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# CHAPTER 3: TERMINAL AREA & SUPPORT FACILITIES

## Introduction

This chapter of the Airport Plan is focused on the Terminal Area and Support Facilities which includes the aprons, taxilanes, hangars, and access roads. The chapter follows the Runway and Taxiway Chapter where the primary aircraft movement takes place. This chapter addresses the existing and future facility needs at Laurel Municipal Airport 6S8.

This chapter analyzes the landside requirements necessary to support airport, aircraft, and passenger operations. It will consider the critical design aircraft and forecasted planning activity levels for based aircraft and operations. Alternative choices will be presented based on findings along with preferred alternatives. The following elements are provided for examining terminal area/support facilities:

- Planning Activity Levels
- Aircraft Storage
- Apron
- Taxilanes
- Support Facilities
- Alternatives Evaluation

## Planning Activity Levels (PALs)

Before addressing facilities, the forecast information from Chapter 1 is brought forward to help see the measured need for those facilities. There are various airport activity measures used to determine airport facility requirements including annual operations, peak hour activity, and based aircraft. Airport activity can be sensitive to industry changes, national and local economic conditions. This results in difficulty in identifying a specific calendar year for associated demand-driven improvements.

For this study, PALs are used to identify demand thresholds for many recommended facility improvements. If an activity level is approaching a PAL, then the airport should prepare to implement the improvements. Alternatively, activity levels that are not approaching a PAL can allow improvements to be deferred. The demand forecasts developed in this study correspond to an anticipated planning level calendar year to each PAL (2027, 2032, 2037, 2042) from the preferred aviation forecasts as seen in **Table 3-1**.

*Table 3-1 – Planning Activity Levels (PALs)*

Key Activity Metrics	Base	PAL 1	PAL 2	PAL 3	PAL 4
Forecast Year	2022	2027	2032	2037	2042
Operations	20,200	21,654	23,213	24,884	26,675
Based Aircraft	99	107	116	125	136

Source: KLJ Analysis

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## **General Aviation**

General Aviation (GA) elements include facilities that serve aeronautical needs of the flying public beyond those needed for commercial airlines. Facilities include those necessary for the movement of passengers as well as parking, service, and storage of aircraft. Examples of these facilities include the aircraft storage hangars, aircraft parking apron, GA terminal, and commercial aviation operators. A map depicting these facilities is shown in **Figure 3-1 - Terminal Area Facilities Map**.

## **BUSINESS OPERATORS**

Fixed Base Operators (FBOs) are commercial businesses providing multiple aviation services to the public, primarily for general aviation. Specialized Aviation Service Providers (SASOs) are commercial aviation businesses providing one or a few services.

For Laurel there is an FBO and several SASOs. The FBO is Laurel 406 Aero. SASO's are Top Hand Air Sprayers and ACES Aviation. Yellowstone Flying Club also operates at Laurel.

Laurel 406 Aero provides aircraft maintenance and manages the self-fueling facilities at 6S8. As the FBO, Laurel 406 Aero will hangar aircraft but there is limited demand for transient aircraft at 6S8.

Top Hand Air Sprayers provides aerial applicator services from 6S8 as well as their own private airfield Fly WM Airport (50MT) 4 miles southwest of the City of Laurel.

ACES Aviation provides flight training at 6S8. There is also flight training provided by other operators and individuals from time to time including Rocky Mountain College. The close proximity of 6S8 to the Billings metro area makes the airport very desirable for conducting flight training.

## **BASED AIRCRAFT**

All 99 based aircraft and 2 ultralight aircraft are currently stored in approximately 136,000 square feet of available aircraft storage space (not including the FBO/SASO or open hangars). The following assumptions were made about aircraft storage space requirements:

- Single-Engine Piston/Other/Ultralight: 45' x 35' storage area (1,600 SF)
- Multi-Engine/Turboprop: 53' x 45' storage area (2,400 SF)
- Helicopter: 40' x 30' storage area (1,200 SF)
- Other: 40' x 30' storage area (1,200 SF)
- Additional 20 percent for general aeronautical storage and supplies

Using these assumptions with based aircraft forecasts, a projected need for based aircraft storage space is determined. It is important to understand that this projection provides a broad estimate of needed space into the future for facility planning. Actual space needs are demand-driven.

Additional space is needed for FBO/SASO activities but is not included in these calculations.

*Table 3-2 – Based Aircraft Storage Requirements*

Category	Existing	Base	PAL 1	PAL 2	PAL 3	PAL 4
<b>Based Aircraft Storage Space (SF)</b>						
Aircraft Storage Space	136,000	127,600	138,800	150,800	162,000	173,200
<b>Capacity/Deficiency</b>	-	<b>8,400</b>	<b>-2,800</b>	<b>-14,800</b>	<b>-26,000</b>	<b>-37,200</b>
<b>Based Aircraft Storage Units (Not including FBO/SASO Hangars)</b>						
Open Units	10	4	5	5	5	5
T-Hangar Units	18	22	25	26	28	31
Storage Hangars	37	40	44	47	51	54
Total Units	65	66	74	78	84	90
<b>Capacity/Deficiency</b>	-	<b>-1</b>	<b>-9</b>	<b>-13</b>	<b>-19</b>	<b>-25</b>

Source: KLJ Analysis. Note: **RED** indicates a deficiency to existing capacity.

**The above analysis provides a portrayal of the amount and range of space that might be needed within the planning period. The actual space needed will be based on demand at the time.**

The recommended hangar types to accommodate aircraft storage depend on airport and aircraft owner preferences and financial position. There are two main hangar types:

- T-Hangar: Nested small aircraft storage units within a rectangular building.
- Conventional Hangar: Commonly known as “box” hangars are square/rectangular.

Hangars are constructed with public or private funds as demand warrants. This facility requirement analysis shows there is a need for approximately 30 to 40 percent more total hangar space at 6S8 to accommodate forecasted based aircraft through PAL 4.

## Aircraft Storage

Aircraft storage requirements are driven by operational requirements, aircraft size, local climate, and owner preferences. For based aircraft, the harsh winters in the Mountain region drive all owners to seek aircraft storage facilities rather than outdoor parking on an aircraft parking apron. Owners prefer to have covered, secure storage for their aircraft with space for other aeronautical facilities including an office or maintenance/storage areas. All based aircraft at 6S8 are stored in aircraft storage hangars. Transient aircraft travel to airports for up to a few days at a time. These aircraft typically park on the aircraft apron or seek temporary indoor aircraft storage, especially during adverse weather conditions.

