet from the end of the runway centerline and extends out with a 60-foot radius arc on either side of the runway centerline to 4,500 feet and connects to the centerline of the inner safety zone with sweeping arcs.
- d. Outer Safety Zone 4. Area extending beyond the centerlines of runways 11, 29, 07, and 25 as depicted on map "B" (shaded area #4). This zone begins at the end of the inner safety zone and extends out 3,000 feet. The zone measures 1,000 feet across, 500 feet on either side of the runway centerline.
- e. Sideline Zone 5. An area adjacent to runways 11, 29, 07, and 25 as depicted on map "B" (shaded area #5). This zone begins from the outer boundaries of the primary surface, and extends out 1,000 feet perpendicular to the primary surface and connects to the 60-degree sector of the inner turning zone.
- f. Airport Operations Zone 6. This zone is depicted on map "B" (shaded area #6) and begins from the outer boundaries of the sideline zone and extends out 5,000 feet perpendicular to the primary surface and connects to the 60degree sector of the inner turning zone. (Ord. 2007-22, 2007; Ord. 2001-10 (part), 2001)

17.58.040B Airport overlay zoning district: Easton State, Cle Elum Municipal, and DeVere Field.

In order to carry out the provisions of this chapter, there is hereby created an airport overlay zoning district that is composed of the following surface and safety zones for the Easton State, Cle Elum Municipal and DeVere Field. The zones cover a geographic area that is affected by airport activities and are defined on the basis of factors including, but not limited to, aircraft noise, aircraft flight patterns, airport safety zones, local circulation patterns and area development patterns. The surface and safety zones are overlaid on top of the existing underlying zoning, which remains in full force and effect. Where the requirements imposed by the surface and safety zones conflict with the requirements of the underlying zoning, the more restrictive requirement shall be enforced. With the exception of those necessary and incidental to airport operations, no uses shall be permitted that allow buildings, structures, vegetation or other development that penetrates the imaginary air surfaces described below.

1. Surface Zones. In order to carry out the provisions of this chapter, there are created and established certain surface zones which include all of the land lying beneath the approach surfaces, transitional surfaces, horizontal surfaces, and conical surfaces as they apply to Kittitas County Airport (Bowers Field). Such zones are shown on Kittitas County Airport (Bowers Field) overlay zoning map "A", as amended. Within each of the surface zones there are hereby established certain height restrictions for structures and trees. The surface zones are established and defined as follow:

Approach Zone. A surface longitudinally centered on the extended runway centerline.

Visual Runways. The 500-foot inner edge coincides with the width of the primary surface and slopes 20 feet outward for each one foot upward beginning at the end of and at the same

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elevation as the primary surface and expands to a width of 1,250 feet at a horizontal distance of 5,000 feet along the extended runway centerline.

Nonprecision Instrument Approach Zone. The 500-foot inner edge coincides with the width of the primary surface and slopes 34 feet outward for each one foot upward beginning at the end of and at the same elevation as the primary surface and expands to a width of 3,500 feet at a horizontal distance of 10,000 feet along the extended runway centerline. Its centerline is the continuation of the runway centerline as depicted on map "A".

Precision Instrument Approach Zone. The 1,000-foot inner edge of this approach zone coincides with the width of the primary surface and slopes 50 feet outward for each one foot upward for the first 10,000 feet of this zone and 40 feet outward for each one foot upward for the remaining 40,000 feet of this zone. The zone begins at the end of and at the same elevation as the primary surface. The approach zone expands uniformly to a width of 16,000 feet at a horizontal distance of 50,000 feet from the primary surface. Its centerline is the continuation of the centerline of the runway as depicted on map "A".

Transitional Zones. This zone is defined by a slope seven feet outward for each one foot upward beginning at the sides of and at the same elevation as the primary surface and the approach surface, and extending to a height of 150 feet above the airport elevation which is 139 feet above mean sea level. Where the precision instrument runway approach zone projects beyond the conical zone, no object shall penetrate the imaginary line created by a slope seven feet outward for each one foot upward beginning at the sides of and the same elevation as the approach surface, and extending a horizontal distance of 5,000 feet measured at 90degree angles to the extended runway centerline.

Horizontal Zone. The zone is established at 150 feet above the airport elevation by swinging arcs of 5,000 feet radial for all runways designated utility or visual and 10,000 feet for all other runways from the centers of the primary surface of each runway and connecting adjacent arcs by drawing lines tangent to those arcs. The horizontal zone does not include the approach and transitional zones.

The established airport elevations for airports in Kittitas County are as follows:

- Kittitas County Airport (Bowers Field) at 1,916 feet above mean sea level
- Easton State Airport at 2,221 feet above mean sea level
- DeVere Field at 1,838 feet above mean sea level
- Cle Elum Municipal at 1,945 feet above mean sea level

Conical Zone. The conical zone is established as the area that commences at the periphery of the horizontal zone and extends outward there from for a horizontal distance of 4,000 feet as depicted in map "A".

Height Restrictions: No objects shall penetrate the imaginary line created by a slope 20 feet outward for each one foot upward beginning at the periphery of the horizontal zone and at 150

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feet above the airport elevation and extending to a height up to 3,500 feet above the surface of the land.

2. Safety Zones. In order to carry out the provisions of this chapter and to promote land use compatibility on lands within and adjacent to and in the vicinity of the Kittitas County Airport (Bowers Field), there are created and established certain safety zones. Such safety zones are shown on Kittitas County Airport (Bowers Field) overlay zoning district map "B", as amended. Within each of the safety zones, certain land use limitations are established and certain development standards are imposed in addition to the land uses and development standards of the underlying zoning. Where the requirements imposed by these safety zones conflict with the requirements of the underlying zoning, the more restrictive requirement shall be enforced. The safety zones are established and defined as follows:
 - a. Runway Protection Zone 1. An area extending beyond the centerlines of runways 11, 29, 07, and 25 as depicted on map "B" (shaded area #1). This zone begins from the outer boundaries of the primary surface, 200 feet from the ends of the runways and extends out 1,700 feet to its widest point, which measures 1,010 feet across, 505 feet on either side of the runway centerline.
 - b. Inner Safety Zone 2. An area extending beyond the centerlines of runways 11, 29, 07, and 25 as depicted in map "B" (shaded area #2). This zone begins at the end of the runway protection zone 1 and extends out 2,800 feet. The zone measures 1,010 feet across, 505 feet on either side of the runway centerline.
 - c. Inner Turning Zone 3. A fan shaped area extending beyond the center lines of runways 11, 29, 07, and 25 as depicted on map "B" (shaded area #3). This zone begins at the primary surface, 200 feet from the end of the runway centerline and extends out with a 60-foot radius arc on either side of the runway centerline to 4,500 feet and connects to the centerline of the inner safety zone with sweeping arcs.
 - d. Outer Safety Zone 4. Area extending beyond the centerlines of runways 11, 29, 07, and 25 as depicted on map "B" (shaded area #4). This zone begins at the end of the inner safety zone and extends out 3,000 feet. The zone measures 1,000 feet across, 500 feet on either side of the runway centerline.
 - e. Sideline Zone 5. An area adjacent to runways 11, 29, 07, and 25 as depicted on map "B" (shaded area #5). This zone begins from the outer boundaries of the primary surface, and extends out 1,000 feet perpendicular to the primary surface and connects to the 60-degree sector of the inner turning zone.
 - f. Airport Operations Zone 6. This zone is depicted on map "B" (shaded area #6) and begins from the outer boundaries of the sideline zone and extends out 5,000 feet perpendicular to the primary surface and connects to the 60degree sector of the inner turning zone. ([Ord. 2010-014](#), 2010; Ord. 2007-22, 2007)

17.58.050 Uses, development requirements and restrictions.

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1. General Development Requirements and Restrictions Applicable to All Zones.
 - a. Underlying Zoning Requirements. In addition to the airport overlay zoning district development requirements and restrictions set forth in subsections (A)(2) through (9) of this section and in the table in subsection B of this section, all uses and activities are at all times subject to the requirements of the underlying zoning district. Where the requirements and restrictions imposed by the airport overlay zoning district surface and safety zones conflict with the requirements of the underlying zoning district, the more restrictive requirement shall be applied.
 - b. Pre-annexation/Annexation. Once the parcel is annexed into the Ellensburg city limits, the parcel shall adopt by reference the density requirements of the city of Ellensburg.
 - c. Height. All uses shall be subject at all times to the height restrictions set forth in [KCC 17.58.040\(A\)](#).
 - d. Signal and Radio Communication Interference. Electrical interference with navigational signals or radio communication between the airport and aircraft is prohibited and will be regulated in accordance with rules and regulations promulgated and enforced by the Federal Communications Commission (FCC) and Federal Aviation Administration (FAA) regulations.
 - e. Lighting and Glare. Activities or uses that create lighting which make it difficult for pilots to distinguish between airport lights and non-airport lights or that create glare in the eyes of pilots using the airport are prohibited. All outdoor lighting fixtures shall be arranged and shielded so that area lighting shall not shine into the sky.
 - f. Visibility. Activities or uses that create excessive amounts of dust, smoke, or other emissions that may result in impairment of visibility in the vicinity of the airport are discouraged and will be regulated in accordance with rules and regulations promulgated and enforced by the Washington State Department of Ecology under the Clean Air Act and other state and federal regulations.
 - g. Large Bodies of Water. Activities or uses that create large areas of standing water are discouraged and shall be reviewed and regulated in accordance with the provisions set forth in the county's State Environmental Policy Act (SEPA) regulations as set forth in Chapter [15.04 KCC](#).
 - h. Flammable and Combustible Material. Flammable and combustible liquids and specifications for fuel storage shall be in accordance with the International Fire Code and all applicable codes as adopted in [KCC Title 14](#), Buildings and Construction.
 - i. Noise Insulation. Noise insulation for new structures shall be in accordance with the International Building Code and the Washington State Energy Code as adopted in [KCC Title 14](#), Buildings and Construction.
 - j. Subdivision. When any division of land including short plats, plats, cluster subdivisions, and planned unit developments, occur on any land within the airport overlay zoning

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district safety zones 1 through 6, a note located on the first page of the plat, shall be recorded with the county auditor as follows:

This property is located within the Airport Overlay Zoning District in which a variety of airport aviation activities occur. Such airport aviation activities may impact the use of your property.

2. Use Table.

Note: All aviation uses are acceptable only on airport property. Electric Vehicle Infrastructure is permitted in all zones. See [KCC Chapter 17.66](#)

**Airport
Overlay Zones**

Applicable uses

Zone 1 (Runway Protection Zone)	<ol style="list-style-type: none">1. Land uses, which by their nature will be relatively unoccupied by people should be encouraged (mini-storage, small parking lots, etc.)2. Schools, play fields, hospitals, nursing homes, and churches are prohibited.
Zone 2 (Inner Safety Zone)	<ol style="list-style-type: none">1. Schools, play fields, hospitals, nursing homes, and churches are prohibited.2. Outside of the existing Ellensburg Urban Growth Area (UGA) the average density will be one dwelling unit per three acres on the property at the date of adoption of this ordinance [July 17, 2001].3. Inside the existing Ellensburg Urban Growth Area (UGA) the average density will be one dwelling unit per one acre on the property at the date of adoption of this ordinance [July 17, 2001].
Zone 3 (Inner Turning Zone)	<ol style="list-style-type: none">1. Schools, play fields, hospitals, nursing homes, and churches are prohibited.2. Flammable and combustible liquids and specifications for fuel storage shall be in accordance with Articles 52 and 79, the International Fire Code (IFC) standard, and applicable codes.3. Outside of the existing Ellensburg Urban Growth Area (UGA) the average density will be one dwelling unit per three acres on the property at the date of adoption of this ordinance [July 17, 2001].4. Inside the existing Ellensburg Urban Growth Area (UGA) for lands zoned Agricultural - 3 the average density will be one dwelling unit per three acres on the property at the date of adoption of this ordinance [July 17, 2001].5. Inside the existing Ellensburg Urban Growth Area (UGA) for lands zoned Urban Residential or Rural Residential the average density will be one dwelling unit per one acre on the property at the date of adoption of this ordinance [July 17, 2001].

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- Zone 4**
(Outer Safety Zone)
1. Schools, play fields, hospitals, nursing homes, and churches are prohibited.
 2. Outside of the existing Ellensburg Urban Growth Area (UGA) the average density will be one dwelling unit per three acres on the property at the date of adoption of this ordinance [July 17, 2001].
 3. Inside the existing Ellensburg Urban Growth Area (UGA) for lands zoned Urban Residential or Rural Residential the average density will be one dwelling unit per one acre on the property at the date of adoption of this ordinance [July 17, 2001].

- Zone 5**
(Sideline Zone)
1. All aviation related uses are permitted.
 2. Schools, play fields, hospitals, nursing homes, and churches are prohibited.

- Zone 6**
(Airport Operations Zone)
1. All aviation related uses are permitted within airport property.
 2. Outside of the existing Ellensburg Urban Growth Area (UGA) the average density will be one dwelling unit per three acres on the property at the date of adoption of this ordinance [July 17, 2001].
 3. Inside the existing Ellensburg Urban Growth Area (UGA) the average density will be one dwelling unit per one acre on the property at the date of adoption of this ordinance [July 17, 2001].

([Ord. 2011-013](#) , 2011; Ord. 2007-22, 2007; Ord. 2001-10 (part), 2001)

17.58.060 Permits.

1. Future Uses. Except as specifically provided in subsections (A)(1), (2), and (3) of this section, no material change shall be made in the use of land, no structure shall be erected or otherwise established, and no tree shall be planted in any zone created unless a permit therefore has been applied for and granted. Each application for a permit shall indicate the purpose for which the permit is desired, with sufficient particularity to permit it to be determined whether the resulting use, structure, or tree is consistent with the provisions of this chapter. No permit for a use inconsistent with the provisions of this chapter shall be granted unless a variance has been approved in accordance with subsection D of this section.
 - a. In the area lying within the limits of the horizontal zone and conical zone, no permit shall be required for any tree or structure less than 75 feet of vertical height above the ground except when, because of terrain, land contour, or topographic features, such tree or structure would extend above the height limits prescribed for such zones.
 - b. In areas lying within the limits of the approach zones but at a horizontal distance of not less than 4,200 feet from each end of the runway, no permit shall be required for any tree or structure less than 75 feet of vertical height above the ground, except when such

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tree or structure would extend above the height limit prescribed for such approach zones.

- c. In the areas lying within the limits of the transition zones beyond the perimeter of the horizontal zone, no permit shall be required for any tree or structure less than 75 feet of vertical height above the ground, except when such tree or structure, because of terrain, land contour, or topographic features, would extend above the height limit prescribed for such transition zones.
 - d. As a condition for approval of new development within the approach surfaces or safety zones a notice shall be recorded with the county auditor prior to final approval of new subdivisions, short subdivisions, building permits, conditional use permits, special use permit or other similar permits, unless said notice is already recorded on the property. Said notice shall state: "This property is located adjacent to an airport and routinely subject to overflight activity by aircraft using the airport; residents and tenants may experience inconvenience, annoyance, or discomfort from noise, smell or other effects of aviation activities."
2. Existing Uses. No permit shall be granted that would allow the establishment or creation of an obstruction or permit a nonconforming use, structure, or tree to become a greater hazard to air navigation, than it was on the effective date of the ordinance codified in this chapter or any amendments thereto or than it is when the application for a permit is made.
 3. Nonconforming Uses Abandoned or Destroyed. Whenever the airport manager, or his or her designee, determines that a nonconforming or structure has been abandoned or more than eighty percent torn down, physically deteriorated, or decayed, no permit shall be granted that would allow such structure to exceed the applicable height limit or otherwise deviate from the zoning regulations.
 4. Variances. Any person desiring to erect or increase the height of any structure, or permit the growth of any tree, or use property, not in accordance with the regulations prescribed in this chapter, may apply to the Hearing Examiner for a variance from such regulations. The application for variance shall be accomplished by a determination from the Federal Aviation Administration as to the effect of the proposal on the operation of air navigation facilities and the safe, efficient use of navigable airspace. Such variances shall be allowed where it is duly found that a literal application or enforcement of the regulations will result in unnecessary hardship and relief granted, will not be contrary to the public interest, will not create a hazard to air navigation, will do substantial justice, and will be in accordance with the spirit of this chapter. A copy of the variance application shall be forwarded to the Kittitas County airport manager by the Kittitas County Community Development Services department consistent with the notification procedures under [KCC Title 15A](#).
 5. Obstruction Marking and Lighting. Any permit or variance granted may, if such action is deemed advisable to effectuate the purpose of this chapter, be so conditioned as to require the owner of the structure or tree in question to install, operate, and maintain, at the owner's expense, such markings and lights as may be necessary.

