Chapter 5 – Airport Development Alternatives

The evaluation of future development alternatives represents a critical step in the airport master planning process. The primary goal is to define a path for future development that provides an efficient use of resources and is capable of accommodating the forecast demand and facility needs defined in the master plan.

Introduction

Current and long-term planning for Ephrata Municipal Airport is based on maintaining and improving the airport's ability to serve a wide range of general aviation and business aviation aircraft, as noted in the facility requirements evaluation.

All proposed facility improvements are consistent with applicable FAA airport design standards and FAR Part 77 airspace planning standards. As noted in the facility requirements chapter:

- Airplane Design Group II (ADG II) standards are recommended for facilities used by both large and small aircraft, including Runways 3/21 and 4/22, major taxiways, and specific landside facilities;
    - It is noted that gliders, which operate predominantly on Runway 4/22, present a unique set of design features. The aircraft have long wingspans (typically ADG II or larger) but their low operating weights classify them as small aircraft.
    - This justifies use of ADG II (small) standards for Runway 4/22, whereas Runway 3/21 requires use of the full ADG II standards for approach category A and B aircraft.

- Facilities that accommodate small aircraft exclusively, such as Runway 11/29, T-hangar taxilanes and aircraft tiedown aprons, are normally designed to meet ADG I (small aircraft with wingspans less than 49 feet) standards.
- For hangar areas with a variety of hangar sizes, the largest hangar door width anticipated is generally used to identify the maximum size of aircraft to be accommodated and the appropriate ADG.

The FAA recommends that airport master plans be developed in an "unconstrained" manner when initially defining future demand and related facility improvements, rather than establishing pre-defined limits that drive the planning process. The evaluation of development options for Ephrata Municipal Airport will be unconstrained, consistent with FAA guidance, forecast demand, and the defined facility requirements.

Evaluation Process

Developing preliminary alternatives represents the first step in a multi-step process that leads to the selection of a preferred alternative. It is important to note that the current FAA-approved airport layout plan (ALP) dated June 2010, identifies future improvements that were defined in the last master planning process. This master plan update provides a fresh look at addressing facility needs, but also allows the components of the previous preferred alternative to be retained or modified, if they meet current or future needs.

The preliminary alternatives will be evaluated to identify general preferences for both individual items and the overall concepts. This process will provide the widest range of ideas for consideration and define the most effective facility development concept. A preferred alternative will emerge from this evaluation process with elements that can best accommodate all required facility improvements. The Consultant will integrate these elements into a draft preferred alternative for review and refinement as the Port of Ephrata proceeds through the process of selecting a final preferred development alternative for Ephrata Municipal Airport. Public input and coordination with the FAA and WSDOT Aviation will also help shape the preferred alternative throughout this process.

Once the preferred alternative is selected by the Port of Ephrata, a detailed capital improvement program will be created that identifies and prioritizes specific projects to be implemented. The preferred alternative will be integrated into the updated airport layout plan (ALP) drawings to guide future improvements at the airport.

No-Action Alternative

In addition to proactive options designed to respond to future facility needs, a "no-action" alternative also exists. The Port of Ephrata may choose to maintain existing facilities and capabilities without investing in facility upgrades or expansion to address future demand. The existing airfield would remain unchanged from its present configuration and the airport would essentially be operated in a "maintenance-only" mode. Reconfiguration of facilities to address non-standard items is not consistent with a "maintenance-only" option, although the requirement to observe clearing standards (RSA, OFA, etc.) for existing facilities is established.

The no-action alternative would limit the airport's ability to meet all applicable FAA design standards or accommodate aviation demand beyond current facility capabilities. Future aviation activity levels would be constrained by the capacity, safety, and operational limits of the existing airport facilities.

The no-action alternative establishes a baseline from which the other alternatives will be developed and compared. The purpose and need for proactive development alternatives (e.g., airport improvements) is defined by desired compliance with FAA design standards and forecast aviation activity and the corresponding facility needs for the current twenty-year planning period as identified in Chapters 3 and 4 of this study. Proposed improvements are based on safety considerations and the responsibility to effectively manage demand through a well-defined and economical program.

Preliminary Development Alternatives

The facility needs identified in Chapter 4 include a variety of airside (runway-taxiway) and landside needs (aircraft parking, hangars, fueling, FBO facilities, etc.). Items such as fencing, lighting improvements, minor roadway extensions, and pavement maintenance do not typically require an alternatives analysis. However, these items will be incorporated into the preferred development alternative and the updated ALP.

The preliminary alternatives are organized by type of facilities (airside and landside) and are intended to facilitate a discussion and evaluation about the most efficient way to meet the facility needs of the airport. The eventual preferred alternative selected by the Port of Ephrata may come from one of the preliminary alternatives, a combination or hybrid of the preliminary alternatives, or a new concept that evolves through the evaluation and discussion of the preliminary alternatives. As noted earlier, the Port of Ephrata also has the option of limiting future facility improvements based on financial considerations or development limitations.

The preliminary development alternatives are described below with graphic depictions (**Figures 5-1 through 5-7**) provided to illustrate the key elements of each alternative.

AIRSIDE DEVELOPMENT ALTERNATIVES (RUNWAY-TAXIWAY IMPROVEMENTS)

As noted in the facility requirements chapter, the airport's primary runway and parallel taxiway, and the crosswind runway and its parallel taxiway were rehabilitated, reconstructed, or constructed new since the last master plan was completed. These airside facilities do not require upgrades at this time, as they meet current and future needs, and conform to FAA standards.

AIRSIDE IMPROVEMENTS – OVERVIEW (FIGURE 5-1)

Figure 5-1 provides an overview of recommended airside improvements, which include the following:

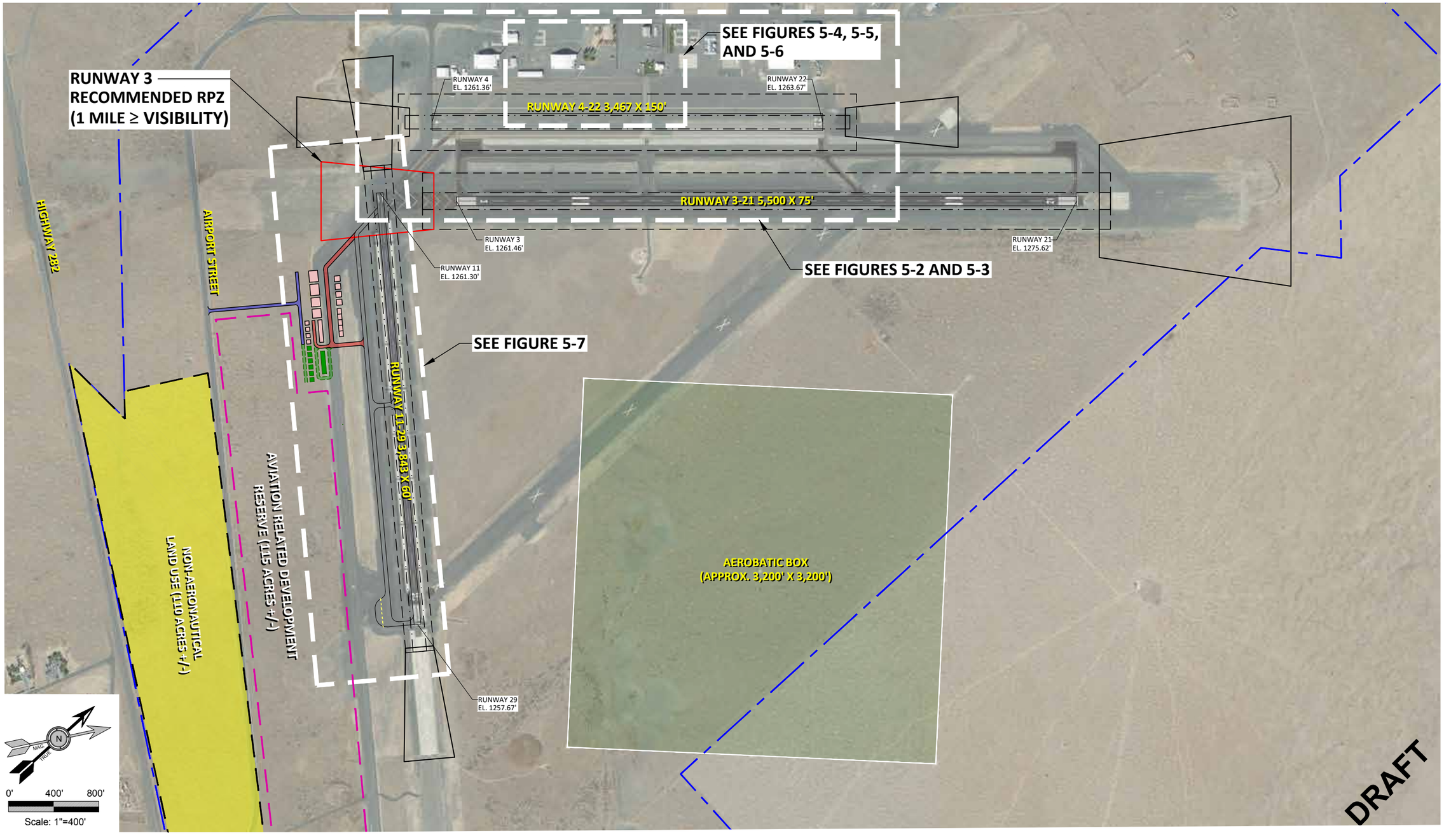
Runway Protection Zone (RPZ) - Runway 3. The recommended RPZ (500 x 700 x 1000 feet) is based on approach visibility minimums of 1-mile or greater. This recommendation eliminates the previous master plan recommendation to plan for approach visibilities as low as ½-mile, which required a significantly larger RPZ and FAR Part 77 precision instrument approach surface. This recommendation also eliminates issues related to a future FAA-defined incompatible land uses (Airport Street crossing through the larger RPZ), and it supports the existing non-precision instrument approach for Runway 3.

Runway 3: Non-precision instrument approach with 1-mile approach visibility minimums recommended. No changes are required to the existing non-precision instrument (NPI) markings for Runway 3. The previous recommendations adding runway approach lighting system (MALS-R) on Runway 3 and upgrading runway end markings to precision instrument (PIR) are not maintained.

Runway 11/29: No changes recommended.

Taxiway B (Runway 11/29 Parallel Taxiway): Update markings for Runway 29 aircraft hold area to identify parallel taxiway object free area setback (65.5 feet from taxiway centerline).

Runway 4/22: ADG II (small) standards recommended for runway. Reconfiguration of adjacent aircraft apron required to meet FAA OFA clearing standard for parked aircraft. Replacement of existing apron taxilane with full-length parallel taxiway on west side of Runway 4/22 is recommended. The proposed improvements for Runway 4/22 are described in more detail in the following section.



AIRSIDE IMPROVEMENT (OVERVIEW)
FIGURE 5-1

EPHRATA MUNICIPAL AIRPORT
AIRPORT MASTER PLAN

CENTURY WEST ENGINEERING

AIRSIDE ALTERNATIVES A AND B (RUNWAY 4/22) (FIGURE 5-2, 5-3)

As noted in the facility requirements chapter, Runway 4/22 will require pavement rehabilitation early in the current 20-year planning period. Several improvements or changes in configuration are proposed for Runway 4/22 to meet FAA design standards for the current and future design aircraft (ADG II – wingspans up to 79 feet).

In addition to the overall improvements to the runway described below, two options (Alternatives A and B) were developed for Runway 4/22 that focus on the Runway 4 threshold and taxiway connection configurations (see **Figures 5-2 and 5-3).**

Runway Width

Maintaining the existing 150-foot width for Runway 4/22 is recommended based on current design aircraft (ADG II gliders) and previous design guidance coordinated with FAA.[1] Airport management has indicated a desire to maintain the existing runway width if feasible, due to its use by ADG III gliders with wingspans approaching 100 feet. The existing runway is situated within the overall paved apron area. It is assumed that the rehabilitated runway (at any particular width) will be surrounded by apron pavement, which also functions as runway safety area.

It is recognized that the recommended runway width exceeds the FAA standard for ADG II (75 feet) and that the additional 75 feet may not be fully eligible for FAA funding. Project eligibility would be determined during design, including costs related to providing/preserving standard ADG II runway safety area (RSA) within the existing paved apron.

As noted above, maintaining a safe operating environment (unobstructed, unbroken pavement) for gliders is identified as a high safety-related priority. Primary operational concerns for large wingspan gliders with limited ground clearance include:

- Providing sufficient runway width to accommodate aircraft directional control both while under tow and during landing and rollout;
- Avoiding the presence of objects protruding above the paved surface such as runway lights that could create a hazard for wing clearance for aircraft on the ground; and
- Maintaining adequate runway length for tow airplane/glider combinations.

Although the current and forecast volume of ADG III glider operations are not sufficient for use as the design aircraft, it is desirable to maintain the existing operating environment (unobstructed, unbroken pavement) for these aircraft within the main apron. Runway lights are not recommended for Runway 4/22,

[1] Taxiway A Relocation and Runway 3-21 Establishment Project Engineer's Design Report (July 2009, Reid Middleton)

so rehabilitating the inner 75 feet of runway combined with preservation of the additional pavement (crackfill, isolated patching, and sealcoat) may also be considered to protect the required operating surface for ADG II and larger wingspan gliders.

Taxiway Design

Based on FAA taxiway design guidance, it is recommended that the existing taxilane connection located near the Runway 4 threshold be reconfigured to provide standard 90-degree connections. The current taxilane connects to the runway at a 45-degree angle and provides access to Taxiway B and Runway 11/29 from the main apron. See **Figures 5-2 and 5-3,** Airside Alternatives A and B (Runway 4/22) for specific configuration options.