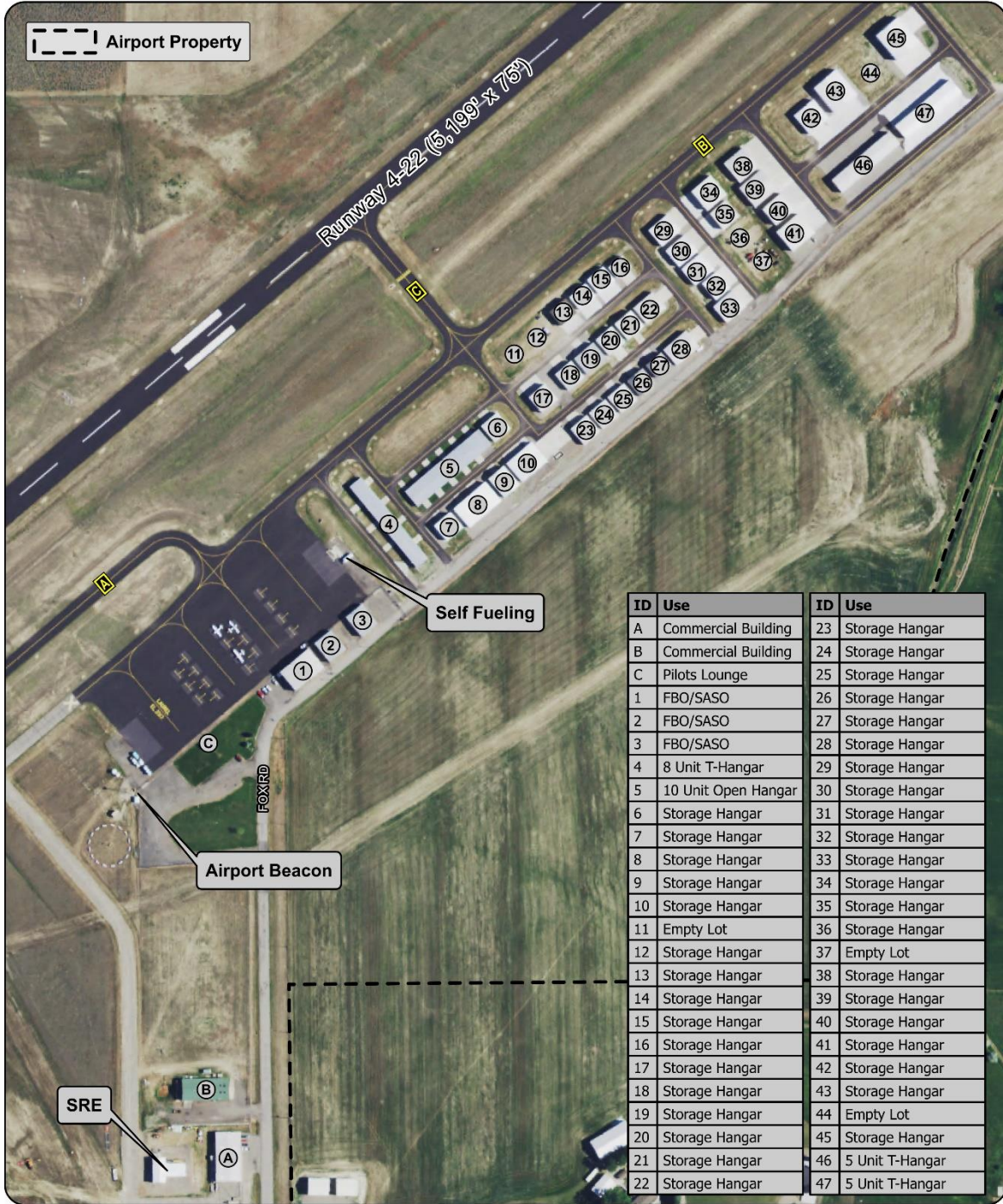
Aircraft storage facilities are listed in **Table 3-2**.

**Table 3-3 – Aircraft Storage Facilities**

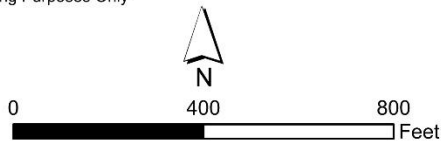
No.	Use	Year	Address	Size (SF)
1	FBO/SASO	2000	2213 Fox Road	5,580
2	FBO/SASO	Pre 1996	2215 Fox Road	3,000
3	FBO/SASO	Pre 1996	2217 Fox Road	3,000
4	8 Unit T-Hangar	Pre 1996	West Area	9,216
5	10 Unit Open Hangar	Pre 1996	West Area	11,328
6	Storage Hangar	Pre 1996	2263 West Greening	2,500
7	Storage Hangar	Pre 1996	2235 West Stormont	2,400
8	Storage Hangar	Pre 1996	2239 West Stormont	6,000
9	Storage Hangar	Pre 1996	2243 West Stormont	2,880
10	Storage Hangar	Pre 1996	2247 West Stormont	3,600
12	Storage Hangar	2021	2316 East Greening	2,000
13	Storage Hangar	2020	2332 East Greening	2,290
14	Storage Hangar	2020	2340 East Greening	2,000
15	Storage Hangar	2019	2348 East Greening	2,200
16	Storage Hangar	2008	2350 East Greening	1,430
17	Storage Hangar	2010	2311 East Greening	3,500
18	Storage Hangar	Pre 1996	2321 East Greening	2,500
19	Storage Hangar	Pre 1996	2321 East Greening	2,500
20	Storage Hangar	Pre 1996	2332 East Stormont	2,500
21	Storage Hangar	Pre 1996	2344 East Stormont	2,500
22	Storage Hangar	Pre 1996	2348 Stahley	3,000
23	Storage Hangar	Pre 1996	2307 East Stormont	2,500
24	Storage Hangar	Pre 1996	2317 East Stormont	2,500
25	Storage Hangar	Pre 1996	2325 East Stormont	2,500
26	Storage Hangar	Pre 1996	2332 East Stormont	2,500
27	Storage Hangar	Pre 1996	2344 East Stormont	2,500
28	Storage Hangar	Pre 1996	2348 Stahley	3,900
29	Storage Hangar	2002	2442 DeFrance	3,900
30	Storage Hangar	2000	2432 DeFrance	3,000
31	Storage Hangar	2008	2422 DeFrance	3,250
32	Storage Hangar	2010	2412 DeFrance	2,500
33	Storage Hangar	Pre 1996	2356 DeFrance	3,000
34	Storage Hangar	2012	2435 DeFrance	3,600
35	Storage Hangar	2012	2425 DeFrance	2,500
36	Storage Hangar	2020	2415 DeFrance	3,600
38	Storage Hangar	2002	2440 Rathbun	3,600
39	Storage Hangar	2006	2430 Rathbun	4,200
40	Storage Hangar	2012	2420 Rathbun	4,200
41	Storage Hangar	2010	2410 Rathbun	4,200
42	Storage Hangar	2012	2505 Leuthold	3,600
43	Storage Hangar	2014	2515 Leuthold	5,600
45	Storage Hangar	2014	2535 Leuthold	5,600
46	5 Unit T-Hangar	2005	East Area	7,800
47	5 Unit T-Hangar	2020	East Area	7,800
<b>TOTAL</b>			<i>Storage Hangars</i>	<i>111,750</i>
			<i>FBO/SASO Hangars</i>	<i>11,580</i>
			<i>T-Hangars (18 units)</i>	<i>24,816</i>
			<i>Open Hangars (10 Units)</i>	<i>11,328</i>
			<b>Grand Total</b>	<b>163,474</b>

Source: KLJ Analysis

Figure 3-1– Terminal Area Facilities Map



\*Intended for Planning Purposes Only



Laurel Municipal Airport  
Terminal Area Map

## FBO/SASO STORAGE

FBO/SASO aircraft storage is utilized on an as-needed basis for aircraft that require temporary storage as well as to support service companies. Aircraft types that require this type of storage are typically larger and more expensive airplanes such as turboprop and turbojet aircraft. Storage timeframes vary but can be for a few hours to several days.

FBO/SASO aircraft storage should plan to accommodate single-engine and multi-engine/turboprop airplanes through the planning period. For 6S8 all aircraft are included that might be serviced by the FBO and SASOs from time to time as well as transient aircraft. The FBO hangar needs are based on the growth in transient traffic starting from the existing base of FBO hangar space. The SASO Hangars are based on the typical need for at least 10% SASO space for the total private hangar storage space. 6S8 only has 4% currently which indicates there is likely pent-up demand for service providers. **Long-term needs would require additional storage for FBO/SASO aircraft.**

*Table 3-4 – FBO/SASO Aircraft Storage Requirements*





Category	Existing	Base	PAL 1	PAL 2	PAL 3	PAL 4
<b>FBO/SASO Aircraft Storage Space (SF)</b>						
FBO Hangars	5,580	5,700	6,100	6,500	6,900	7,400
SASO Hangars	6,000	12,800	13,900	15,100	16,200	17,400
Total FBO/SASO Hangars	11,580	18,500	20,000	21,600	23,100	24,800
<b>Capacity/Deficiency</b>	-	<b>-6,920</b>	<b>-8,420</b>	<b>-10,020</b>	<b>-11,520</b>	<b>-13,200</b>

Source: KLJ Analysis. Note: **RED** indicates a deficiency to existing capacity.