Appendix C

Kittitas County Zoning

6. Nothing in this chapter shall diminish the responsibility of project proponents to submit a Notice of Construction or Alteration to the Federal Aviation Administration if required in accordance with Federal Aviation Regulations Part 77, "Objects Affecting Navigable Airspace". ([Ord. 2012-009](#), 2012; Ord. 2007-22, 2007; Ord. 2001-10 (part), 2001)

17.58.070 Nonconforming use - Regulations not retroactive.

The regulations prescribed in this chapter shall not be construed to require the removal, lowering, or other change or alteration of any structure or tree not conforming to the regulations at the effective date of the ordinance codified in this chapter, nor shall such be construed to require any change in the construction or alteration of any structure or tree which was begun prior to the effective date of the ordinance codified in this chapter, and which is diligently being prosecuted. (Ord. 2001-10 (part), 2001)

17.58.080 Violations and enforcement.

It shall be the duty of the code enforcement official of the Kittitas County building department to administer and enforce the regulations prescribed in this chapter. (Ord. 2001-10 (part), 2001)

17.58.090 Appeals.

Any person aggrieved, by any order, requirement, decision or determination made by an administrative official in the processing of any application made under this chapter or in the actual decision made as required by this chapter may appeal to the Hearing Examiner as provided in [RCW 14.12.190](#). ([Ord. 2012-009](#), 2012; Ord. 2001-10 (part), 2001)

17.58.100 Repealed.

([Ord. 2013-001](#), 2013; [Ord. 2012-009](#), 2012; Ord. 2001-10 (part), 2001)

17.58.110 Conflicting regulations.

Where there exists a conflict between any of the regulations or limitations prescribed in this chapter and any other regulations applicable to the same area, whether the conflict be with respect to the height of structures or trees, and the use of land, or any other matter, the more stringent limitation or requirement shall govern and prevail. (Ord. 2001-10 (part), 2001)

Appendix D

WSDOT General Aviation Pilot Survey

Q1 Contact Information

Answered: 75 Skipped: 5

Answer Choices	Responses	
Name	100.00%	75
Company	0.00%	0
Address	0.00%	0
Address 2	0.00%	0
City/Town	0.00%	0
State/Province	0.00%	0
ZIP/Postal Code	0.00%	0
Country	0.00%	0
Email Address	100.00%	75
Phone Number	94.67%	71

#	Name	Date
1	don goodman	7/7/2015 8:19 PM
2	Tim Mensonides	7/1/2015 9:00 AM
3	Richard L. Carlstad	6/29/2015 3:09 PM
4	Will Silva	6/28/2015 1:00 PM
5	Mike Port	6/27/2015 9:28 PM
6	a	6/23/2015 1:00 PM
7	Kurt Oakley	6/17/2015 7:53 PM
8	Charlie Pierce	6/17/2015 8:28 AM
9	Ron Rudnick	6/14/2015 10:13 AM
10	Ann Easterly	6/12/2015 11:23 AM
11	Steve Mitrovich	6/12/2015 10:21 AM
12	Charles Harral	6/12/2015 10:04 AM
13	John townsley	6/12/2015 8:51 AM
14	T.J. Anderson	6/12/2015 7:37 AM
15	Greg Corrado	6/8/2015 10:51 AM
16	William	6/7/2015 3:36 PM
17	Douglas Cheney	6/3/2015 11:38 AM
18	Larry Woodall	6/1/2015 8:04 AM
19	L. Dunn	5/31/2015 9:01 AM
20	Jim Summers	5/29/2015 9:51 PM
21	Cameron Lerum	5/29/2015 5:20 PM
22	Dick Hess	5/29/2015 4:32 PM
23	Carl Rosevear	5/28/2015 7:38 PM
24	Jon Howell	5/28/2015 8:53 AM

WSDOT General Aviation Pilot Survey

25	david thomasson	5/27/2015 5:48 PM
26	TerryNewcomb	5/27/2015 1:50 PM
27	Cameron Etezadi	5/27/2015 1:49 PM
28	brett milewski	5/27/2015 1:33 PM
29	BRIAN BEAULAC	5/27/2015 1:16 PM
30	Dan Tarasievich	5/27/2015 12:15 PM
31	Roland Barber	5/27/2015 11:15 AM
32	Douglas Gilson	5/27/2015 9:59 AM
33	Preston	5/27/2015 9:44 AM
34	Jesse Pasichnyk	5/27/2015 9:13 AM
35	David Chuljian	5/27/2015 8:23 AM
36	John Sandvig	5/27/2015 8:11 AM
37	Robert Wagner	5/27/2015 7:43 AM
38	Jered Paine	5/26/2015 8:30 PM
39	Mike Woodson	5/26/2015 7:41 PM
40	Jerry Loeffelbein	5/26/2015 7:39 PM
41	Craig Howard	5/26/2015 7:39 PM
42	TOM MORRIS	5/26/2015 7:20 PM
43	Tom Bryant	5/26/2015 6:49 PM
44	chuck godlasky	5/20/2015 10:39 PM
45	Steve Gray	5/19/2015 6:33 PM
46	Leo Haas	5/16/2015 1:29 PM
47	Marshall Collins	5/16/2015 11:28 AM
48	Marlin Israel	5/15/2015 3:22 PM
49	Bill Inman	5/15/2015 1:58 PM
50	Tom Donnelly	5/15/2015 1:56 PM
51	Eric Taylor	5/15/2015 9:04 AM
52	Tommy R Hargreaves	5/15/2015 8:39 AM
53	Curt Scott	5/15/2015 8:34 AM
54	Pete Dougherty	5/15/2015 5:59 AM
55	Christopher Gutmann	5/15/2015 5:52 AM
56	Derek Winn	5/14/2015 2:52 PM
57	Frederick Danz	5/14/2015 6:19 AM
58	Brice	5/13/2015 10:32 PM
59	George Steed	5/13/2015 9:36 PM
60	Matthew Wallitner	5/13/2015 8:48 PM
61	Austin Ford-Umfuhrer	5/13/2015 7:35 PM
62	Allen Macbean	5/13/2015 7:32 PM
63	Bryan	5/13/2015 6:57 PM
64	Tim Brown	5/13/2015 6:16 PM
65	Jim Scott	5/13/2015 4:38 PM
66	David Krall	5/13/2015 3:47 PM

WSDOT General Aviation Pilot Survey

67	Douglas Payne	5/13/2015 2:41 PM
68	Greg bell	5/13/2015 2:10 PM
69	Mike Bomstad	5/13/2015 1:33 PM
70	Steve Baran	5/13/2015 12:34 PM
71	Chris Lynch	5/13/2015 12:19 PM
72	Steve Carkeek	5/13/2015 11:24 AM
73	Bruce Booker	5/13/2015 11:10 AM
74	Larry Holtz	5/13/2015 10:52 AM
75	Shane Mahoney	5/13/2015 10:34 AM
#	Company	Date
	There are no responses.	
#	Address	Date
	There are no responses.	
#	Address 2	Date
	There are no responses.	
#	City/Town	Date
	There are no responses.	
#	State/Province	Date
	There are no responses.	
#	ZIP/Postal Code	Date
	There are no responses.	
#	Country	Date
	There are no responses.	
#	Email Address	Date
1	donaldjg56@gmail.com	7/7/2015 8:19 PM
2	tmensonides@arlingtonwa.gov	7/1/2015 9:00 AM
3	rich1carlstad@gmail.com	6/29/2015 3:09 PM
4	wjsilva@post.harvard.edu	6/28/2015 1:00 PM
5	mikeport@centurytel.net	6/27/2015 9:28 PM
6	b	6/23/2015 1:00 PM
7	morningglory@balloonwinthrop.com	6/17/2015 7:53 PM
8	piercecharlie@att.net	6/17/2015 8:28 AM
9	ronrudnick@gmail.com	6/14/2015 10:13 AM
10	condu4@netzero.net	6/12/2015 11:23 AM
11	smitrovich@yahoo.com	6/12/2015 10:21 AM
12	Charral@rocketmail.com	6/12/2015 10:04 AM
13	Highflight@q.com	6/12/2015 8:51 AM
14	aeroncanuts@msn.com	6/12/2015 7:37 AM
15	gcorrado@wavecable.com	6/8/2015 10:51 AM
16	Herrington	6/7/2015 3:36 PM
17	doug.cheney@hp.com	6/3/2015 11:38 AM
18	pukingdawg@aol.com	6/1/2015 8:04 AM
19	lar1013@hotmail.com	5/31/2015 9:01 AM

WSDOT General Aviation Pilot Survey

20	jsummers1@gmail.com	5/29/2015 9:51 PM
21	cameron@lerum.net	5/29/2015 5:20 PM
22	dick.hess@comcast.net	5/29/2015 4:32 PM
23	Rosevear@gmail.com	5/28/2015 7:38 PM
24	jonh.efc@jonh.net	5/28/2015 8:53 AM
25	farquart@msn.com	5/27/2015 5:48 PM
26	tnewcomb@idahoveneer.com	5/27/2015 1:50 PM
27	cam_001@hotmail.com	5/27/2015 1:49 PM
28	brettmilewski@comcast.net	5/27/2015 1:33 PM
29	WinddancR@comcast.net	5/27/2015 1:16 PM
30	dant1001@gmail.com	5/27/2015 12:15 PM
31	roland@thebarbershop.us	5/27/2015 11:15 AM
32	degilson@yahoo.com	5/27/2015 9:59 AM
33	goneflying@inbox.com	5/27/2015 9:44 AM
34	jesse@pasichnyk.net	5/27/2015 9:13 AM
35	parotfsh@olypen.com	5/27/2015 8:23 AM
36	jhsandvig@comcast.net	5/27/2015 8:11 AM
37	rcwagner55@hotmail.com	5/27/2015 7:43 AM
38	Jeredpaine@gmail.com	5/26/2015 8:30 PM
39	mikewoodson@yahoo.com	5/26/2015 7:41 PM
40	jloefelbein@juno.com	5/26/2015 7:39 PM
41	Craighoward@comcast.net	5/26/2015 7:39 PM
42	TZMORRIS@COMCAST.NET	5/26/2015 7:20 PM
43	Tbntt@aol.com	5/26/2015 6:49 PM
44	newlifetool@gmail.com	5/20/2015 10:39 PM
45	stevegray.bli@gmail.com	5/19/2015 6:33 PM
46	boyerpark@colfax.com	5/16/2015 1:29 PM
47	marsh@harbornet.com	5/16/2015 11:28 AM
48	m_israel@earthlink.net	5/15/2015 3:22 PM
49	67zuluxray@gmail.com	5/15/2015 1:58 PM
50	tdonnelly727@gmail.com	5/15/2015 1:56 PM
51	spamcan57@gmail.com	5/15/2015 9:04 AM
52	hergreat@fairpoint.net	5/15/2015 8:39 AM
53	Curtescott45@gmail.com	5/15/2015 8:34 AM
54	pilotpeat@live.com	5/15/2015 5:59 AM
55	FlyMarinesRF-4B@centurylink.net	5/15/2015 5:52 AM
56	n11zamx7@gmail.com	5/14/2015 2:52 PM
57	fdanz@msn.com	5/14/2015 6:19 AM
58	medialist@gmail.com	5/13/2015 10:32 PM
59	george.steed@gmail.com	5/13/2015 9:36 PM
60	mackillip@comcast.net	5/13/2015 8:48 PM
61	ford.aus93@gmail.com	5/13/2015 7:35 PM

WSDOT General Aviation Pilot Survey

62	allen.macbean@gmail.com	5/13/2015 7:32 PM
63	piperpainter@gmail.com	5/13/2015 6:57 PM
64	flyingdoginn@earthlink.net	5/13/2015 6:16 PM
65	jim@aircoreav.com	5/13/2015 4:38 PM
66	Pilotdjk@yahoo.com	5/13/2015 3:47 PM
67	dougwpayne@gmail.com	5/13/2015 2:41 PM
68	ifrpilot@comcast.net	5/13/2015 2:10 PM
69	mikefly1@live.com	5/13/2015 1:33 PM
70	steve@fowlplaces.com	5/13/2015 12:34 PM
71	Twolynchs@hotmail.com	5/13/2015 12:19 PM
72	steven.carkeek@comcast.net	5/13/2015 11:24 AM
73	b_booker@comcast.net	5/13/2015 11:10 AM
74	larhol@msn.com	5/13/2015 10:52 AM
75	shane@skynetbb.com	5/13/2015 10:34 AM
#	Phone Number	Date
1	3603037076	7/7/2015 8:19 PM
2	360-403-3471	7/1/2015 9:00 AM
3	206-455-0027	6/29/2015 3:09 PM
4	206 782-4736	6/28/2015 1:00 PM
5	5093223950	6/27/2015 9:28 PM
6	c	6/23/2015 1:00 PM
7	509-997-1700	6/17/2015 7:53 PM
8	509-928-1126	6/17/2015 8:28 AM
9	5094644673	6/14/2015 10:13 AM
10	509-922-4000	6/12/2015 11:23 AM
11	(509)455-6981	6/12/2015 10:21 AM
12	5097689502	6/12/2015 10:04 AM
13	2063837560	6/8/2015 10:51 AM
14	509-539-9768	6/7/2015 3:36 PM
15	509-525-9392	6/3/2015 11:38 AM
16	2537092545	6/1/2015 8:04 AM
17	4258796707	5/31/2015 9:01 AM
18	206-200-6569	5/29/2015 5:20 PM
19	425-747-4432	5/29/2015 4:32 PM
20	206-240-3965	5/28/2015 7:38 PM
21	2064584631	5/28/2015 8:53 AM
22	509-238-2307	5/27/2015 5:48 PM
23	208-699-3716	5/27/2015 1:50 PM
24	2067794688	5/27/2015 1:49 PM
25	360-410-8650	5/27/2015 1:33 PM
26	253/347-1456	5/27/2015 1:16 PM
27	425-239-0032	5/27/2015 12:15 PM