A full-length west parallel taxiway (referred to as Taxiway C) for Runway 4/22 is planned to replace the existing taxilane that travels through the southern section of the main apron. The ADG II standard parallel taxiway is established within the existing apron pavement to provide a defined travel route for aircraft operating on the runway and mitigate the existing direct taxi from the aircraft parking apron to Runway 4/22. Taxiway C has three 90-degree exit taxiway connecting taxiways (C1, C2, C3; one at each end of the runway and a third located near mid-runway connecting to Taxiway A2).

Taxiway C has a runway separation of 240 feet, and a width of 35 feet. A narrow area (49.5 feet deep) will be located between the outer edge of the 250-foot wide runway obstacle free zone (OFZ) and the inner edge of the 131-foot wide taxiway object free area (TOFA). Consistent with FAA design standards, this area (between the proposed parallel taxiway and the runway) may be used for aircraft holding and glider staging (manually positioning aircraft for departure and recovering the aircraft after landing). Existing aircraft parking positions/tiedowns located adjacent to Runway 4/22 are required to be relocated outside the 500-foot wide runway object free area (OFA) as part of the runway/taxiway reconfiguration.

Glider & Powered Aircraft Parking

Airside Alternatives A and B (Runway 4/22) relocate aircraft parking west of the new Taxiway C. The primary glider parking areas are located on the north end of main apron; additional glider parking areas are identified south of the terminal area. These aircraft parking areas are also used during aerobatic competitions. Existing areas located adjacent to the northwest edge of the main apron are identified for glider trailer parking, additional aircraft parking (adjacent to hangars), and vehicle parking. A new vehicle access gate is proposed to connect the main parking lot and adjacent glider-related lease areas with direct access from Division Avenue East.

The key features of **Airside Alternative A and B (Runway 4/22)** include:

- Relocate aircraft parking areas outside of runway object free area (OFA) to meet FAA clearing standard;
- Temporary glider staging and aircraft holding is permitted in Runway OFA, consistent with FAA OFA standards:

> *"Except where precluded by other clearing standards, it is acceptable for objects that need to be located in the ROFA for air navigation or* ***aircraft ground maneuvering purposes*** *to protrude above the nearest point of the RSA,* ***and to taxi and hold aircraft in the ROFA****. To the extent practicable, objects in the ROFA should meet the same frangibility requirements as the RSA. Objects non-essential for air navigation or aircraft ground maneuvering purposes must not be placed in the ROFA. This* ***includes parked aircraft*** *and agricultural operations."* (FAA AC 150/5325-13A, Paragraph 309, Page 69)

- New powered aircraft parking apron and hangar sites located south of aircraft fueling area (see Figures 5-4 to 5-6 for detail);
- Glider tiedown areas located along western edge of main apron; overflow glider parking to be accommodated adjacent to FBO, south of future tiedown apron, and west of the main apron;
- A full length west parallel taxiway for Runway 4/22;
- Eliminates the direct taxiing access from apron to Runway 4/22;
- Eliminates the angled taxilane that crosses near the Runway 4 threshold; and
- Constructs a new 90-degree taxiway connector at the Runway 4 threshold and extends Taxiway A to connect with Taxiway B1.

AIRSIDE ALTERNATIVE A (RUNWAY 4/22) (FIGURE 5-2)

Airside Alternative A (Runway 4/22) maintains the existing threshold location for Runway 4 and the existing runway length (3,467 feet).

The existing runway length is considered adequate to accommodate most small single-engine aircraft, including glider tow operations. As noted in Table 4-12 (Chapter 4, Page 4-43), the FAA runway length planning advisory circular[2] indicates that 3,500 feet is required to accommodate 95 percent of small airplane fleet (aircraft with 10 or fewer seats) at Ephrata Municipal Airport.

Until recently, the FAA utilized a computer model to calculate runway length requirements for small airplanes. In addition to determining lengths required for 95/100 percent of the small airplane fleet, the FAA program also identified the lengths required to accommodate 75 percent of the small airplane fleet, which generally corresponds to single-engine piston aircraft. Although this metric has been eliminated from the current FAA runway length planning advisory circular, it does provide a

[2] FAA AC 150/5325-4B. Runway Length Requirements for Airport Design

reasonable indicator of runway needs for smaller single-engine aircraft. For Ephrata Municipal Airport, the model indicates a runway length of 2,930 feet is required to accommodate 75 percent of the small airplane fleet. The current runway exceeds this length; however, preserving existing operational capabilities has been identified by airport management and local pilots as a significant safety benefit for existing glider/tow aircraft operations.

The existing 45-degree taxilane connections near the end of Runway 4 are replaced with 90-degree taxiways at the end of the runway, in conjunction with the new parallel taxiway (Taxiway C). Additional changes to the existing taxilane/taxiway system include the connection of three taxiways east of Runway 4/22. New taxiway sections include a short east section of Taxiway C1 at the Runway 4 threshold and a south extension of Taxiway A to connect with Taxiways B1 and C1, to facilitate aircraft movement between the three (A, B, and C) runway-parallel taxiway systems.

AIRSIDE ALTERNATIVE B (RUNWAY 4/22) (FIGURE 5-3)

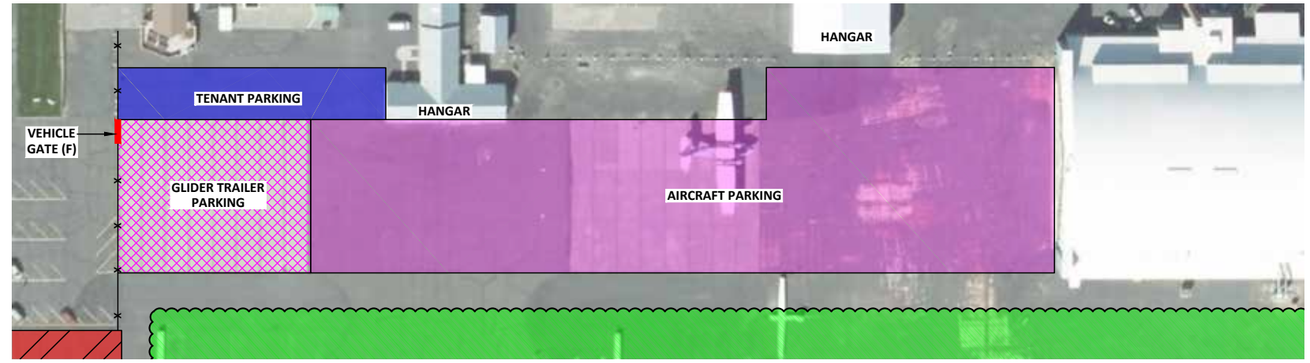
Airside Alternative B (Runway 4/22) relocates the threshold for Runway 4 approximately 217 feet north to allow a direct connection of the 90-degree taxiways on both sides of the runway with the existing Taxiway A1. Taxiway B1 would also be connected with a short extension of Taxiway A. As with Alternative A, the proposed taxiway reconfiguration is designed to facilitate aircraft movement between the three (A, B, and C) runway-parallel taxiway systems.