## FACILITY REQUIREMENT – HANGARS

There is a need for additional hangars based on feedback from the airport as well as the projected demand for space. The hangars are needed for both based aircraft and transient needs. Through the planning period the airport should identify space for 37,200 square feet of storage hangars and 13,200 square feet of FBO/SASO hangar space. This would be about 25 new hangar units (T-Hangar units or conventional hangars) and at least two large hangars located on the main apron. **Figure 3-2 – Typical Aircraft Hangar Attributes** shows the T-Hangar and Small Storage that would be applicable for based aircraft and the FBO/SASO hangar.

*Figure 3-2 – Typical Aircraft Hangar Attributes*

Typical Aircraft Hangar Attributes				
	T-Hangars	Small Storage Less than 6,000 sf	Large Storage More than 6,000 sf	FBO/SASO
Photo Examples				
Dedicated Apron	None	None	Equal to depth of hangar	Equal to depth of hangar (plus apron for services)
Airport Apron Access	No	No	No	Yes
Setbacks from Taxilanes	Yes - for Design Group (I or II)	Yes - for Design Group (I or II)	Yes plus Apron - for Design Group (II+)	Yes plus Apron - for Design Group (II+)
Airside Taxi Route	Yes - for Design Group (I or II)	Yes - for Design Group (I or II)	Yes - for Design Group (II+)	Yes - for Design Group (II+)
Public Road Access/Parking	No	Yes or No *	Yes*	Yes*

\* Any business/corporate hangar located on an airport should have public road access and parking for customers/passengers. Particularly those customers/passengers who are not trained in driving on an airport.

# Aircraft Parking Apron

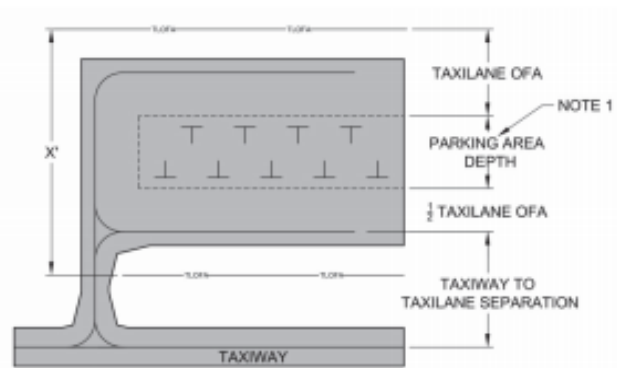
General aviation (GA) aircraft parking is utilized by transient and based aircraft. Transient aircraft require parking for a period ranging from a few minutes to a few days. Itinerant aircraft will require either covered aircraft storage (based or transient) or apron parking space.

The apron size is driven by the number and size of maneuvering and parked aircraft. The purpose of this analysis is to determine the triggering point for additional GA apron space using the aviation activity demand forecasts. Other uses not included in the apron calculations are things such as self-fueling areas, aerial applicator areas, major taxilanes and approaches to hangars. Excluding these areas, the apron at 6S8 is currently about 11,300 square yards (SY).

## SIZE & CONFIGURATION

Apron size must accommodate both the required aircraft parking positions and maneuvering standards. Aircraft maneuvering at 6S8 are required to accommodate safety setbacks for FAA Airplane Design Group (ADG) I and II wingspans. The current apron configuration meets maneuvering and parking standards for the design aircraft.

The preferred apron design is a dual-taxilane configuration to support taxi-in and taxi-out operations. Parking areas shall be lighted with stand-alone flood lighting to enhance night operations and to improve security. For example, a nested parking configuration 66-feet wide is flexible to accommodate 9 small aircraft or 4 large aircraft to accommodate demand.



Dual-Taxilane Apron Configuration (ACRP Report 96)

**Based on this assessment, the existing apron is not sufficient to accommodate the projected need and will need approximately 3,600 SY more in the planning period (based on 700 SY per Tie-Down Equivalent).**

Table 3-5 – Apron Size Requirements

Category	Existing	Base	PAL 1	PAL 2	PAL 3	PAL 4
<b>Apron Area (SY)</b>						
Apron Area	11,300	11,200	12,100	13,000	14,000	15,000
Equivalent Tie-Downs		15.9	17.2	18.5	19.9	21.4
<b>Capacity/Deficiency</b>	-	<b>100</b>	<b>-800</b>	<b>-1,700</b>	<b>-2,700</b>	<b>-3,700</b>

Source: KLJ Analysis. Note: RED indicates a deficiency to existing capacity.

## TAXILANES

The airport is served by various taxilanes that provide access from the taxiways and aprons to individual general aviation hangar. Locations are generally depicted in **Figure 3-1 - Terminal Area Facilities Map**. The taxilanes are oriented either parallel or perpendicular to Runway 4-22. The taxilanes range from 20 to 25 feet wide. The majority of the taxilanes have safety areas for ADG-I aircraft but there are a few on



the east side of the hangar area which have safety areas for ADG-II aircraft. These ADG-II corridors need to be maintained to allow the larger hangars that have been placed in this area. In the layout of taxilanes at 6S8, there is not additional space in front of hangars to allow aircraft to be pulled out without blocking other aircraft. For this reason, there needs to be multiple access points where possible to limit the potential of aircraft blocking access to other aircraft.

## **PAVEMENT CONDITION**

Airport pavements are basic infrastructure components at airports. Airfield pavements need to be maintained in a safe and operable condition for aircraft operations. Pavement condition is comprehensively evaluated by the State every three years and measured on a 0 to 100 scale known as the Pavement Condition Index rating. Pavement evaluation includes runway, taxiway, and apron pavements. A summary of the latest PCI rating for the apron and taxilane pavements is tabulated in **Table 3-6**. See **Figure 2-2 - Pavement Condition Map** in the previous chapter for a portrayal of the areas.

*Table 3-6 – Apron/Taxilane Pavement Condition (2021)*

Taxiway ID	Surface Type	LCD	PCI Range
Apron	AC	2001	68
Hangar Taxilanes	AC	2002	82-85

*Source: MDT (2021) & KLJ Analysis*

*PCI = Pavement Condition Index rating (0-100), LCD = Last Major Construction Date, AC = Asphalt Concrete, APC = Asphalt Overlay over PCC, PCC = Portland Cement Concrete*

## **Support Facilities**

Support facilities are necessary to support a safe and efficiently run airport supporting airport operations and the travelling public.

### **GA Terminal Building**

The size of the GA terminal building is based on the number of passengers and types of services. Although additional facilities can be provided, at a minimum the terminal building serving general aviation needs should include the following services:

- Passenger Waiting Area
- Restrooms
- Vending
- Pilots Lounge/Flight Planning
- Mechanical Room
- Storage Room
- Circulation

The terminal building should be located adjacent to the transient aircraft parking apron with good visibility to the airfield and be in close proximity to the automobile parking and waiting area. In most cases the terminal building is located within or near the Fixed Base Operator (FBO) providing aeronautical services. The terminal building at 6S8 is provided by 406 Aero and is located on the south edge of the apron area. It is estimated there is 600 SF of terminal space usable for customers.