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28	4256570859	5/27/2015 11:15 AM
29	360298-0037	5/27/2015 9:59 AM
30	5099991977	5/27/2015 9:44 AM
31	206-962-1272	5/27/2015 9:13 AM
32	3603853100	5/27/2015 8:23 AM
33	2066831906	5/27/2015 8:11 AM
34	3607394430	5/27/2015 7:43 AM
35	5092644848	5/26/2015 8:30 PM
36	206-849-4198	5/26/2015 7:41 PM
37	509-293-1906	5/26/2015 7:39 PM
38	2069109999	5/26/2015 7:39 PM
39	5099394459	5/26/2015 7:20 PM
40	5099905196	5/26/2015 6:49 PM
41	5418154971	5/20/2015 10:39 PM
42	360-733-1673	5/19/2015 6:33 PM
43	509-397-3208	5/16/2015 1:29 PM
44	253-474-9025	5/16/2015 11:28 AM
45	206.595.1409	5/15/2015 3:22 PM
46	5037091492	5/15/2015 1:58 PM
47	206-784-6563	5/15/2015 1:56 PM
48	360-765-4397	5/15/2015 9:04 AM
49	360-446-2021	5/15/2015 8:39 AM
50	253.380.7240	5/15/2015 8:34 AM
51	5099458994	5/15/2015 5:59 AM
52	5093855176	5/15/2015 5:52 AM
53	541-263-2968	5/14/2015 2:52 PM
54	206-251-7493	5/14/2015 6:19 AM
55	206-619-8263	5/13/2015 9:36 PM
56	253-222-7242	5/13/2015 8:48 PM
57	6787613841	5/13/2015 7:35 PM
58	801-636-6613	5/13/2015 7:32 PM
59	916-622-2593	5/13/2015 6:57 PM
60	509-927-8919	5/13/2015 6:16 PM
61	360-815-2512	5/13/2015 4:38 PM
62	206 850 0556	5/13/2015 3:47 PM
63	206-818-6600	5/13/2015 2:41 PM
64	2067150005	5/13/2015 2:10 PM
65	5097239882	5/13/2015 1:33 PM
66	(509) 710-1920	5/13/2015 12:34 PM
67	360-333-1240	5/13/2015 12:19 PM
68	3602865958	5/13/2015 11:24 AM
69	206-909-0187	5/13/2015 11:10 AM

WSDOT General Aviation Pilot Survey

70	206-551-8780	5/13/2015 10:52 AM
71	425-269-8740	5/13/2015 10:34 AM

WSDOT General Aviation Pilot Survey

Q2 Please answer the following questions about your aircraft:

Answered: 74 Skipped: 6

Answer Choices	Responses	
Aircraft Type(s):	100.00%	74
At what airport is your aircraft typically based?	98.65%	73

#	Aircraft Type(s):	Date
1	C182P	7/7/2015 8:19 PM
2	Cessna 172	7/1/2015 9:00 AM
3	C172 N	6/29/2015 3:09 PM
4	GlaStar GS-1	6/28/2015 1:00 PM
5	PA-18	6/27/2015 9:28 PM
6	A320	6/23/2015 1:00 PM
7	LTA, Balloon	6/17/2015 7:53 PM
8	Aeronca Champ	6/17/2015 8:28 AM
9	SEL (RV-7)	6/14/2015 10:13 AM
10	Beechcraft	6/12/2015 11:23 AM
11	Cessna 177B FG	6/12/2015 10:21 AM
12	Cessna	6/12/2015 10:04 AM
13	C172	6/12/2015 8:51 AM
14	Aeronca 7AC	6/12/2015 7:37 AM
15	Cessna 180 & 182	6/8/2015 10:51 AM
16	Experimental Glastar	6/7/2015 3:36 PM
17	Cessna 175	6/3/2015 11:38 AM
18	C180K/RV-4	6/1/2015 8:04 AM
19	Piper Pacer PA20	5/31/2015 9:01 AM
20	Cessna 172	5/29/2015 4:32 PM
21	C172/c182/land/sea	5/28/2015 7:38 PM
22	C172	5/28/2015 8:53 AM
23	LSA	5/27/2015 5:48 PM
24	Piper Cherokee	5/27/2015 1:50 PM
25	C172, C182, C162, 8GCGB on floats, PA28R	5/27/2015 1:49 PM
26	Single Engine	5/27/2015 1:33 PM
27	Cessna 172 L STOL	5/27/2015 1:16 PM
28	PA18-150	5/27/2015 12:15 PM
29	c172, c182, pa28-180	5/27/2015 11:15 AM
30	Maule MX7	5/27/2015 9:59 AM
31	LSA	5/27/2015 9:44 AM
32	C172, C182	5/27/2015 9:13 AM
33	Cessna 182	5/27/2015 8:23 AM

WSDOT General Aviation Pilot Survey

34	C172, C182, BE33	5/27/2015 8:11 AM
35	single engine land	5/27/2015 7:43 AM
36	Cessna 172	5/26/2015 8:30 PM
37	Cessna 180, 170A	5/26/2015 7:41 PM
38	Ercoupe and Sonex Conv gear	5/26/2015 7:39 PM
39	Cessna 206 glastar	5/26/2015 7:39 PM
40	C172M	5/26/2015 7:20 PM
41	Husky c 185	5/26/2015 6:49 PM
42	pa-20	5/20/2015 10:39 PM
43	Husky	5/19/2015 6:33 PM
44	n/a	5/16/2015 1:29 PM
45	State owned Cessna 172/182/piper PA 20 8R	5/16/2015 11:28 AM
46	Piper Pacer	5/15/2015 3:22 PM
47	Vans RV7	5/15/2015 1:58 PM
48	SEL, Tailwheel	5/15/2015 9:26 AM
49	Cessna 180	5/15/2015 9:04 AM
50	ASEL	5/15/2015 8:39 AM
51	Cessna 177B	5/15/2015 8:34 AM
52	Cub Crafters Carbon Cub, Sport Cub	5/15/2015 5:59 AM
53	RV-6	5/15/2015 5:52 AM
54	STOL Single Engine	5/14/2015 2:52 PM
55	C172	5/14/2015 6:19 AM
56	C-182	5/14/2015 5:31 AM
57	Cessna 172P	5/13/2015 10:32 PM
58	C172, BE35	5/13/2015 9:36 PM
59	ERCO 415	5/13/2015 8:48 PM
60	single engine land	5/13/2015 7:35 PM
61	Cessna 170b	5/13/2015 7:32 PM
62	mooney, Cessna	5/13/2015 6:57 PM
63	Cessna 182	5/13/2015 6:16 PM
64	C-170	5/13/2015 5:35 PM
65	Cessna 175	5/13/2015 4:38 PM
66	SEL - Single Engine Land	5/13/2015 4:09 PM
67	Single engine land and seaplane	5/13/2015 3:47 PM
68	C172, C182 (both club-owned)	5/13/2015 2:41 PM
69	Diamond Star DA40	5/13/2015 2:10 PM
70	Hang Glider	5/13/2015 12:34 PM
71	Cessna Skywagon	5/13/2015 12:19 PM
72	PA-28-180	5/13/2015 11:10 AM
73	Cessna 170	5/13/2015 10:52 AM
74	Piper Pacer, single engine land	5/13/2015 10:34 AM
#	At what airport is your aircraft typically based?	Date

WSDOT General Aviation Pilot Survey

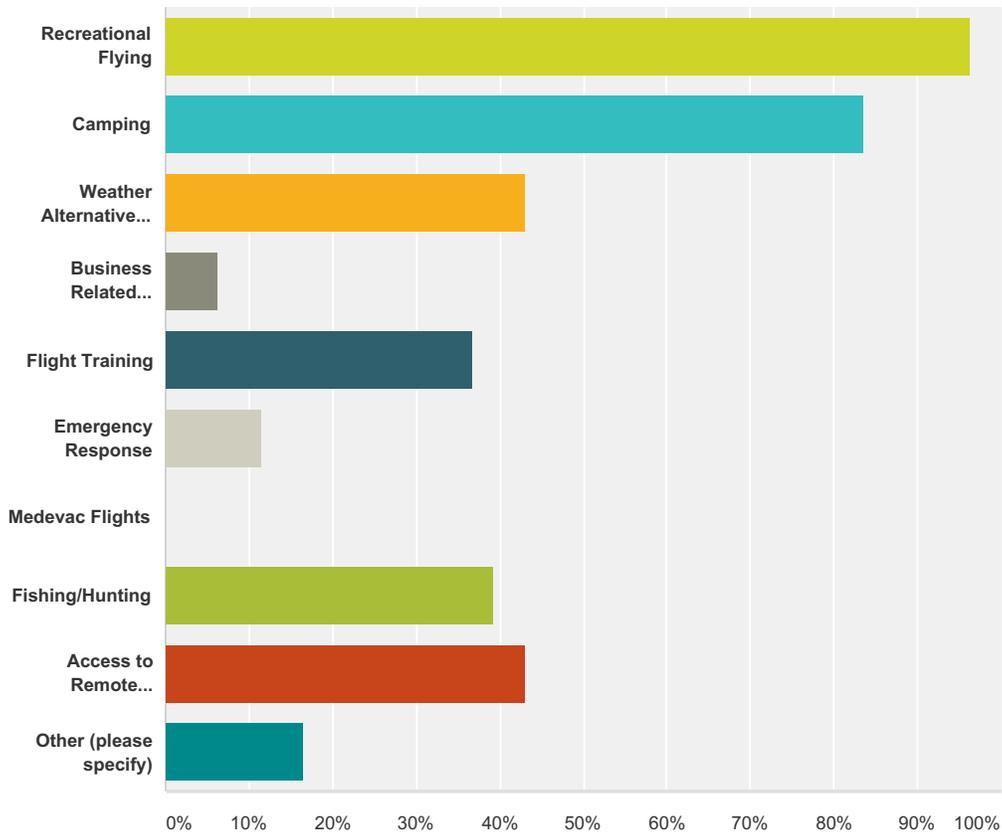
1	KBVS	7/7/2015 8:19 PM
2	AWO/S44	7/1/2015 9:00 AM
3	KPAE	6/29/2015 3:09 PM
4	KPAE	6/28/2015 1:00 PM
5	Was-87	6/27/2015 9:28 PM
6	LGB	6/23/2015 1:00 PM
7	Methow Valley	6/17/2015 7:53 PM
8	private 11WA	6/17/2015 8:28 AM
9	KSFF	6/14/2015 10:13 AM
10	Felts Field	6/12/2015 11:23 AM
11	Felts Field	6/12/2015 10:21 AM
12	Sff	6/12/2015 10:04 AM
13	Regional	6/12/2015 8:51 AM
14	Felts Field	6/12/2015 7:37 AM
15	Bremerton & Renton	6/8/2015 10:51 AM
16	KRLD & S95	6/7/2015 3:36 PM
17	S95; College Place, WA	6/3/2015 11:38 AM
18	02WA	6/1/2015 8:04 AM
19	KAWO	5/31/2015 9:01 AM
20	Renton	5/29/2015 4:32 PM
21	Renton	5/28/2015 7:38 PM
22	KRNT	5/28/2015 8:53 AM
23	It is home based	5/27/2015 5:48 PM
24	GEG - Spokane Int'l	5/27/2015 1:50 PM
25	KRNT	5/27/2015 1:49 PM
26	KBLI	5/27/2015 1:33 PM
27	Auburn	5/27/2015 1:16 PM
28	KAWO	5/27/2015 12:15 PM
29	s50	5/27/2015 11:15 AM
30	KBVS	5/27/2015 9:59 AM
31	KDEW	5/27/2015 9:44 AM
32	KRNT	5/27/2015 9:13 AM
33	OS9	5/27/2015 8:23 AM
34	RNT & BFI	5/27/2015 8:11 AM
35	Twisp	5/27/2015 7:43 AM
36	8S2	5/26/2015 8:30 PM
37	PAE	5/26/2015 7:41 PM
38	Cashmere	5/26/2015 7:39 PM
39	BFI	5/26/2015 7:39 PM
40	KSFF	5/26/2015 7:20 PM
41	Szt ksff	5/26/2015 6:49 PM
42	s39	5/20/2015 10:39 PM

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43	KAWO	5/19/2015 6:33 PM
44	n/a	5/16/2015 1:29 PM
45	KPLU	5/16/2015 11:28 AM
46	Lewiston, Idaho	5/15/2015 3:22 PM
47	KBDN	5/15/2015 1:58 PM
48	YKM	5/15/2015 9:26 AM
49	OS9	5/15/2015 9:04 AM
50	KOLM-Olympia Regional	5/15/2015 8:39 AM
51	TIW - Tacoma Narrows	5/15/2015 8:34 AM
52	KYKM	5/15/2015 5:59 AM
53	KDEW	5/15/2015 5:52 AM
54	KJSY	5/14/2015 2:52 PM
55	Crest Airpark S36	5/14/2015 6:19 AM
56	KBFI	5/14/2015 5:31 AM
57	Auburn Municipal (S50)	5/13/2015 10:32 PM
58	Bremerton (KPWT)	5/13/2015 9:36 PM
59	SHN	5/13/2015 8:48 PM
60	Pierce County KPLU	5/13/2015 7:35 PM
61	U77	5/13/2015 7:32 PM
62	s50	5/13/2015 6:57 PM
63	KSFF	5/13/2015 6:16 PM
64	KAWO	5/13/2015 4:38 PM
65	S44 - Spanaway	5/13/2015 4:09 PM
66	KBFI and Lake Washington	5/13/2015 3:47 PM
67	RNT	5/13/2015 2:41 PM
68	KPAE	5/13/2015 2:10 PM
69	Home	5/13/2015 12:34 PM
70	KBVS	5/13/2015 12:19 PM
71	S36 - Crest Airpark	5/13/2015 11:10 AM
72	Crest S36	5/13/2015 10:52 AM
73	51WA	5/13/2015 10:34 AM

Q3 Please list the reasons you utilize WSDOT-managed airports: Check all that apply.