The relocated threshold reduces runway length to 3,250 feet. The proposed 3,250-foot length will accommodate approximately 84 percent of small aircraft in the general aviation fleet with less than ten (10) seats, which captures most single-engine aircraft. In addition, it is proposed that the former runway pavement (217 feet) remain in place to provide a paved overrun within the runway safety area. The area would be marked with yellow chevrons, similar to the ends of Runway 3/21. The overrun provides a significant safety benefit for existing glider/tow aircraft operations.

LEGEND	
GLIDER PARKING	
GLIDER STAGING AREA	
AIRCRAFT PARKING	
PROPOSED TAXIWAY/APRON	
TENANT PARKING	
PAVEMENT TO BE REMOVED	
GLIDER TRAILER PARKING	
TRANSIENT PARKING / LARGE AIRCRAFT AND HELICOPTER	
AIRPORT PROPERTY LINE	
OBJECT FREE AREA (OFA)	OFA
TAXIWAY OBJECT FREE AREA (TOFA)	

KEY FEATURES

- RELOCATES AIRCRAFT PARKING OUTSIDE RUNWAY OBJECT FREE AREA (OFA) (ARC: A-II, SMALL).
- GLIDER STAGING/AC HOLD PERMITTED IN RUNWAY OFA.
- FULL-LENGTH PARALLEL TAXIWAY (ARC: A-II, SMALL).
- ELIMINATES ANGLED TAXILANE CROSSING NEAR RUNWAY 4 THRESHOLD.
- NEW 90° TAXIWAY CONNECTOR AT RUNWAY 4 THRESHOLD; MODIFIED CONNECTIONS TO TAXIWAY ALPHA AND BRAVO.



DETAIL
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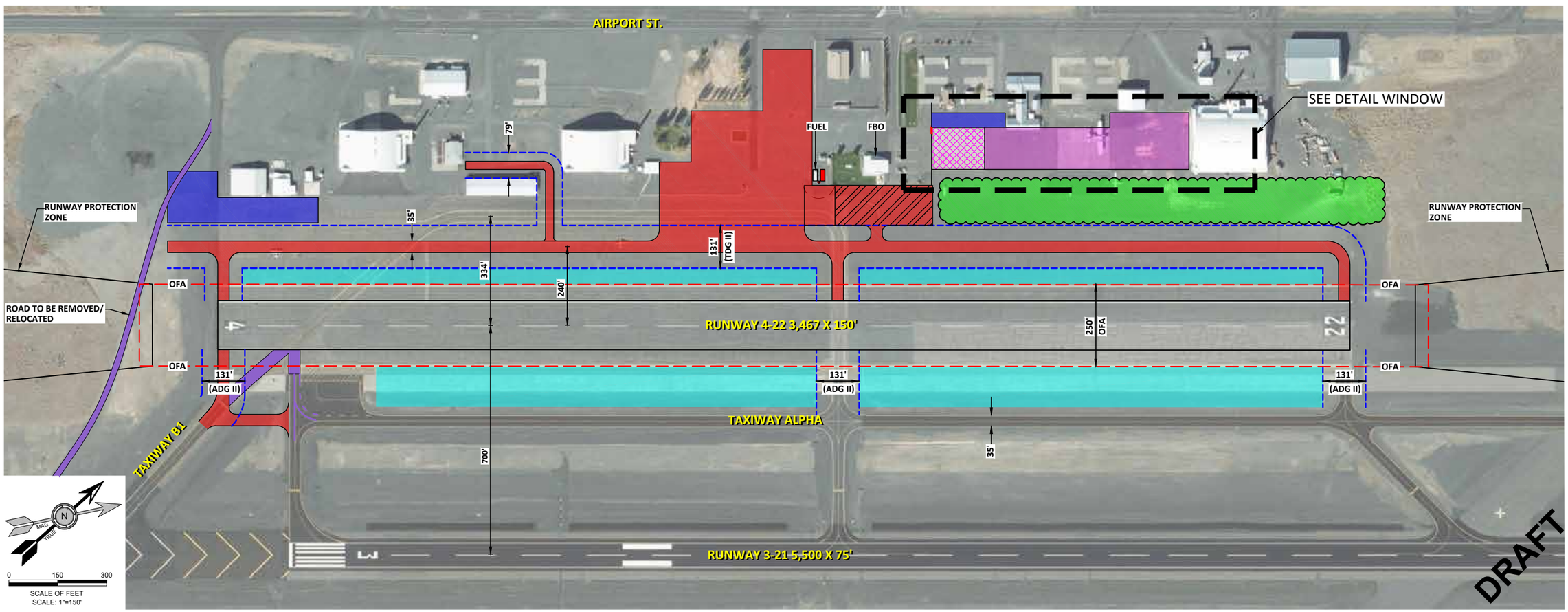


AIRSIDE ALTERNATIVE A
FIGURE 5-2

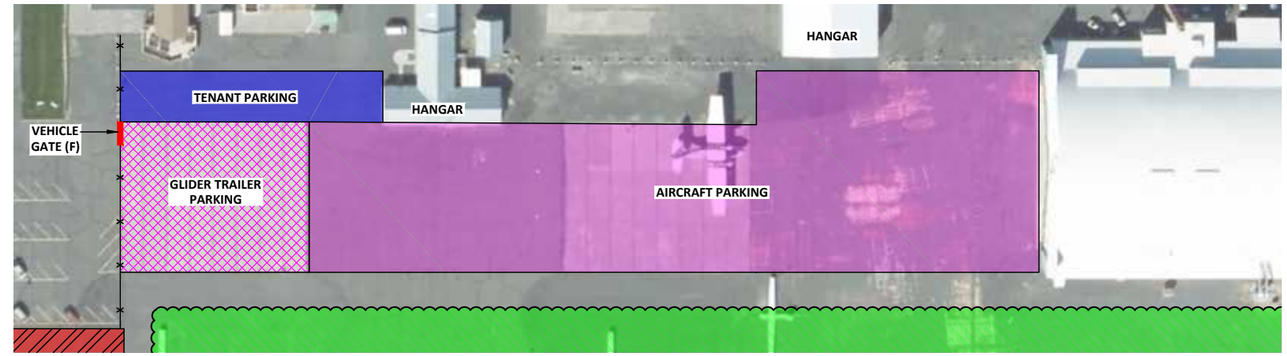
EPHRATA MUNICIPAL AIRPORT
AIRPORT MASTER PLAN

CENTURY WEST ENGINEERING

LEGEND	
GLIDER PARKING	
GLIDER STAGING AREA	
AIRCRAFT PARKING	
PROPOSED TAXIWAY/APRON	
TENANT PARKING	
PAVEMENT TO BE REMOVED	
GLIDER TRAILER PARKING	
TRANSIENT PARKING / LARGE AIRCRAFT AND HELICOPTER	
AIRPORT PROPERTY LINE	
OBJECT FREE AREA (OFA)	OFA
TAXIWAY OBJECT FREE AREA (TOFA)	

KEY FEATURES

- RELOCATES AIRCRAFT PARKING OUTSIDE RUNWAY OBJECT FREE AREA (OFA) (ARC: A-II, SMALL).
- GLIDER STAGING/AC HOLD PERMITTED IN RUNWAY OFA.
- FULL-LENGTH PARALLEL TAXIWAY (ARC: A-II, SMALL).
- ELIMINATES ANGLED TAXILANE CROSSING NEAR RUNWAY 4 THRESHOLD.
- NEW 90° TAXIWAY CONNECTOR AT RUNWAY 4 THRESHOLD; MODIFIED CONNECTIONS TO TAXIWAY ALPHA AND BRAVO.
- RELOCATES RUNWAY 4 THRESHOLD 217 FEET TO ACCOMMODATE TAXIWAY RECONFIGURATION.
- REDUCES RUNWAY LENGTH TO 3,250 FEET.