The estimated planning-level size of the terminal building is based on peak hour total airport operations, 2.5 customers per peak hour operation and 100 square feet of space per passenger as identified in Airport Cooperative Research Program (ACRP) Report 113: Guidebook on General Aviation Facility Planning. These figures provide an estimate of the number of passengers to arrive, depart and generally flow through the GA terminal. Calculations are summarized in **Table 3-7**. **The existing GA terminal is smaller than is needed to meet the needs of 6S8 currently and through the planning period.**

**Table 3-7 – GA Terminal Building Size Requirements**

Category	Existing	Base	PAL 1	PAL 2	PAL 3	PAL 4
<b>GA Terminal Building Size (SF)</b>						
Peak Hour Itinerant Ops		7.1	7.6	8.2	8.7	9.4
Number of Passengers		17.8	19.0	20.4	21.9	23.4
Total Building Size	600	1,800	1,900	2,100	2,200	2,400
<b>Capacity/Deficiency</b>		<b>-1,200</b>	<b>-1,300</b>	<b>-1,500</b>	<b>-1,600</b>	<b>-1,800</b>

Source: KLJ Analysis

### ***Airport Maintenance & Snow Removal***

The Laurel Airport Authority has a dedicated facility to store airport maintenance equipment. The building is located near the airport entrance road on the south side of the airfield. See **Figure 3-1 Terminal Area Map** labeled as SRE. Typical equipment is used to cut grass or control snow and ice. Equipment is stored in and around this building.

Snow and ice control equipment typically required includes a carrier vehicle (i.e. dump truck or tractor), snow plows, spreaders, sweepers, and blowers. For non-winter operations, grass cutting is accomplished with a carrier vehicle (i.e. tractor) and mower attachment. Smaller equipment is also used to facilitate snow removal or grass cutting. Equipment should be stored in a dedicated heated building for timely access and protection from the weather. North facing building doors should be avoided if possible, to minimize prolonged snow and ice accumulation.

**The Authority should continue to monitor the amount of equipment and need for storage space to assure that equipment is sufficiently protected.** It should be noted that not all space areas described in this section are eligible for FAA funding.

### ***Fueling Facilities***

6S8 has both 100LL Aviation Gasoline and Jet-A Fuel available at the airport for self-serve. The 100LL is underground with 10,000-gallon capacity and the Jet-A is above ground with 14,000 gallon capacity. Self-service fuel dispensing units are available 24-hours a day with a credit card. There are no fuel trucks at 6S8 for fueling. Aircraft access the fuel facility in a designated apron space.

### ***Fencing, Security & Wildlife***

#### **SECURITY & FENCING**

The first line of security protection infrastructure is a perimeter fence. Perimeter fencing is not a requirement for non-certificated airports such as 6S8. Its installation would help prevent unauthorized persons from entering the airfield. A minimum 6-foot-high chain link fence is generally recommended at a minimum for security around the building areas. Other areas can be protected by a barbed wire fence to control livestock and discourage vehicle/pedestrian access. This fencing could change if there are wildlife issues noted below.

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Airfield access points should be minimized, however those that are needed should be controlled. Ideally, automated controlled access gates would be installed at the apron, hangar area, and high access entry points. Locked field gates would be installed at other airfield access points.

## WILDLIFE CONTROL & MITIGATION

Controlling wildlife on or near the airport helps mitigate existing and prevent the creation of potential new hazards to aircraft. There are wildlife hazards at 6S8. The first step will be to complete a Wildlife Hazard Assessment (WHA) which will create a Wildlife Hazard Management Plan (WHMP). The WHMP will recommend any steps to take regarding wildlife including, birds, mammals or any others that pose hazards to aviation.

### *Utilities*

The airport is not currently connected to public water, sanitary sewer, or natural gas utilities. There has been interest by the airport in connecting to the City of Laurel for water supply but due to cost, this has not been pursued.

## Landside Facilities

### *Ground Access, Circulation & Parking*

The overall design objective is to provide ground vehicles with access to and from the terminal building and hangar facilities using a primary access road. To achieve this, access points should be secured to the apron, hangar area and any field access points to reduce undesired automobile access. The number of hangar access points should be limited to reduce the possibility of vehicle/aircraft incidents which improves safety. Fuel delivery trucks should have access to tanks without entering airside operations areas. Access roads should be paved to reduce the likelihood of foreign object debris (FOD) on the airside areas where it may become a hazard to aircraft.

The airport access is provided via Fox Road, a paved access road from Laurel Airport Road. The pavement strength should be sufficient to accommodate a plow truck, fuel tanker and emergency equipment. The alignment of the access road should continue to provide controlled access to airside facilities.

Apron access is provided at the end of the access road. **All access points should be secured, with the higher activity access points secured by a controlled access gate.** Ideally access points should require a turn from the end of a roadway to discourage inadvertent airfield access.

There are no dedicated internal access roadways located outside of runway and taxiway safety areas to access airport facilities. This is typical for a lower activity airport such as 6S8.



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## Facility Requirements

This summarizes safety, capacity and development needs for the Laurel Municipal Airport based on forecasted activity levels. These recommendations provide the basis for formulating development alternatives later in this chapter to address recommended improvements. The following summarizes the facility recommendations:

### ***Hangars***

- Make space available for additional private use hangars.
- Add group hangars (T-Hangars, Executive Box Hangars) as feasible to allow for shorter duration leasing.
- Add large hangars for overnight transient parking.

### ***Apron/Taxilanes***

- Expand apron as needed to accommodate additional large hangars.
- Maintain ADG-I and ADG-II taxilanes as needed to accommodate various sizes of hangars.
- Proactively add taxilanes and appropriate utilities to allow for hangar development.

### ***Support Facilities***

- Add a new Terminal with meeting space, pilot lounge, restrooms, and office space adjacent to the main apron.
- Add a restroom sheltered from weather on the east end of the airport for tenants.
- Provide full-service fueling.
- Maintain the existing fencing and automated gate access. Add automated gate access to any additional hangar access points.

### ***Landside Facilities***

- Repair and maintain the airport access road.
- Create an additional public road entrance to the hangar area on the east end of the terminal/hangar area.

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## Alternatives Summary

The Airport Board reviewed the alternatives for the Hangar/Terminal area in two rounds. With the first round there were four alternatives presented. The alternatives included taxilane corridors for ADG-I and II aircraft and hangars for ADG-I and II aircraft.