Answered: 79 Skipped: 1



Answer Choices	Responses
Recreational Flying	96.20% 76
Camping	83.54% 66
Weather Alternative (VFR)	43.04% 34
Business Related (Commercial Charter, Air Taxi, Aerial Surveying, etc.)	6.33% 5
Flight Training	36.71% 29
Emergency Response	11.39% 9
Medevac Flights	0.00% 0
Fishing/Hunting	39.24% 31
Access to Remote Communities	43.04% 34
Other (please specify)	16.46% 13
Total Respondents: 79	

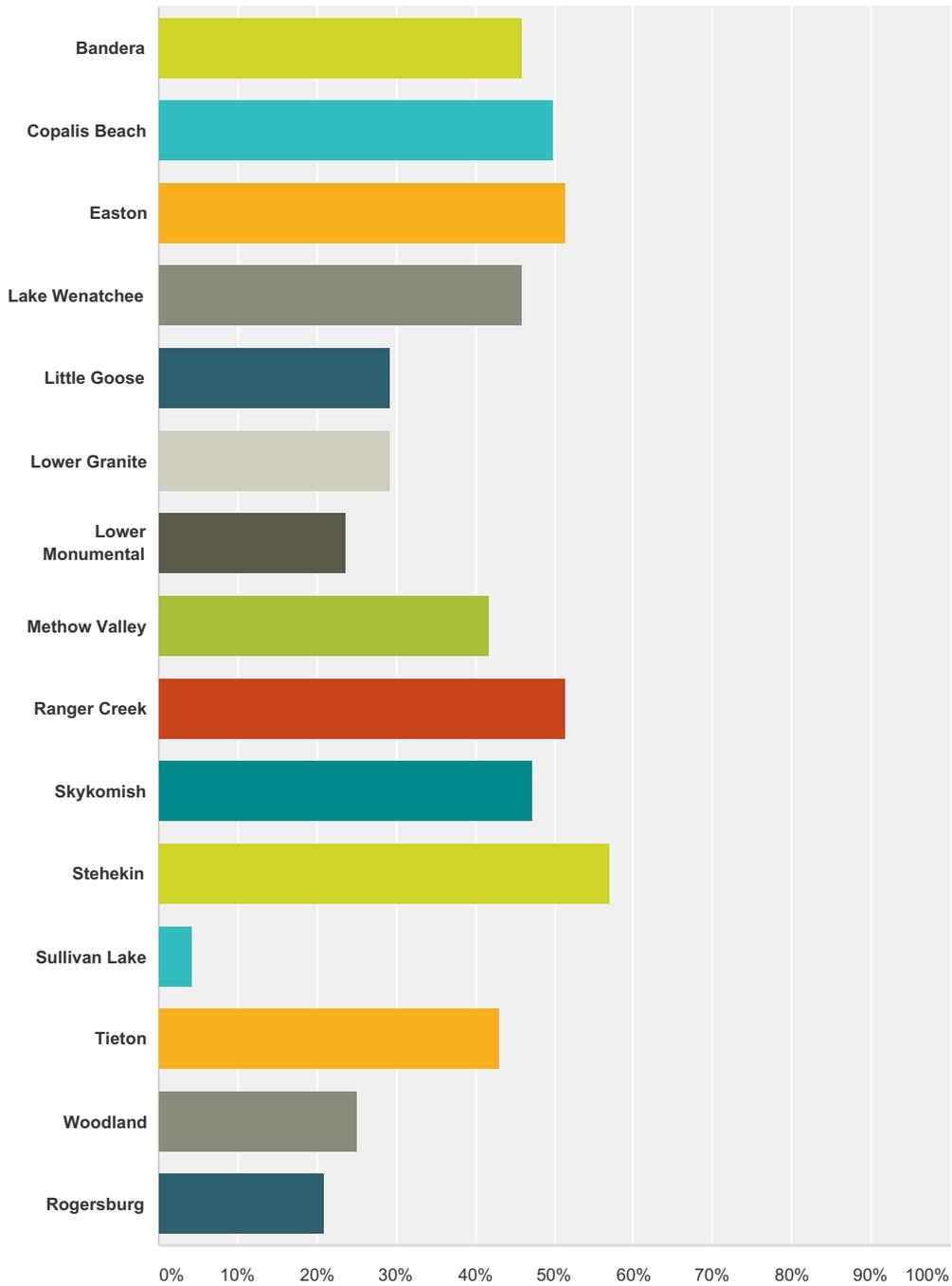
#	Other (please specify)	Date
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WSDOT General Aviation Pilot Survey

1	Emergency	7/1/2015 9:00 AM
2	Dog walking	6/23/2015 1:00 PM
3	Emergency landing field when continued flight is not possible	6/12/2015 8:51 AM
4	Access to outdoors for hiking and relaxation	6/3/2015 11:38 AM
5	Flying to mountain airstrips for quiet and skill improvment	5/27/2015 1:16 PM
6	Transportation to the area, they're not all reot	5/27/2015 8:23 AM
7	Enjoyment of Flying	5/15/2015 8:39 AM
8	Emergency Divert	5/15/2015 8:34 AM
9	Fun!	5/13/2015 6:57 PM
10	As need presents	5/13/2015 3:47 PM
11	Hang gliding and Paragliding	5/13/2015 1:33 PM
12	'Emergency Alternate' for WSDOT-Aviation Air SAR missions	5/13/2015 11:10 AM
13	Angel Flight	5/13/2015 10:52 AM

Q4 Please identify the WSDOT-managed airports that you use: Check all that apply.

Answered: 72 Skipped: 8



Answer Choices	Responses	
Bandera	45.83%	33
Copalis Beach	50.00%	36
Easton	51.39%	37

WSDOT General Aviation Pilot Survey

Lake Wenatchee	45.83%	33
Little Goose	29.17%	21
Lower Granite	29.17%	21
Lower Monumental	23.61%	17
Methow Valley	41.67%	30
Ranger Creek	51.39%	37
Skykomish	47.22%	34
Stehekin	56.94%	41
Sullivan Lake	4.17%	3
Tieton	43.06%	31
Woodland	25.00%	18
Rogersburg	20.83%	15
Total Respondents: 72		

#	Please provide an estimated number of operations annually to each of the checked WSDOT Airports:	Date
1	Bandera - 2 Lake Wenatchee - 3 Methow Valley - 2 Ranger Creek - 2 Skykomish - 3 Stehekin - 5 Sullivan Lake - 1	7/7/2015 8:19 PM
2	5	7/1/2015 9:00 AM
3	50/yr mostly Methow Valley & Stehekin	6/29/2015 3:09 PM
4	1 to 3 times each	6/28/2015 1:00 PM
5	10	6/27/2015 9:28 PM
6	1	6/23/2015 1:00 PM
7	80-90 flights a season/year at or in the vicinity of KS52	6/17/2015 7:53 PM
8	one or two	6/17/2015 8:28 AM
9	2	6/14/2015 10:13 AM
10	1 or 2	6/12/2015 10:21 AM
11	0-2 for those checked, however my flight paths are over all of above so any could become a critical asset should an in flight emergency occur. WSDOT should consider that engine and non-powerplant issues ranked second in several recent NTSB annual reports for GA aircraft accidents. I recently conducted a survey of GA pilots of SE FW factory built piston engine aircraft on in-flight engine failures. Among the 420 respondents nearly 20% reported at least one complete engine failure, and over 1/3 reported one or more partial power loss events that required immediate or precautionary landings. Yet only 1 in 5 complete power loss events, and 1 in 30 partial loss events resulted in an NTSB reported accident. Narrative statements accompanying numeric survey responses suggest that in most cases pilots were able to glide to and land either in a suitable field or on an air field. Based on NTSN accident data and results of the survey conducted last winter and spring it is clear that WSDOT State airports continue to serve a critical flight safety function in this regard.	6/12/2015 8:51 AM
12	You left out Sullivan Lake we fly there as a group three to four time a year	6/12/2015 7:37 AM
13	Only once or twice a year	6/8/2015 10:51 AM
14	Bandera - 2 Little Goose - 4 Lower Granite - 2 Tieton - 3	6/7/2015 3:36 PM
15	4-10	6/3/2015 11:38 AM
16	One or more . . .	5/31/2015 9:01 AM
17	12	5/29/2015 9:51 PM
18	a few times a year. Several are on my bucket list for landing at in the future.	5/29/2015 5:20 PM
19	1	5/29/2015 4:32 PM
20	Varies. For me personally <1ea	5/28/2015 7:38 PM

WSDOT General Aviation Pilot Survey

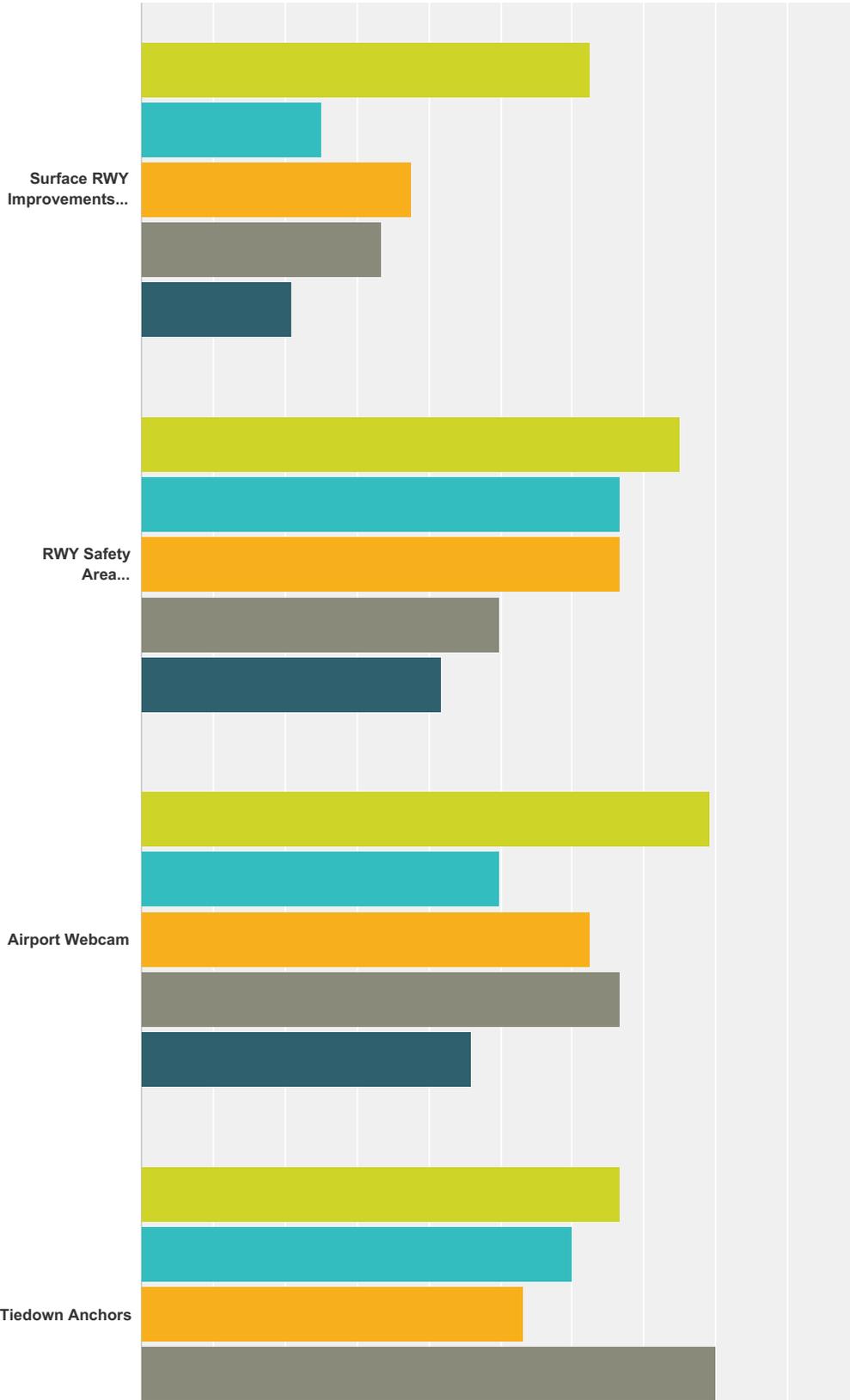
21	I'd estimate 2-3 opns anually to Bandera and Skykomish, about 1 for Woodland. I really look forward to using Copalis, Easton, Stehekin soon. I aim to visit all of them.	5/28/2015 8:53 AM
22	one or two to Sullivan Lake	5/27/2015 5:48 PM
23	10	5/27/2015 1:50 PM
24	2-3 each	5/27/2015 1:49 PM
25	4	5/27/2015 1:33 PM
26	I try to fly to each of them at least 4 or 5 times a year, during the short season they are open. Opening them earlier and keeping them open a few weeks later would be appreciated!	5/27/2015 1:16 PM
27	10	5/27/2015 12:15 PM
28	1 to 3 visits	5/27/2015 11:15 AM
29	Bandera 5; Copalis 5; Easton 4; Little Goose 1; Lower Granite-Monumental 1; Methow 4; Ranger Creek 3 Skykomish 2; Stehekin 5; Tieton 4	5/27/2015 9:59 AM
30	Sullivan Lake 2 (expect to increase)	5/27/2015 9:44 AM
31	I am a recently licensed pilot (just over 1 year) and haven't visited any of these airports yet, but plan on visiting the checked ones at least once each this year.	5/27/2015 9:13 AM
32	Probably only a couple a year now, not flying as much as in years past	5/27/2015 8:23 AM
33	Two/yr at each airport indicated	5/27/2015 8:11 AM
34	1 to 2	5/27/2015 7:43 AM
35	2	5/26/2015 8:30 PM
36	Fewer than 10. Usually Lake Wenatchee and Stehekin	5/26/2015 7:39 PM
37	10	5/26/2015 7:39 PM
38	18 -24 LOWER GRANITE 5-6 LITTLE GOOSE 2-4 LOWER MONUMENTAL	5/26/2015 7:20 PM
39	5 times a year	5/26/2015 6:49 PM
40	1-2x each	5/20/2015 10:39 PM
41	2	5/19/2015 6:33 PM
42	n/a	5/16/2015 1:29 PM
43	50	5/16/2015 11:28 AM
44	1-2	5/15/2015 1:58 PM
45	Copalis ~10, Bandera 2, Lake Wenatchee 2, Ranger Creek 2, Skykomish 6, Stehekin 10, Tieton 2, Easton 1	5/15/2015 1:56 PM
46	Once or twice	5/15/2015 9:26 AM
47	Several times a year to Copalis Skykomish & Stehekin, once every few years to the others.	5/15/2015 9:04 AM
48	1-2	5/15/2015 8:39 AM
49	1-3	5/15/2015 8:34 AM
50	20-40 operations annually, the most at Tieton State and Bandera.	5/15/2015 5:59 AM
51	Once a year for some, just once ever for others. Up to 6 visits per year at Sullivan Lake	5/15/2015 5:52 AM
52	Between 20/30	5/14/2015 2:52 PM
53	I fly out to Copalis for every Razor clam opening weather permits for. Probably about 7 or 8 times a year. The others at least twice a year for camping trips or just for fun.	5/14/2015 6:19 AM
54	3-5	5/13/2015 10:32 PM
55	Stehekin and Tieton 3 or 4 times each year. The others once a year.	5/13/2015 8:48 PM
56	3	5/13/2015 7:35 PM
57	2-3 times a year each	5/13/2015 7:32 PM
58	It land at each of of these at least once a year when in WA. Grass strips especially for camping!	5/13/2015 6:57 PM
59	Add Sullivan lake to the list. Use is 1 to 2 times a summer.	5/13/2015 6:16 PM