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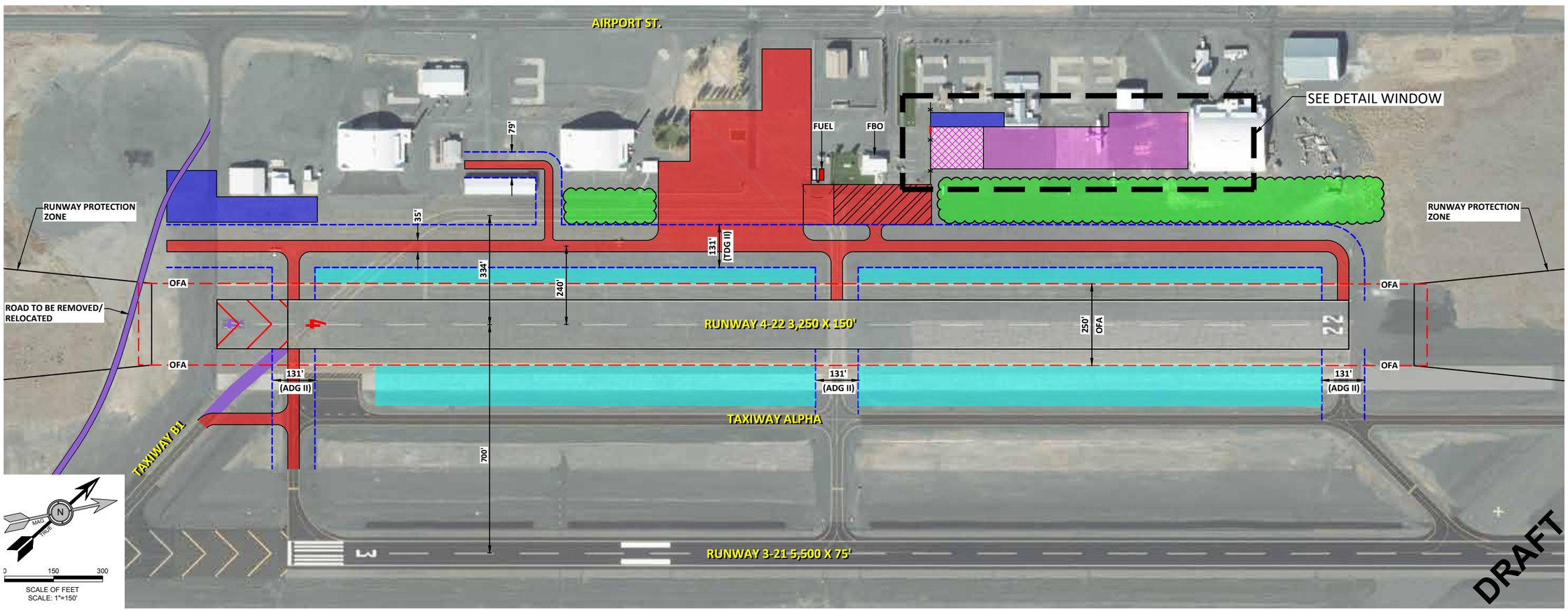


AIRSIDE ALTERNATIVE B
FIGURE 5-3

EPHRATA MUNICIPAL AIRPORT
AIRPORT MASTER PLAN

CENTURY WEST ENGINEERING

Landside Alternatives

The preliminary landside development alternatives focus on improving the efficiency of facility layouts, conforming to FAA design standards, and identifying future development areas. Landside facilities include aircraft parking, hangars, aircraft fuel storage/dispensing, and support facilities such as FBO facilities and vehicle parking. Two areas of the airport are identified to support landside facilities:

- The Terminal Area located west of Runway 4/22; and
- The South Landside Area located south of Runway 11/29 and Taxiway B.

As noted in the airside alternatives for Runway 4/22, changes in the existing functions currently accommodated on the main apron will directly affect adjacent landside facilities in the terminal area. These include relocation of aircraft tiedowns and glider parking outside of the Runway 4/22 OFA and defining a full-length west parallel taxiway for the runway. The terminal area has land development capacity to accommodate near term landside demands. Expansion of hangars on the south side of the airport has also been contemplated by airport management as part of a long term expansion and the development of an airport industrial park on adjacent non-aeronautical lands. The extension of utilities required to service an industrial park is considered a critical factor that would make hangar construction in the south landside area feasible.

TERMINAL AREA LANDSIDE ALTERNATIVES A, B, AND C (FIGURE 5-4, 5-5, 5-6)

Three terminal area landside alternatives were developed that provide for the development of a new aircraft parking apron to offset the loss of existing aircraft parking located within the Runway 4/22 object free area (OFA). The three alternatives share a common apron location and basic configuration adjacent (south) of the existing aircraft fueling area and the airport operations building. The features of Terminal Area Landside Alternatives include:

- Sites for multi-unit and individual box hangars;
- 2 business aircraft/multi-engine drive through parking positions;
- 12 to 20 small airplane tiedown positions (varies by alternative);
- Large apron for passenger loading/unloading, large airplane parking, and helicopter parking;
- Glider parking area (south of apron);
- Aviation fuel island and space for future Jet-A tank;
- New taxilanes to serve the existing T-hangar and future hangars; and
- Vehicle parking and access road improvements.

The apron includes small airplane tiedowns and parking for business class aircraft (multi-engine turboprops, business jets, etc.) and provides clear access to the existing aircraft fueling area. The apron

directly abuts the proposed parallel taxiway for Runway 4/22 and the apron parking setbacks are based on required ADG II taxiway clearances. Physical pavement markings will be required to define taxiways over existing apron pavement for travel routes between the apron areas, the adjacent parallel taxiway, and to the future Taxiway C2, which will connect to runway 4/22, Taxiway A2, and Runway 3/21.

Aircraft hangar development areas are identified adjacent to the proposed apron and west of the existing T-hangar located between the two southern Quonset hangars. Additional vehicle parking is identified adjacent to expanded apron and hangar area. Incremental western expansion of the basic apron is provided in the three alternatives (described below).