### ALTERNATIVE 1

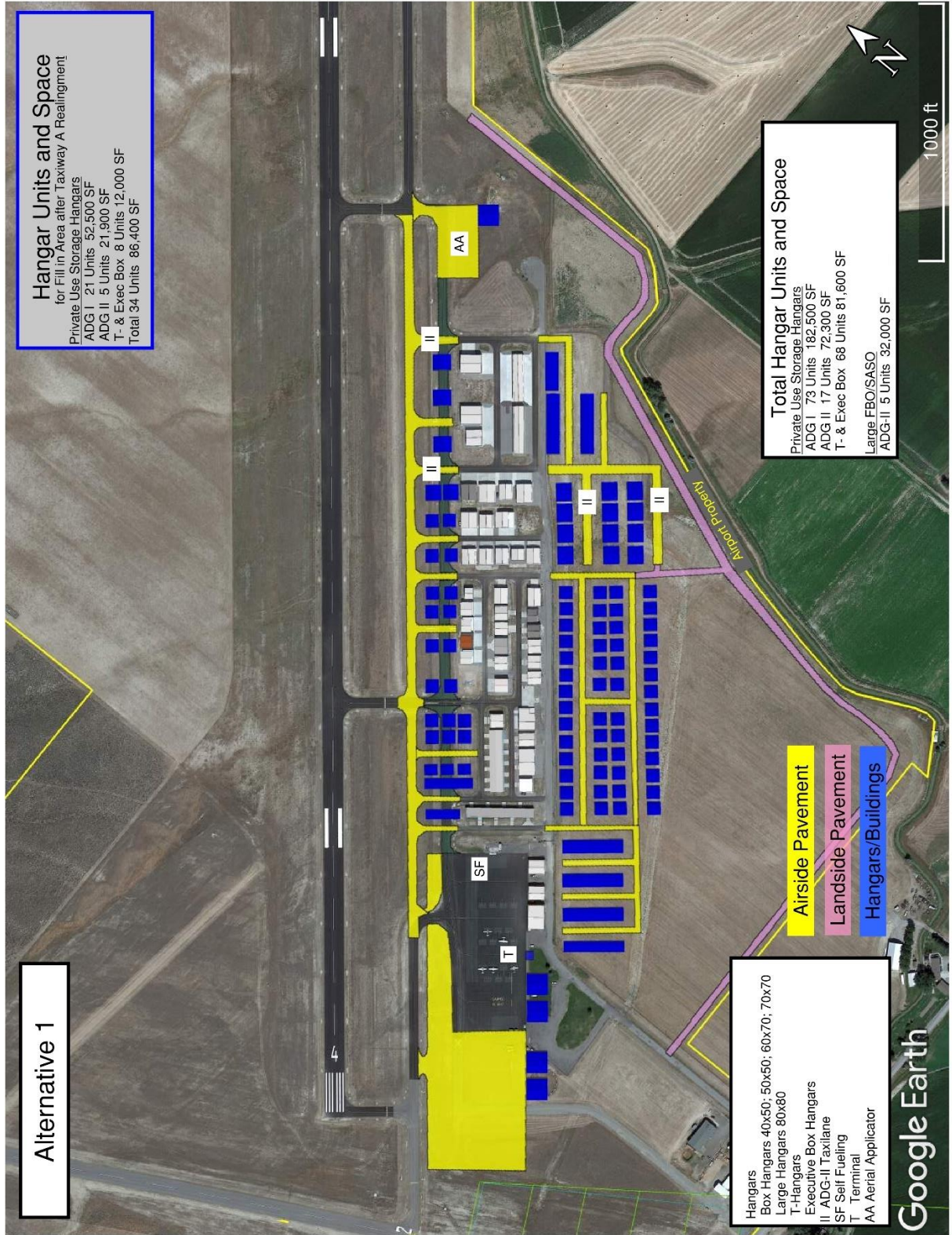
This alternative established an access road at the outer edge of airport property to allow the maximum development of hangars.

The hangar development includes a central and east area for ADG-II aircraft which is a continuation of the existing central and east hangars. The west portion of the hangar development would use two ADG-I access points to get to an area of ADG-I individual hangars and t-hangars.

With the realignment of Taxiway A chosen as the preferred airfield layout, the hangar development was arranged to extend the layout with nine short taxilanes accessing the new taxiway A.

Aprons were added on the east end and expanded on the west end with large hangars along the existing flight line. See **Figure 3-3**.

Figure 3-3 – Alternative 1



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## **ALTERNATIVE 2**

This alternative established an access road close to the hangar development area so that the non-aeronautical area can still be used for agricultural purposes.

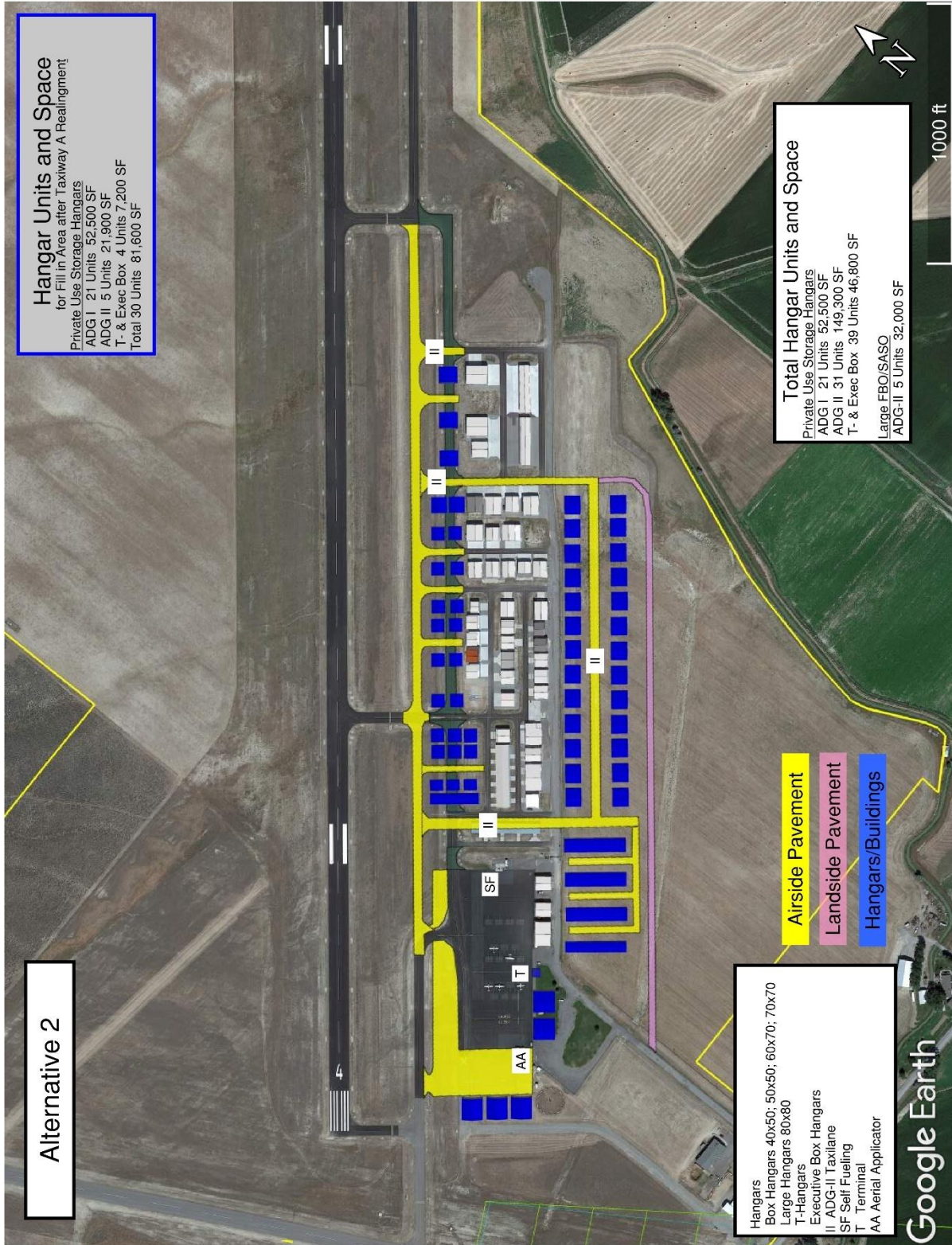
The hangar development includes mostly individual hangars for ADG-II aircraft and a few t-hangars.

With the realignment of Taxiway A chosen as the preferred airfield layout, the hangar development was arranged to extend the layout with nine short taxilanes accessing the new taxiway A.

The apron was on the west end with hangars being added along the existing flight line and on the end of the apron. See **Figure 3-4**.