WSDOT General Aviation Pilot Survey

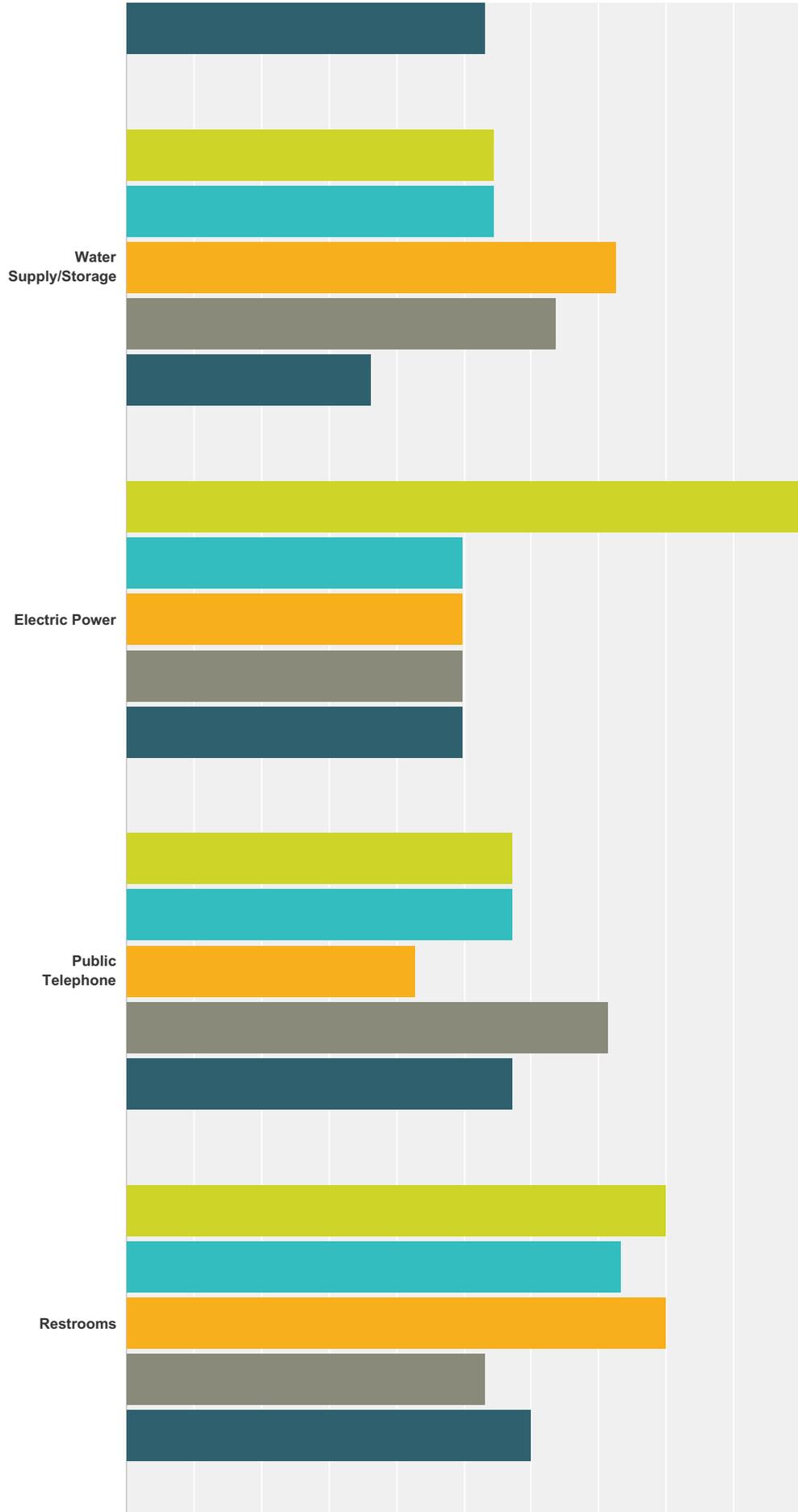
60	2-3	5/13/2015 5:35 PM
61	Bandera - 3 Copalis - 1 Ranger Creek - 2 Woodland - 2	5/13/2015 4:09 PM
62	5 to 10 each.	5/13/2015 3:47 PM
63	I use state airports 2-3 times per year and would like to visit more	5/13/2015 2:41 PM
64	1	5/13/2015 2:10 PM
65	75	5/13/2015 1:33 PM
66	I have not landed at any above airports (yet). Depending on applicable FARs I may land at uncontrolled airports when flying XC in my hang glider.	5/13/2015 12:34 PM
67	2-3	5/13/2015 12:19 PM
68	2	5/13/2015 11:24 AM
69	Varies from 5-6 at some to 1-2 at others.	5/13/2015 11:10 AM
70	2	5/13/2015 10:52 AM
71	one to two times each airport each year	5/13/2015 10:34 AM

Q5 Please check any facility upgrades you feel are needed at the following WSDOT-managed airports:

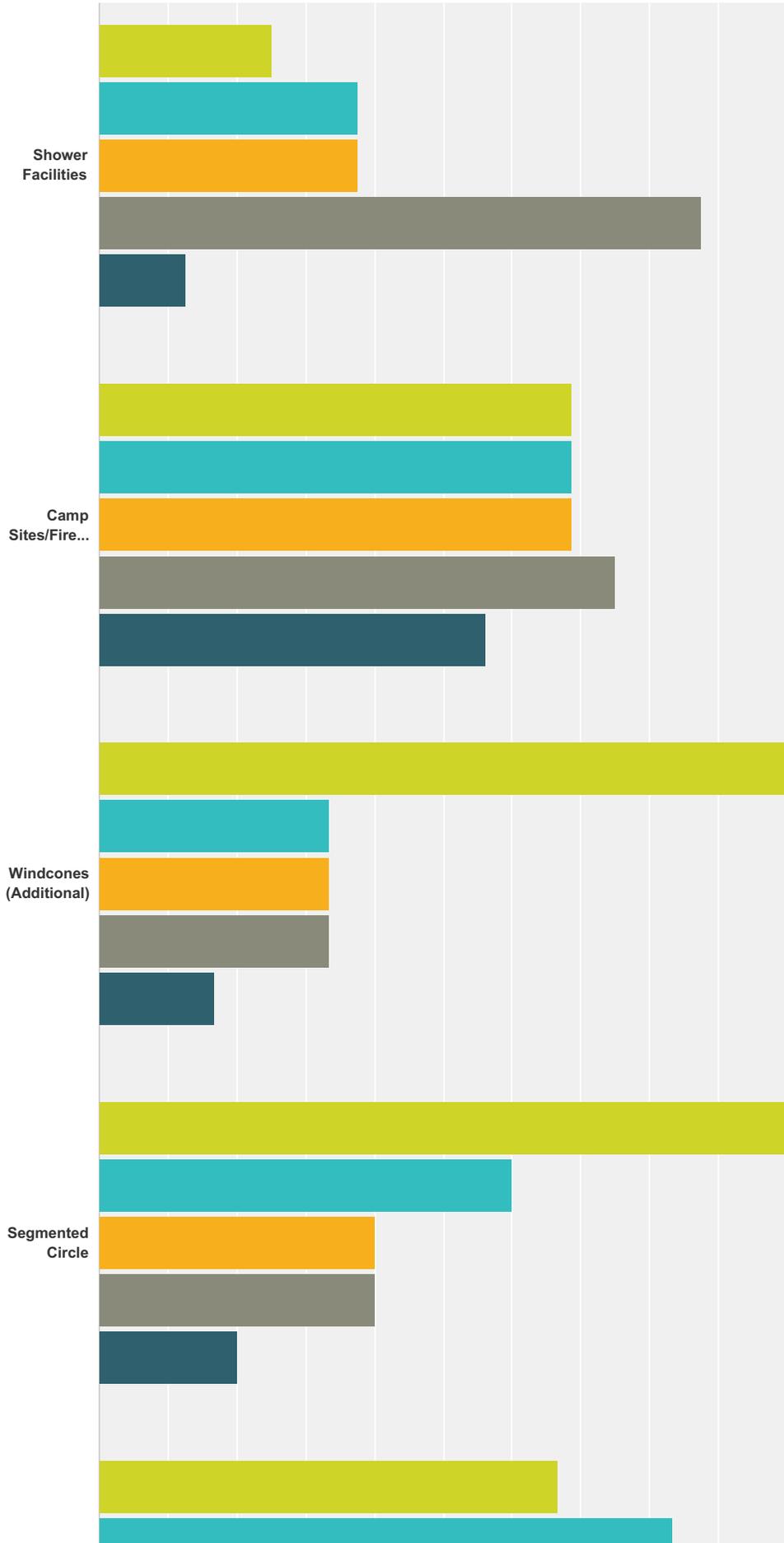
Answered: 49 Skipped: 31



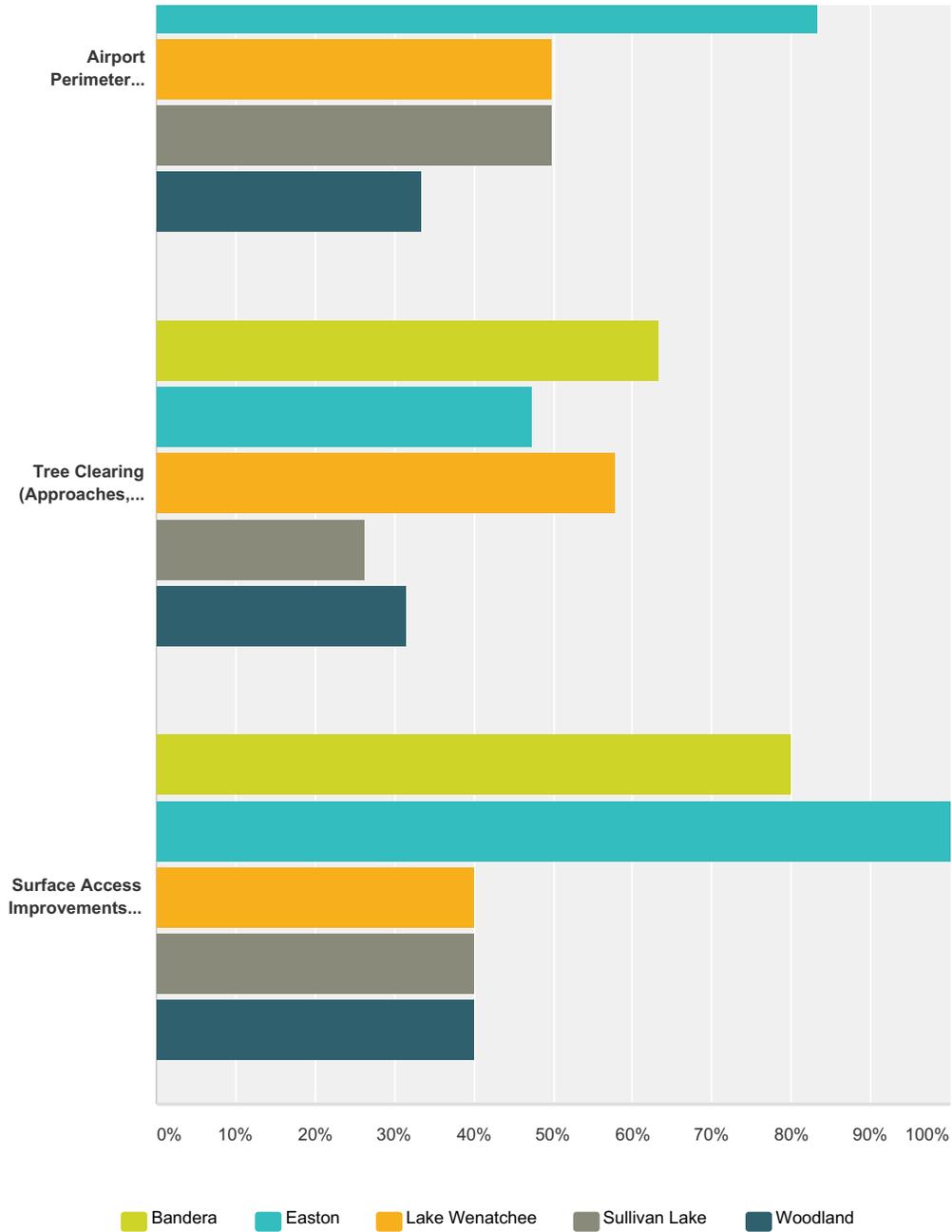
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WSDOT General Aviation Pilot Survey



WSDOT General Aviation Pilot Survey



	Bandera	Easton	Lake Wenatchee	Sullivan Lake	Woodland	Total Respondents
Surface RWY Improvements (Condition, Drainage, etc.)	62.50% 15	25.00% 6	37.50% 9	33.33% 8	20.83% 5	24
RWY Safety Area Improvements	75.00% 9	66.67% 8	66.67% 8	50.00% 6	41.67% 5	12
Airport Webcam	79.17% 19	50.00% 12	62.50% 15	66.67% 16	45.83% 11	24
Tiedown Anchors	66.67% 10	60.00% 9	53.33% 8	80.00% 12	53.33% 8	15
Water Supply/Storage	54.55% 6	54.55% 6	72.73% 8	63.64% 7	36.36% 4	11
Electric Power	100.00% 2	50.00% 1	50.00% 1	50.00% 1	50.00% 1	2

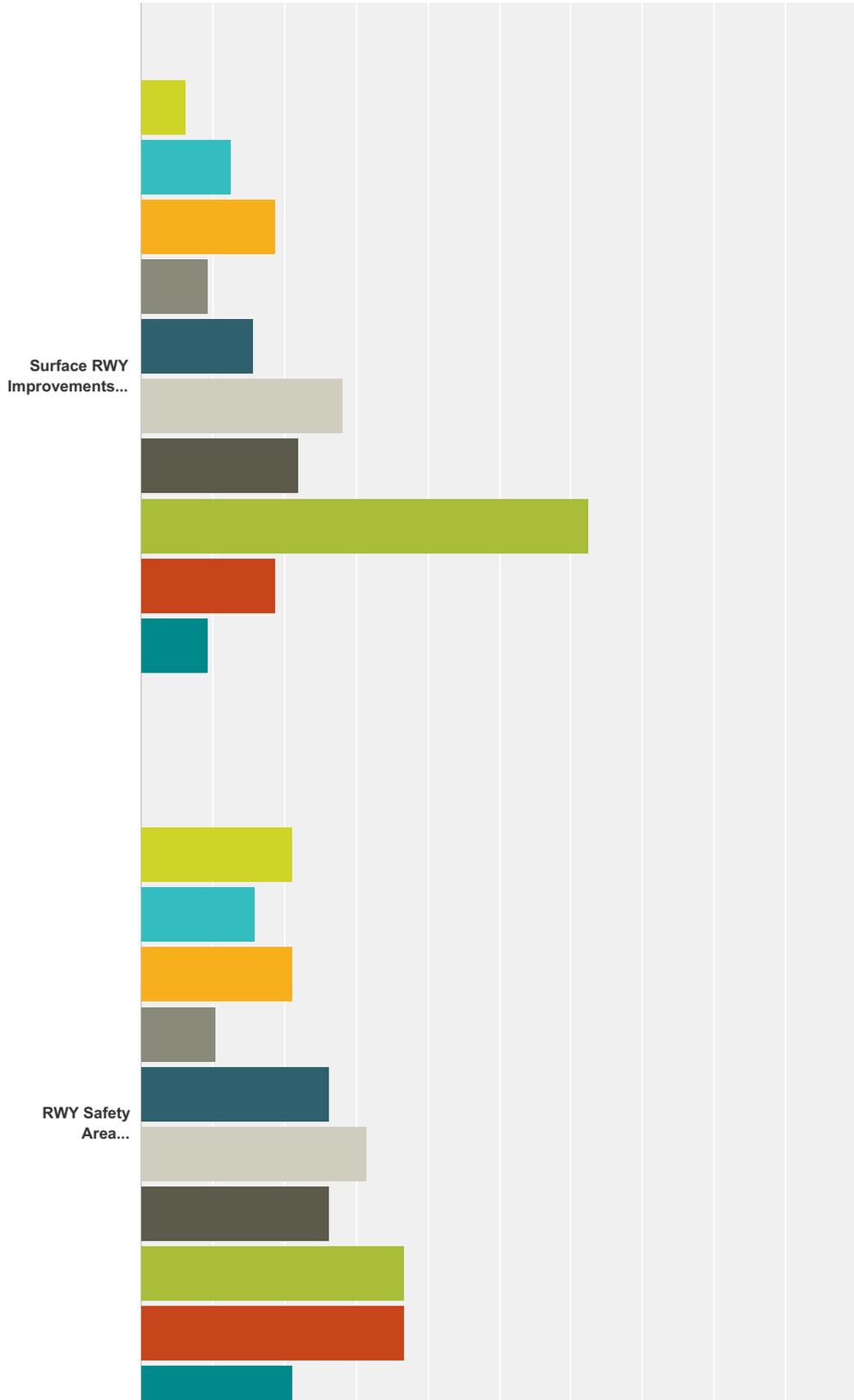
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Public Telephone	57.14% 4	57.14% 4	42.86% 3	71.43% 5	57.14% 4	7
Restrooms	80.00% 12	73.33% 11	80.00% 12	53.33% 8	60.00% 9	15
Shower Facilities	25.00% 2	37.50% 3	37.50% 3	87.50% 7	12.50% 1	8
Camp Sites/Fire Rings	68.75% 11	68.75% 11	68.75% 11	75.00% 12	56.25% 9	16
Windcones (Additional)	100.00% 6	33.33% 2	33.33% 2	33.33% 2	16.67% 1	6
Segmented Circle	100.00% 5	60.00% 3	40.00% 2	40.00% 2	20.00% 1	5
Airport Perimeter Fencing (Animal Control, Security)	66.67% 4	83.33% 5	50.00% 3	50.00% 3	33.33% 2	6
Tree Clearing (Approaches, etc.)	63.16% 12	47.37% 9	57.89% 11	26.32% 5	31.58% 6	19
Surface Access Improvements (Vehicle Road)	80.00% 4	100.00% 5	40.00% 2	40.00% 2	40.00% 2	5