The existing apron area located directly in front of the airport operations building is reserved for aircraft loading/unloading, and transient parking for large aircraft and helicopters.

TERMINAL AREA LANDSIDE ALTERNATIVE A (FIGURE 5-4)

Terminal Landside Alternative A includes the apron described above, with a western expansion area (requires vacating existing access road and burying overhead electrical line) that provides 8 additional airplane tiedowns served by a single east-west taxilane.

TERMINAL AREA LANDSIDE ALTERNATIVE B (FIGURE 5-5)

Terminal Landside Alternative B includes the same elements of Terminal Landside Alternative A, but replaces 7 of the small airplane tiedowns in the western expansion area with a 4-unit hangar and single taxilane.

TERMINAL AREA LANDSIDE ALTERNATIVE C (FIGURE 5-6)

Terminal Landside Alternative C includes the same elements of Terminal Landside Alternative A, but replaces 8 of the small airplane tiedowns in the western expansion area with a 6-unit T-hangar centered on the apron (north/south facing doors) and two access taxilanes. In order to accommodate the north taxilane, the fence on the adjacent industrial park lot would need to be relocated outside of the taxilane object free area.

SOUTH LANDSIDE ALTERNATIVE A (FIGURE 5-7)

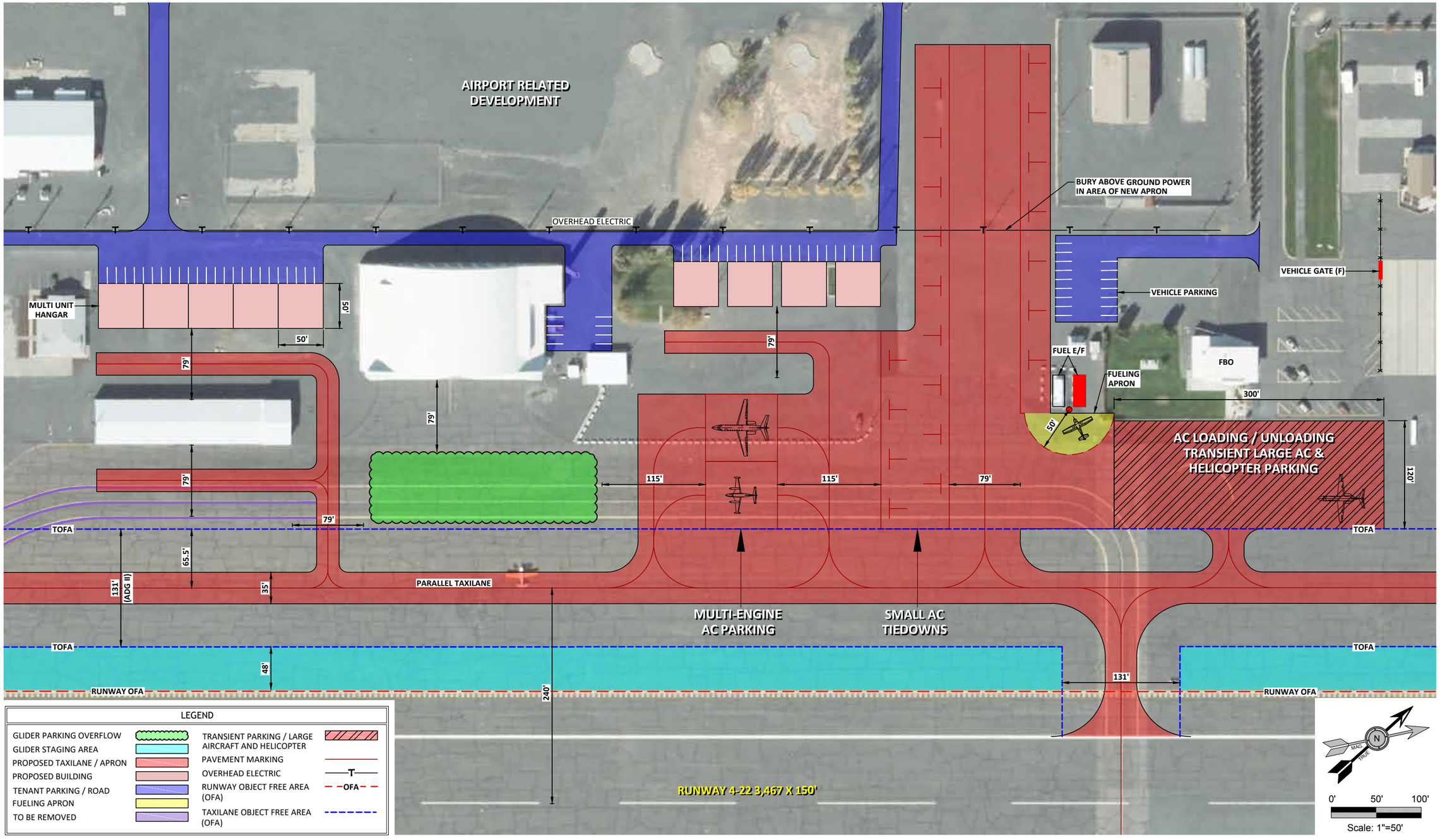
The south landside area provides development space capable of accommodating a variety of aviation uses, with ample development reserves to accommodate demand well beyond the twenty year planning period. The aviation use development area and reserve (100+ acres) are north of Airport Street, which is a surface roadway connection to State Highway 282. A proposed land adjustment south of Airport Street has been identified for future non-aeronautical use an airport-compatible industrial park. As noted earlier, the extension of the utilities (water, sewer, electric) required to serve the new industrial park area is considered to be a critical element affecting the feasibility of developing aircraft hangars in the south landside area.

The proposed new hangar development utilizes the former parallel taxiway (now closed) for Runway 11/29 to provide access to the hangar sites. The western section of the former taxiway would be rehabilitated to connect to the west end of Taxiway B, the south parallel taxiway for Runway 11/29. The proposed hangar development area includes a second taxiway connection to Taxiway B that can be constructed as activity warrants.

As proposed, a single row of small/medium conventional box hangars are located north of the access taxiway. The hangars located on the north side of the access taxiway are adjacent to an 18-foot building restriction line (BRL), established for Runway 11/29 (FAR Part 77 non-precision instrument runway). Larger conventional hangars are located on the south side of the access taxiway. The additional setback distance from Runway 11/29 will allow built items up to 50 feet without adverse impacts on FAR Part 77 airspace, although current zoning limits airport buildings to 35 feet. The south hangar row is configured to also accommodate a multi-unit small airplane T-hangar. Construction of an additional taxilane stub is required to access the south facing T-hangar units. The development of the taxilane stub also provides access to several additional hangar sites on the south side of taxilane (four small conventional hangars depicted).

A hangar development reserve is depicted at the east end of the proposed hangar area. The reserve continues the linear development of hangars along the south side of the access taxiway (a second T-hangar and multiple conventional hangars are depicted). Several increments of hangar expansion beyond the reserve can be accommodated immediately adjacent to the closed taxiway and in secondary tiers, which suggests that this area (115+ acres) provides virtually unlimited landside capacity for the foreseeable future.