Figure 3-4 – Alternative 2



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### **ALTERNATIVE 3**

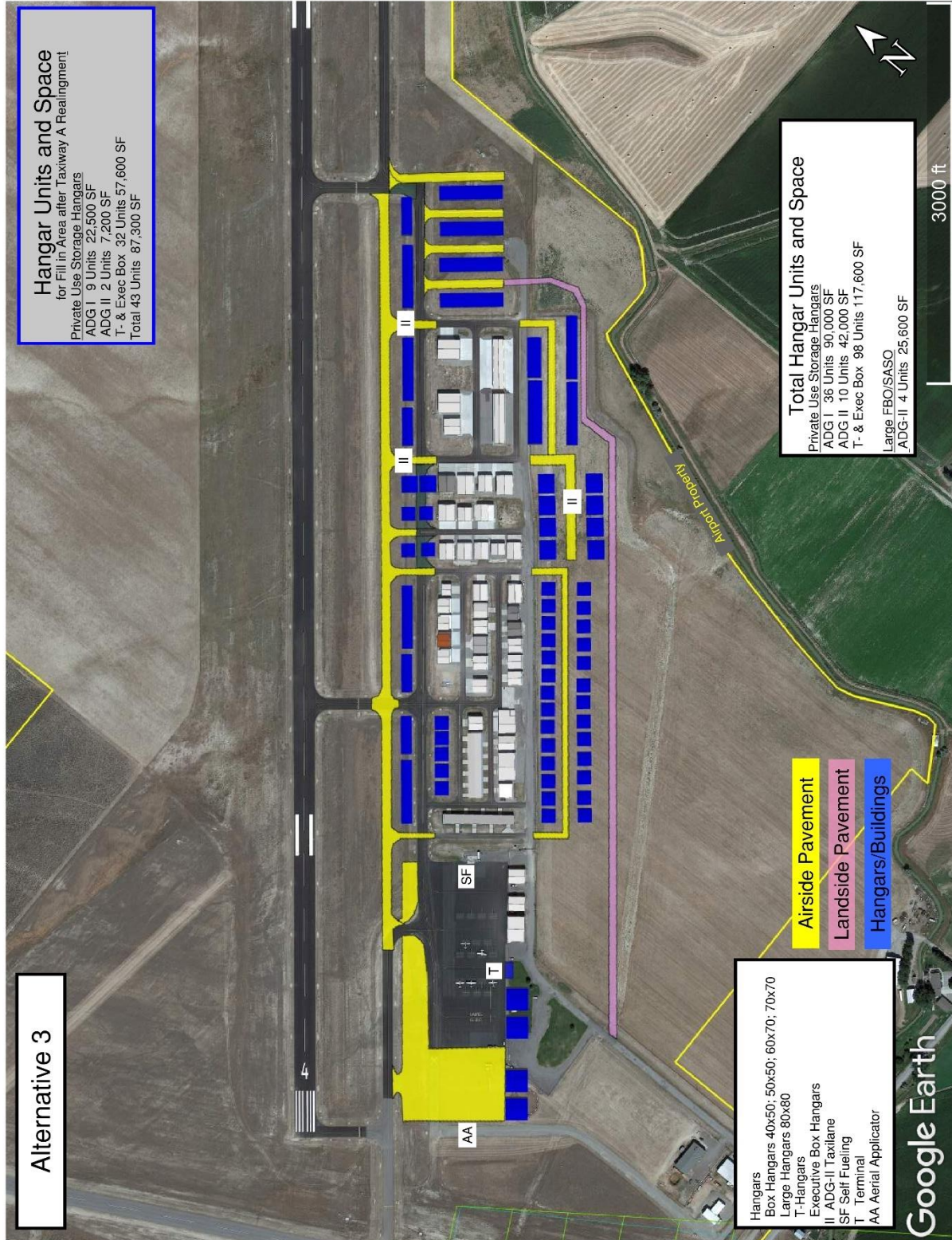
This alternative established an access road close to the hangar development area so that the non-aeronautical area can still be used for agricultural purposes.

The hangar development includes a central area for ADG-II aircraft which is a continuation of the existing central hangars. T-hangars are added to the east. The west portion of the hangar development would use two ADG-I access points to get to an area of ADG-I individual hangars.

With the realignment of Taxiway A chosen as the preferred airfield layout, the hangar development was allow for mostly executive box group hangars opening to the south with five short taxilanes accessing a few individual ADG-II hangars and the other existing taxilanes.

The apron was expanded on the west end with hangars along the existing flight line. See **Figure 3-5**.

Figure 3-5 – Alternative 3



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## **ALTERNATIVE 4**

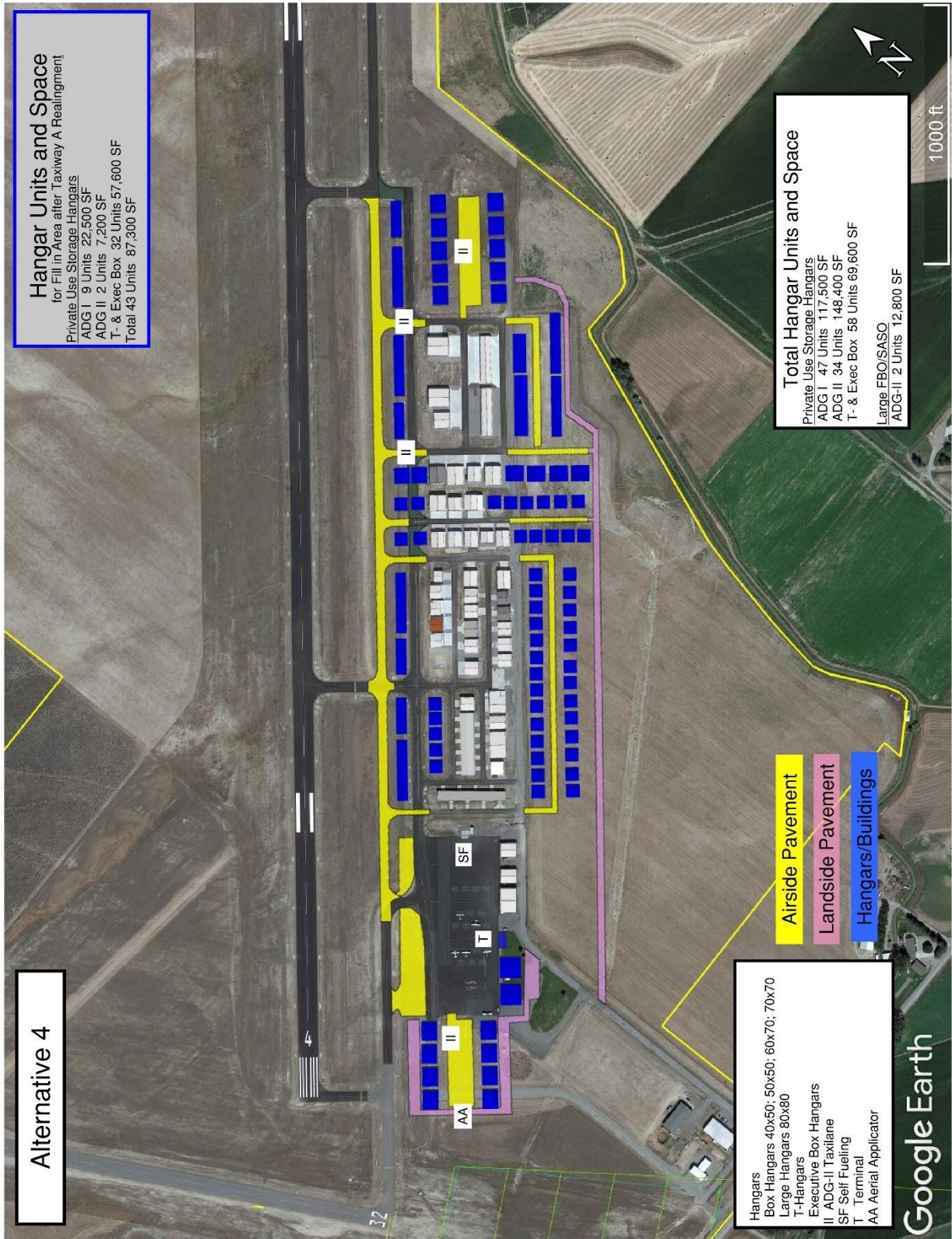
This alternative established an access road close to the hangar development area so that the non-aeronautical area can still be used for agricultural purposes.

The hangar development includes a central and east area for ADG-II aircraft which is a continuation of the existing central and east hangars. The west portion of the hangar development would use two ADG-I access points to get to an area of ADG-I individual hangars and t-hangars.

With the realignment of Taxiway A chosen as the preferred airfield layout, the hangar development was allow for mostly executive box group hangars opening to the south with five short taxilanes accessing a few individual ADG-II hangars and the other existing taxilanes.