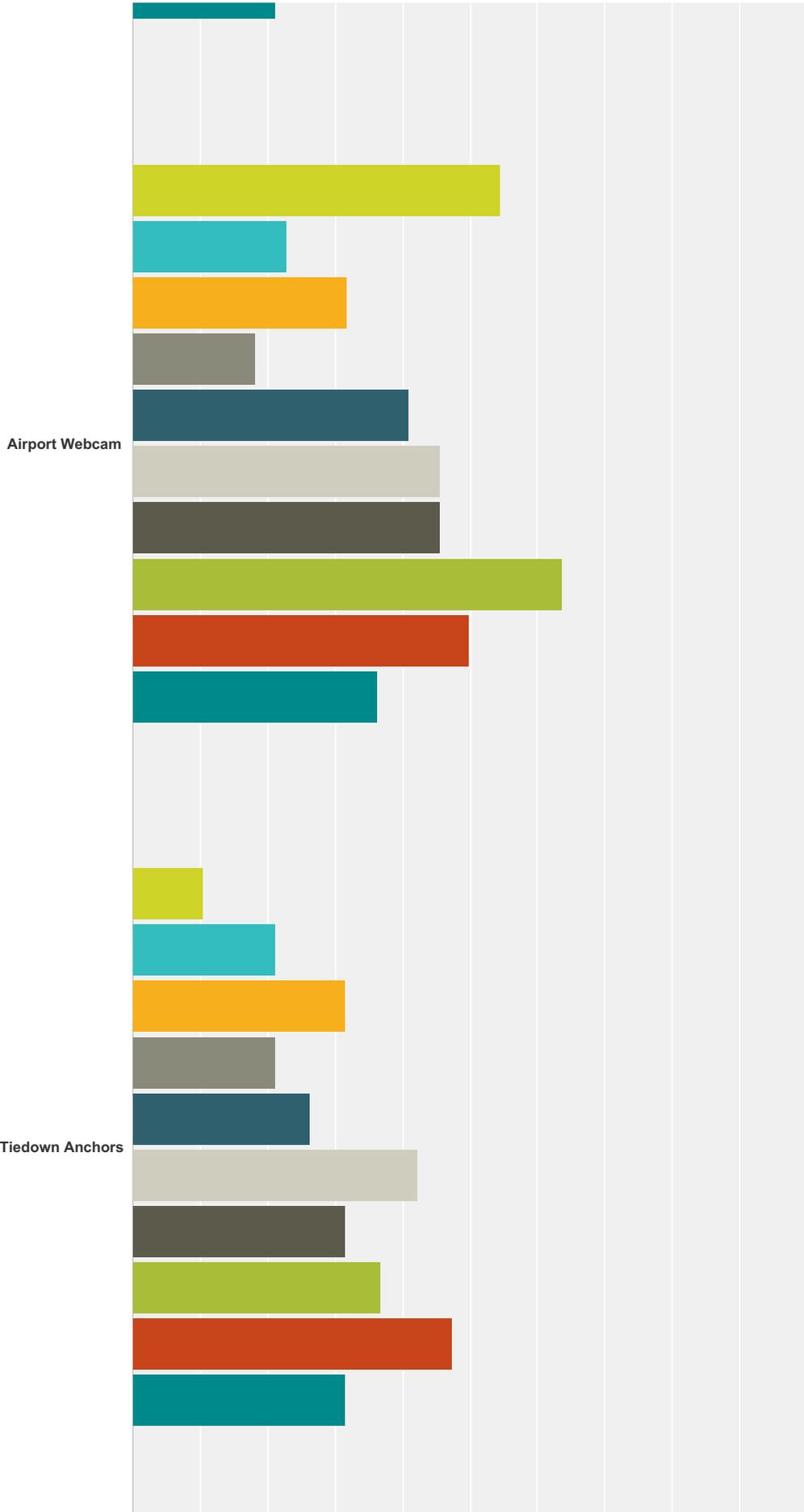
#	Other facility needs (specify which airport for each need)	Date
1	Sullivan Lake. Fill in Gofer holes	6/12/2015 7:37 AM
2	Restrooms are great anywhere. I'd take any of those other services, too. :v) But I don't have much advice on prioritizing them, sorry.	5/28/2015 8:53 AM
3	Lower granite dam could use a relocation of wind sock to a elevation level of the runway and a new segmented circle. The parking area would be better served at the West end of the airport.	5/27/2015 1:50 PM
4	On-line/phone weather/winds/ceiling/fog	5/27/2015 9:44 AM
5	At Sullivan Lk the grass needs to be mowed during the summer. Last yr (2014) grass length measured over 14"; safety hazard for some planes.	5/20/2015 10:39 PM
6	Restroom	5/19/2015 6:33 PM
7	Generally I would like to see state airports upgraded/maintained for camping and other recreational purposes. Tie downs, picnic tables, fire rings, portable or permanent restrooms, potable water supply etc. These airports are a great resource and I appreciate the state's commitment to keeping them open for public use.	5/13/2015 2:41 PM
8	Our main use/desires would be to have good wind socks at airports as well as current weather data we could look up online (wind direction & speed).	5/13/2015 12:34 PM
9	West end of Bandera is very rough. (I deliberately' land long' there.) I wish there was an effective way to keep ORVs off of the wet runway during the winter. They leave ruts, not visible through the grass but enough to grab a nose wheel or main gear.	5/13/2015 11:10 AM

Q6 Please check any facility upgrades you feel are needed at the following WSDOT-managed airports:

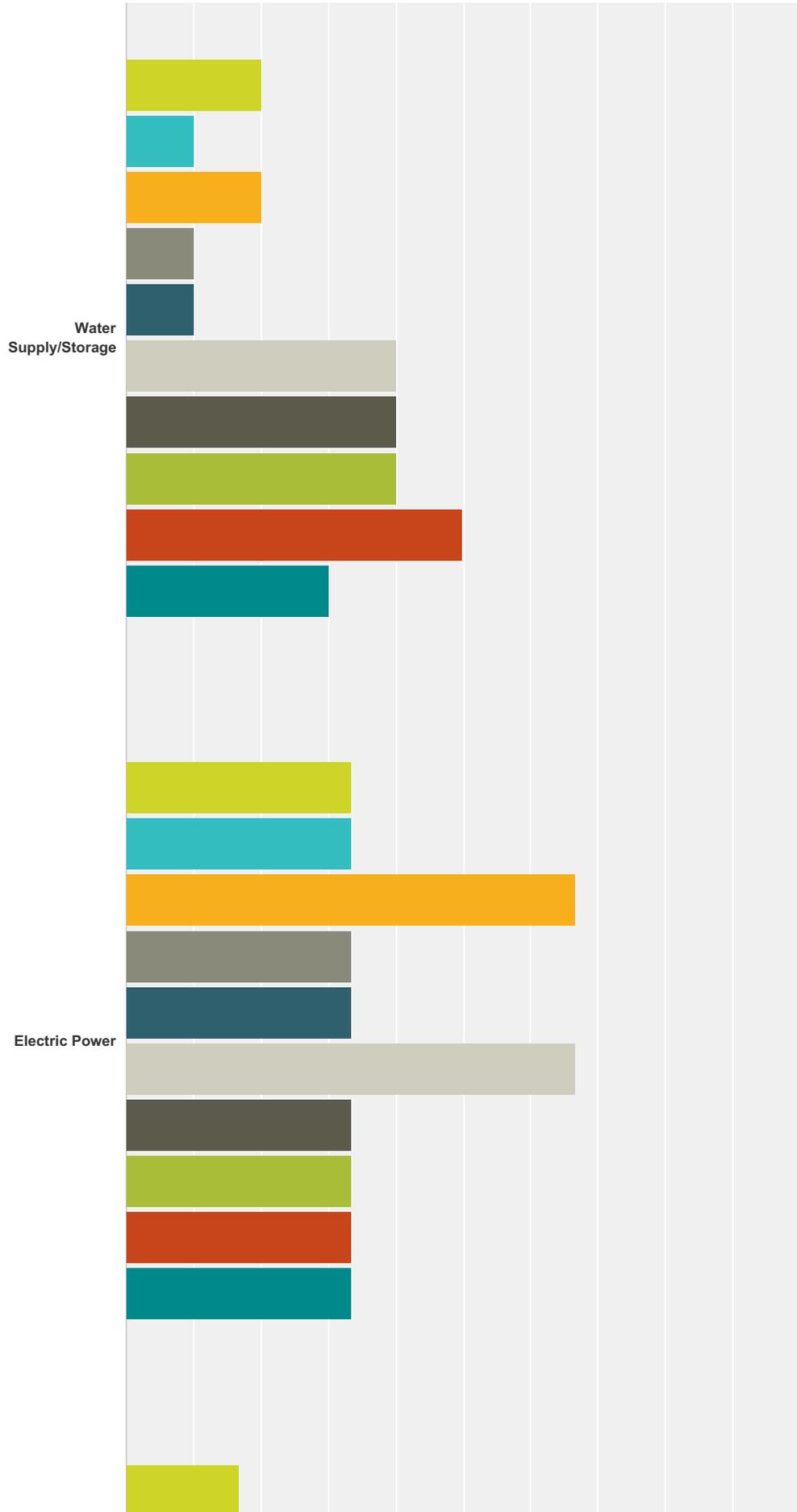
Answered: 54 Skipped: 26



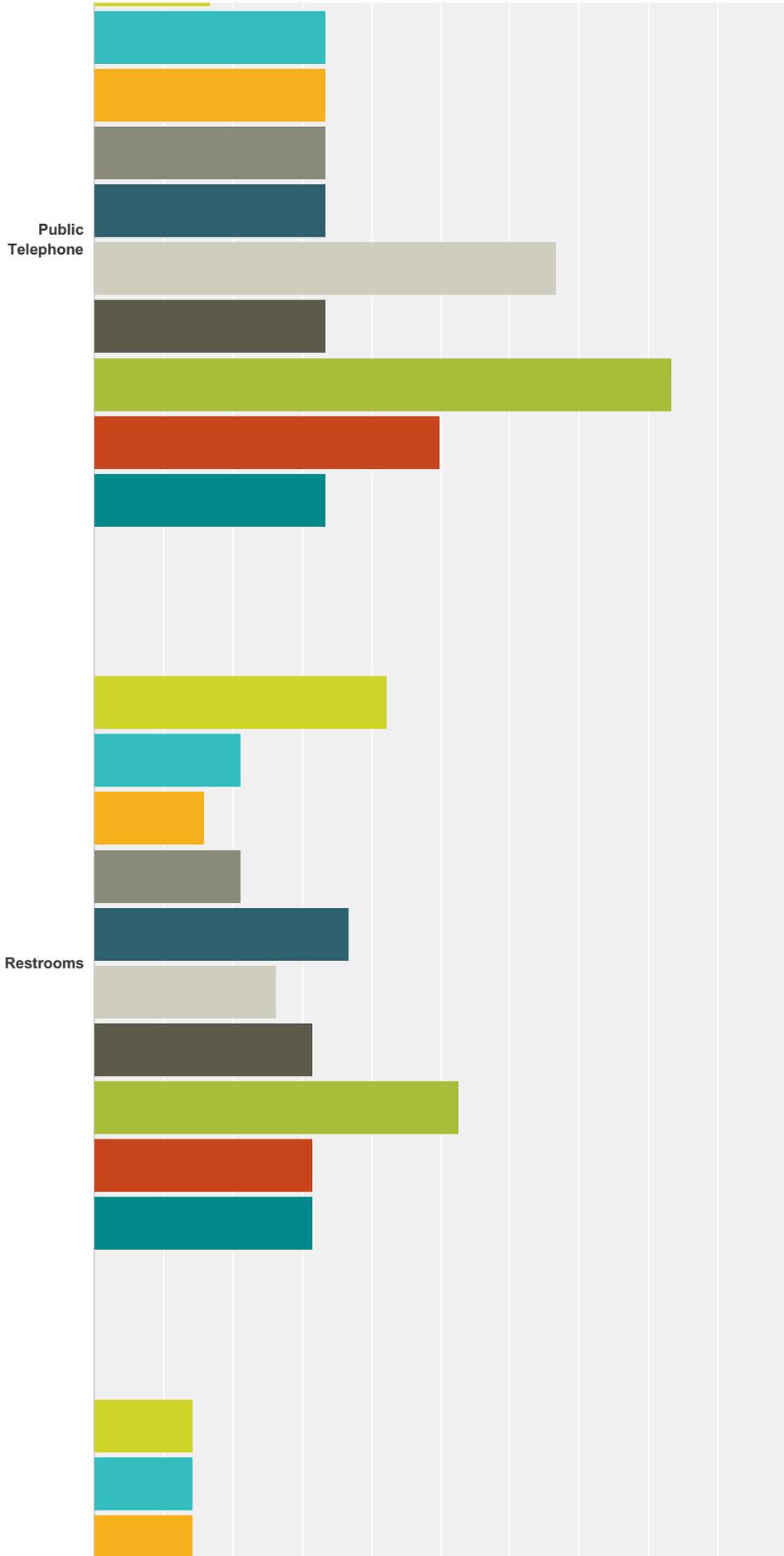
WSDOT General Aviation Pilot Survey



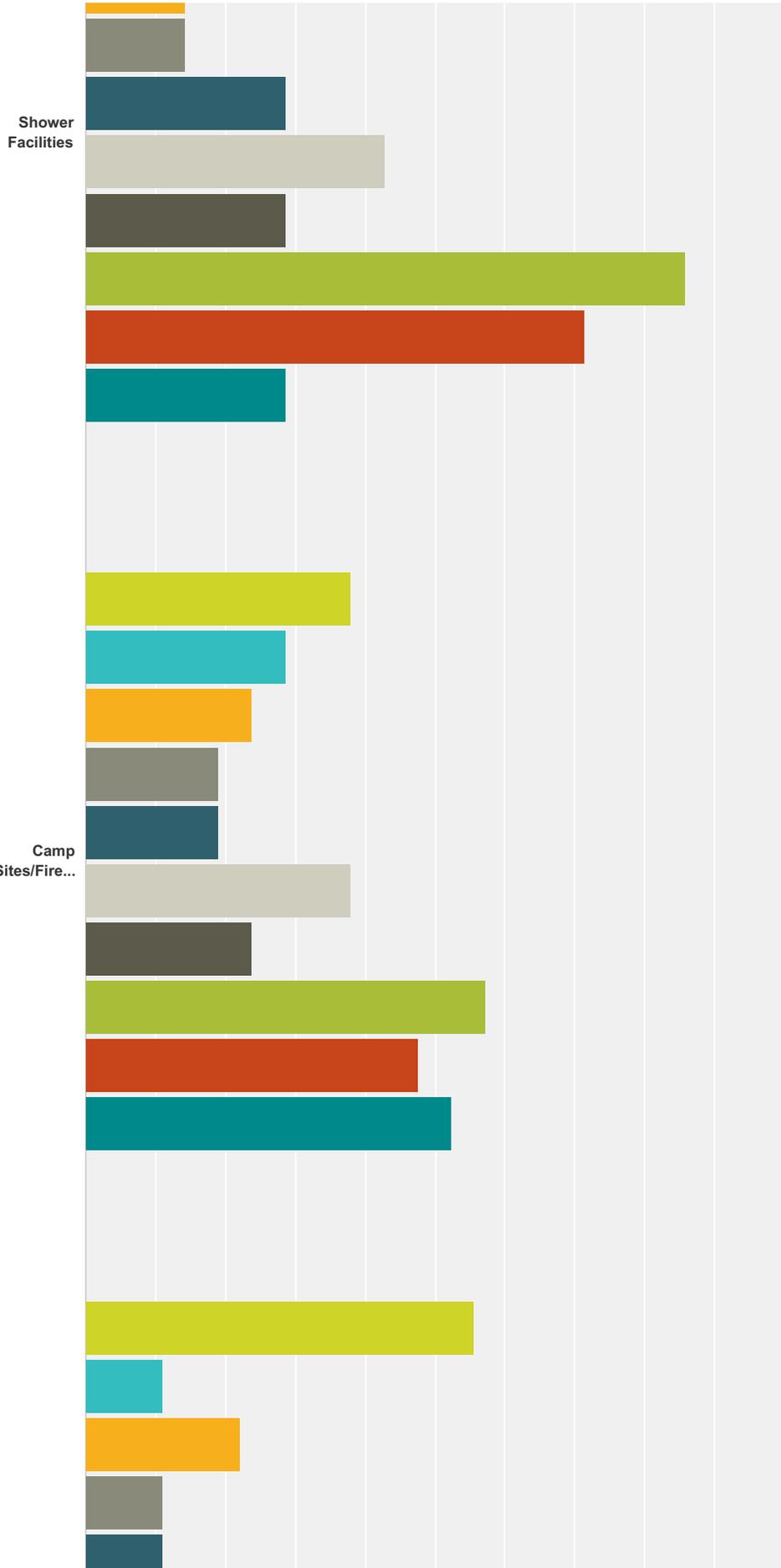
WSDOT General Aviation Pilot Survey



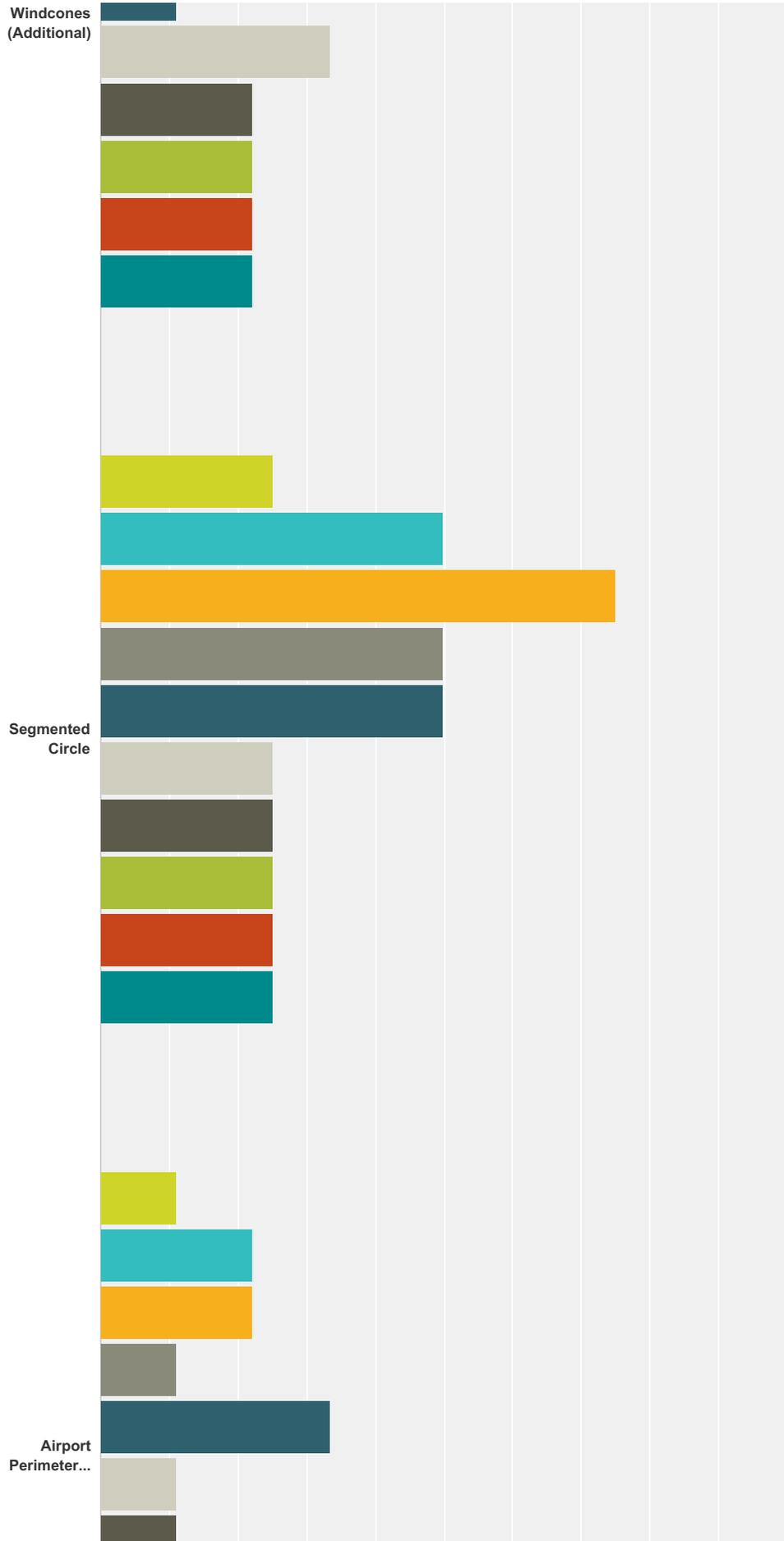
WSDOT General Aviation Pilot Survey



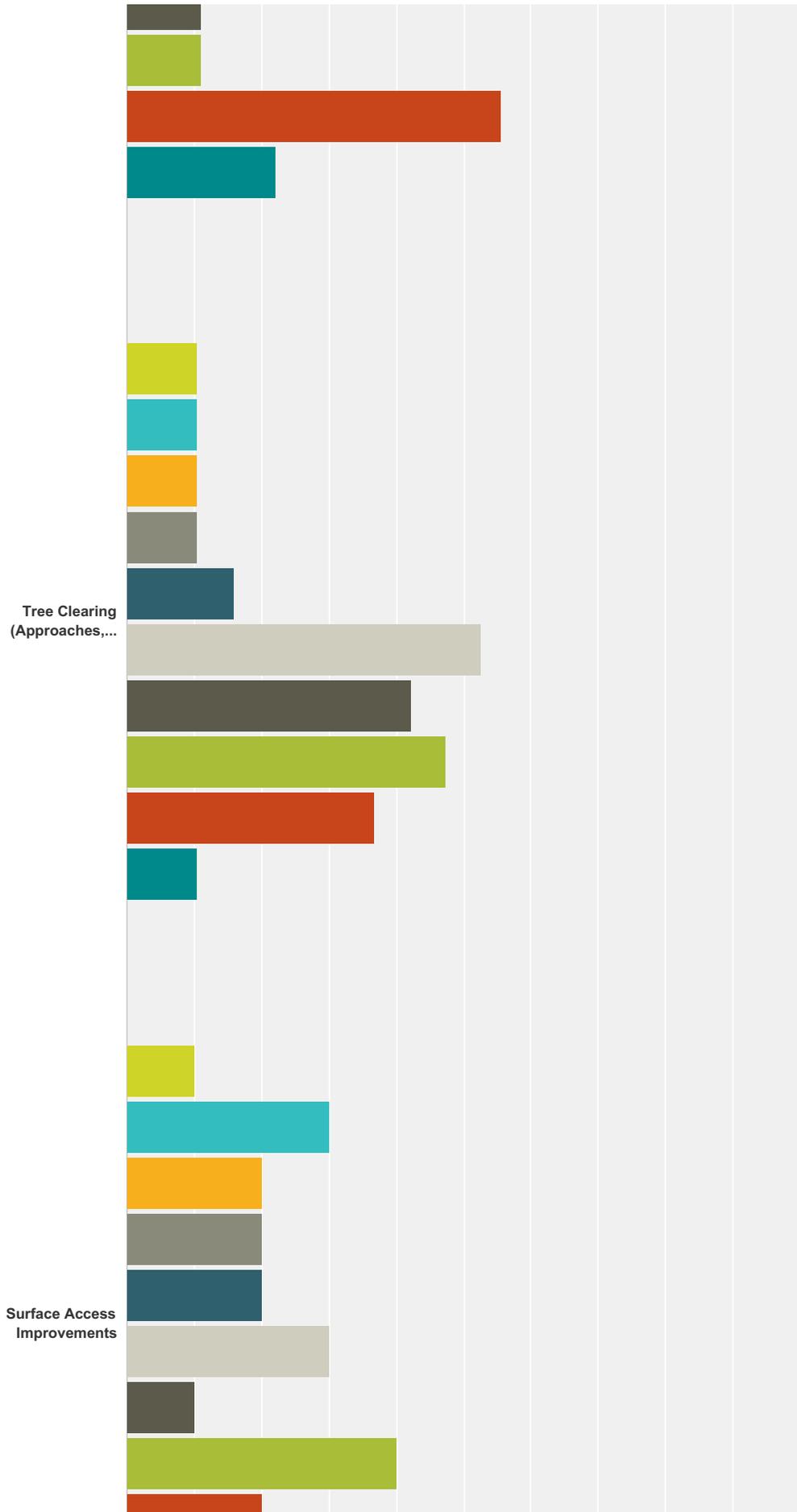
WSDOT General Aviation Pilot Survey



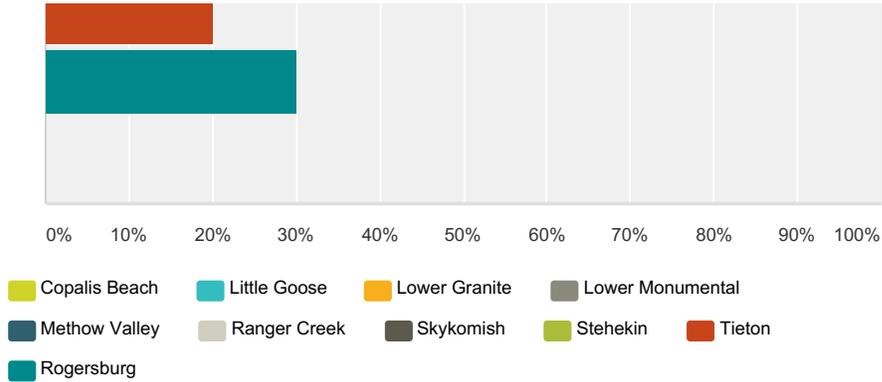
WSDOT General Aviation Pilot Survey



WSDOT General Aviation Pilot Survey



WSDOT General Aviation Pilot Survey



	Copalis Beach	Little Goose	Lower Granite	Lower Monumental	Methow Valley	Ranger Creek	Skykomish	Stehekin	Tieton	Rogersburg	Total Respondents
Surface RWY Improvements (Condition, Drainage, etc.)	6.25% 2	12.50% 4	18.75% 6	9.38% 3	15.63% 5	28.13% 9	21.88% 7	62.50% 20	18.75% 6	9.38% 3	32
RWY Safety Area Improvements	21.05% 4	15.79% 3	21.05% 4	10.53% 2	26.32% 5	31.58% 6	26.32% 5	36.84% 7	36.84% 7	21.05% 4	19
Airport Webcam	54.55% 12	22.73% 5	31.82% 7	18.18% 4	40.91% 9	45.45% 10	45.45% 10	63.64% 14	50.00% 11	36.36% 8	22
Tiedown Anchors	10.53% 2	21.05% 4	31.58% 6	21.05% 4	26.32% 5	42.11% 8	31.58% 6	36.84% 7	47.37% 9	31.58% 6	19
Water Supply/Storage	20.00% 2	10.00% 1	20.00% 2	10.00% 1	10.00% 1	40.00% 4	40.00% 4	40.00% 4	50.00% 5	30.00% 3	10
Electric Power	33.33% 1	33.33% 1	66.67% 2	33.33% 1	33.33% 1	66.67% 2	33.33% 1	33.33% 1	33.33% 1	33.33% 1	3
Public Telephone	16.67% 1	33.33% 2	33.33% 2	33.33% 2	33.33% 2	66.67% 4	33.33% 2	83.33% 5	50.00% 3	33.33% 2	6
Restrooms	42.11% 8	21.05% 4	15.79% 3	21.05% 4	36.84% 7	26.32% 5	31.58% 6	52.63% 10	31.58% 6	31.58% 6	19
Shower Facilities	14.29% 1	14.29% 1	14.29% 1	14.29% 1	28.57% 2	42.86% 3	28.57% 2	85.71% 6	71.43% 5	28.57% 2	7
Camp Sites/Fire Rings	38.10% 8	28.57% 6	23.81% 5	19.05% 4	19.05% 4	38.10% 8	23.81% 5	57.14% 12	47.62% 10	52.38% 11	21
Windcones (Additional)	55.56% 5	11.11% 1	22.22% 2	11.11% 1	11.11% 1	33.33% 3	22.22% 2	22.22% 2	22.22% 2	22.22% 2	9
Segmented Circle	25.00% 1	50.00% 2	75.00% 3	50.00% 2	50.00% 2	25.00% 1	25.00% 1	25.00% 1	25.00% 1	25.00% 1	4
Airport Perimeter Fencing (Animal Control, Security)	11.11% 1	22.22% 2	22.22% 2	11.11% 1	33.33% 3	11.11% 1	11.11% 1	11.11% 1	55.56% 5	22.22% 2	9
Tree Clearing (Approaches, etc.)	10.53% 2	10.53% 2	10.53% 2	10.53% 2	15.79% 3	52.63% 10	42.11% 8	47.37% 9	36.84% 7	10.53% 2	19
Surface Access Improvements	10.00% 1	30.00% 3	20.00% 2	20.00% 2	20.00% 2	30.00% 3	10.00% 1	40.00% 4	20.00% 2	30.00% 3	10