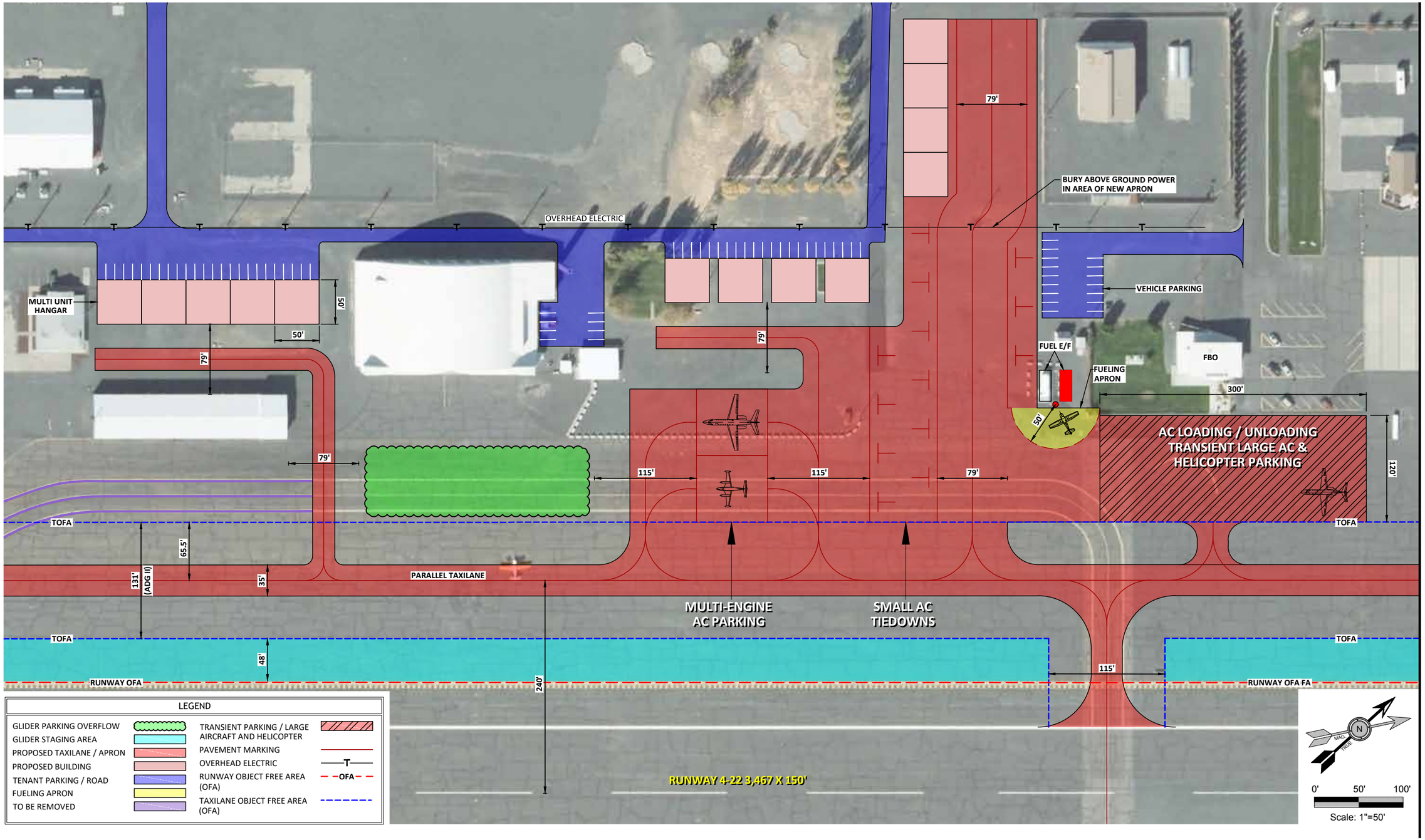
The access taxiways for the south landside area use ADG II design standards, based on the potential for accommodating ADG II aircraft in the new hangar area. The majority of these aircraft will operate on Runway 3/21. An extension of Taxiway A to connect to Taxiway B1 is included among the proposed airside improvements described earlier. It is noted that Taxiway B is designed to accommodate ADG II aircraft, primarily to provide access to future south landside development.