The apron on the west was expanded slightly to the north and an area for ADG-II hangars was added west of the west apron. See **Figure 3-6**.

Figure 3-6 – Alternative 4



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## **ALTERNATIVE 2 REVISED**

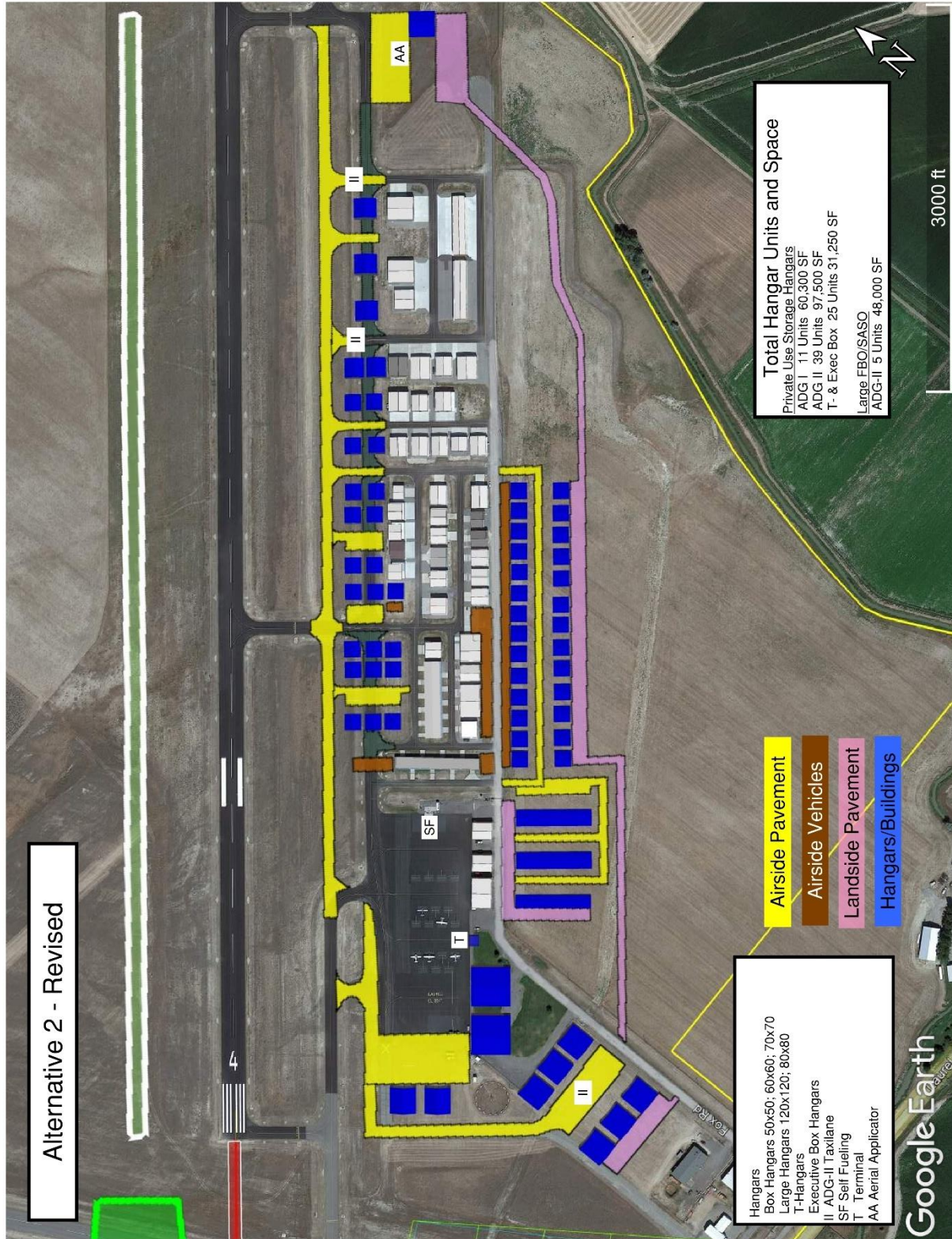
Alternative 2 was revised to add a new large hangar area to the south of the current apron area.

Where an ADG II taxilane was added immediately east of the existing apron, that taxilane was removed and the existing ADG I taxilanes remain. In addition, the development to the south of the existing hangars was changed to ADG I rather than ADG II in the previous Alternative 2.

Several automobile parking areas were added around the existing and future hangars.

An apron was added to the far east similar to what was provided in Alternative 1. See **Figure 3-7**.

Figure 3-7 – Alternative 2 Revised



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## **ALTERNATIVE 4 REVISED**

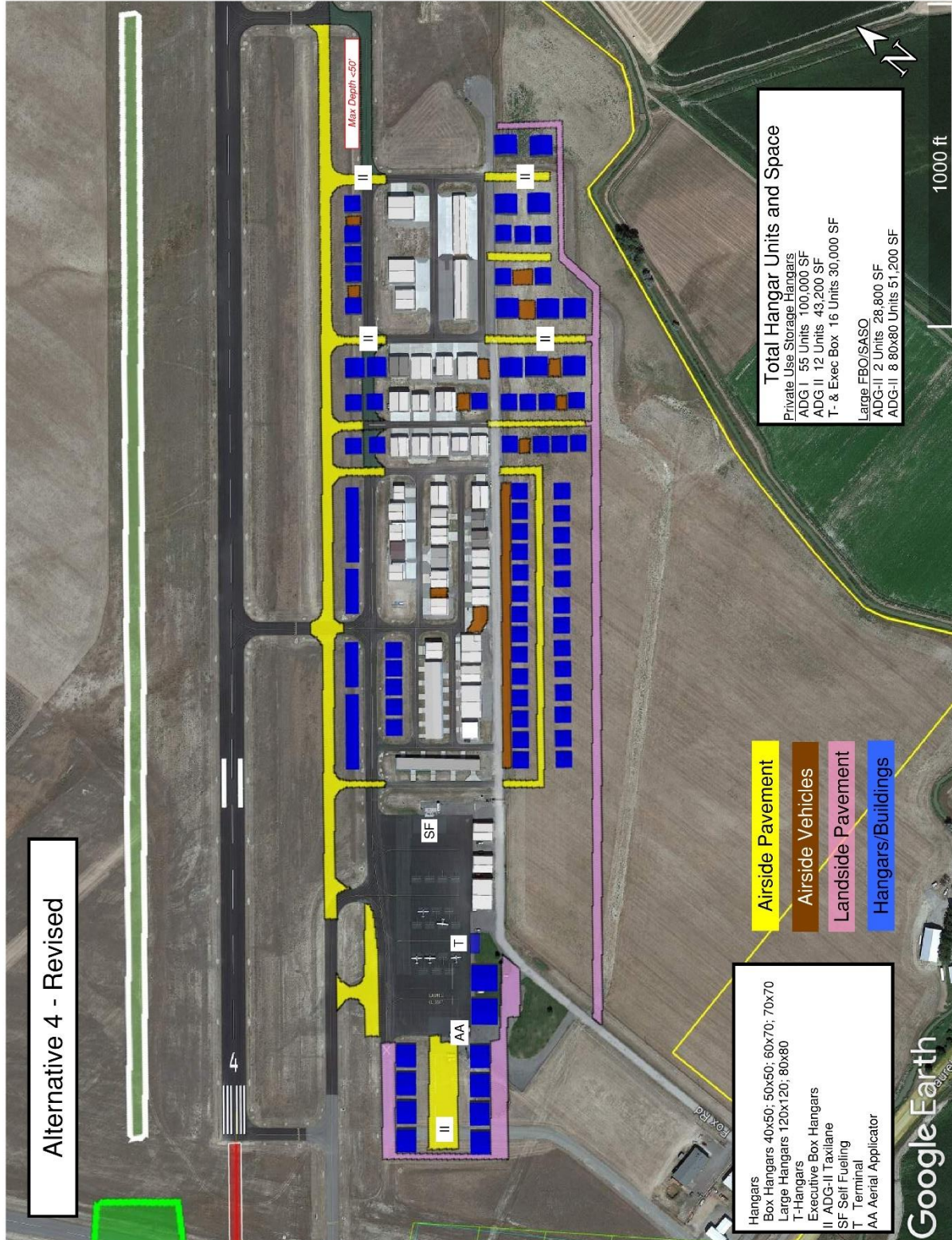
Alternative 4 was revised to remove the large ADG-II hangars to the east.