WSDOT General Aviation Pilot Survey

#	Other facility needs (specify which airport for each need)	Date
1	Courtesy Car at a some of these airports? Provided by local RAF, Chamber, WPA, EAA chapters?, Start a webpage/social media that shows current events at each airport - upgrades, work parties etc. Promote airports and increase awareness at Seminars, Fly-Ins and Aviation Tradeshow	7/1/2015 9:00 AM
2	Stehekin airport needs a better irrigation system that is functional & maintained, relocate sprinkler heads to the VERY up stream END of the airfield to allow the usual prevailing wind carry the water down the runway.	6/29/2015 3:09 PM
3	The surface is so dry that the soil is blowing away from grasses cresting a rough surface.	6/27/2015 9:28 PM
4	AWOS at Methow Valley	6/17/2015 7:53 PM
5	I coordinate volunteer maintenance activities for the Little Goose strip. The strip would get much more use if some basic upgrades were made. Those would include: Having a good integrity surface to operate on Having pedestrian access to the Corps of Engineers park through the barbed-wire fence	6/7/2015 3:36 PM
6	Methow Valley needs a Cyclone type fence surrounding the airport, when i fly in i have to overfly the runway because the fence is always knocked down and there are deer on the runway, its the definite making for a future aviation accident	5/29/2015 9:51 PM
7	Don't have enough opinion to try to fill in grid, but fully support availability.	5/28/2015 7:38 PM
8	Upgrade carts for toting gear to campground at Stehekin	5/27/2015 9:59 AM
9	LOWER GRANITE NEEDS THE WINDSOCK RELOCATED, THE PARKING LOCATED ON THE WEST END OF THE STRIP NEAR THE CAMPGROUND WITH TIEDOWNS AND AN IMPROVED RUNWAY AND PARKING SURFACE FOR LESS ROCK DAMAGE. THE CORPS AND THE NATIONAL GUARD NEED TO TALK ABOUT COMMON INTERESTS FOR EMERGENCY USE.	5/26/2015 7:20 PM
10	Is it true Rogerburg is closed? How do we get it back open?	5/26/2015 6:49 PM
11	Parking lot and trail to the RV Park and Restaurant	5/16/2015 1:29 PM
12	In general, smooth, animal and rut-free runways are very important to me. I'm now flying with 5.00 tires and wheel pants which are very susceptible to damage fm poor runway conditions.	5/15/2015 5:52 AM
13	I think it would be awesome to get more use out of Rogersburg. It has such amazing potential. I know I would camp there and fish for sure!	5/13/2015 6:57 PM
14	For all facilities, a monthly update on the condition of each facility online.	5/13/2015 6:16 PM
15	Ranger Creek is almost always busy with people on/near the runway area. Even after doing a low approach to verify the runway is clear, I'm always afraid someone/something is going to run out in front of me. I don't think a fence is the answer, but maybe painting a line or some other marker to identify the runway to non-aviation people using the area.	5/13/2015 4:09 PM
16	Recent runway surface and parking area improvements at Ranger Creek are great! Thank you.	5/13/2015 11:10 AM
17	Ranger Creek, Finish crack sealing started in 2014. Add paved "turn-outs" at runway ends. Rogersburg, Settle access issues and create camping sites.	5/13/2015 10:34 AM

WSDOT General Aviation Pilot Survey

Q7 Please provide any additional comments or facility needs for any of the following WSDOT-managed airports:

Answered: 29 Skipped: 51

Answer Choices	Responses	
Bandera	17.24%	5
Easton	13.79%	4
Lake Wenatchee	13.79%	4
Sullivan Lake	20.69%	6
Woodland	6.90%	2
Copalis Beach	20.69%	6
Little Goose	10.34%	3
Lower Granite	13.79%	4
Lower Monumental	6.90%	2
Methow Valley	27.59%	8
Ranger Creek	20.69%	6
Skykomish	10.34%	3
Stehekin	31.03%	9
Tieton	24.14%	7
Rogersburg	20.69%	6

#	Bandera	Date
1	State Airports are a vital part of the Washington State transportation system. It is a travisty that closures are by date not by condition.	6/29/2015 3:09 PM
2	Haven't visited yet but hope to	5/15/2015 1:58 PM
3	Paved Runway	5/13/2015 10:32 PM
4	To many people shooting there.	5/13/2015 4:38 PM
5	More Approach end tree cutting	5/13/2015 3:47 PM
#	Easton	Date
1	State Airports are a vital part of the Washington State transportation system. It is a travisty that closures are by date not by condition.	6/29/2015 3:09 PM
2	We make low approaches only	5/16/2015 11:28 AM
3	Haven't visited yet but hope to	5/15/2015 1:58 PM
4	Paved Runway	5/13/2015 10:32 PM
#	Lake Wenatchee	Date
1	Tall Trees at west end-big factor with density altitude	7/1/2015 9:00 AM
2	State Airports are a vital part of the Washington State transportation system. It is a travisty that closures are by date not by condition.	6/29/2015 3:09 PM
3	Remove more trees at runway ends	5/26/2015 8:30 PM
4	Was definitely pretty rough	5/15/2015 1:58 PM

WSDOT General Aviation Pilot Survey

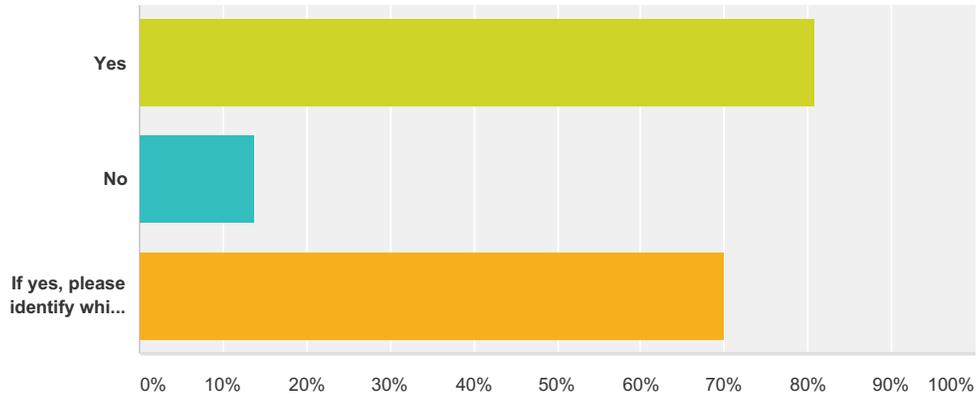
#	Sullivan Lake	Date
1	Great airport, Courtesy Car?	7/1/2015 9:00 AM
2	State Airports are a vital part of the Washington State transportation system. It is a travisty that closures are by date not by condition.	6/29/2015 3:09 PM
3	Nice facility	5/27/2015 9:44 AM
4	what is contact phone # for condition of airstrip?	5/20/2015 10:39 PM
5	Haven't visited yet but hope to	5/15/2015 1:58 PM
6	Great airfield. Please work to extend the open season.	5/15/2015 5:52 AM
#	Woodland	Date
1	State Airports are a vital part of the Washington State transportation system. It is a travisty that closures are by date not by condition.	6/29/2015 3:09 PM
2	Haven't visited yet but hope to	5/15/2015 1:58 PM
#	Copalis Beach	Date
1	Would love to see a webcam at Copalis	7/1/2015 9:00 AM
2	State Airports are a vital part of the Washington State transportation system. It is a travisty that closures are by date not by condition.	6/29/2015 3:09 PM
3	Awesome spot. No windsock when I was there	5/15/2015 1:58 PM
4	Contact number to report vehicles or issues on runway	5/15/2015 1:56 PM
5	Keep this very unique airport open, please!!	5/13/2015 10:32 PM
6	Property line between airport & residents.	5/13/2015 7:35 PM
#	Little Goose	Date
1	State Airports are a vital part of the Washington State transportation system. It is a travisty that closures are by date not by condition.	6/29/2015 3:09 PM
2	Need a good integrity surface to operate aircraft on	6/7/2015 3:36 PM
3	Haven't visited yet but hope to	5/15/2015 1:58 PM
#	Lower Granite	Date
1	State Airports are a vital part of the Washington State transportation system. It is a travisty that closures are by date not by condition.	6/29/2015 3:09 PM
2	SHOULD BE CONSIDERED AN EXCELLENT RECREATIONAL AIRPORT	5/26/2015 7:20 PM
3	Parking lot and paved trail to the RV Camp grounds and Restaurant	5/16/2015 1:29 PM
4	Haven't visited yet but hope to	5/15/2015 1:58 PM
#	Lower Monumental	Date
1	State Airports are a vital part of the Washington State transportation system. It is a travisty that closures are by date not by condition.	6/29/2015 3:09 PM
2	Haven't visited yet but hope to	5/15/2015 1:58 PM
#	Methow Valley	Date
1	Non standard rotating beacon and PAPI's	7/1/2015 9:00 AM
2	State Airports are a vital part of the Washington State transportation system. It is a travisty that closures are by date not by condition.	6/29/2015 3:09 PM
3	Needs an AWOS	6/17/2015 7:53 PM
4	Awos, New Fence, Beacon	5/29/2015 9:51 PM
5	This should be the same frequency as Twisp 2s0. They are very close together, and it's dangerous to have them on different comms	5/26/2015 7:39 PM
6	Haven't visited yet but planning a trip soon	5/15/2015 1:58 PM
7	Need bathrooms.	5/13/2015 4:38 PM
8	Better marking of tiedowns, some not useable	5/13/2015 11:24 AM

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#	Ranger Creek	Date
1	Pavement striping, crack sealing	7/1/2015 9:00 AM
2	State Airports are a vital part of the Washington State transportation system. It is a travisty that closures are by date not by condition.	6/29/2015 3:09 PM
3	We make low approaches only	5/16/2015 11:28 AM
4	Tough to tie down in the gravel area.	5/15/2015 1:58 PM
5	Widen pavement at ends of runway so a 180 can be made out of the gravel. Get Parks Dept.to service toilets.	5/13/2015 11:24 AM
6	Need paved turn-outs at runway ends.	5/13/2015 10:34 AM
#	Skykomish	Date
1	State Airports are a vital part of the Washington State transportation system. It is a travisty that closures are by date not by condition.	6/29/2015 3:09 PM
2	surface smoothing	5/19/2015 6:33 PM
3	Haven't visited yet but hope to	5/15/2015 1:58 PM
#	Stehekin	Date
1	Stehekin should be available on condition rather than by calendar limitations. This year being a good example.	7/7/2015 8:19 PM
2	runway gets rougher every year. Great airport. Appreciate the courtesy bikes and totes.	7/1/2015 9:00 AM
3	State Airports are a vital part of the Washington State transportation system. It is a travisty that closures are by date not by condition.	6/29/2015 3:09 PM
4	Fill in holes in pkg area by bikes & sign	6/28/2015 1:00 PM
5	Irrigation or gravel.	6/27/2015 9:28 PM
6	Haven't visited yet but hope to	5/15/2015 1:58 PM
7	Great place, OK for my Maule but now flying w smaller tires. Too risky for the RV-6	5/15/2015 5:52 AM
8	Repair/replace the bicycles at the airstrip	5/13/2015 7:32 PM
9	Clear trees at east end to lake if possible.	5/13/2015 10:34 AM
#	Tieton	Date
1	Mow grass more frequently, can get pretty tall, cattle on the runway	7/1/2015 9:00 AM
2	State Airports are a vital part of the Washington State transportation system. It is a travisty that closures are by date not by condition.	6/29/2015 3:09 PM
3	fencing to keep cows & cow-flop off the runway	6/28/2015 1:00 PM
4	Wind cone on shoreline	5/27/2015 9:59 AM
5	Grass was really tall but didn't cause any problems	5/15/2015 1:58 PM
6	Damage from ATVs	5/15/2015 9:26 AM
7	Cattle on runway! Once they pass through the runway is marked and a mess.	5/15/2015 5:52 AM
#	Rogersburg	Date
1	State Airports are a vital part of the Washington State transportation system. It is a travisty that closures are by date not by condition.	6/29/2015 3:09 PM
2	Just normal access	5/15/2015 3:22 PM
3	Haven't visited yet but hope to	5/15/2015 1:58 PM
4	good recreational site	5/15/2015 9:26 AM
5	Need road access	5/13/2015 4:38 PM
6	Need camp sites and authority to use them.	5/13/2015 10:34 AM

Q8 Are you willing to participate in organized airport cleanups at the beginning or end of Summer?

Answered: 73 Skipped: 7



Answer Choices	Responses
Yes	80.82% 59
No	13.70% 10
If yes, please identify which airport(s) you are able to participate at:	69.86% 51
Total Respondents: 73	

#	If yes, please identify which airport(s) you are able to participate at:	Date
1	Stehekin, Methow, Lake Wenatchee	7/7/2015 8:19 PM
2	Skykomish, Ranger Creek, Bandera	7/1/2015 9:00 AM
3	I have traditionally supported Stehekin and Sullivan Lake with my labor.	6/29/2015 3:09 PM
4	Skykomish	6/28/2015 1:00 PM
5	Stehekin	6/27/2015 9:28 PM
6	Lower Granite	6/17/2015 8:28 AM
7	Sullivan Lake	6/12/2015 10:21 AM
8	Goose, granite, monumental	6/12/2015 10:04 AM
9	Sullivan,	6/12/2015 8:51 AM
10	Sullivan Lake	6/12/2015 7:37 AM
11	Sullivan Lake and Copalis Beach	6/8/2015 10:51 AM
12	I already coordinate volunteer maintenance activities for the Little Goose strip	6/7/2015 3:36 PM
13	All, depending on schedule.	5/31/2015 9:01 AM
14	Methow Valley	5/29/2015 9:51 PM
15	Any airport within 100mn of Renton - as the crow flies :-) And sometimes farther if schedule allows .	5/29/2015 5:20 PM
16	bandera, skykomish	5/28/2015 8:53 AM
17	Sullivan Lake	5/27/2015 5:48 PM
18	Lower Granite	5/27/2015 1:50 PM
19	Ranger Creek and Tieton	5/27/2015 1:16 PM

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20	Recently crashed the Cub I should be available by next spring. Stehekin, Wenatchee Lake	5/27/2015 12:15 PM
21	bandera, Easton	5/27/2015 11:15 AM
22	Stehekin Ranger Creek Bandera Tieton	5/27/2015 9:59 AM
23	Sullivan Lake, poss. others depending on location relative to Spokane area.	5/27/2015 9:44 AM
24	Copalis, Skykomish	5/27/2015 8:23 AM
25	Ranger Creek Bandera Easton Lk Wenatchee Sullivan Lk	5/27/2015 8:11 AM
26	Skykomish	5/26/2015 7:41 PM
27	Lake Wenatchee	5/26/2015 7:39 PM
28	Bandera, maybe Stehekin if conditions are right	5/26/2015 7:39 PM
29	Rogerburg Sullivan lk	5/26/2015 6:49 PM
30	We enjoy the quite and solitude of these strips, please don't turn them into "flying RV parks". Keep them safe to the pilot and plane.	5/20/2015 10:39 PM
31	Sultan and Skykomish	5/19/2015 6:33 PM
32	n/a	5/16/2015 1:29 PM
33	The ones further south now that I moved from Seattle to Bend	5/15/2015 1:58 PM
34	I've been really busy with school but I'm getting ready to retire and from what people tell me, I'll have oodles of time on my hands after I quit work so this summer I'm still maxed out but next spring and after I should have more time to help Thanks for all you're doing!! Curt Scott	5/15/2015 8:34 AM
35	Tieton, Bandera, Easton	5/15/2015 5:59 AM
36	Rogers burg	5/14/2015 2:52 PM
37	Any of them as long as weather permits flying in. I just participated in the Ranger Creek cleanup last weekend.	5/14/2015 6:19 AM
38	200NM from Seatac.	5/13/2015 10:32 PM
39	Stehikin/Tieton	5/13/2015 8:48 PM
40	Any in Western WA	5/13/2015 7:35 PM
41	Let me know the dates and I'll try and be there! I'll be gone for 4S6 clean up.	5/13/2015 6:57 PM
42	Sullivan Lake	5/13/2015 6:16 PM
43	Wenatchee, Skykomish, Ranger, Bandera, Methow.	5/13/2015 5:35 PM
44	Any I can fly to.	5/13/2015 4:38 PM
45	Ranger Creek, Woodland, Bandera	5/13/2015 4:09 PM
46	All	5/13/2015 3:47 PM
47	any within 1.5 hours drive from Seattle	5/13/2015 2:41 PM
48	Sky9mish	5/13/2015 2:10 PM
49	Sullivan Lake	5/13/2015 12:34 PM
50	Ranger Creek	5/13/2015 11:24 AM
51	I already do at Ranger Creek with Paul Wolf.	5/13/2015 10:34 AM

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