TERMINAL LANDSIDE ALTERNATIVE A
FIGURE 5-4

EPHRATA MUNICIPAL AIRPORT
AIRPORT MASTER PLAN

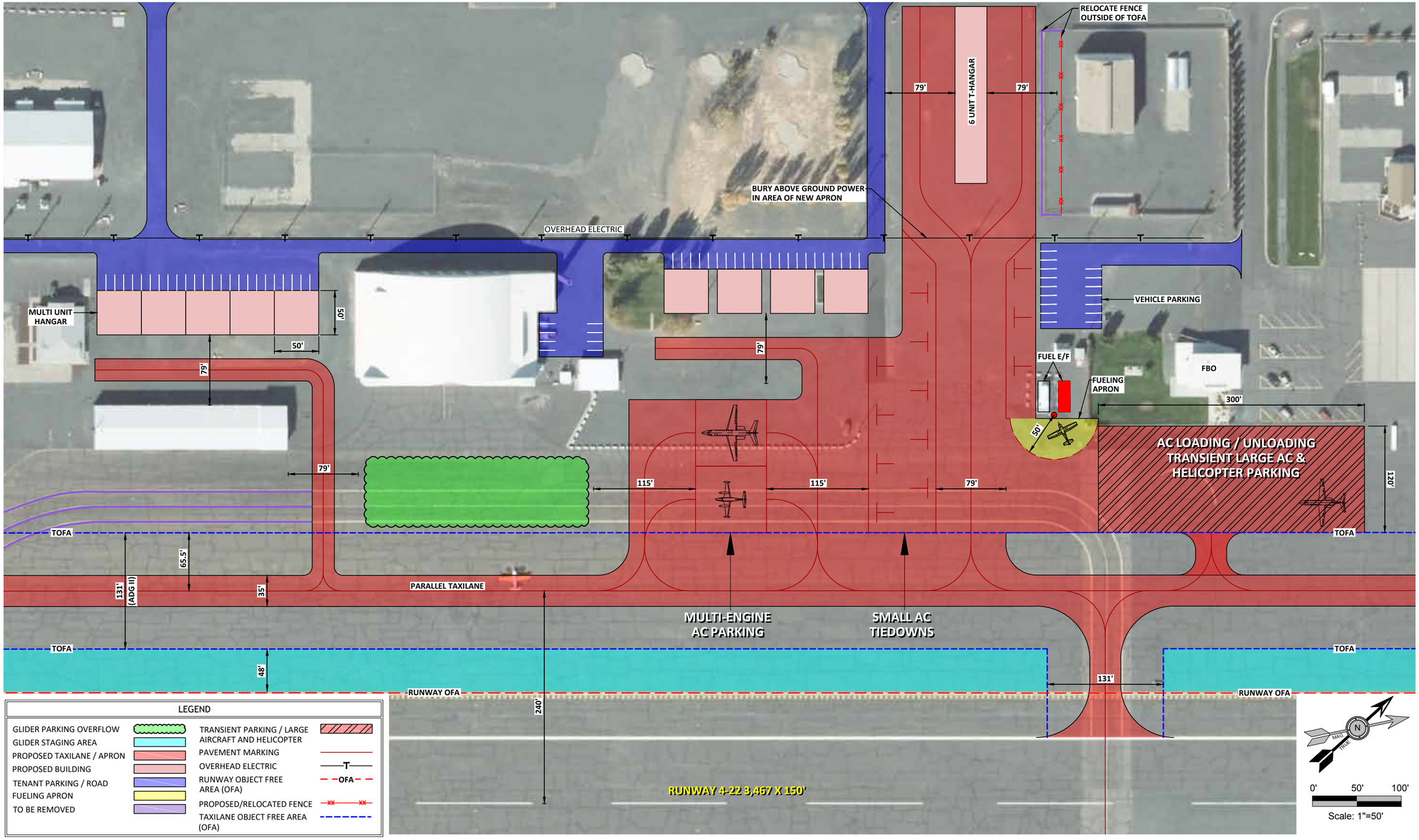
CENTURY WEST ENGINEERING



TERMINAL LANDSIDE ALTERNATIVE B
FIGURE 5-5

EPHRATA MUNICIPAL AIRPORT
AIRPORT MASTER PLAN

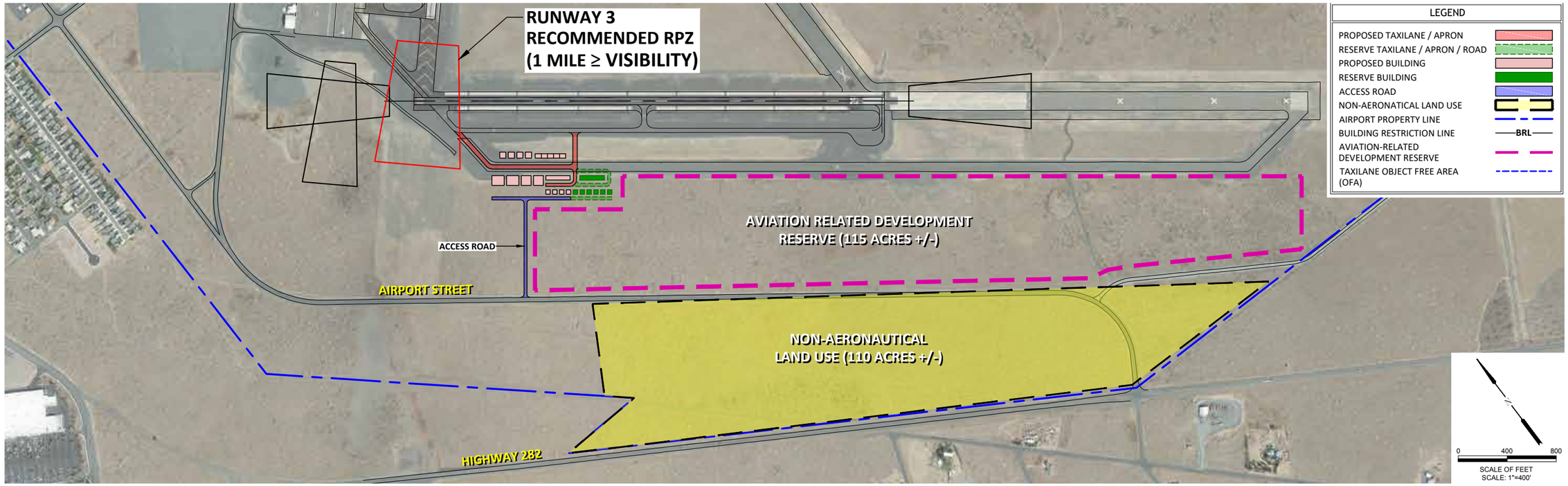
CENTURY WEST ENGINEERING

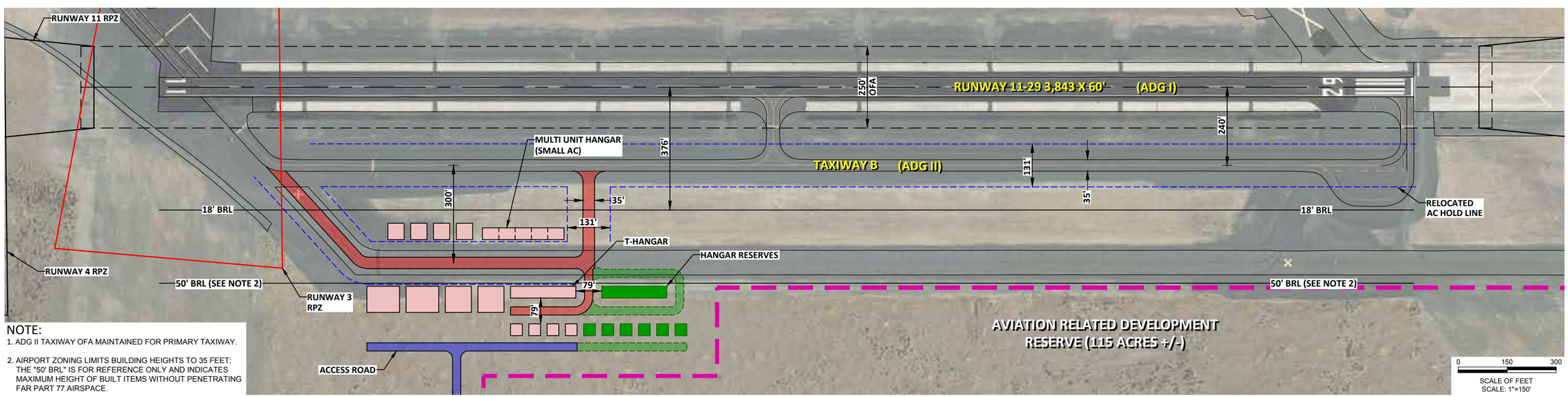


TERMINAL LANDSIDE ALTERNATIVE C
FIGURE 5-6

EPHRATA MUNICIPAL AIRPORT
AIRPORT MASTER PLAN

CENTURY WEST ENGINEERING





NOTE:
1. ADG II TAXIWAY OFA MAINTAINED FOR PRIMARY TAXIWAY.
2. AIRPORT ZONING LIMITS BUILDING HEIGHTS TO 35 FEET; THE "50' BRL" IS FOR REFERENCE ONLY AND INDICATES MAXIMUM HEIGHT OF BUILT ITEMS WITHOUT PENETRATING FAR PART 77 AIRSPACE.

SOUTH LANDSIDE ALTERNATIVE A
FIGURE 5-7

EPHRATA MUNICIPAL AIRPORT
AIRPORT MASTER PLAN

CENTURY WEST ENGINEERING