Several locations for automobile parking were added around the existing hangars and future hangars.

No other changes were made to this Alternative. See **Figure 3-8**.



Figure 3-8 – Alternative 4 Revised



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## Preferred Development Strategy

After the review of the revised alternatives, the Airport Board selected a combination of the elements in the revised alternatives. The preferred alternative selected was as follows:

The hangar development along the new Taxiway A would be arranged like Alternative 2 Revised.

The hangar development to the west of the main apron would be the same as Alternative 4 Revised.

The hangar development to the south of the main apron would be the same as Alternative 2 Revised.

The hangar development in the west central portion of the airfield would be arranged like Alternative 2 Revised including t-hangars and small ADG-I hangars.

The central and eastern portion of the airfield would be arranged like Alternative 4 Revised which includes ADG-II and ADG-I hangars extended to the south.

The preferred development strategy identified in **Table 3-8 Preferred Terminal/Hangar Area Development Strategy** below outlines the overall development sequence for the preferred alternatives based on airport sponsor priorities. These elements are shown graphically in **Figure 3-9 Preferred Terminal/Hangar Area Development**. The implementation plan in **Chapter 4** will identify a realistic project sequencing based on available funding.

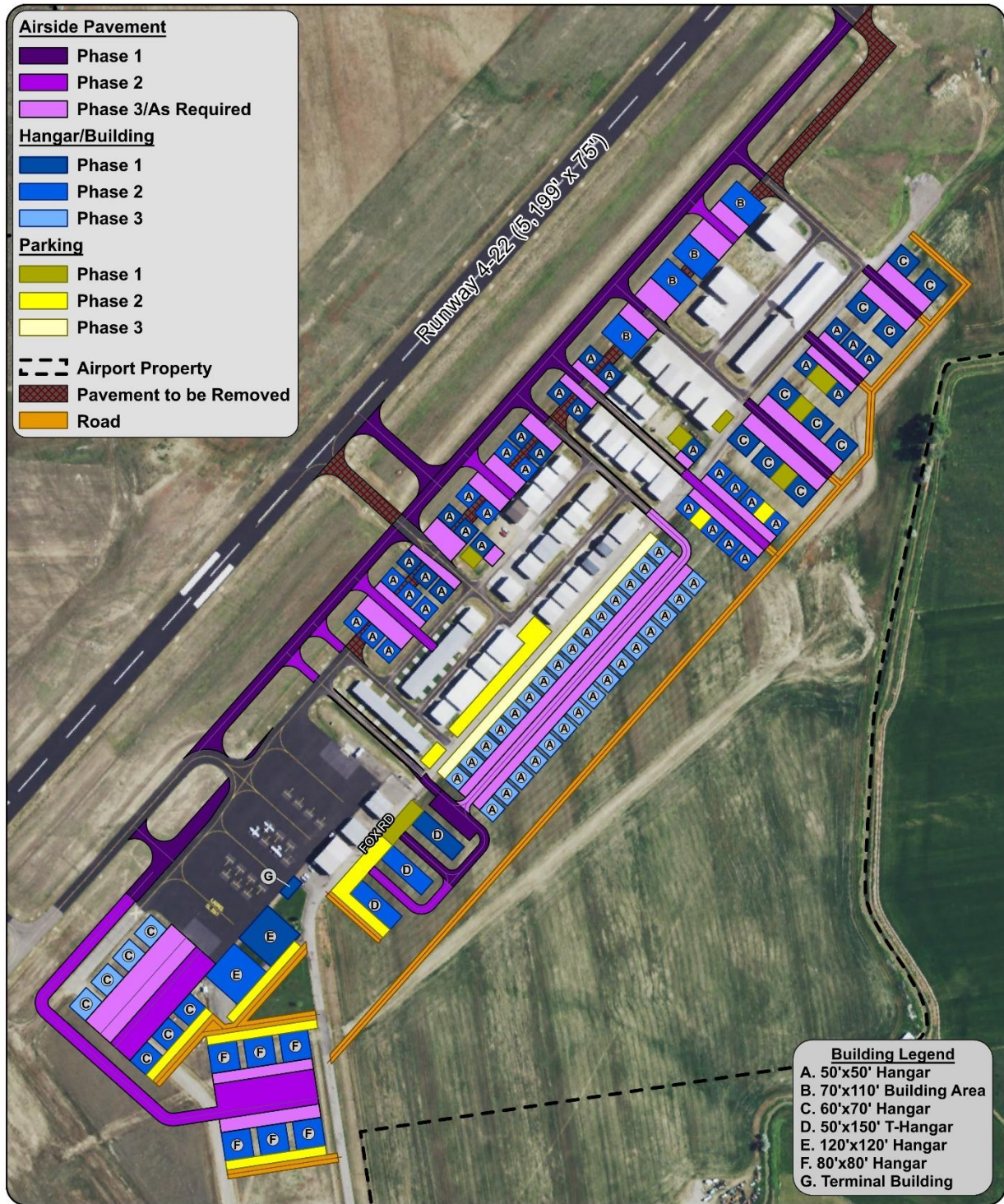
**Table 3-8 – Preferred Terminal/Hangar Area Development Strategy**

	<b>Near-Term 0-5 Years PAL 1</b>	<b>Mid-Term 6-10 Years PAL 2</b>	<b>Long-Term 11-20 Years PAL 3 &amp; 4</b>
<b>Terminal &amp; Hangar Area</b>	<ul style="list-style-type: none"> <li>• Designate &amp; Prepare Auto Parking areas around hangars</li> <li>• New Airport Terminal</li> <li>• Taxilanes for development off new Taxiway A</li> <li>• Hangars on Demand</li> </ul>	<ul style="list-style-type: none"> <li>• Taxilane to connect southwest hangar area</li> <li>• Taxilanes for development off new Taxiway A</li> <li>• Extend apron west for SASOs</li> <li>• Hangars on Demand</li> <li>• Extend Taxilanes south for ADG-II Hangars</li> </ul>	<ul style="list-style-type: none"> <li>• Hangars on Demand</li> <li>• Extend Taxilanes south for ADG-I Hangars</li> </ul>
<b>Landside</b>	<ul style="list-style-type: none"> <li>• New Public Access Road for entrance to hangar area to the east</li> </ul>	<ul style="list-style-type: none"> <li>• New Access Road for hangars south of current apron area</li> <li>•</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>
<b>Support &amp; Other</b>	<ul style="list-style-type: none"> <li>• Move fencing north of Runway 4-22 for Turf Runway</li> <li>• Upgrade to AWOS-III</li> </ul>	<ul style="list-style-type: none"> <li>• New fencing for area south of existing hangar area</li> </ul>	<ul style="list-style-type: none"> <li>•</li> </ul>

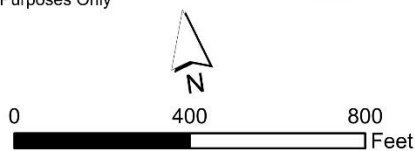
Source: KLJ Analysis

NOTE: Scope and timing of airport improvements depends on available funding and demand thresholds being met.

Figure 3-9— Preferred Terminal/Hangar Area Development



\*Intended for Planning Purposes Only



Laurel Municipal Airport  
Terminal Area  
Preferred Alternative Map